
Appendix D

Arborist Report for the Elephant Hill Project

Arborist Report

Elephant Hill Project

JULY 2023

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
City	City of Pomona
ISA	International Society of Arboriculture
project	Elephant Hill Project

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1 Introduction

This report summarizes Dudek's evaluation and analysis of tree resources within the tree survey area at the proposed Elephant Hill Project (project) site, located at 2889 W. Mission Boulevard in the City of Pomona, California. The site is generally located east of State Route 57, south of Interstate 10, and west of Highway 71 (see Figure 1, Regional Map, and Figure 2, Vicinity Map).

The field inventory and assessments of the survey area's trees (development footprint) were conducted on May 24, 2022. The focus of Dudek's field evaluations was to identify and inventory all on-site trees that are subject to regulation by the City of Pomona Municipal Code that could be affected by the proposed development per the site plan (see Figure 3, Site Plan). This report includes a discussion of tree inventory, evaluation and analysis methods, a summary of findings, identification of anticipated impacts, and tree protection and tree impact mitigation recommendations consistent with the City of Pomona Municipal Code and the tree removal permit process specified therein.

The City of Pomona (City) requires a major oak tree permit for the removal of oak trees and a minor oak tree permit for the pruning of any oak tree, which is defined as follows:

- **Oak Trees:** Oak trees of all species that have a diameter greater than 8 inches as measured 4.5 feet above the mean natural grade, are located outside of designated Historic Districts and Historic Landmarks, and have not been designated as Specimen Trees. Such oak trees may be located on either public or private property.

The analysis of potential tree impacts in this report takes into account the requirements outlined in the appropriate sections of the City of Pomona Municipal Code (Section 5809.23 – Oak tree preservation). The proposed project would involve removal of protected oak trees and would result in encroachment into the protected zone (2 feet of the tree's drip line) of oak trees to facilitate site development. Section 4 of this report recommends mitigation measures for anticipated tree removal to mitigate impacts from construction encroachment into the protected zone of regulated trees that would result from the proposed project. The provided measures are consistent with the provisions of the City of Pomona Municipal Code.

1.1 Summary

The field survey recorded 12 protected oak trees within the survey area, 11 of which are subject to regulation under the City of Pomona's Oak Tree Preservation Ordinance. The inventoried tree locations are depicted in Appendix A. The proposed project tree impacts are depicted in Appendix B.

Based on an evaluation of the most current Elephant Hill site plan (dated May 2022), the project disturbance area is focused on undeveloped portions of the project site. Construction of the proposed project is expected to require removal of up to 11 protected oak trees and one non-protected oak tree.

The City's Oak Tree Preservation Ordinance calls for one 24-inch box oak tree to be planted for each protected oak tree approved for removal. The tree replacement recommendations contained herein are based on the standards set forth in the City's Oak Tree Protection Ordinance. Section 4 of this report provides construction-related tree protection recommendations, and recommendations for long-term maintenance and care for trees that will be retained on site.

Per the City's Oak Tree Protection Ordinance, Dudek recommends planting 11 oak trees on site to mitigate for the anticipated removal of 11 protected oak trees. Species composition of the planted trees should match the species removed at a ratio of one 24- inch box tree for each tree removed, consistent with the City's Municipal Code. Furthermore, based on the City's Oak Tree Protection Ordinance and the number of proposed oak tree removal, the applicant will be required to apply for a Major Oak Tree Permit (Sec. .5809-23 – Oak Preservation).

1.2 Assignment

Dudek's International Society of Arboriculture (ISA) Certified Arborists performed the following tasks:

- Assessed and inventoried all regulated oak trees with protected zones within the survey area (based on project site plan) and documented species, general health, general structural condition, size, appearance, and presence of pests.
- Mapped the location of regulated oak on surveyed site base data and used GPS technology, as necessary, to develop a tree location exhibit and for planning reference.
- Prepared a tree information matrix that details the attributes of each regulated oak tree.
- Analyzed tree attribute data and coordinated with the project design team to promote tree retention on site, to the maximum extent practicable.
- Evaluated tree impacts based on the project site plans (dated May 2022).
- Prepared this report to document the results of field surveys and impact analyses, and provide recommendations for tree protection and impact mitigation measures in accordance with the provisions of the City of Pomona Municipal Code and Oak Tree Preservation Guidelines.

1.3 Project Description

Project development would be focused within the 51.82-acre southwestern area of the site (development area) (see Figure 3), which is designated as Urban Neighborhood and Open Space and zoned Planned Residential Development, Open Space with a State Bill 330 overlay. The development area would include residences, a recreation center, overlooks, infrastructure, parking, landscaped slopes, and fuel modification areas. The proposed multi-family residential units would be composed of 94 two-story duplexes and 66 three-story townhomes. On-site utilities would include stormwater, water, sewer, electrical, and other dry utilities, to be located within the development area. In addition, off-site utility connections would be required within the nearby Mission Boulevard and Sorrento Drive, as well as an off-site sewer connection to the Humane Society property, located southeast of the project site. The remaining 68.80-acre eastern and northeastern portion of the Project site would remain as undeveloped open space and would include approximately 20.80 acres of biological habitat mitigation. The proposed 15.23-acre residential component would include 228 residential dwelling units, with 68 single-family units and 160 multi-family units.

1.4 Location/Setting

The 120.6-acre project site is located at Elephant Hill, a largely undeveloped foothill within the City of Pomona (see Figure 1). Specifically, the project site is located directly east of State Route 57, south of the Union Pacific Railroad tracks right-of-way, north of Mission Boulevard, and approximately 370 feet west of Humane Way (see Figure 2). The project site consists of three parcels (Assessor's Parcel Numbers 8707-020-001, 8707-020-008, and 8708- 021-058). The project site is designated by the General Plan as Open Space and Urban Neighborhood

(City of Pomona 2014). The project site is within the SB330 Overlay; the northern portion of the project site is zoned as Open Space (O) and the southern portion of the site is zoned as Planned Residential Development (PRD). The project site is primarily undeveloped, but is surrounded by residential uses to the south and southwest; industrial and commercial uses to the west past State Route 57; public facilities to the southeast; and the Union Pacific Railroad right-of-way, Spadra Cemetery, and the Pomona Water Reclamation Plant to the north. Development farther north of the Southern Pacific Railroad tracks consists largely of commercial uses.

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SOURCE: NAIP IMAGERY 2020

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Feet

FIGURE 3

Site Plan

Elephant Hill Arborist Report

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2 Methods

The following sections describe the methods used by Dudek's ISA Certified Arborists to inventory and evaluate trees in the tree survey area.

2.1 Field Tree Inventory and Evaluation

Dudek's ISA Certified Arborists Katrina Burritt (#WE-10771A) and Aida Castro (#WE-13396A) conducted the following tree inventory and evaluation:

- May 24, 2022 – Tree inventory and evaluation to document tree locations and attribute information for all oak trees within the survey area.

The arborists examined oak trees that would be disturbed by the proposed development and mapped protection zones. Tree attribute data collected during the field survey included species, trunk diameter, tree height, canopy spread, general health condition, structural condition, and presences of observable pests or other tree maladies. Trunk diameters were measured using a diameter tape, which provides adjusted numbers for diameter measurements when wrapping the tape around the circumference of a tree trunk. Diameter measurements were collected using standard protocol described by the Council of Tree and Landscape Appraisers in its Guide for Plant Appraisal (ISA 2000), published by the ISA, and in accordance with guidance given in the City's Tree Protection and Preservation Program and Municipal Code.

Trunk diameter measurements were taken at 4.5 feet above the ground along the trunk axis, with a few common exceptions. In cases where the trunk of a tree split into multiple stems at approximately 4.5 feet above the ground, the measurement was made at the location that best represented the trunk's diameter. Tree height measurements were estimated by the arborist, and tree canopy radius measurements were documented by "pacing-off" the measurement based on the arborist's knowledge of their stride length or visually estimating the canopy width.

Pursuant to the Guide for Plant Appraisal (ISA 2000), tree health and structure were evaluated with respect to five distinct tree components: roots, trunk, scaffold branches, small branches, and foliage. Health and structure were graded as *good*, *good/fair*, *fair*, *fair/poor*, or *poor*. Good condition trees exhibit acceptable vigor, healthy foliage, minor if any structural issues, and no apparent maladies. Fair condition trees are typical, with few maladies, moderate structural issues, and may exhibit less vigor in foliage and new growth. Trees assigned a poor condition rating exhibit significant health or structural problems or damage. Representative photographs of the tree survey area trees are provided in Appendix C, Tree Survey Area Representative Photographs.

The location of each individual regulated tree was mapped using a Trimble Pathfinder Pro XH GPS receiver. The Pathfinder has a horizontal accuracy of 1-meter (1-sigma) using differential code positioning techniques. Because tree canopies can sometimes cause loss of satellite lock by blocking the line-of-sight to satellites, an electronic compass and reflectorless electronic distance measuring (EDM) device was also used in mapping tree locations. The EDM/compass combination operates in concert with the Pathfinder system to position offsets, and offset information is automatically attached to the GPS position data string. Dudek used the data collected to create a master tree inventory data set, inclusive of all regulated trees, within the tree survey area. It should be noted, that due to the location of several trees on steep slopes, the location and recorded tree information was based on aerial imagery and ocular estimations.

Individual oak tree locations are presented in Appendix A, Tree Location Exhibit, and individual tree attribute data and impact determination is presented in Appendices B, Tree Impact Exhibit, and Appendix D, Tree Information Matrix. Additionally, tree survey area representative photographs were taken in the field and are presented in Appendix C.

2.2 Tree Impact Analysis

Following data collection, processing, and analysis efforts, an impact determination was made for each tree based on proximity to the proposed disturbance area. Impact determinations used in this report are as follows:

- Not Impacted (tree not affected by project)
- Removal (tree to be removed)
- Encroachment (project disturbance would occur within the protected zone of the tree)

A summary of project-related tree impacts is presented in Section 3.2, Project-Related Impacts, and impact determination status for each tree recorded in the tree survey area is provided in Appendix D.

2.3 Scope of Work Limitations

This report presents tree information as observed in the field. No root crown excavations or investigations, internal probing, or aerial canopy inspections were performed during the tree assessment. Therefore, the presence or absence of internal decay or other hidden or inaccessible inferiorities in individual trees could not be confirmed.

3 Findings/Results

3.1 Inventory Summary – Protected Trees

Dudek’s arborist recorded 12 oak trees (Coast live oak) with protected zones within 50 feet of improvements proposed on the project site plan. Of the 12 oak trees found within the survey area only 11 oak trees (see Table 1) meet the criteria (greater than 8- inches at 4.5 feet above ground level) for regulation under the City’s Oak Tree Protection Ordinance. None of the protected oak trees are located within the Historic District and none are considered specimen trees per City Council Resolutions No. 62-65 and No. 73-68. Table 1 provides a summary of the species and regulatory status of the trees mapped within the tree survey area.

Table 1. Summary of Existing Trees

Scientific Name	Common Name	Tree Quantities	
		Oak Trees	Total (Regulated Trees)
<i>Quercus agrifolia</i>	Coast live oak	12	11

As presented in Appendix D, 12 (100%) of the trees exhibit good (Rating B) health. Eleven (91.67%) trees have good (Rating B) structure, and 1 (8.33%) tree exhibits fair (Rating C) structure.

Trees in the tree survey area vary in size and stature according to species. Trunk diameters of the coast live oak trees within the tree survey area range from 12 inches to 32 inches. Tree heights vary from 15 feet to 40 feet. Tree canopy extents range from 15 feet to 50 feet at their widest location. Individual attributes of each tree are presented in Appendix D, Tree Information Matrix.

3.2 Project-Related Impacts

There is wide variation in tolerance to construction impacts among tree species, and the response of an individual tree to impacts also varies with age and condition. Impacts assessed for this project include trees with protected zones within the proposed improvement and disturbance areas as defined in the project site plan (dated May 2022). The impact discussion in this section identifies all impacts anticipated to result to regulated trees based on an evaluation of tree locations compared with the project site plan. Much of the survey area will be graded to accommodate construction of the project and necessary infrastructure (e.g., utilities, access roads, fire lanes). Trees identified for retention and removal are graphically presented in the Tree Impact Exhibit (Appendix B).

Based on grading and development plans for the proposed project, it is estimated that 12 coast live oak trees will be removed (11 protected and 1 non-protected). Due to the anticipated level of grading required on the project site, the removal of the site’s oak trees will not result in soil erosion through the diversion or increased flow of surface waters which cannot be satisfactorily mitigated, as the site will be graded and landscaped. Furthermore, based on the provided site plans the proposed removal of the oak trees is necessary as continued existence at the present location impedes the planned improvement or proposed use of the subject property to such an extent that: alternative development plans cannot achieve the same permitted density, or the cost of such alternative would be prohibitive. It is assumed that the oak trees would be removed during the grading process using typical tree removal methods (i.e. chainsaw). Table 2 summarizes impact determinations for oak trees within the tree survey area that

are subject to regulation under the City's Oak Tree Preservation Ordinance Representative photographs of the site's trees can be found in Appendix C, Tree Survey Area Representative Photographs.

Table 2. Summary of Protected Tree Impact Determinations

Species	Impact Determination			Total
	Removal	Encroachment	No Impact	
Coast live oak	12 (11)	0	0	12
Total All Regulated Trees	11	0	0	11

() Number of Protected Oak Trees

4 Mitigation and Management Recommendations

4.1 Mitigation Recommendations

Removals

The City's Municipal Code mitigation requirements for tree removals associated with development projects are summarized as follows (Section 5809.23 – Oak tree preservation):

- One 24-inch box oak tree to be planted for each oak tree removed

The proposed site plan would require removal of 11 protected oak trees. Consistent with the City's requirements, the mitigation as shown in Table 3 is recommended for protected tree removals associated with the project.

Table 3. Mitigation Recommendations for Proposed Tree Removals

Species	Expected Removal	Recommended Mitigation Plantings
		24-Inch Box Trees
Protected oaks	11	11

Retained Trees

A long-term maintenance program is required by the City's Municipal Code to mitigate for encroachments into the protected zone of regulated trees that would occur with the proposed project and to maintain the health of the trees retained on the project site. None of the site's protected oak trees will be preserved, however, should any trees be retained, appendix E provides tree protection recommendations to mitigate impacts from construction encroachment into the protected zone of regulated trees that would result from the proposed project. The measures included in Appendix E are consistent with the provisions of the City's Municipal Code and would help minimize impacts to preserved and encroached trees. Appendix E includes measures to implement prior to, during, and following construction. This includes measures such as exclusion fencing and worker training to avoid direct impacts to trees, and measures such as irrigation and monthly inspections by an arborist to promote the long-term health of retained trees. Arborist monitoring during construction when encroachments into tree protection zones would occur is also recommended to minimize root disturbance and determine the best course of actions for root pruning, supplemental irrigation, branch trimming, or other measures that would minimize impacts from ground-disturbing and other potential impactful activities. Please refer to Appendix E for detailed recommendations for trees retained on the project site.

4.2 Tree Permits

The project applicant will need to submit a Major Oak Tree Permit to the City for the removal of the 11 protected oak trees. The Major Oak Tree Permit will be subject to review by the planning commission. A copy of this report and the final project site plan should accompany the application. A Major Oak Tree Permit is required for removal of oak trees and a minor oak tree permit is required for pruning.

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5 Disclosure

This arborist report provides conclusions and recommendations based only on a visual examination of the trees within the tree survey area by ISA Certified Arborists and reasonable reliance on the completeness and accuracy of the information provided to the arborists. The examination did not include subterranean or internal examination of the trees.

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 them. Although trees provide many benefits to those who live near them, they also include inherent risks from breakage or failure that can be minimized but not eliminated.

Arborists cannot detect every condition that could possibly lead to the failure of a tree. Trees are living organisms subject to attack by disease, insects, fungi, weather, and other forces of nature, and conditions that lead to failure are often hidden within trees and belowground. There are some inherent risks with trees that cannot be predicted with any degree of certainty, even by a skilled and experienced arborist. Arborists cannot predict acts of nature, including, without limitation, storms of sufficient strength, which can cause an apparently healthy tree to fail. Additionally, arborists cannot guarantee that a tree will be healthy or safe under all circumstances or for any specific period of time. A tree's condition could change over a short or long period of time due to climatic, cultural, or environmental conditions. Further, there is no guarantee or certainty that recommendations or efforts to correct unsafe conditions will prevent future breakage or failure of a tree.

To live or work near trees is to accept some degree of risk. Neither the author of this arborist report nor Dudek assume any responsibility for or will be liable for any claims, losses, or damages for damage to any tree, death or injury to any person, or any loss of or damage to any personal or real property.

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6 References

City of Pomona. n.d. Oak tree preservation. Accessed July 2022. https://library.municode.com/ca/pomona/codes/zoning?nodeId=APXIZ00R_PTIII_S.5809-230ATRPR.

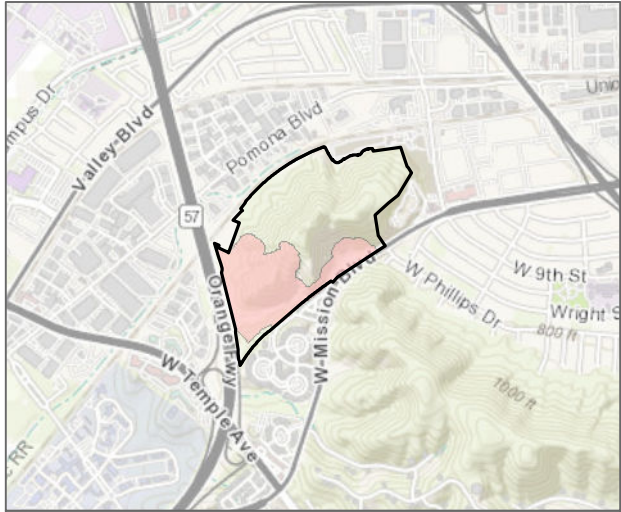
City of Pomona. 2014. Pomona General Plan. Adopted March 2014. <https://www.pomonaca.gov/home/showpublisheddocument/2402/637521057423830000>.

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

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Appendix A

Tree Location Exhibit



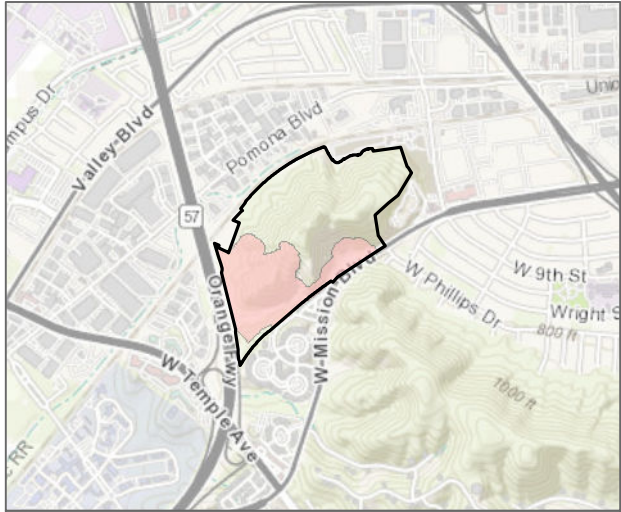
- Project Site
- Species
- *Quercus agrifolia*, Coast live oak



SOURCE: NAIP IMAGERY 2020

Appendix B

Tree Impact Exhibit



- Project Site
- Impact Limits
- Disposition
- Direct



SOURCE: NAIP IMAGERY 2020

Appendix C

Tree Survey Area Representative Photographs

Appendix C

Photograph Log



Photograph 1 – View of steep terrain and general tree locations.



Photograph 2 – View of steep terrain and general tree locations.



Photograph 3 – View of steep terrain and general tree locations.



Photograph 4 – View of steep terrain and general tree locations.

Appendix D

Tree Information Matrix

Appendix D - Tree information Matrix														
Tree No.	Botanical Name	Common Name	Stems	Individual Stem Diameters (in.)						Height (ft.)	Canopy width (ft.)	Health	Structure	Disposition
				D1	D2	D3	D4	D5	D6					
9	<i>Quercus agrifolia</i>	Coast live oak	1	13	0	0	0	0	0	20	20	good	good	Direct
10	<i>Quercus agrifolia</i>	Coast live oak	2	6	10	0	0	0	0	15	15	good	good	Direct
11	<i>Quercus agrifolia</i>	Coast live oak	1	25	0	0	0	0	0	20	25	good	good	Direct
12	<i>Quercus agrifolia</i>	Coast live oak	1	23	0	0	0	0	0	30	50	good	good	Direct
13	<i>Quercus agrifolia</i>	Coast live oak	1	22	0	0	0	0	0	25	20	good	good	Direct
14	<i>Quercus agrifolia</i>	Coast live oak	1	21	0	0	0	0	0	25	35	good	good	Direct
15	<i>Quercus agrifolia</i>	Coast live oak	1	25	0	0	0	0	0	40	45	good	good	Direct
16	<i>Quercus agrifolia</i>	Coast live oak	1	25	0	0	0	0	0	18	25	good	good	Direct
18	<i>Quercus agrifolia</i>	Coast live oak	1	12	0	0	0	0	0	25	20	good	good	Direct
25	<i>Quercus agrifolia</i>	Coast live oak	1	25	0	0	0	0	0	20	25	good	fair	Direct
26	<i>Quercus agrifolia</i>	Coast live oak	1	32	0	0	0	0	0	25	45	good	good	Direct
27	<i>Quercus agrifolia</i>	Coast live oak	1	25	0	0	0	0	0	25	40	good	good	Direct

Appendix E

Tree Protection Measures

APPENDIX D

Tree 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 construction activity (drainage, demolition, material removal or delivery), oak and landmark 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.

Fencing and Signage: A 6-foot high, chain link fence with tree protection signs shall be erected around all trees (or tree groups) with canopies that fall within 30 feet of construction activity. The protective fence should be installed at a distance from the trunk that is equal to the dripline radius plus 5 feet (protected tree zone). For any trees that would be encroached upon by construction activities, fencing shall be placed as far away from trunk of the tree as possible while still allowing the required construction activities to proceed. This fencing 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 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.

APPENDIX E (Continued)

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 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 City 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.

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 ribbon. If contact with the tree crown is unavoidable, prune the conflicting branch(es) using ISA or ANSI A300 standards.

Grade Changes: Grade changes, including adding fill, are not permitted within the tree protection zone, without special written authorization and under supervision by a Certified Arborist. Lowering the grade within this area 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.

Trenching: Unless a Tree Permit has been issued for trenching activity within the fenced tree protection zone, 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 Dosko root pruner or equivalent. 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.

APPENDIX E (Continued)

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.***

Canopy Pruning: Do not prune any of the trees until all construction is completed. This will help protect the tree canopies from damage. All pruning shall be completed under the direction of an ISA Certified Arborist and using ISA guidelines. Only 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.

Inspection: An ISA Certified Arborist shall inspect the trees on at least a monthly basis for the duration of construction activity. A summary report documenting observations and management recommendations shall be submitted to the owner following each inspection. Photographs of representative trees are to be included in each report.

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.

APPENDIX E (Continued)

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.

Monitoring: All trees within 30 feet of construction activity shall be monitored by an ISA Certified Arborist for the first two years after construction completion. An annual monitoring report shall be submitted to the City Arborist. Each report shall summarize the inspection efforts, document observations and management actions taken, include photographs of each tree, and compare post-construction tree conditions with the original, pre-construction baseline condition. If any retained trees die within this inspection period, they shall be replaced at a ratio approved by the City.