

**ATTACHMENT D**  
**NATIVE TREE SURVEY REPORT**

## NATIVE TREE SURVEY

### Arroyo Seco Canyon Project Pasadena, California

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September 2014



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## SECTION 1.0 INTRODUCTION

The purpose of this report is to (1) identify and quantify trees on the Arroyo Seco Canyon project site (hereafter referred to as the project site) that are regulated by the City of Pasadena Tree Ordinance (City Tree Ordinance) (Pasadena 2002) and/or the *California Fish and Game Code*; (2) determine the impact that the project would have on these trees; and (3) determine the expected number of replacement trees that would be required to mitigate these impacts.

### 1.1 PROJECT LOCATION AND DESCRIPTION

The Arroyo Seco Canyon Project will increase the utilization of surface water rights held by the City of Pasadena Water and Power Department (PWP) by restoring and improving the intake facilities; modifying the existing sediment removal mechanism; naturalizing the Arroyo Seco streambed; and expanding recharge operations by creating additional spreading basins. In addition, the Project is planned to include recreational and educational amenities near the Headworks structure as well as a new reduced size parking lot at the existing Jet Propulsion Laboratory (JPL) parking site for those using the Arroyo Seco Canyon and Hahamongna Watershed Park area. The project site is in the City of Pasadena and is located on the U.S. Geological Survey's (USGS') Pasadena 7.5-minute quadrangle map (Exhibit 1).

The survey area for this report consists of four discrete areas extending along the Arroyo Seco Canyon (Exhibit 2). Proposed project activities and current site conditions are discussed below:

- Area 1 is the northernmost portion of the survey area, generally centered along the Arroyo Seco headworks. Currently this area consists of white alder (*Alnus rhombifolia*), coast live oak (*Quercus agrifolia*), western sycamore (*Platanus racemosa*), black cottonwood (*Populus trichocarpa* [*P. balsamifera* ssp. *t.*]) black willow (*Salix gooddingii*), and arroyo willow (*Salix lasiolepis*). Proposed activities in this area include removal of the existing headworks structure, installation of rip-rap bank stabilization, minor grading to create an additional stream channel; creation of a pedestrian trail, installation of picnic tables, and establishment of native landscaping.
- Area 2 is located approximately ¼ mile downstream of Area 1, and contains the Arroyo Seco intake structure within its limits. This area supports several mature white alders, coast live oaks, and western sycamores. Proposed activities in this area include demolition of the existing weir structure and construction of a new mechanical weir diversion structure and associated rip-rap bank stabilization.
- Area 3 consists of the JPL parking lot and adjacent spreading basins. Proposed activities in this area include removal of much of the existing parking lot facility and expansion of the spreading basins. The parking lot has one coast live oak tree in the middle of the parking lot and several other trees along the edges of the survey area. The spreading grounds contain several mature coast live oaks and western sycamores along the edges of these facilities.
- A Temporary Staging Site is located approximately 600 feet north of Area 3. This area contains predominantly California sage scrub vegetation. This area may be used as a temporary staging site for construction activities. Construction materials, equipment, and vehicles may be temporarily located in this area during construction activities in Areas 1 and 2.

Two natural events have impacted trees within the project site boundaries in recent years. Heavy storm flows in November and December 2009 scoured many of the mature trees that were found in Area 1 (Area 2 was affected to a lesser degree). As a result, much of Area 1 is covered by new willow growth that is approximately four years old and not large enough to qualify for inclusion in this report. In addition, severe winds in December 2011, felled several trees and desiccated many others. White alders were especially affected by this wind event and alder snags commonly occur throughout Areas 1 and 2.

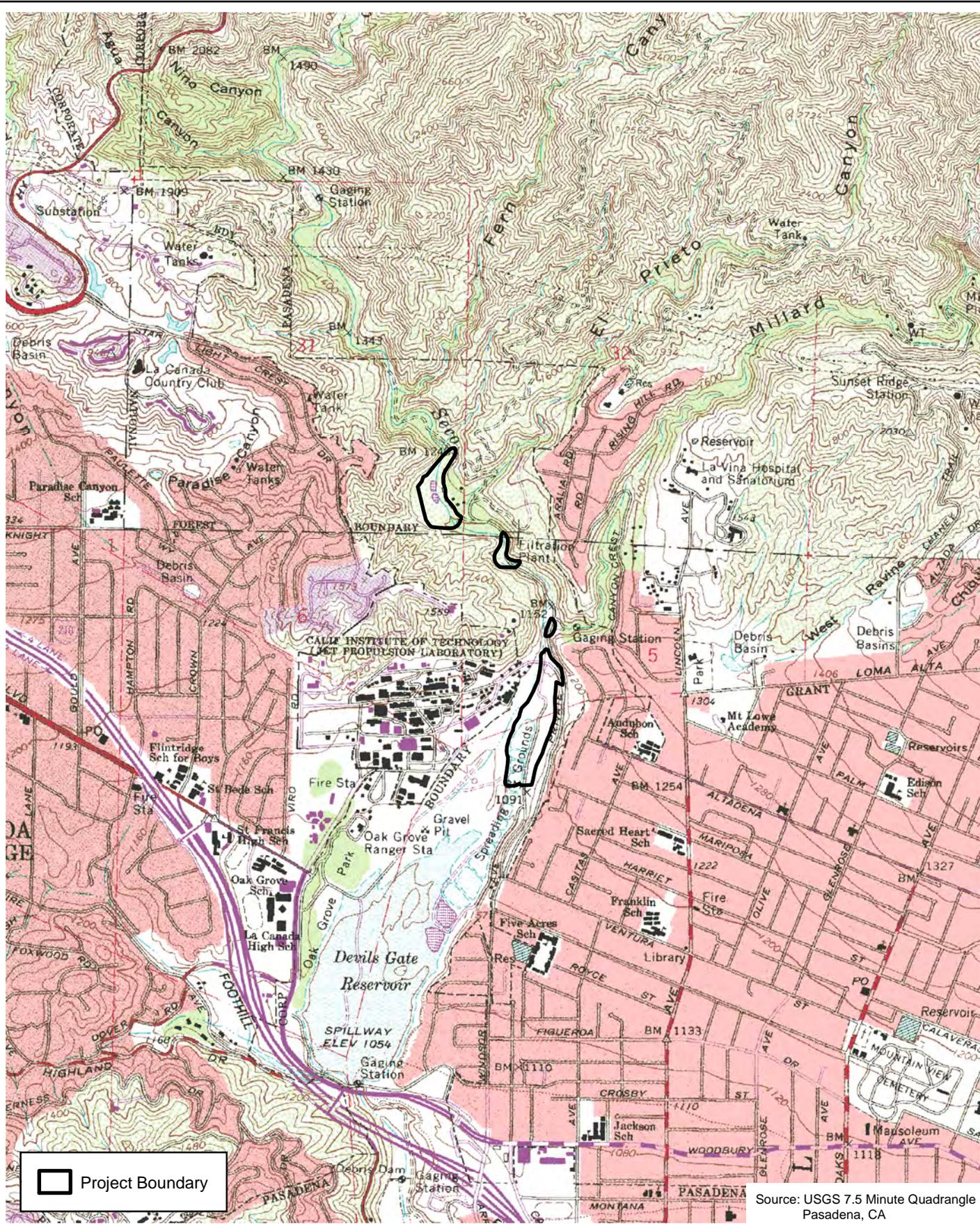
## 1.2 REGULATORY BACKGROUND

Trees within the survey areas described above are potentially regulated by the City of Pasadena Tree Ordinance (Chapter 8.52 of the Pasadena Municipal Code, provided in Appendix A) and the *California Fish and Game Code* (§§1600–1616).

Under the City Tree Ordinance, removal of or injury to any protected trees requires a city permit. Protected trees include native trees that have a trunk diameter at breast height (dbh) of at least 8 inches and various other non-native “specimen” trees of varying minimum sizes as provided in the Ordinance. The Ordinance also protects any tree designated as a “landmark” tree (trees having significant cultural or historical importance). Native trees that are specified in the Ordinance include California buckeye (*Aesculus californica*), white alder (*Alnus rhombifolia*), native oaks (coast live oak, scrub oak [*Quercus berberidifolia*], canyon oak [*Q. chrysolepis*], Engelmann oak [*Q. engelmannii*], valley oak [*Q. lobata*]), western sycamore, Fremont cottonwood (*Populus fremontii*), black cottonwood, arroyo willow, and California bay laurel (*Umbellularia californica*). Replacement requirements under the Ordinance are determined by a replacement matrix that is discussed later in this report.

In addition, many trees in the survey area are regulated by the *California Fish and Game Code*. The California Department of Fish and Wildlife (CDFW) is charged with issuing Streambed Alteration Agreements that would allow for the removal of native tree species that occur within the bed, channel, or bank of any river, stream, or lake. The minimum size requirement for regulation by the CDFW is two inches dbh. Mitigation/replacement ratios for trees within CDFW jurisdiction is based on the size of the tree dbh (i.e., mitigation ratios increase as the size of the impacted tree increases).

It should be noted that many trees in the survey area are subject to regulation by both the City Tree Ordinance and the *California Fish and Game Code*.



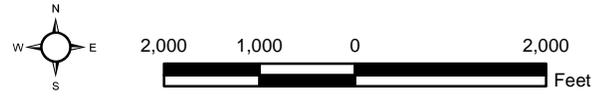
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 Project Boundary

Source: USGS 7.5 Minute Quadrangle Pasadena, CA

### Local Vicinity

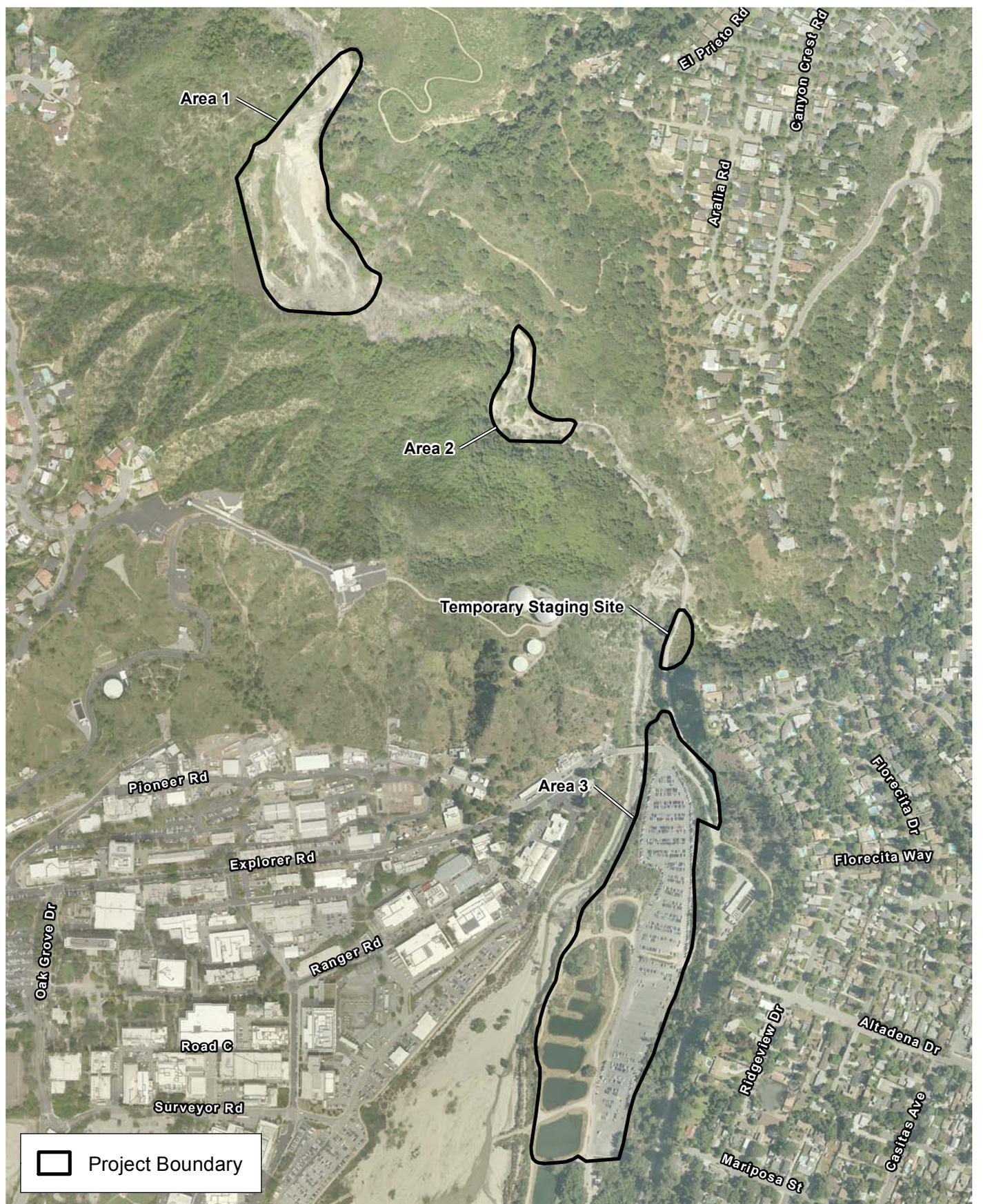
Tree Survey Report for the Arroyo Seco Canyon Project



### Exhibit 1



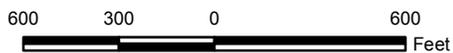
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## Survey Areas

Exhibit 2

Tree Survey Report for the Arroyo Seco Canyon Project



**Bonterra**  
CONSULTING

## SECTION 2.0 METHODOLOGY

The project site was surveyed by BonTerra Consulting<sup>1</sup> Certified Arborist David Hughes (International Society of Arboriculture Certificate Number WE-7752A) and Biologist Trevor Bristle on April 17, 2013. A follow up survey was performed by Mr. Hughes and BonTerra Consulting Biologist Dani Henning on September 27, 2013. All trees found within the survey area boundaries that are subject to regulation by the City Tree Ordinance and/or the *California Fish and Game Code* were identified and mapped in the field. During the survey, each tree was tagged and the following data were collected: dbh, tree height, and canopy width, as well as qualitative ratings on aesthetics and overall health. Collected data are included in Appendix B.

### 2.1 MAPPING

Each tree that was surveyed was mapped on a on a 100-scale (1 inch = 100 feet) aerial photograph aerial photograph in the field. In addition, each tree location was recorded using a hand-held global positioning system (GPS) device..

### 2.2 TREE TAGS

Each tree that was assessed was individually tagged with an aluminum tag bearing the tree number. Trees that could not be tagged (e.g., trees on extremely steep slopes, surrounded by poison oak [*Toxicodendron diversilobum*], or infested with bees) were given identifying numbers. Tag numbers used during the surveys included tags 1 through 147.

### 2.3 DIAMETER

Using a diameter tape, measurements were taken at four and one-half feet above mean natural grade; multiple trunks were measured separately. The diameter of the largest two trunks was combined to determine the total diameter of each tree. In addition, the total number of trunks was recorded. The diameter was estimated for trees that were not accessible (e.g., surrounded by poison oak or located on a steep slope).

### 2.4 HEIGHT AND CANOPY

The height of each tree was estimated from mean natural grade to the highest branch. Also, the diameter of each tree's canopy was estimated at its widest point.

### 2.5 AESTHETICS

Each tree assessed was inspected and compared to an archetype tree (considered excellent on all points mentioned below) of the same species. Tree aesthetics were evaluated with respect to overall form and symmetry, crown balance, branching pattern, and broken branches.

The trees were rated on a scale of 1 to 5, as follows:

- 1: Very Poor
- 2: Poor
- 3: Fair
- 4: Good

<sup>1</sup> Although BonTerra Consulting merged with Psomas and became "BonTerra Psomas" as of January 1, 2014, "BonTerra Consulting" is still used throughout this document for all work completed and documents produced before January 1, 2014.

5: Excellent

## 2.6 **HEALTH**

The health of each tree was assessed based on visual evidence of vigor, such as the amount of foliage; leaf color and size; presence of branch or twig dieback; severity of insect infestation; the presence of disease; heart rot; fire damage; mechanical damage; amount of new growth; appearance of bark; and rate of callous development over wounds. The tree's structural integrity was also evaluated with respect to branch attachment, branch placement, root health, and stability. In addition, the health assessment considered such elements as the presence of decay, weak branch attachments, and the presence of exposed roots due to soil erosion.

The trees were rated on the 1 to 5 scale, noted above.

### SECTION 3.0 RESULTS

During the survey effort, a total of 147 trees were documented within the project survey area that met the minimum size requirement described in the City Tree Ordinance and/or the *California Fish and Game Code*. Exhibit 3, Tree Locations, depicts the locations of surveyed trees as well as project impact areas and boundaries. Of the 147 trees included in this survey, 122 trees are “native” trees and 2 are categorized as “specimen” trees as described in the Ordinance (described above in Section 1.2). None of the trees in the survey area are believed to be “landmark” trees as described in the Ordinance. Of these 124 trees covered by the City Ordinance, a total of 17 are expected to be removed in order to construct the project. These consist of 13 white alders, 1 coast live oak, and 3 arroyo willows.

Of the 147 trees documented, a total of 102 meet the requirements for protection by the CDFW. A total of 16 of these trees are expected to be removed to construct the project. These include 13 white alders and 3 arroyo willows.

In all, a total of 17 trees are expected to be removed. Of these 17 trees that are proposed for removal, 16 of them meet the requirements for protection under both the City Tree Ordinance and the *Fish and Game Code*. One coast live oak occurs in the middle of the parking lot in Area 3 that qualifies for protection under the City Tree Ordinance but not the *Fish and Game Code*. A summary of trees included in the survey effort that are regulated by the City Tree Ordinance and the *Fish and Game Code* is provided in Tables 1 and 2. The quantity of trees within each survey area is shown with the number of expected removals represented in parentheses.

**TABLE 1  
TREES WITHIN SURVEY AREA REGULATED UNDER PASADENA  
TREE ORDINANCE**

Species	Quantity of Trees (Expected Removals)				
	Area 1	Area 2	Area 3	Temp Staging Area	Total
<b>Native Trees</b>					
<i>Alnus rhombifolia</i> white alder	5 (5)	30 (8)	-	5 (0)	<b>40 (13)</b>
<i>Juglans californica</i> southern California black walnut	-	-	1 (0)	-	<b>1 (0)</b>
<i>Platanus racemosa</i> western sycamore	18 (0)	5 (0)	6 (0)	3 (0)	<b>32 (0)</b>
<i>Populus trichocarpa</i> black cottonwood	6 (0)	-	-	-	<b>6 (0)</b>
<i>Quercus agrifolia</i> coast live oak	16 (0)	3 (0)	8 (1)	4 (0)	<b>31 (1)</b>
<i>Quercus berberidifolia</i> scrub oak	1 (0)	-	-	-	<b>1 (0)</b>
<i>Quercus chrysolepis</i> canyon live oak	-	1 (0)	-	-	<b>1 (0)</b>
<i>Salix lasiolepis</i> arroyo willow	8 (3)	1 (0)	-	-	<b>9 (3)</b>
<i>Umbellularia californica</i> California bay laurel	-	-	-	1 (0)	<b>1 (0)</b>
<b>Specimen Trees</b>					
<i>Pinus</i> sp. pine	2 (0)	-	-	-	<b>2 (0)</b>
<b>Total</b>	<b>56 (8)</b>	<b>40 (8)</b>	<b>15 (1)</b>	<b>13 (0)</b>	<b>124 (17)</b>

**TABLE 2  
TREES WITHIN SURVEY AREA REGULATED BY CDFW**

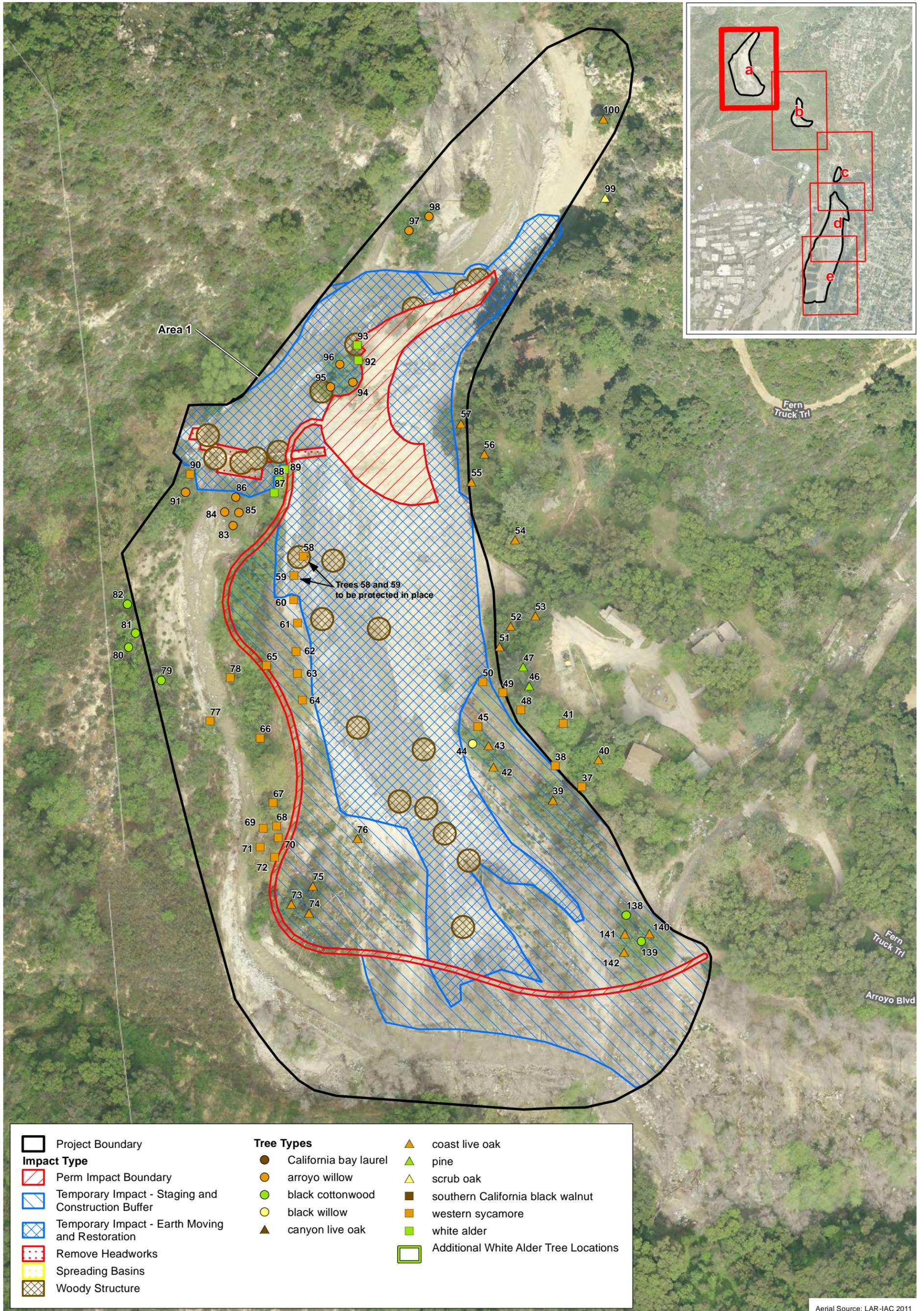
Species	Quantity of Trees (Expected Removals)				
	Area 1	Area 2	Area 3	Temp Staging Area	Total
<i>Alnus rhombifolia</i> white alder	5 (5)	37 (8)	-	5 (0)	<b>45 (13)</b>
<i>Platanus racemosa</i> western sycamore	19 (0)	5 (0)	1 (0)	3 (0)	<b>28 (0)</b>
<i>Populus trichocarpa</i> black cottonwood	2 (0)	-	-	-	<b>2 (0)</b>
<i>Quercus agrifolia</i> coast live oak	8 (0)	2 (0)	1 (0)	-	<b>11 (0)</b>
<i>Quercus chrysolepis</i> canyon live oak	-	1 (0)	-	-	<b>1 (0)</b>
<i>Salix gooddingii</i> black willow	1 (0)	-	-	-	<b>1 (0)</b>
<i>Salix lasiolepis</i> arroyo willow	10 (3)	1 (0)	-	-	<b>11 (3)</b>
<i>Umbellularia californica</i> California bay laurel	-	-	-	1 (0)	<b>1 (0)</b>
<b>Total</b>	<b>45 (8)</b>	<b>46 (8)</b>	<b>2 (0)</b>	<b>9 (0)</b>	<b>102 (16)</b>

These trees are expected to be removed based on current construction drawings for the project. It is possible that construction activity may be able to avoid a portion of these trees, thus lowering the overall impacts. However, because the removal of these trees is a clear possibility, they should be included in all tree removal permits that are acquired. If project construction is able to avoid some of these trees, project approvals and regulatory permits could later be amended and the overall mitigation/replacement requirements would be reduced accordingly.

A total of 13 trees were documented in the vicinity of the temporary staging site though none are located within the boundaries of that area. Because none of these trees are located within the boundaries of the temporary staging site, no impacts to these trees are anticipated. However, if any soil disturbance or stockpiling of materials are proposed in this area, protective fencing shall be erected outside of the outer canopy of any tree whose root zone may be indirectly affected by activities in this area.

There are several trees that appear to be located within or immediately adjacent to impact areas that are not included in the impact assessment. Such trees include those located adjacent to features whose footprint that can be adjusted shortly before and during construction in order to avoid these trees. For example, trees 65, 70, and 72 are western sycamores that are located immediately adjacent to the planned trail location in Area 1. The trail is unpaved and at grade and will therefore have little effect on these trees. Furthermore, if it is determined that the trail may have a negative effect on these trees, the trail pathway can be adjusted in the field to avoid any potential impact.

The majority of trees in the survey area are in good or excellent health as would be expected in a natural open space setting. A total of 12 trees (8.1 percent of trees surveyed) received a health rating of “poor” or “very poor” though no obvious reason was observed for their poor health. Of these trees, nine of them are white alders and it is suspected that the severe wind storm in December 2011 described above desiccated these trees, as numerous white alder snags are present throughout the area, having died shortly after this wind storm.

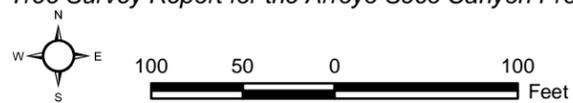


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Aerial Source: LAR-IAC 2011

### Tree Locations

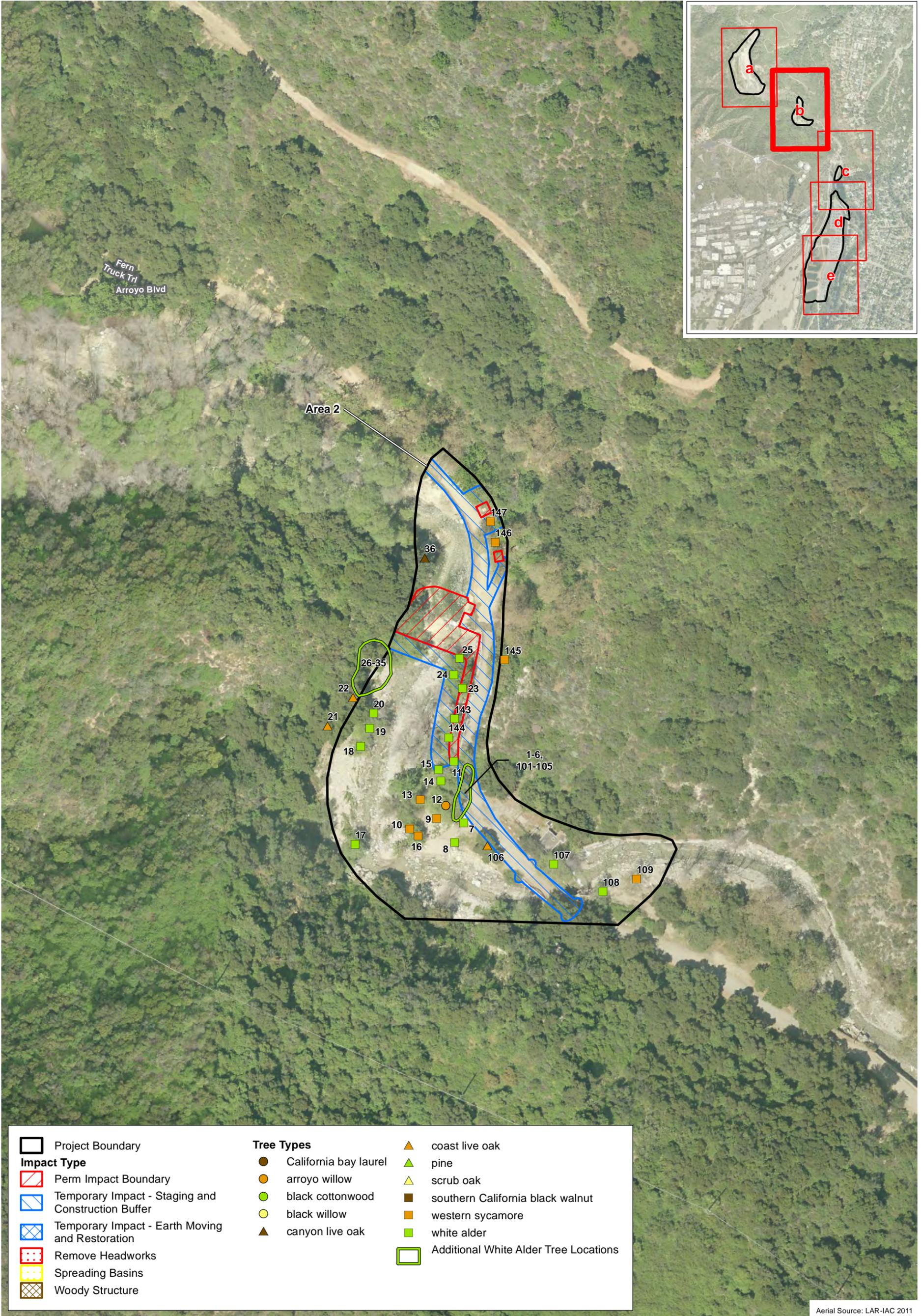
Tree Survey Report for the Arroyo Seco Canyon Project



### Exhibit 3a



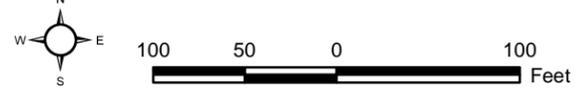
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Aerial Source: LAR-IAC 2011

**Tree Locations**

Tree Survey Report for the Arroyo Seco Canyon Project



**Exhibit 3b**



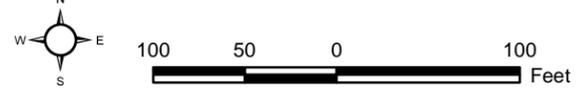
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Aerial Source: LAR-IAC 2011

### Tree Locations

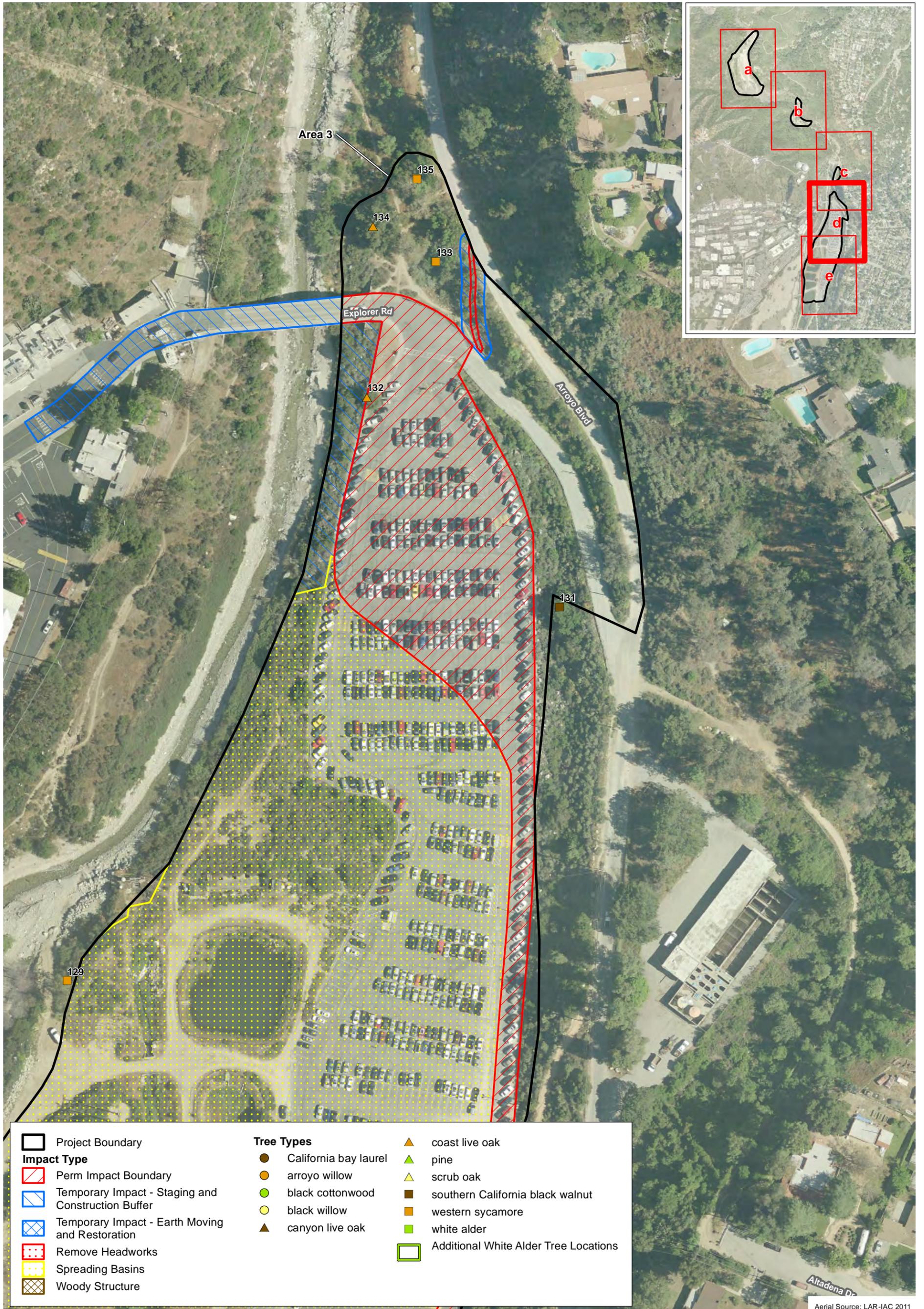
Tree Survey Report for the Arroyo Seco Canyon Project



### Exhibit 3c



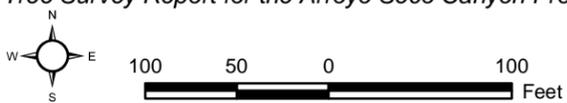
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Aerial Source: LAR-IAC 2011

### Tree Locations

Tree Survey Report for the Arroyo Seco Canyon Project



### Exhibit 3d



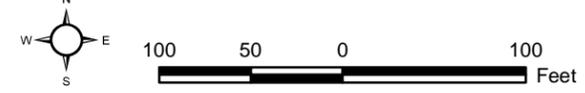


Project Boundary	<b>Tree Types</b>	coast live oak
<b>Impact Type</b>	California bay laurel	pine
Perm Impact Boundary	arroyo willow	scrub oak
Temporary Impact - Staging and Construction Buffer	black cottonwood	southern California black walnut
Temporary Impact - Earth Moving and Restoration	black willow	western sycamore
Remove Headworks	canyon live oak	white alder
Spreading Basins	Additional White Alder Tree Locations	
Woody Structure		

Aerial Source: LAR-IAC 2011

### Tree Locations

Tree Survey Report for the Arroyo Seco Canyon Project



### Exhibit 3e



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## SECTION 4.0 MITIGATION REQUIRED

As a result of project construction, it is anticipated that a total of 17 trees will be removed. All of these trees are regulated by the City Tree Ordinance and 16 are regulated under Section 1602 of the *California Fish and Game Code*. According to guidelines adopted by the City of Pasadena in January 2010 (Pasadena 2010), tree replacement ratios are determined based on the size of the tree to be removed (i.e., larger trees require a higher replacement ratio). However use of larger sized replacement trees will, in turn, reduce the required number of replacement trees.

Chapter 8.52.08, paragraph E of the Pasadena Municipal Code indicates that a city permit for tree removal would not be needed since the proposed project is subject to city design review. It is assumed that review and approval of the proposed project by the Pasadena Planning Department and City Council constitutes approval of the proposed tree removals. Tree replacement guidelines as specified in the City Tree Ordinance are provided in Table 3 and expected tree replacement requirements for the proposed project are provided in Table 4.

Trees not expected to be impacted by construction shall be enclosed by barriers such as chain-link fencing or orange snow fencing. At a minimum, the barriers will be placed at the outer canopy of each tree to be protected in place, and no grade changes will be made within the barriers without prior approval by the City.

During project construction, a biological monitor will be present to record the number of trees actually impacted. If project construction can avoid impacting oak trees, the number of replacement trees will be reduced accordingly.

**TABLE 3  
TREE REPLACEMENT GUIDELINES  
CITY OF PASADENA TREE ORDINANCE**

Trunk Diameter of Removed Tree	Tree Replacement Requirements	
	Replacement Ratio	Container Replacement Size
8.0 – 12.9 inches	4:1	15 gallon
	2:1	24 inch box
13.0 – 18.9 inches	8:1	15 gallon
	4:1	24 inch box
	2:1	36 inch box
19.0 – 36.9 inches	8:1	24 inch box
	4:1	36 inch box
>37 inches	12:1	24 inch box
	8:1	36 inch box

**TABLE 4  
ANTICIPATED MITIGATION FOR TREES REGULATED BY THE  
CITY OF PASADENA TREE ORDINANCE**

Species		Tree Size (dbh)				Total
		8–12.9"	13–18.9"	19–36.9"	>37"	
<i>Alnus rhombifolia</i> white alder	Impacts	6	6	1	–	<b>13</b>
	Replacement Ratio	4:1 15 gallon	8:1 15 gallon	8:1 24" box	12:1 24" box	
	Required Replacement	24	48	8	–	<b>72 (15 gallon); 8 (24" box)</b>
<i>Quercus agrifolia</i> coast live oak	Impacts	–	1	–	–	<b>1</b>
	Replacement Ratio	4:1 15 gallon	8:1 15 gallon	8:1 24" box	12:1 24" box	
	Required Replacement	–	8	–	–	<b>8 (15 gallon);</b>
<i>Salix lasiolepis</i> arroyo willow	Impacts	1	1	1	–	<b>3</b>
	Replacement Ratio	4:1 15 gallon	8:1 15 gallon	8:1 24" box	12:1 24" box	
	Required Replacement	4	8	8	–	<b>12 (15 gallon); 8 (24" box)</b>
<b>Tree Impact Subtotal</b>		7	8	2	0	<b>17</b>
Replacement Ratios		4:1 15 gallon	8:1 15 gallon	8:1 24" box	12:1 24" box	
<b>Total Replacement Requirement</b>		28 15 gallon	64 15 gallon	16 24" box	0 24" box	<b>92 (15 gallon); 16 (24" box)</b>
Please note that replacement tree quantities are based on the smallest container size allowable under the City Tree Ordinance. Fewer replacement trees would be required if larger trees are used as described in Table 3.						
dbh: diameter at breast height; ": inches						

In summary, a total of 108 replacement trees (92 15-gallon trees and 16 24-inch box trees) would be required to mitigate the loss of the 17 trees that are regulated by the City Tree Ordinance. The total number of replacement trees can be lowered if larger replacement stock is used. For example, if all replacement trees are 24-inch box size, then a total of 62 replacement trees would be sufficient to meet the replacement requirement in the City Tree Ordinance.

Similar to the City Tree Ordinance, the CDFW also requires escalating mitigation ratios based on each tree’s trunk diameter (i.e., larger trees have a higher mitigation ratio). Though the tree replacement ratios are not codified in the California Fish and Game Code, the ratios shown in Table 5 are typically used by the CDFW. However, while the City of Pasadena has requirements for the size of each replacement tree, the CDFW does not typically specify the size of replacement trees.

**TABLE 5  
ANTICIPATED MITIGATION FOR TREES UNDER CDFW JURISDICTION**

Species		Tree Size (dbh)					Total
		< 5"	5-12"	12-24"	24-36"	>36"	
<i>Alnus rhombifolia</i> white alder	Impacts	-	5	8	-	-	13
	Replacement Ratio	2:1	5:1	10:1	15:1	20:1	
	Required Replacement	-	25	80	-	-	105
<i>Salix lasiolepis</i> arroyo willow	Impacts	-	1	1	1	-	3
	Replacement Ratio	2:1	5:1	10:1	15:1	20:1	
	Required Replacement	-	5	10	15	-	30
<b>Tree Impact Subtotal</b>		-	6	9	1	-	16
Replacement Ratios		2:1	5:1	10:1	15:1	20:1	
<b>Total Replacement Requirement</b>		-	30	90	15	-	135

In summary, a total of 135 replacement trees would be required to mitigate the loss of the 16 trees that are regulated by the CDFW. Please note that the mitigation requirements between the two jurisdictions are not additive. Instead, the larger total replacement requirement should be used, though the larger size trees are required to meet the City Tree Ordinance requirements. Because the CDFW does not have minimum replacement tree size requirements, it is assumed that one gallon trees would be installed to satisfy the CDFW. In all, the following tree replacement quantities and sizes are to be established to meet the requirements of the City Tree Ordinance and the *California Fish and Game Code*:

- 105 white alders (72 15-gallon trees, 8 24-inch box trees, and 25 1-gallon trees);
- 8 coast live oaks (8 15-gallon trees);
- 30 arroyo willows (12 15-gallon trees, 8 24-inch box trees, and 10 1-gallon trees)

It should be noted that using smaller container stock for replacement trees may result in better long-term performance (larger trees require more maintenance than smaller trees and experience greater transplanting shock). Therefore, it is recommended that a mix of larger and smaller container stock (1-gallon and 15-gallon trees) be used in open space planting sites. Use of larger container stock (15-gallon and 24-inch box) is more appropriate in landscape settings. Due to the rapid growth of willow trees, use of large container stock is not warranted. All willow replacement trees should be either 1-gallon containers or vegetative cuttings.

## SECTION 5.0 REFERENCES

Pasadena, City of. 2010 (January 25). Agenda Report: Amendments to the Tree Protection Ordinance - Private Tree Removals. Pasadena, CA: the City.

———. 2002 (May 5, codified through). Municipal Code, City of Pasadena (Chapter 8.52, City Trees and Tree Protection Ordinance). Pasadena, CA: the City. <http://www.ci.pasadena.ca.us/WorkArea/DownloadAsset.aspx?id=6442461537>.

**APPENDIX A**

**PASADENA MUNICIPAL CODE  
CHAPTER 8.52 TREE ORDINANCE**

**Pasadena, California, Code of Ordinances**  
**Title 8 - HEALTH AND SAFETY**  
**Chapter 8.52 CITY TREES AND TREE PROTECTION ORDINANCE**

**8.52.010 Short title.**

This chapter shall be known as the "city trees and tree protection ordinance."

*(Ord. 6896 § 2 (part), 2002)*

**8.52.015 Purposes of ordinance.**

Pasadena is graced by the presence of thousands of mature trees that contribute long-term aesthetic, environmental, and economic benefits to the city. Aesthetically, trees offer dimensions in the form of color, shape, texture, scale and variety. Mature trees are often integral components of many historic sites and their presence contributes to the site's cultural and historic significance.

Environmental benefits derived by trees include the filtering of air pollutants; increasing atmospheric oxygen levels; stabilizing soils; reducing heat convection; decreasing wind speed; and reducing the negative effects of solar glare. The biological diversity of wildlife and plant communities is enhanced by the favorable conditions created by trees.

The economic benefits derived from trees include increased property values, and additional revenue generated by businesses, visitors and new residents attracted to the urban forest image of the city. Trees are a major capital asset to the city and like any valuable asset they require appropriate care and protection.

Therefore, it is the purpose of this ordinance to:

- A. Preserve and grow Pasadena's canopy cover by protecting landmark, native and specimen trees on specified areas of private property and expanding the protection of street trees and trees on public property.
- B. Safeguard the City's urban forest by providing for the regulation of the protection, planting, maintenance and removal of trees in the city.
- C. Protect the visual and aesthetic character of the city.
- D. Improve and enhance property values by conserving and adding to the distinctive and unique aesthetic character of the many areas of Pasadena.
- E. Improve the quality of life for residents, visitors and wildlife.
- F. Create favorable conditions for the protection of designated landmark, native and specimen trees, for the benefit of current and future residents of Pasadena.
- G. Maintain and enhance the general health, safety and welfare of the city and its residents by assisting in counteracting air pollution and in minimizing soil erosion and other related environmental damage.
- H. Protect and maintain healthy trees in the land use planning processes as set forth herein.
- I. Establish procedures and practices for fulfilling the purposes of this city tree and tree protection ordinance.

*(Ord. 6896 § 2 (part), 2002)*

**8.52.020 Definitions.**

For the purposes of this chapter, the following terms are defined as follows:

- A. "City" shall mean the city of Pasadena.

- B. "City manager" means the city manager and such representative as he or she may designate in writing.
- C. "Diameter-at-breast-height (DBH)" means the diameter of the tree 4½ feet above ground on the uphill side of the tree. If a tree forks below breast height, it is considered "a multi-trunk." A measuring tape can be used to measure tree trunk circumference and then the circumference divided by 3.14 to determine diameter.
- D. "Established corner yard" means the area between the side property line and the principal structure on a lot.
- E. "Established front yard" means the area between the front property line and the principal structure on a lot.
- F. "Hazard" or "hazardous" means a tree, or part of a tree, that has a high potential for failure and falling on a nearby object because of dead or dying branches, roots or trunk.
- G. "Injure" means any act or omission which substantially affects or seriously jeopardizes the health of a living tree, in the determination of the city manager.
- H. "Landmark tree" means a tree designated as a landmark under Chapter 17.62 of this code as a tree of historic or cultural significance and of importance to the community due to any of the following factors: It is one of the largest or oldest trees of the species located in the city; it has historical significance due to an association with a historic building, site, street, person or event; or it is a defining landmark or significant outstanding feature of a neighborhood.
- I. "Landmark-eligible tree" means a tree which meets the criteria for designation as a landmark tree, as determined by the review authority.
- J. "Located" or "location" of a tree means that place where any portion of the trunk of a tree is found at natural grade.
- K. "Maintain" or "maintenance" means pruning, trimming, spraying, fertilizing, watering, treating for disease or injury or any other similar act which promotes growth, health, beauty and life of trees.
- L. "Master street tree plan" means the comprehensive street tree plan approved by the city council, which lists the official street tree to be planted or replaced for all streets or sections of streets within the city.
- M. "Mature tree" means an otherwise non-protected tree with a diameter-at-breast-height (DBH) of 19 inches or greater.
- N. "Median" or "traffic island" means a raised area within a street not used for vehicular traffic.
- O. "Multi-trunk" means any tree with multiple trunks attributed to a single tree. Each trunk shall be measured at a height of 4½ feet above natural grade, and the combined areas of the trunks shall be used to determine the tree's size for the purposes of this ordinance.
- P. "Native tree" means any tree with a trunk more than 8 inches in diameter at a height of 4 ½ feet above natural grade that is one of the following species: *Quercus agrifolia* (Coast live oak), *Quercus engelmannii* (Engelmann oak), *Quercus chrysolepis* (Canyon oak), *Platanus racemosa* (California sycamore), *Juglans californica* (California walnut), *Quercus berberidifolia* (Scrub oak), *Quercus lobata* (Valley oak), *Umbellularia californica* (California bay), *Populus fremontii* (Cottonwood), *Alnus rhombifolia* (California alder), *Populus trichocarpa* (Black cottonwood), *Salix lasiolepis* (Arroyo willow), and *Aesculus californica* (California buckeye).
- Q. "Official street tree" means an approved species of street tree designated in the master street tree plan.
- R. "Parkway" means an area between the property line and the face of the curb, or an area between the property line and the area where the face of the curb would ordinarily be located.

- S. "Property owner" means the person listed as the owner in fee simple of a lot or parcel with the office of county recorder or lawfully exercising the power of the property owner with respect to said lot or parcel.
- T. "Protected tree" means a native, specimen, landmark, landmark-eligible, mature (except for the trees in RS or RM-12 zones), or public tree.
- U. "Pruning" means the removal of dead, dying, diseased, live interfering, and weak branches according to the most recent standards of the International Society of Arboriculture.
- V. "Public benefit" means a public purpose, service or use which affects residents as a community and not merely as particular individuals.
- W. "Public tree" means a tree located in a place or area under ownership or control of the city including but without limitation streets, parkways, open space, parkland and including city owned property under the operational control of another entity by virtue of a lease, license, operating or other agreement.
- X. "Replacement matrix" means the table of requirements for replanting replacement trees on private property when removing protected tree/s per Finding 6 in Section 8.52.075
- Y. "Specimen tree" means any tree meeting the criteria established by resolution of the city council by species and size of tree which is thereby presumed to possess distinctive form, size or age, and to be an outstanding specimen of a desirable species and to warrant the protections of this chapter.
- Z. "Street" means any public right of way regardless of whether it is described as a street, avenue, road, boulevard, drive, lane, court, place, alley, or by any other such designation.
- AA. "Street tree" means any public tree whose trunk is located primarily within any parkway, public sidewalk, street median, traffic island or other right of way under the ownership or control of the city by easement, license, fee title or other permissive grant of use.
- BB. "Tree" means a woody plant that has a single main trunk with clear apical dominance (i.e., one primary stem is significantly larger than the secondary stem/s).

(Ord. 6896 § 2 (part), 2002)  
(Ord. No. 7184, § 2, 3-15-2010)

#### **8.52.025 Applicability.**

The provisions of this chapter providing protection for specific trees shall apply as follows, unless excepted by provisions of this chapter.

Native and specimen trees located in the established front yard, required side yard, established corner yard, or required rear yard of all property located in a single-family residential or RM-12 multifamily residential zone, and in all areas of all other zoning districts within the city.

Landmark trees and trees that meet the criteria for designation as a landmark as determined by the review authority.

Public trees located at all places within the city.

Mature trees in all zoning districts except for trees on properties subject to the RS or RM-12 development standards.

(Ord. 6896 § 2 (part), 2002)  
(Ord. No. 7184, § 3, 3-15-2010)

**8.52.030 City manager responsibilities.**

The city manager shall:

- A. By use of city employees, private contractors or authorized volunteers, plant, maintain and otherwise care for, or, if necessary, remove public trees.
- B. Prepare an annual program for tree planting and tree care in public places of the city;
- C. Recommend to the city council changes or additions to the master street tree plan as needed;
- D. Inspect the planting, maintenance and removal of all public trees;
- E. Develop maintenance standards as they relate to trees in public places.
- F. Make determinations on public tree removal based upon tree reports prepared by certified arborists, other relevant facts, and upon established public tree removal criteria;
- G. Review development and construction plans as they affect mature, landmark, landmark-eligible, native, public and specimen trees;
- H. Act as advisor to the design commission of the city;
- I. Prepare and submit the tree protection guidelines, and the specimen tree list, and any revisions thereto to the city council for adoption by resolution;
- J. Issue permits and make determinations specified under this chapter;
- K. Maintain a comprehensive inventory of public trees; and
- L. Act as the enforcement official who is designated to issue a compliance order or an administrative citation to enforce this chapter pursuant to Chapter 1.25 or 1.26, respectively, of this code.

*(Ord. 6896 § 2 (part), 2002)*

*(Ord. No. 7184, § 4, 3-15-2010)*

**8.52.032 Tree protection guidelines.**

Tree protection guidelines are the standards and specifications for the protection of trees under this chapter. The tree protection guidelines, and any revision thereto, shall be effective as of the date of their adoption by resolution of the city council.

*(Ord. 6896 § 2 (part), 2002)*

**8.52.040 Consultation policy.**

All departments, agencies and personnel of the city shall consult with the city manager prior to engaging in any action which would require the removal of, or which would otherwise substantially affect or seriously jeopardize the health of any existing public tree.

*(Ord. 6896 § 2 (part), 2002)*

**8.52.050 Design commission.**

The design commission shall review, advise and make recommendations to the city council relating to the city's tree planting, maintenance and removal practices and proposed amendments to the master street tree plan.

*(Ord. 6896 § 2 (part), 2002)*

**8.52.060 Protection policy.**

It shall be the policy of the city to protect and maintain mature and healthy trees. Special consideration shall be afforded mature, public, landmark, landmark-eligible, native and specimen trees as set forth in this chapter.

- A. Incentives for the Preservation of Mature Trees. When considering an application for any permit or approval that preserves mature trees, a decision may be made through the

design review process or other entitlement process to waive development standards or accept alternative solutions to assist in the preservation of these trees. The review authority or director, if there is no other review authority, may modify the development standards or accept alternative solutions to assist in the preservation of protected trees. Modifications may include a reduction to garden requirements, guest parking requirements, location of driveways and building height limits. The review authority may approve the modification of up to two development standards after first finding that:

1. Applicant investigated alternative site designs and building footprints using existing development standards;
2. Tree/s to be preserved is/are in good health and condition (taking into account species and longevity) as determined by a certified arborist;
3. Project includes a well integrated and thoughtful design solution that enhances the property and its surroundings;
4. Project is not injurious to adjacent properties or uses, or detrimental to environmental quality, quality of life, or the health, safety, and welfare of the public; and
5. Project is consistent with the objectives and policies of the applicable design guidelines and the citywide design principles in the general plan.

*(Ord. 6896 § 2 (part), 2002)*  
*(Ord. No. 7184, § 5, 3-15-2010)*

#### **8.52.065 Designation of landmark trees.**

Any person or city agency may propose to the historic preservation commission that a tree meets the criteria set forth in Section 8.52.020 and should be designated as a landmark under Chapter 17.62 and, thereby, as a landmark tree under this Chapter 8.52.

*(Ord. 6896 § 2 (part), 2002)*  
*(Ord. No. 7184, § 6, 3-15-2010)*

#### **8.52.066 Designation of native and specimen trees.**

Designation of native, specimen and mature trees. All trees meeting the definition of native, specimen, landmark, landmark-eligible, or mature trees in Section 8.52.020 are automatically subject to the protections of this chapter, as of the effective date of the ordinance codified in this chapter.

*(Ord. 6896 § 2 (part), 2002)*  
*(Ord. No. 7184, § 7, 3-15-2010)*

#### **8.52.070 Private property tree removal and landmark tree pruning permits—Applications.**

- A. Where other discretionary approval is requested: Where a property owner wishes to remove a tree protected under this ordinance as part of a plan for which a discretionary approval under Title 17 of this code is otherwise required, the application for discretionary approval shall also be deemed an application for a permit under this chapter to the decision maker for the discretionary approval. Any decision on the application for a permit shall be subject to the same procedures for appeal and call for review as a decision on the associated discretionary approval.
- B. Where no discretionary approval is requested: Where a property owner wishes to remove a tree protected under this ordinance on private property, and no other discretionary approval is required under Title 17 of this code, an application shall be made to the city manager or his/her designee for a permit according to the standard application procedures and submittal requirements set forth in Chapter 17.60 except that

the decision shall be made in accordance with the time set forth in Section 8.52.075(B). A decision on an application shall be made according to the standards of this chapter and shall be subject to the same procedures for appeal and call for review set forth in Chapter 17.72 as if it were a decision of the director within the meaning of that chapter. No noticed public hearing shall be required for an application under this section unless otherwise required by another section of this code or state or federal law.

- C. Landmark tree pruning. Any property owner desiring to prune a landmark tree located on their property shall make an application to the city manager on a form provided by the city to assure that the pruning shall be conducted according to the most recent standards of the International Society of Arboriculture.

(Ord. 6896 § 2 (part), 2002)

(Ord. No. 7184, § 8, 3-15-2010)

### **8.52.075 Private property tree removal and landmark tree pruning permits—Issuance.**

- A. Any permit or approval which will result in injury to or removal of a mature, landmark, landmark-eligible, native or specimen tree protected under this chapter shall be denied unless one of the following findings is made: (1) there is a public benefit as defined in Section 8.52.024(R), or a public health, safety or welfare benefit, to the injury or removal that outweighs the protection of the specific tree; or (2) the present condition of the tree is such that it is not reasonably likely to survive; or (3) tree is an objective feature of the tree that makes the tree not suitable for the protections of this chapter; or (4) there would be a substantial hardship to a private property owner in the enjoyment and use of real property if the injury or removal is not permitted; or (5) to not permit injury to or removal of a tree would constitute a taking of the underlying real property; or (6) the project, as defined in Section 17.12.020, includes a landscape design plan that emphasizes a tree canopy that is sustainable over the long term by adhering to the replacement matrix adopted by resolution of the city council and included in the associated administrative guidelines. Finding 6 shall not apply to permits or approvals seeking removal of a landmark tree and landmark-eligible trees. In addition, for removal of a landmark tree, any such permit or approval shall be denied unless procedures specified for removal of landmarks in Chapter 17.62 are first followed.
- B. An application shall be granted, denied, or granted conditionally on the date of the associated discretionary decision, or, if none, within 15 business days after a complete application is made. The approval may be based on imposed conditions reasonably necessary to meet the standards of this chapter.
- C. Alternative to Replacement Matrix Requirements. When using Finding 6 for removal of protected trees, the planting of required replacement trees on-site may be satisfied through the following alternative, in compliance with the city's regulations for the implementation of this chapter.
  - 1. Alternative Replacement Fee. The developer may request to pay a fee instead of planting on site up to 50 percent of the required number of replacement trees, as follows:
    - a. The amount of the fee shall be 100 percent of the appraised value of the tree/s that cannot be replaced.
      - i. Applicant must submit an application that includes: an appraisal by a certified arborist utilizing the most recent edition of the Guide for Plant Appraisal (published by the International Society of Arboriculture), the number replacement trees calculated using the replacement matrix, and a report by a certified arborist or landscape architect that determines that the number of required on-site replacement trees would inhibit healthy growth (e.g.,

- overcrowding of new trees; interfere with roots and canopy of existing protected trees and street trees);
  - ii. Up to 50 percent of the required replacement trees must be planted on-site and the replacement fee shall be a maximum of 50 percent of the appraised value of all trees to be removed, prorated as necessary.
- b. The review authority may approve an alternative replacement fee only after first making all of the following findings:
  - i. Applicant investigated alternative site designs and building footprints using existing development standards;
  - ii. Placing the required number of replacement trees on site with existing plan is not conducive to a sustainable landscape plan (e.g., overcrowding with existing or new trees; occluding important view corridors; disrupting the configuration of existing open space; or a landscape design which has historic or aesthetic importance; interfering with existing site features—walls, driveways, berms, planting beds, pergolas—which have historic or aesthetic importance);
  - iii. A minimum of 50 percent of the required replacement trees are on-site and the spacing and selection of the proposed trees and the landscape design contributes to the city's long-term goals of a sustainable urban forest as determined by the city's arborist;
  - iv. Project includes a well integrated and thoughtful design solution that enhances the property and its surroundings;
  - v. Project is not injurious to adjacent properties or uses, or detrimental to environmental quality, quality of life, or the health, safety, and welfare of the public; and
  - vi. Project is consistent with the objectives and policies of the applicable design guidelines and the citywide design principles in the general plan.
- c. One-half of the alternative replacement fee required by this subsection shall be paid (or alternate security provided in a form acceptable to the director of finance) before issuance of a building permit for any part of the project. The remainder of the fee shall be paid before a certificate of occupancy is issued for any portion of the project.
- d. Fees collected in compliance with this section shall be specified for additional plantings that are above and beyond the city's regular planting programs.

*(Ord. 6896 § 2 (part), 2002)*  
*(Ord. No. 7184, § 9, 3-15-2010)*

**8.52.076 Work on public trees.**

Public trees. No permits will be issued to any person or entity for pruning or removal of public trees, and all pruning and removal of public trees shall be undertaken by employees or contractors of the city pursuant to Section 8.52.080. Any person desiring to initiate special maintenance or removal of a public tree by the city, may make a written request to the city manager and pay the costs of service and replacement at rates set by resolution of the city council, should the request be granted. Any such request will be considered based on the provisions of this chapter, established public tree removal criteria, other ongoing public tree work and available resources.

(Ord. 6896 § 2 (part), 2002)

**8.52.077 Tree relocation.**

If recommended by a certified arborist or landscape architect, proposals to relocate a protected tree shall be considered by the review authority if after receiving an approval, the applicant posts a performance bond (or alternate security provided in a form acceptable to the director of finance) in an amount equal to 100% of the appraised value of relocated tree/s, calculated using the most recent edition of the Guide for Plant Appraisal published by the International Society of Arboriculture) to ensure that the relocated trees are properly established and maintained for three years. Landmark trees are ineligible for relocation.

(Ord. No. 7184, § 11, 3-15-2010)

**8.52.080 Exemptions—No permit required for certain pruning and removal.**

- A. No permit is required to prune a native or specimen tree on private property as long as the tree is not injured.
- B. No permit is required to prune, injure or remove a tree that is not explicitly protected by this chapter.
- C. Where immediate action is required for the protection of life or property, no permit is required to remove or to injure a protected tree which has been determined to be hazardous, by the city manager or his/her designee, any police officer or any fire fighter, after inspection of the tree.
- D. No permit is required for city employees or contractors of the city to do the following: to prune native, public or specimen trees under the direction of the city manager; to prune native, public or specimen trees as required for compliance with statewide regulations applicable to trees around electrical lines; to injure or remove native, public or specimen trees as the city manager has determined is necessary or prudent for the public health, safety or welfare provided advance notice is given by the city manager to the city council unless advance notice is not feasible, in which case notice will be given promptly thereafter. All tree removal shall be otherwise consistent with adopted public tree removal criteria.
- E. No permit is required to prune, injure or remove a tree on a project for which a variance, conditional use permit or design review approval has been obtained from the city prior to the effective date of this chapter or for a project for which a valid building permit has been lawfully issued by the city prior to the effective date of this ordinance.
- F. No permit is required for any tree removal undertaken to cover the city-owned drainage channel known as the East Side Storm Drain as shown on Drawing No. 5095 on file in the offices of the city department of public works and transportation.

(Ord. 6896 § 2 (part), 2002)

(Ord. No. 7184, § 10, 3-15-2010)

**8.52.085 Prohibited acts.**

The following are prohibited acts under this chapter unless expressly exempted:

- A. Landmark Tree. To prune, injure, or to remove without a permit, a landmark tree located anywhere in the city.
- B. Native Tree. To injure, or to remove without a permit, any native tree located in the established front yard, required side yard, established corner yard, or required rear yard of all property located in a single-family residential or RM-12 multifamily residential zone, and in all areas of all other zoning district anywhere in the city.
- C. Public Tree. To prune, to injure or to remove a public tree located anywhere in the city.

- D. Specimen Tree. To injure, or to remove without a permit, any specimen tree located in the established front yard, required side yard, established corner yard, or required rear yard of all property located in a single-family residential or RM-12 multifamily residential zone, and in all areas of all other zoning districts anywhere in the city.
- E. Landmark-Eligible Tree. To injure, or to remove without a permit, any landmark-eligible tree located in the established front yard, required side yard, established corner yard, or required rear yard of all projects subject to RS and RM-12 development standards, and in all areas of all other zoning district anywhere in the city.
- F. Mature Tree. To injure, or to remove without a permit, any mature tree located in any zone except projects subject to RS and RM-12 development standards.
- G. To plant a tree of a species other than the official street tree in a parkway, median or traffic island, and a violator shall be subject to a civil penalty.
- H. To fail to adhere to the terms and conditions of any permit issued under this chapter.
- I. To fail to adhere to the terms of any tree protection plan imposed as a condition of any discretionary land use approval or development agreement with the city.

*(Ord. 6896 § 2 (part), 2002)*  
*(Ord. No. 7184, § 12, 3-15-2010)*

**8.52.090 Sidewalk and street repair.**

The repair of sidewalks, curbs, gutters or streets may create a need to prune tree roots to the extent that the tree is damaged or becomes unstable. When this occurs, the city manager, whose decision shall be final, shall give consideration to the following in lieu of action that may damage, destabilize or cause the removal of a tree:

- A. To not make such improvements;
- B. To displace the sidewalk laterally away from the tree trunk, either locally for each tree, or uniformly along length of the street;
- C. To displace the curb and gutter laterally into the paved roadway of the street, either locally, or uniformly along a length of the street, which in some cases may necessitate the prohibiting of street parking of vehicles at all times, provided such displacement does not create traffic hazard, or conditions adverse to proper street sweeping or drainage;
- D. To defer repairs with temporary asphalt patch to eliminate hazard;
- E. To widen the parkway;
- F. To relocate the sidewalk or curb;
- G. To eliminate the sidewalk on one side of the street;
- H. To raise the sidewalk.

*(Ord. 6896 § 2 (part), 2002)*

**8.52.100 Hazards—Private property.**

It shall be unlawful and a violation of this chapter to allow any tree, shrub or plant located primarily on private property to create a hazard or to create danger or likelihood of harm to any public place, public area, parkway or street or to public health, safety or welfare.

*(Ord. 6896 § 2 (part), 2002)*

**8.52.110 Protection of trees during improvements.**

During the construction, repair, alteration, relocation or removal of any building, structure or accessory structure in the city, no person in control of such work shall leave any protected tree without sufficient guards or protections to prevent injury to the protected tree, in connection with such construction, repair, alteration, relocation or removal and it shall be unlawful and a violation of this chapter to do so.

Condition monitoring shall be required for all projects with affected protected trees and/or the planting to ensure that trees are properly established and maintained for three years.

*(Ord. 6896 § 2 (part), 2002)*  
*(Ord. No. 7184, § 13, 3-15-2010)*

**8.52.120 Attachments to street trees.**

No person shall, without the written permission of the city manager, attach or keep attached to any public tree, street tree, shrub or plant in any street, park or other public place of the city, or to the guard or stake intended for the protection thereof, any wire, rope, sign, nail or any other device whatsoever.

*(Ord. 6896 § 2 (part), 2002)*

**8.52.140 Interference.**

No person shall interfere with any city employee or city contractor acting under this chapter.

*(Ord. 6896 § 2 (part), 2002)*

**8.52.150 Notice of public tree removal.**

The city manager shall give at least 10 days written notice to abutting property owners prior to the removal of any public tree. No notice shall be required to be given, however, if the public tree has been determined to be hazardous under the standards in Section 8.52.080(C). In the event of a decision under this chapter for the removal of 3 or more public trees in an area, the city manager shall also notify the city council, the design commission and any neighborhood organizations located in such area which are known.

*(Ord. 6896 § 2 (part), 2002)*

**8.52.155 Prosecution of violations.**

A violation of any provision of this chapter shall be prosecuted as a misdemeanor or infraction at the option of the city prosecutor and as further set forth in Section 8.52.150 with respect to penalties and administrative proceedings.

*(Ord. 6896 § 2 (part), 2002)*

**8.52.160 Penalties and administrative proceedings.**

- A. Misdemeanors. Any person who violates any provision of this chapter and is convicted of a misdemeanor shall be punished by a fine of not more than \$1,000.00 or by imprisonment for a period of not more than 6 months or by both such fine and imprisonment.
- B. Infractions. Any person who violates any provision of this chapter and is convicted of an infraction shall be punished by a fine of not more than \$250.00. Each person convicted may be deemed guilty of a separate offense for every day during any portion of which any violation is committed or permitted.
- C. In addition to the penalty provisions of subsections A and B of this section, violations of Sections 8.52.085, 8.52.100, 8.52.110, 8.52.120 or 8.52.140 may be subject to the administrative proceedings set forth in Chapters 1.25 and 1.26 of this code, including, but without limitation, civil penalties, late payment penalties, administrative fees, other related charges and, to the maximum extent permitted by law, tree replacement costs as established by resolution of the city council.

*(Ord. 6896 § 2 (part), 2002)*

**8.52.165 Remedies not exclusive.**

To the maximum extent permitted by law, administrative remedies specified in this chapter are in addition to and do not supersede or limit any and all other remedies, civil or criminal. The remedies provided for herein shall be cumulative and not exclusive.

*(Ord. 6896 § 2 (part), 2002)*

**APPENDIX B**  
**SUMMARY OF NATIVE TREE DATA**

NATIVE TREE DATA TABLE

Tree Tag #	Tree Species		# Main Trunks	DBH1 (in)	DBH2 (in)	DBH3 (in)	DBH4 (in)	DBH5 (in)	DBH6 (in)	Sum of Largest Two Trunks (in)	Height (ft)	Canopy Diameter (ft)	Health Rating	Aesthetic Rating	City of Pas Ordinance	CDFG Tree?	To be Removed	Notes
	Scientific Name	Common Name																
1	<i>Alnus rhombifolia</i>	white alder	2	9.5	9.0					18.5	40	20	4	3	X	X		
2	<i>Alnus rhombifolia</i>	white alder	1	14.2						14.2	55	15	4	3	X	X		
3	<i>Alnus rhombifolia</i>	white alder	1	12.0						12.0	40	20	4	3	X	X		
4	<i>Alnus rhombifolia</i>	white alder	1	12.1						12.1	40	20	4	3	X	X		
5	<i>Alnus rhombifolia</i>	white alder	1	18.0						18.0	40	20	3	3	X	X		
6	<i>Alnus rhombifolia</i>	white alder	1	12.6						12.6	30	20	2	2	X	X		
7	<i>Alnus rhombifolia</i>	white alder	1	11.9						11.9	30	20	4	3	X	X		
8	<i>Alnus rhombifolia</i>	white alder	2	3.5	3.5					7.0	20	10	4	2		X		
9	<i>Platanus racemosa</i>	western sycamore	1	11.5						11.5	30	20	4	3	X	X		
10	<i>Platanus racemosa</i>	western sycamore	5	3.0	3.0	3.0	3.0	3.0		6.0	20	15	2	1		X		
11	<i>Alnus rhombifolia</i>	white alder	1	9.0						9.0	40	20	3	3	X	X	X	
12	<i>Salix lasiolepis</i>	arroyo willow	2	18.0	10.0					28.0	60	50	4	2	X	X		
13	<i>Platanus racemosa</i>	western sycamore	1	2.6						2.6	20	40	4	3		X		
14	<i>Alnus rhombifolia</i>	white alder	1	10.2						10.2	50	20	3	3	X	X	X	
15	<i>Alnus rhombifolia</i>	white alder	1	11.2						11.2	50	20	3	3	X	X	X	
16	<i>Platanus racemosa</i>	western sycamore	1	7.9						7.9	25	15	4	4		X		
17	<i>Alnus rhombifolia</i>	white alder	1	14.4						14.4	35	25	3	4	X	X		
18	<i>Alnus rhombifolia</i>	white alder	1	8.0						8.0	25	20	2	3	X	X		
19	<i>Alnus rhombifolia</i>	white alder	1	8.2						8.2	25	20	2	3	X	X		
20	<i>Alnus rhombifolia</i>	white alder	1	10.6						10.6	35	20	2	3	X	X		
21	<i>Quercus agrifolia</i>	coast live oak	2	18.0	18.0					36.0	40	40	5	5	X	X		
22	<i>Quercus agrifolia</i>	coast live oak	2	26.0	20.0					46.0	45	40	4	4	X	X		
23	<i>Alnus rhombifolia</i>	white alder	1	12.2						12.2	35	20	4	4	X	X	X	
24	<i>Alnus rhombifolia</i>	white alder	1	16.1						16.1	35	25	4	4	X	X	X	
25	<i>Alnus rhombifolia</i>	white alder	1	13.2						13.2	35	15	4	4	X	X	X	
26	<i>Alnus rhombifolia</i>	white alder	1	4.3						4.3	25	10	4	3		X		grouped with trees 26 - 35
27	<i>Alnus rhombifolia</i>	white alder	1	6.3						6.3	25	15	4	4		X		grouped with trees 26 - 35
28	<i>Alnus rhombifolia</i>	white alder	1	7.1						7.1	25	15	4	4		X		grouped with trees 26 - 35
29	<i>Alnus rhombifolia</i>	white alder	1	4.1						4.1	15	10	3	3		X		grouped with trees 26 - 35
30	<i>Alnus rhombifolia</i>	white alder	1	4.5						4.5	30	15	4	3		X		grouped with trees 26 - 35
31	<i>Alnus rhombifolia</i>	white alder	1	9.1						9.1	35	20	4	4	X	X		grouped with trees 26 - 35
32	<i>Alnus rhombifolia</i>	white alder	1	9.6						9.6	40	20	2	3	X	X		grouped with trees 26 - 35
33	<i>Alnus rhombifolia</i>	white alder	1	12.0						12.0	50	20	4	4	X	X		grouped with trees 26 - 35
34	<i>Alnus rhombifolia</i>	white alder	1	10.0						10.0	40	20	4	4	X	X		grouped with trees 26 - 35
35	<i>Alnus rhombifolia</i>	white alder	2	13.8	11.5					25.3	50	25	4	4	X	X		grouped with trees 26 - 35
36	<i>Quercus chrysolepis</i>	canyon live oak	1	21.7						21.7	50	30	3	4	X	X		
37	<i>Platanus racemosa</i>	western sycamore	1	20.0						20.0	35	20	4	4	X			
38	<i>Platanus racemosa</i>	western sycamore	1	18.0						18.0	50	35	4	4	X			behind fence
39	<i>Quercus agrifolia</i>	coast live oak	1	32.3						32.3	40	30	5	5	X	X		
40	<i>Quercus agrifolia</i>	coast live oak	1	48.0						48.0	45	40	4	5	X			
41	<i>Platanus racemosa</i>	western sycamore	3	22.0	18.5	9.6				40.5	50	30	5	4	X			
42	<i>Quercus agrifolia</i>	coast live oak	2	25.4	14.4					29.8	40.0	40	4	3	X			
43	<i>Quercus agrifolia</i>	coast live oak	1	22.0						22.0	40	25	4	3	X			
44	<i>Salix gooddingii</i>	black willow	1	6.7						6.7	15	10	5	3		X		

Tree Tag #	Tree Species		# Main Trunks	DBH1 (in)	DBH2 (in)	DBH3 (in)	DBH4 (in)	DBH5 (in)	DBH6 (in)	Sum of Largest Two Trunks (in)	Height (ft)	Canopy Diameter (ft)	Health Rating	Aesthetic Rating	City of Pas Ordinance	CDFG Tree?	To be Removed	Notes
	Scientific Name	Common Name																
45	<i>Platanus racemosa</i>	western sycamore	2	17.7	9.3					27.0	35	30	5	4	X	X		
46	<i>Pinus sp.</i>	pine	1	24.0						24.0	70	20	5	5	X			
47	<i>Pinus sp.</i>	pine	1	22.0						22.0	60	20	5	5	X			
48	<i>Platanus racemosa</i>	western sycamore	3	24.0	14.0	6.0				38.0	40	25	5	4	X			
49	<i>Platanus racemosa</i>	western sycamore	1	18.5						18.5	35	20	5	4	X			
50	<i>Platanus racemosa</i>	western sycamore	1	22.0						22.0	40	20	5	4	X			
51	<i>Quercus agrifolia</i>	coast live oak	1	9.1						9.1	20	10	5	4	X			
52	<i>Quercus agrifolia</i>	coast live oak	1	15.0						15.0	30	20	5	4	X			
53	<i>Quercus agrifolia</i>	coast live oak	1	44.1						44.1	40	40	5	5	X			
54	<i>Quercus agrifolia</i>	coast live oak	3	16.0	16.0	8.0				32.0	30	30	4	4	X			
55	<i>Quercus agrifolia</i>	coast live oak	1	14.0						14.0	30	15	5	4	X			
56	<i>Quercus agrifolia</i>	coast live oak	1	20.0						20.0	40	30	5	5	X			
57	<i>Quercus agrifolia</i>	coast live oak	2	26.0	20.0					46.0	40	35	5	5	X			
58	<i>Platanus racemosa</i>	western sycamore	2	23.2	20.3					43.5	50	40	3	4	X	X		scoured root zone
59	<i>Platanus racemosa</i>	western sycamore	1	14.2						14.2	35	20	5	4	X	X		
60	<i>Platanus racemosa</i>	western sycamore	1	19.7						19.7	45	30	5	5	X	X		
61	<i>Platanus racemosa</i>	western sycamore	1	4.3						4.3	20	10	4	3		X		
62	<i>Platanus racemosa</i>	western sycamore	1	5.3						5.3	20	10	4	3		X		
63	<i>Platanus racemosa</i>	western sycamore	1	11.8						11.8	40	30	5	5	X	X		
64	<i>Platanus racemosa</i>	western sycamore	1	17.0						17.0	40	30	5	5	X	X		
65	<i>Platanus racemosa</i>	western sycamore	1	19.7						19.7	40	25	3	4	X	X		
66	<i>Platanus racemosa</i>	western sycamore	2	26.0	24.0					50.0	60	30	5	5	X	X		
67	<i>Platanus racemosa</i>	western sycamore	2	21.9	8.1					30.0	60	30	5	5	X	X		
68	<i>Platanus racemosa</i>	western sycamore	1	5.5						5.5	20	15	4	3		X		
69	<i>Platanus racemosa</i>	western sycamore	2	17.7	10.8					28.5	40	30	5	5	X	X		
70	<i>Platanus racemosa</i>	western sycamore	1	7.7						7.7	25	20	5	4		X		
71	<i>Platanus racemosa</i>	western sycamore	1	7.1						7.1	25	20	5	4		X		
72	<i>Platanus racemosa</i>	western sycamore	2	21.1						21.1	40	30	5	4	X	X		
73	<i>Quercus agrifolia</i>	coast live oak	1	3.9						3.9	20	10	4	3		X		
74	<i>Quercus agrifolia</i>	coast live oak	2	10.6	7.5					18.1	20	20	4	3	X	X		
75	<i>Quercus agrifolia</i>	coast live oak	1	4.4						4.4	20	15	5	3		X		
76	<i>Quercus agrifolia</i>	coast live oak	2	14.0	12.0					26.0	30	20	5	4	X	X		
77	<i>Platanus racemosa</i>	western sycamore	1	9.6						9.6	30	15	3	3	X	X		root zone highly eroded
78	<i>Platanus racemosa</i>	western sycamore	1	5.0						5.0	30	10	4	3		X		
79	<i>Populus trichocarpa</i> [ <i>P. balsamifera</i> ssp. <i>t.</i> ]	black cottonwood	1	14.4						14.4	20	10	1	1	X			nearly dead
80	<i>Populus trichocarpa</i> [ <i>P. balsamifera</i> ssp. <i>t.</i> ]	black cottonwood	1	12.0						12.0	30	15	4	4	X			
81	<i>Populus trichocarpa</i> [ <i>P. balsamifera</i> ssp. <i>t.</i> ]	black cottonwood	1	11.4						11.4	30	15	4	4	X			
82	<i>Populus trichocarpa</i> [ <i>P. balsamifera</i> ssp. <i>t.</i> ]	black cottonwood	1	14.0						14.0	40	20	4	4	X			
83	<i>Salix lasiolepis</i>	arroyo willow	1	13.8						13.8	15	15	3	3	X	X		
84	<i>Salix lasiolepis</i>	arroyo willow	1	15.7						15.7	16	15	3	3	X	X		
85	<i>Salix lasiolepis</i>	arroyo willow	1	17.5						17.5	35	30	4	4	X	X		leaning, unstable stream bank
86	<i>Salix lasiolepis</i>	arroyo willow	1	22.0						22.0	35	20	4	4	X	X		

Tree Tag #	Tree Species		# Main Trunks	DBH1 (in)	DBH2 (in)	DBH3 (in)	DBH4 (in)	DBH5 (in)	DBH6 (in)	Sum of Largest Two Trunks (in)	Height (ft)	Canopy Diameter (ft)	Health Rating	Aesthetic Rating	City of Pas Ordinance	CDFG Tree?	To be Removed	Notes
	Scientific Name	Common Name																
87	<i>Alnus rhombifolia</i>	white alder	1	16.9						16.9	35	15	4	3	X	X	X	in stream
88	<i>Alnus rhombifolia</i>	white alder	1	13.4						13.4	10	10	1	1	X	X	X	nearly dead, trunk hollow
89	<i>Alnus rhombifolia</i>	white alder	1	15.7						15.7	30	20	4	3	X	X	X	steep bank
90	<i>Platanus racemosa</i>	western sycamore	1	2.0						2.0	15	8	3	3		X		
91	<i>Salix lasiolepis</i>	arroyo willow	1	7.5						7.5	30	15	4	3		X		
92	<i>Alnus rhombifolia</i>	white alder	1	10.4						10.4	30	15	4	4	X	X	X	
93	<i>Alnus rhombifolia</i>	white alder	1	8.9						8.9	35	15	4	3	X	X	X	
94	<i>Salix lasiolepis</i>	arroyo willow	1	9.1						9.1	20	10	4	3	X	X	X	
95	<i>Salix lasiolepis</i>	arroyo willow	2	6.9	6.9					13.8	20	15	4	3	X	X	X	
96	<i>Salix lasiolepis</i>	arroyo willow	3	11.8	9.8	12.9				24.7	20	15	4	3	X	X	X	
97	<i>Salix lasiolepis</i>	arroyo willow	1	6.9						6.9	25	20	5	3		X		
98	<i>Salix lasiolepis</i>	arroyo willow	2	8.7	6.7					15.4	25	25	5	3	X	X		
99	<i>Quercus berberidifolia</i>	scrub oak	2	10.6	8.0					18.6	20	20	4	3	X			
100	<i>Quercus agrifolia</i>	coast live oak	1	11.0						11.0	30	20	5	4	X			
101	<i>Alnus rhombifolia</i>	white alder	1	11.7						11.7	40	20	4	3	X	X		
102	<i>Alnus rhombifolia</i>	white alder	1	8.3						8.3	35	15	4	3	X	X		
103	<i>Alnus rhombifolia</i>	white alder	1	8.5						8.5	35	15	4	3	X	X		
104	<i>Alnus rhombifolia</i>	white alder	1	12.3						12.3	30	15	4	3	X	X		
105	<i>Alnus rhombifolia</i>	white alder	1	7.4						7.4	30	15	4	3		X		
106	<i>Quercus agrifolia</i>	coast live oak	1	27.7						27.7	25	25	4	4	X			
107	<i>Alnus rhombifolia</i>	white alder	3	11.0	11.0	11.0				22.0	45	30	3	3	X	X		
108	<i>Alnus rhombifolia</i>	white alder	1	11.8						11.8	45	15	3	4	X	X		
109	<i>Platanus racemosa</i>	western sycamore	2	17.5	7.5					25.0	50	35	5	4	X	X		
110	<i>Quercus agrifolia</i>	coast live oak	1	17.0						17.0	40	25	5	5	X			
111	<i>Quercus agrifolia</i>	coast live oak	1	23.0						23.0	35	25	5	5	X			
112	<i>Quercus agrifolia</i>	coast live oak	1	17.0						17.0	30	25	5	5	X			
113	<i>Alnus rhombifolia</i>	white alder	1	21.2						21.2	45	15	4	4	X	X		
114	<i>Alnus rhombifolia</i>	white alder	1	11.0						11.0	45	15	4	4	X	X		
115	<i>Alnus rhombifolia</i>	white alder	1	12.0						12.0	45	20	2	3	X	X		
116	<i>Alnus rhombifolia</i>	white alder	1	10.0						10.0	45	10	2	3	X	X		
117	<i>Alnus rhombifolia</i>	white alder	1	10.0						10.0	45	10	2	3	X	X		
118	<i>Umbellularia californica</i>	California bay laurel	2	9.2	8.4					17.6	35	25	4	4	X	X		
119	<i>Platanus racemosa</i>	western sycamore	2	36.0	6.0					42.0	50	40	4	5	X	X		
120	<i>Quercus agrifolia</i>	coast live oak	3	24.0	24.0	24.0				48.0	25	40	5	5	X			
121	<i>Platanus racemosa</i>	western sycamore	4	30.0	24.0	4.0	10.0			54.0	60	60	5	5	X	X		
122	<i>Platanus racemosa</i>	western sycamore	3	15.0	10.0	10.0				25.0	40	40	5	5	X	X		
123	<i>Quercus agrifolia</i>	coast live oak	1	44.5						44.5	50	40	5	5	X			
124	<i>Platanus racemosa</i>	western sycamore	1	25.1						25.1	50	40	5	5	X			
125	<i>Quercus agrifolia</i>	coast live oak	5	23.2	14.9	15.0	19.3	8.5		42.5	40	40	4	4	X			
126	<i>Quercus agrifolia</i>	coast live oak	6	20.0	20.0	18.0	18.0	16.0	12.0	40.0	40	40	5	5	X			
127	<i>Platanus racemosa</i>	western sycamore	2	21.7	13.4					35.1	50	40	5	4	X			
128	<i>Platanus racemosa</i>	western sycamore	3	18.8	15.8	10.6				34.6	60	40	5	4	X			
129	<i>Platanus racemosa</i>	western sycamore	1	21.8						21.8	50	20	4	4	X	X		
130	<i>Quercus agrifolia</i>	coast live oak	3	9.1	5.5	4.0				14.6	15	15	3	3	X		X	
131	<i>Juglans californica</i>	southern California black walnut	1	16.0						16.0	25	40	3	3	X			

Tree Tag #	Tree Species		# Main Trunks	DBH1 (in)	DBH2 (in)	DBH3 (in)	DBH4 (in)	DBH5 (in)	DBH6 (in)	Sum of Largest Two Trunks (in)	Height (ft)	Canopy Diameter (ft)	Health Rating	Aesthetic Rating	City of Pas Ordinance	CDFG Tree?	To be Removed	Notes
	Scientific Name	Common Name																
132	<i>Quercus agrifolia</i>	coast live oak	1	14.9						14.9	20	15	4	4	X			
133	<i>Platanus racemosa</i>	western sycamore	3	12.0	18.0	10.0				30.0	60	30	4	4	X			
134	<i>Quercus agrifolia</i>	coast live oak	1	36.2						36.2	50	40	5	5	X	X		
135	<i>Platanus racemosa</i>	western sycamore	3	13.0	11.0	7.5				24.0	40	30	4	4	X			
136	<i>Quercus agrifolia</i>	coast live oak	1	12.0						12.0	25	15	4	4	X			
137	<i>Quercus agrifolia</i>	coast live oak	1	10.0						10.0	25	15	4	4	X			
138	<i>Populus trichocarpa</i> [ <i>P. balsamifera</i> ssp. t.]	black cottonwood	1	11.5						11.5	25	15	4	3	X	X		
139	<i>Populus trichocarpa</i> [ <i>P. balsamifera</i> ssp. t.]	black cottonwood	1	44.0						44.0	60	30	4	4	X	X		
140	<i>Quercus agrifolia</i>	coast live oak	1	7.2						7.2	15	10	3	3		X		
141	<i>Quercus agrifolia</i>	coast live oak	1	13.6						13.6	20	15	3	3	X	X		
142	<i>Quercus agrifolia</i>	coast live oak	1	8.3						8.3	20	10	2	2	X	X		
143	<i>Alnus rhombifolia</i>	white alder	1	19.5						19.5	40	15	3	3	X	X	X	
144	<i>Alnus rhombifolia</i>	white alder	1	20.4						20.4	40	15	3	3	X	X	X	
145	<i>Platanus racemosa</i>	western sycamore	1	28.2						28.2	35	25	3	2	X			leaning
146	<i>Platanus racemosa</i>	western sycamore	1	27.5						27.5	40	30	4	4	X			
147	<i>Platanus racemosa</i>	western sycamore	1	13.0						13.0	25	25	4	4	X			