Appendix E Specimen Tree Report

Appendices

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November 2, 2018 11508

Ms. Elizabeth Kim
PlaceWorks
3 MacArthur Place, Suite 1100
Santa Ana, California
92707

Subject: ***Specimen Tree Report for the 6501-6513 Serrano Avenue Project, Anaheim, California***

Dear Ms. Kim

The following report summarizes Dudek's recent evaluation of 65 trees, all of which are within the 6501-6513 Serrano Avenue project site in Anaheim, California (Attachment 1). The site is planned for residential redevelopment. The primary focus of our field effort was the inventory and evaluation of all trees within the project site boundaries. PlaceWorks requested that a Dudek International Society of Arboriculture (ISA)-certified arborist perform a physical inventory, collecting tree location and arboricultural attribute information for each tree meeting the minimum size requirements, as defined within Section 18.18.040 (Tree Preservation) of the City of Anaheim's (City's) municipal code. The City's municipal code defines specimen trees as any tree of the *Eucalyptus* varieties (eucalyptus), *Quercus* varieties (oak), *Schinus* varieties (pepper), or *Platanus* varieties (sycamore), with a trunk measuring 8 inches or greater in diameter, measured at a point 4 feet above ground level, or, in the case of *Eucalyptus* varieties, 20 inches or greater in diameter, measured at a point 4 feet above ground level.

A total of 65 individual trees within the project boundary were inventoried and evaluated. Based on a review of the proposed project boundaries and the locations of the site's 65 trees, all will require removal. Seven of the trees are considered specimen trees according to the City definition. A total of 25 replacement trees will be required as mitigation for the seven removed.

PROJECT LOCATION AND DESCRIPTION

The project site is located at 6501-6513 Serrano Avenue in Anaheim, California. The site is bordered by Nohl Ranch Road to the west, residential houses to the north and east, and Serrano Avenue to the south. The site is currently developed with commercial buildings, a parking lot, and associated infrastructure. The site will be demolished, and residential units are planned.

METHODS

Dudek mapped and collected individual tree attribute information for all trees within the project site. The location of each individual protected tree was mapped using a Trimble Pathfinder Pro XH Global Positioning System (GPS) receiver. The Pathfinder has a horizontal accuracy of 1-meter (1 sigma) using differential code positioning techniques. Since tree canopies can sometimes cause loss of satellite lock by blocking the line of sight to satellites, an electronic compass and a reflectorless electronic distance-measuring device were also used in mapping tree locations. The electronic distance-measuring/compass combination operates in concert with the Pathfinder system to position offsets, and offset information is automatically attached to the GPS position data string. The location of the individual trees is presented in Attachment 1.

Concurrent with tree mapping efforts, Dudek arborists collected tree attribute data, including species, quantity of individual trunks, individual trunk diameters, overall height, canopy extent, general health and structural conditions, and overall condition. Trunk diameter measurements were collected at 4 feet above natural grade along the trunk axis. Tree height measurements were ocular estimates made by experienced field arborists. Tree canopy diameters were typically estimated by pacing off the measurement based on the arborist's knowledge of his stride length or by visually estimating the canopy width. The tree-crown diameter measurements were made along an imaginary line intersecting the tree trunk that best approximated the average canopy diameter.

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

Upon completion of field data collection and mapping, raw GPS data were post-processed using GPS Pathfinder Office (version 5.40), and individual tree location data were compiled and updated in a geographic information system (GIS). The digital tree locations were linked to individual tree identification numbers and associated tree attribute data. This data set was then evaluated using ArcGIS (version 10.4) software to determine the position of individual trees related to the project development areas. Data resulting from this analysis were used to evaluate the individual tree impact totals.

Project Limitations

This report presents site tree information as observed in the field on October 2, 2018. No root crown excavations or investigations, internal probing, or aerial canopy inspections were performed during the tree assessments. Therefore, the presence or absence of internal wood rot or other hidden or inaccessible inferiorities in individual trees could not be confirmed. It is recommended that any large tree proposed for preservation in an urban setting be thoroughly inspected for internal or subterranean decay by a qualified arborist before finalizing preservation plans.

Observations

On October 2, 2018, a Dudek ISA-certified arborist examined 65 trees located within the project site through a visual inspection process. Weather at the time of inspections was clear and warm with temperatures in the high 80s and calm wind conditions. The tree assessments focused on collecting tree information that could be used to determine the trees' current conditions and location in relation to the development footprint.

There are a total of 65 trees located within the project survey area, including 8 tree species. Trees within the tree survey area vary in size and stature according to species and available growing space. The site's trees are comprised of single- and multi-stemmed trees. Individual tree diameters for single-stemmed trees range from 2 inches to 26 inches. Tree heights vary from 4 feet to 70 feet. Tree canopy extents range from 3 feet to nearly 38 feet.

Overall, the trees exhibit growth and structural conditions that are typical of their planting locations as urban landscape trees. As presented in Attachment 2, approximately 33 (51%) of the trees are in fair condition; 23 (35%) are in good condition; and the remaining 9 (14%) are in poor condition. Table 1 provides a summary of the 8 species mapped and evaluated within the survey area. Attachment 1 – Specimen Tree Location Exhibit presents the location of the trees documented and assessed on the property.

Table 1
Tree Inventory Totals

Botanical Name	Common Name	Count
Corymbia maculata	Spotted gum	6
Ficus microcarpa	Indian laurel fig	2
Fraxinus uhdei	Shamel ash	37
Ligustrum sp.	Privet species	3
Magnolia grandiflora	Southern magnolia	1
Phoenix roebelenii	Pygmy date palm	1

Table 1
Tree Inventory Totals

Botanical Name	Common Name	Count
Pyrus calleryana	Bradford pear	12
Schinus terebinthifolia	Brazilian pepper-tree	3
Total		**65**

No pests and/or diseases were observed at the time of inspection. Individual tree information can be found in Attachment 2 – Specimen Tree Information Matrix.

Specimen Tree Mitigation

It is Dudek's understanding that accommodation of the project will require removal of seven specimen trees. Table 2 provides a summary of required tree removal mitigation. In total, 25 replacement trees (minimum 24-inch box size) are required for the removal of the 7 specimen trees. Prior to any specimen tree removal, a Specimen Tree Removal Permit is required.

Table 2
Specimen Tree Required Mitigation

Botanical Name	Common Name	Removal Total	Mitigation
Corymbia maculata	Spotted gum	4 trees	16 trees
Schinus terebinthifolia	Brazilian pepper-tree	3 trees	9 trees
Total		**7 trees**	**25 trees**

CONCLUSION

Dudek inventoried and evaluated 65 trees on the 6501-6513 Serrano Avenue project site. For the purposes of this Specimen Tree Report, 65 trees have been identified and all will be removed. Of the 65 trees to be removed 7 are considered to be specimen trees and require mitigation. The 7 specimen trees proposed to be removed require 25 replacement trees.

This report provides conclusions and recommendations based on an examination of the trees and surrounding site by an ISA-certified arborist. Arborists are tree specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near trees.

Arborists cannot detect every condition that could possibly lead to the failure of a tree. Trees are living organisms that fail in ways not fully understood. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances or for a specified period of time. There are no guarantees that a tree's condition will not change over a short or long period due to weather or cultural or environmental conditions. Trees can be managed but not controlled. To live near trees is to accept some degree of risk.

If you have any questions or comments regarding the content of this letter, please do not hesitate to contact me at 760.815.6356 or rgilmore@dudek.com.

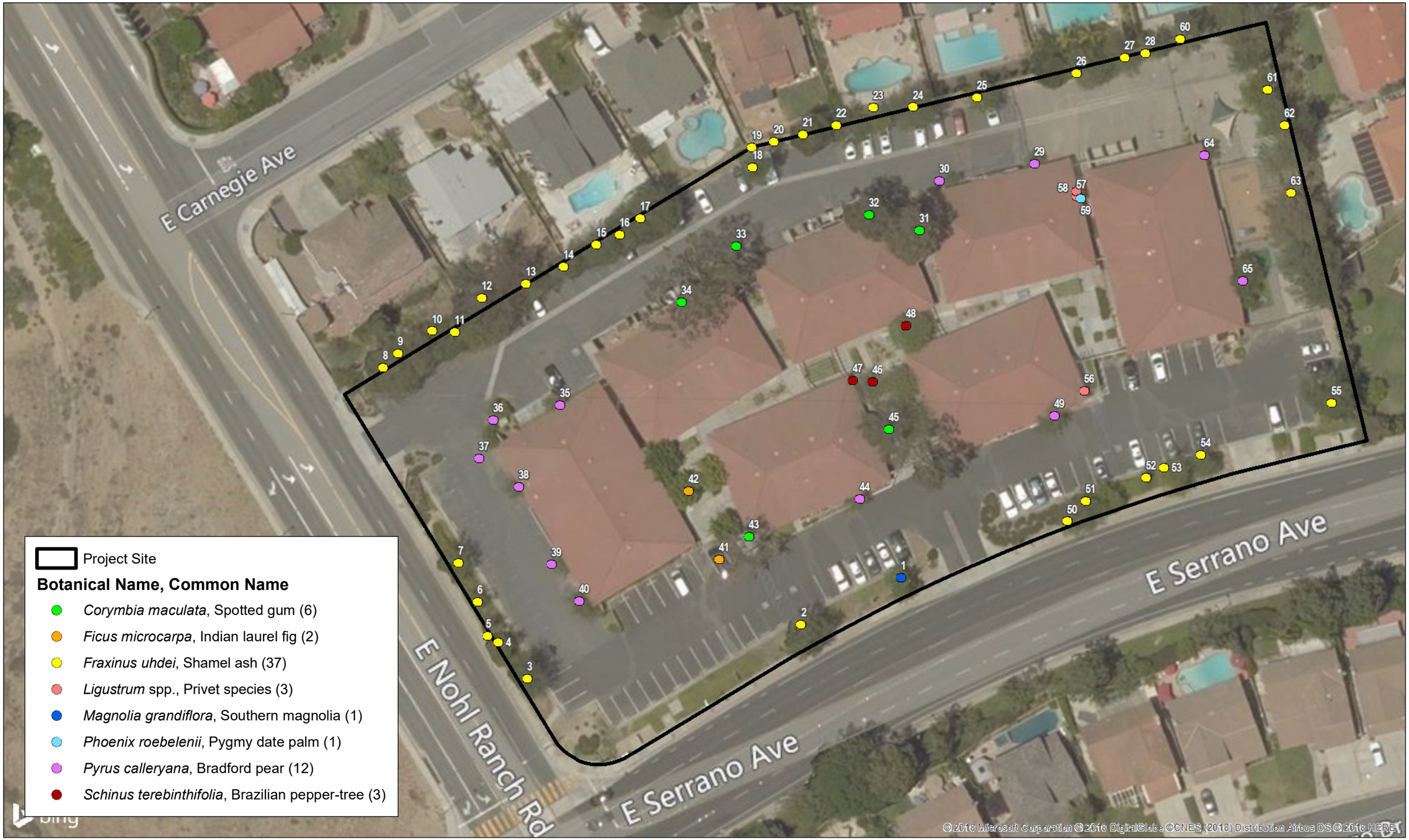
Sincerely,

Ryan Gilmore
Arborist/Urban Forester

Att: Attachment 1 – Specimen Tree Location Exhibit
Attachment 2 – Specimen Tree Information Matrix

ATTACHMENT 1

Specimen Tree Location Exhibit



SOURCE: BING MAPPING SERVICE 2017

DUDEK

0 25 50 Feet

Attachment 1

Specimen Tree Location Exhibit

Specimen Tree Report for the 6501-6513 Serrano Avenue Project

ATTACHMENT 2

Specimen Tree Information Matrix

ATTACHMENT 2
Specimen Tree Information Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems								Height (ft.)	Canopy (ft.)	Health	Structure	Protected Status
				S1	*S2*	*S3*	*S4*	*S5*	*S6*	*S7*	*S8*					
1	*Magnolia grandiflora*	Southern magnolia	1	11	0	0	0	0	0	0	0	27	15	Good	Good	None
2	*Fraxinus uhdei*	Shamel ash	1	16	0	0	0	0	0	0	0	30	17	Fair	Fair	None
3	*Fraxinus uhdei*	Shamel ash	1	20	0	0	0	0	0	0	0	30	15	Good	Good	None
4	*Fraxinus uhdei*	Shamel ash	1	14	0	0	0	0	0	0	0	25	10	Fair	Good	None
5	*Fraxinus uhdei*	Shamel ash	1	9	0	0	0	0	0	0	0	17	6	Poor	Fair	None
6	*Fraxinus uhdei*	Shamel ash	1	8	0	0	0	0	0	0	0	18	10	Poor	Fair	None
7	*Fraxinus uhdei*	Shamel ash	1	17	0	0	0	0	0	0	0	28	15	Fair	Fair	None
8	*Fraxinus uhdei*	Shamel ash	1	20	0	0	0	0	0	0	0	35	20	Good	Fair	None
9	*Fraxinus uhdei*	Shamel ash	1	20	0	0	0	0	0	0	0	40	15	Fair	Fair	None
10	*Fraxinus uhdei*	Shamel ash	1	15	0	0	0	0	0	0	0	28	16	Fair	Fair	None
11	*Fraxinus uhdei*	Shamel ash	1	15	0	0	0	0	0	0	0	30	17	Fair	Fair	None
12	*Fraxinus uhdei*	Shamel ash	1	10	0	0	0	0	0	0	0	27	15	Fair	Fair	None
13	*Fraxinus uhdei*	Shamel ash	1	14	0	0	0	0	0	0	0	37	15	Good	Fair	None
14	*Fraxinus uhdei*	Shamel ash	1	13	0	0	0	0	0	0	0	30	14	Fair	Fair	None
15	*Fraxinus uhdei*	Shamel ash	1	17	0	0	0	0	0	0	0	37	17	Fair	Fair	None
16	*Fraxinus uhdei*	Shamel ash	1	21	0	0	0	0	0	0	0	50	18	Good	Fair	None
17	*Fraxinus uhdei*	Shamel ash	1	21	0	0	0	0	0	0	0	50	20	Good	Fair	None
18	*Fraxinus uhdei*	Shamel ash	1	8	0	0	0	0	0	0	0	17	9	Fair	Fair	None
19	*Fraxinus uhdei*	Shamel ash	1	13	0	0	0	0	0	0	0	30	10	Good	Fair	None
20	*Fraxinus uhdei*	Shamel ash	8	3	2	1	1	1	1	1	1	17	13	Good	Poor	None
21	*Fraxinus uhdei*	Shamel ash	1	20	0	0	0	0	0	0	0	50	18	Fair	Fair	None
22	*Fraxinus uhdei*	Shamel ash	1	12	0	0	0	0	0	0	0	20	14	Fair	Poor	None
23	*Fraxinus uhdei*	Shamel ash	1	12	0	0	0	0	0	0	0	28	12	Fair	Fair	None
24	*Fraxinus uhdei*	Shamel ash	1	17	0	0	0	0	0	0	0	43	20	Fair	Fair	None
25	*Fraxinus uhdei*	Shamel ash	1	14	0	0	0	0	0	0	0	27	12	Poor	Fair	None
26	*Fraxinus uhdei*	Shamel ash	1	18	0	0	0	0	0	0	0	30	17	Fair	Fair	None
27	*Fraxinus uhdei*	Shamel ash	1	13	0	0	0	0	0	0	0	27	10	Poor	Fair	None

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems								Height (ft.)	Canopy (ft.)	Health	Structure	Protected Status
				S1	*S2*	*S3*	*S4*	*S5*	*S6*	*S7*	*S8*					
28	*Fraxinus uhdei*	Shamel ash	1	13	0	0	0	0	0	0	0	26	13	Fair	Fair	None
29	*Pyrus calleryana*	Bradford pear	1	6	0	0	0	0	0	0	0	12	9	Good	Fair	None
30	*Pyrus calleryana*	Bradford pear	1	4	0	0	0	0	0	0	0	12	9	Good	Poor	None
31	*Corymbia maculata*	Spotted gum	1	26	0	0	0	0	0	0	0	70	35	Good	Fair	Specimen Tree
32	*Corymbia maculata*	Spotted gum	1	22	0	0	0	0	0	0	0	60	30	Good	Fair	Specimen Tree
33	*Corymbia maculata*	Spotted gum	1	21	0	0	0	0	0	0	0	50	27	Fair	Fair	Specimen Tree
34	*Corymbia maculata*	Spotted gum	1	25	0	0	0	0	0	0	0	65	38	Fair	Fair	Specimen Tree
35	*Pyrus calleryana*	Bradford pear	1	9	0	0	0	0	0	0	0	13	8	Fair	Fair	None
36	*Pyrus calleryana*	Bradford pear	1	6	0	0	0	0	0	0	0	10	7	Poor	Fair	None
37	*Pyrus calleryana*	Bradford pear	1	6	0	0	0	0	0	0	0	13	11	Fair	Fair	None
38	*Pyrus calleryana*	Bradford pear	1	5	0	0	0	0	0	0	0	14	8	Fair	Fair	None
39	*Pyrus calleryana*	Bradford pear	1	6	0	0	0	0	0	0	0	11	8	Fair	Fair	None
40	*Pyrus calleryana*	Bradford pear	1	9	0	0	0	0	0	0	0	15	14	Good	Fair	None
41	*Ficus microcarpa*	Indian laurel fig	1	13	0	0	0	0	0	0	0	18	18	Good	Good	None
42	*Ficus microcarpa*	Indian laurel fig	1	13	0	0	0	0	0	0	0	16	14	Poor	Good	None
43	*Corymbia maculata*	Spotted gum	1	17	0	0	0	0	0	0	0	55	27	Poor	Fair	None

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems								Height (ft.)	Canopy (ft.)	Health	Structure	Protected Status
				S1	*S2*	*S3*	*S4*	*S5*	*S6*	*S7*	*S8*					
44	*Pyrus calleryana*	Bradford pear	1	6	0	0	0	0	0	0	0	13	6	Fair	Good	None
45	*Corymbia maculata*	Spotted gum	1	19	0	0	0	0	0	0	0	55	30	Good	Fair	None
46	*Schinus terebinthifolia*	Brazilian pepper-tree	1	13	0	0	0	0	0	0	0	16	13	Good	Fair	Specimen Tree
47	*Schinus terebinthifolia*	Brazilian pepper-tree	1	13	0	0	0	0	0	0	0	16	13	Fair	Fair	Specimen Tree
48	*Schinus terebinthifolia*	Brazilian pepper-tree	1	17	0	0	0	0	0	0	0	23	13	Good	Good	Specimen Tree
49	*Pyrus calleryana*	Bradford pear	1	6	0	0	0	0	0	0	0	17	14	Good	Good	None
50	*Fraxinus uhdei*	Shamel ash	1	18	0	0	0	0	0	0	0	45	16	Poor	Fair	None
51	*Fraxinus uhdei*	Shamel ash	1	13	0	0	0	0	0	0	0	23	14	Fair	Fair	None
52	*Fraxinus uhdei*	Shamel ash	1	8	0	0	0	0	0	0	0	20	5	Poor	Poor	None
53	*Fraxinus uhdei*	Shamel ash	1	14	0	0	0	0	0	0	0	30	14	Fair	Fair	None
54	*Fraxinus uhdei*	Shamel ash	1	10	0	0	0	0	0	0	0	30	13	Fair	Fair	None
55	*Fraxinus uhdei*	Shamel ash	1	24	0	0	0	0	0	0	0	60	30	Fair	Fair	None
56	*Ligustrum spp.*	Privet spp.	1	2	0	0	0	0	0	0	0	7	3	Fair	Fair	None
57	*Ligustrum spp.*	Privet spp.	1	2	0	0	0	0	0	0	0	11	3	Fair	Fair	None
58	*Ligustrum spp.*	Privet spp.	1	3	0	0	0	0	0	0	0	12	3	Good	Fair	None
59	*Phoenix roebelenii*	Pygmy date palm	1	4	0	0	0	0	0	0	0	4	4	Good	Fair	None
60	*Fraxinus uhdei*	Shamel ash	1	16	0	0	0	0	0	0	0	50	20	Fair	Fair	None
61	*Fraxinus uhdei*	Shamel ash	1	18	0	0	0	0	0	0	0	45	28	Fair	Fair	None
62	*Fraxinus uhdei*	Shamel ash	1	18	0	0	0	0	0	0	0	45	22	Good	Fair	None
63	*Fraxinus uhdei*	Shamel ash	1	9	0	0	0	0	0	0	0	40	16	Fair	Fair	None
64	*Pyrus calleryana*	Bradford pear	1	3	0	0	0	0	0	0	0	8	6	Good	Fair	None
65	*Pyrus calleryana*	Bradford pear	1	10	0	0	0	0	0	0	0	15	16	Good	Fair	None