

PROTECTED INDIGENOUS TREE REPORT

FOREST LAWN MEMORIAL-PARKS
CITY OF GLENDALE
LOS ANGELES COUNTY, CALIFORNIA



International
Society
of Arboriculture™
ISA Certified Arborist®

Leo James Simone

Certificate Number: WE-8491A
Expiration Date: Dec 31, 2017

Prepared for:

City of Glendale Public Works Department
Maintenance Services Division
541 West Chevy Chase Drive
Glendale, California 91204-1813

Prepared by:

Associate Biologist Leo Simone
ISA Certified Arborist WE-8491A
LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, California 92614
(949) 553-0666
LSA Project No. FLN1301

LSA

June 2015

TABLE OF CONTENTS

INTRODUCTION.....	1
STUDY AREA.....	1
METHODS.....	5
DISCUSSION	5
CONCLUSIONS AND RECOMMENDATIONS.....	6
Selected Plant Material	6
Planting and Maintenance.....	7
Disclosure Statement	8

FIGURES

Figure 1: Site Plan	2
Figure 2: Surveyed Indigenous Tree Photographs	3

TABLE

Table A: Tree Attribute Table	6
-------------------------------------	---

PROTECTED INDIGENOUS TREE REPORT

This Protected Indigenous Tree Report (ITR) documents the findings of the on-site protected indigenous tree assessment conducted by LSA Associates, Inc. (LSA) for the purpose of identifying all protected indigenous trees within the survey limits of the proposed Sunset Grove Gardens Project at Forest Lawn Memorial-Park, Glendale (proposed project site and protected zone).

INTRODUCTION

The City of Glendale (City) Indigenous Trees Ordinance (Ord. No. 12.44) defines “protected indigenous tree” as any tree of the following Southern California native tree species: coast live oak (*Quercus agrifolia*), California scrub oak (*Q. berberidifolia*), valley oak (*Q. lobata*), mesa oak (*Q. engelmannii*), California bay (*Umbellularia californica*), and California sycamore (*Platanus racemosa*) with a trunk that is 6 inches or greater in diameter as measured at a height of 54 inches above the lowest point where the trunk meets the soil (diameter at breast height [dbh]), or, in case of a tree with more than one trunk, whose combined diameter of any two trunks is at least 8 inches in diameter as measured at a height of 54 inches above the lowest point where each trunk meets the soil.

Within the boundaries of the proposed project site and adjacent protected zone, LSA identified nine protected indigenous trees that had diameters of at least 6 inches or combined diameters of any two trunks of at least 8 inches, as measured at a height of 54 inches above the lowest point where each trunk met the soil.

Based on the results of the field assessment, it is concluded that as currently designed, the proposed project would affect up to nine indigenous trees that are protected pursuant to the City criteria. Up to nine of the protected indigenous trees will require removal.

STUDY AREA

The approximately 0.7-acre proposed Sunset Grove Gardens project is located at Forest Lawn Memorial-Park in the City of Glendale, in Los Angeles County, California. Specifically, the proposed project site is mapped within the southwest quarter of Section 33 of Township 1 North, Range 13 West, of the *Pasadena, California* 7.5-minute United States Geological Survey (USGS) quadrangle map. The proposed Sunset Grove Gardens project is located on a previously undeveloped area of the Memorial-Park. The proposed project includes outdoor wall crypts, private gardens, lawn crypts, and an outdoor columbarium. Much of the site occupies steep slopes that will require constructing retaining walls to provide a level pad. The proposed project site is the only area of the Memorial-Park that is suitable for this project.



LSA



0 20 40
FEET

SOURCE: ESRI (2013).
F:\FN1301\GIS\Site_Plan_Fig1.mxd (6/17/2015)

LEGEND

- Survey Area
- Tree Location
- Driplines
- Protected Tree Zone
- Proposed Plans

FIGURE 1

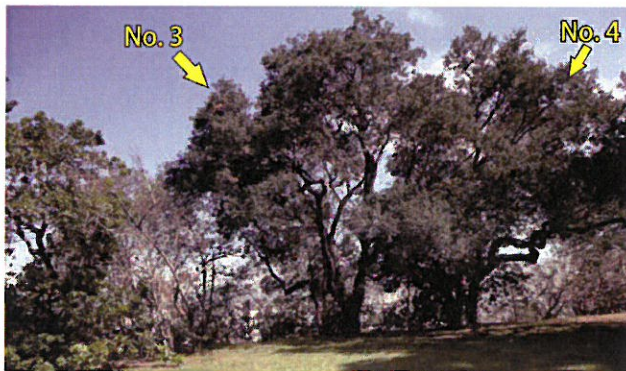
Forest Lawn Memorial Park - Glendale
Tree Survey
Site Plan



Oak No. 1. View looking south at 25' tall multi-trunk (5.5" and 6" stems = 11.5" diameter at breast height [DBH]) California live oak. Tree appears to be in good health.



Oak No. 2. View looking in northerly direction at 50' tall single trunk (15" DBH) California live oak. Tree appears to be disease free and in good health.



Oak Nos. 3 and 4. View looking north across lawn at two oak trees. Oak No. 3 is a 40' tall multi-trunk (4", 8", and 12" stems = 24" DBH) that appears to be disease free and in good health. Oak No. 4 is 70' tall single trunk (33" DBH) California live oak that appears disease free and in good health.



Oak No. 5. View looking in southerly direction at 50' tall multi-trunk (8", 9", 11", 11", and 13" stems = 52" DBH) California live oak. Tree is in fair health with included bark and some decay with multi-branching in response of past fire damage.

LSA

FIGURE 2
Sheet 1 of 2

*Forest Lawn Memorial-Park, Glendale
Indigenous Tree Report
Surveyed Indigenous Tree Photographs*



Oak No. 6. View looking in southerly direction at 40' tall multi-trunk (8", 9", and 12" stems = 29" DBH) California live oak. Tree is in fair health with horizontal branching, included bark, and some decay with multi-branching in response of past fire damage.



Oak Nos. 7 and 9. View looking in southerly direction at two oak trees. Oak No. 7 is a 20' tall multi-trunk (4", 5" and 7" stems = 16" DBH) and oak No. 9 is a 18' tall multi-trunk (5" and 7" stems = 12" DBH). Both trees are in fair health with included bark and some decay with multi-branching in response to past fire damage.



Oak No. 8. View looking south at 30' tall single trunk (20" DBH) California live oak. Tree appears to be stressed and in poor health with significant dieback to 1/3 of tree crown. Decay with multi-branching in response of past fire damage is evident.

LSA

FIGURE 2
Sheet 2 of 2

Forest Lawn Memorial-Park, Glendale
Indigenous Tree Report
Surveyed Indigenous Tree Photographs

METHODS

An on-site protected indigenous tree inventory survey was conducted on July 9, 2013, by LSA Associate Biologist Leo Simone (International Society of Arboriculture [ISA] Certified Arborist and ISA Certified Tree Risk Assessor WE-8491A). A follow-up survey was conducted by Mr. Simone on February 19, 2015. The tree inventory data were collected by LSA using a Garmin global positioning system (GPS) map 76CSx GPS unit as well as physical measurements taken during the field visit. The entire project site was surveyed on foot, and all qualifying protected indigenous trees were inventoried, assigned a number, and evaluated for the following attributes:

- Location (using a GPS unit)
- Tree species
- Diameter at 54 inches above the lowest point where the trunk meets the soil (DBH)
- Diameter of the canopy drip line
- Tree height
- Tree rating
- Percent canopy cover
- Condition/health and suggested treatment
- Other related information

Trees were tagged with numbered aluminum tags attached to the trees with red flagging tape.

DISCUSSION

A total of nine protected indigenous trees comprising a single species (coast live oak) were inventoried and evaluated. Figure 1 shows the location of the qualifying inventoried trees within the project site and adjacent protected zone. The trunk locations, represented by the numbered icons, are displayed within the canopy. The measured dripline (pink) and the protected zone (green hatching) are also displayed at a scale of 1 inch = 100 feet. Figure 2 shows photographs of the surveyed protected indigenous trees. Due to intertwined canopies and limited vantage points, in some cases, individual trees were difficult to photograph.

Nine protected indigenous trees were identified within the proposed project limits. Numerous nonnative, mostly ornamental trees on site were not evaluated as part of this ITR; among the ornamental tree species most frequently found on site were pine (*Pinus* sp.), eucalyptus (*Eucalyptus* sp.), pittosporum (*Pittosporum* sp.), and ash (*Fraxinus* sp.).

The majority of the protected indigenous trees are located along the northern portion of the generally triangular-shaped project site. The trunk diameters of the surveyed trees ranged from 11.5 to 52 inches DBH, the canopy drip lines ranged from 35 to 70 feet in diameter, and the heights ranged from 25 to 70 feet. Table A summarizes the inventory results and relevant data for the indigenous trees located within the boundary of the proposed project site.

Table A: Tree Attribute Table

Tree Number	Species	DBH (inches)	Height (feet)	Canopy (feet)	Cover (percent)	Condition
1	<i>Quercus agrifolia</i>	5.5, 6 = 11.5	25	35	70	Good
2	<i>Quercus agrifolia</i>	15	50	40	70	Good
3	<i>Quercus agrifolia</i>	4, 8, 12 = 24	40	50	80	Good
4	<i>Quercus agrifolia</i>	33	70	70	70	Good
5	<i>Quercus agrifolia</i>	8, 9, 11, 11, 13 = 52	50	60	70	Fair
6	<i>Quercus agrifolia</i>	8, 9, 12 = 29	40	50	60	Fair
7	<i>Quercus agrifolia</i>	4, 5, 7 = 16	20	40	70	Fair
8	<i>Quercus agrifolia</i>	20	30	40	40	Poor
9	<i>Quercus agrifolia</i>	5, 7 = 12	18	15	70	Fair

Notes:

Tree Number(s)

- 1, 2, 3, and 4 Trees appear to be disease-free and in good health.
 5, 6, 7, and 9 Trees in fair health with included bark and decay associated with past fire damage.
 8 Tree appears stressed and in poor health with 30 percent crown dieback and decay associated with past fire damage.

All nine of the protected indigenous trees located within the project footprint will likely be encroached upon by excavation of the Sunset Grove Gardens project. Tree Nos. 1, 2, 3, and 4 were healthy and vigorous at the time of the survey and did not exhibit signs of infestation, disease, or structural defects. Tree Nos. 5, 6, 7, and 9 are in fair health, with decay and included bark among multi-branching in response to past fire damage. Tree No. 8 appears to be stressed and in poor health with significant dieback to 30 percent of the tree crown. Decay with multi-branching in response to past fire damage is also evident.

CONCLUSIONS AND RECOMMENDATIONS

Based on the grading plans, it appears that up to nine of the qualifying trees will be removed for the construction of the proposed Sunset Grove Gardens project. The conclusions of this ITR will be used in developing mitigation for unavoidable impacts to up to nine coast live oak trees. As mitigation for the unavoidable removal of up to nine coast live oak trees, Glendale Forest Lawn Memorial-Park proposes to replace the qualifying trees within the property limits of Glendale Forest Lawn Memorial-Park at a 2:1 ratio. It should be understood that trees are living organisms, and their eventual height and spread are dictated by the particular on-site growing conditions.

Selected Plant Material

Please note that planting large-box oak trees is more likely to result in a poorer outcome than planting from 5-gallon or 15-gallon container sizes. It should also be noted that the selected trees may not be available as 24-inch or larger-box trees; therefore, LSA recommends that the City allow for the planting of 5-gallon and/or 15-gallon container trees.

Planting and Maintenance

In some cases, drainage may need to be improved before planting. Rock greater than 1 inch should be removed to a depth of at least 24 inches and at least three times the diameter of the root ball. The wider the planting hole, the more rooting volume will be provided for the tree as it grows outward.

Prior to planting, ISA-certified tree workers should ensure that the planting hole allows for sufficient drainage. If the subsoil does not drain well, anaerobic soil conditions may develop, creating an environment that favors the pathogens responsible for root rot diseases. If that is the case, the tree workers should consider installing supplemental drainage at the bottom of planting pits. Those drains could daylight further down the slope.

Proper site preparation before and during planting, coupled with good follow-up care, reduces the amount of time the plant material experiences transplant shock and allows the tree to quickly establish in its new location. The ideal time to plant trees is during the fall or early spring. Cool-weather conditions allow the trees to establish roots in the new location before spring and summer heat stimulates new growth. Proper handling during planting is essential for new trees. The ISA recommends that the following procedures are used for all trees:

- The planting hole should be at least three times the diameter of the root ball but only as deep as the root ball. It is important to make the hole wide because the roots on the newly establishing tree must push through surrounding soil in order to become established. The existing soils on site may be compacted and may be unsuitable for healthy root growth. Breaking up the soil in a large area around the tree(s) provides the newly emerging roots room to expand into loose soil to accelerate establishment.
- The trunk flare at the base of the tree should be partially visible after the tree has been planted. If the trunk flare is not partially visible, soil should be removed from the top of the root ball. The trunk flare determines how deep the hole needs to be for proper planting.
- Prior to placing the tree in the hole, tree workers should confirm that the hole has been dug to the proper depth and no more. The majority of the roots on the newly planted tree will develop in the top 12 inches of soil. If the tree is planted too deeply, new roots will have difficulty developing because of a lack of oxygen. It is better to plant the tree a little high (i.e., 2 to 3 inches above the base of the trunk flare) than to plant it at or below the original growing level. This planting level will allow for some settling. To avoid damage when setting the tree in the hole, the tree should be lifted by the root ball, not by the trunk.
- Before backfilling, tree workers should view the tree from several directions to confirm that it is straight. Once backfilling has begun, it may be difficult to reposition the tree.
- The hole should be filled about one-third full while gently but firmly packing the soil around the base of the root ball, being careful not to damage the trunk or roots in the process. Tree workers should fill the remainder of the hole, firmly packing the soil to eliminate air pockets that may cause the roots to dry out. Soil should be added a few inches at a time and settled with water. This process should be continued until the hole is filled and the tree is firmly planted. It is not recommended to apply fertilizer at the time of planting.
- If the tree is grown and dug properly at the nursery, staking for support will not be necessary in most landscape situations. Studies have shown that trees establish more quickly and develop

stronger trunk and root systems if they are not staked at the time of planting. However, protective staking may be required on sites where vandalism or windy conditions are concerns. If staking is necessary for support, two stakes used in conjunction with a wide, flexible tie material will hold the tree upright, provide flexibility, and minimize injury to the trunk. Support staking and ties should be removed after the first year of growth.

- Mulch is organic matter applied to the area at the base of the tree. It holds moisture, moderates soil temperature extremes (both hot and cold), and reduces competition from grass and weeds. A 2- to 4-inch layer is ideal. More than 4 inches may cause a problem with oxygen and moisture levels. When placing mulch, tree workers should ensure that the tree trunk is not covered, as this may cause decay of the living bark at the base of the tree. A mulch-free area 1 to 2 inches wide at the base of the tree is sufficient to avoid moist bark conditions and prevent decay.
- The soil should be kept moist but not soaked; overwatering causes leaves to turn yellow and fall off. The trees should be watered when the soil is dry below the surface of the mulch. This should be continued until mid-fall, tapering off for lower temperatures that require less frequent watering. Xeriscape irrigation should be employed to ensure deep watering that is matched to the tree's evapotranspiration rates. Other follow-up care may include minor pruning of branches damaged during the planting process. Tree workers should prune sparingly immediately after planting and wait to begin necessary corrective pruning until after a full season of growth in the new location.

To ensure that best practice standards are being met, planting should be performed by ISA-certified tree workers under the supervision of a certified arborist.

Disclosure Statement

I have personally inspected the property referred to in this report and have stated my findings accurately. I have no current or prospective interest in the vegetation or the property, and I have no personal interest or bias with respect to the parties involved. The analysis, opinions, and conclusions stated here are my own and are based on current scientific procedures and facts. My compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party or, upon the results of the assessment, the attainment of stipulated results or the occurrence of any subsequent events. My analysis, opinions, and conclusion were developed according to commonly accepted arboricultural practices.

I CERTIFY THAT THE INFORMATION IN THIS INDIGENOUS TREE REPORT AND ATTACHED EXHIBITS FULLY AND ACCURATELY REPRESENT MY WORK:

SURVEYOR:

**ISA CERTIFICATION
NUMBER:**

DATE:


Leo Simone

WE-8491A

June 17, 2015