

Appendix C: **Biological Resources Supporting Information**

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Arborist Report

Walnut Creek Shadelands Walnut Creek, CA

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Arborist Report
Walnut Creek Shadelands
Walnut Creek, CA

Table of Contents

	Page
Introduction and Overview	1
Tree Assessment Methods	1
Description of Trees	2
Suitability for Preservation	7
Estimate of Tree Value	9
Evaluation of Impacts	9
Tree Preservation Guidelines	10

List of Tables

Table 1. Condition ratings and frequency of occurrence of trees	2
Table 2. Tree suitability for preservation	8

Exhibits

Tree Assessment

Tree Assessment Map

Estimated Value and Disposition

Arborist Report

Walnut Creek Shadelands

Walnut Creek, CA

Introduction and Overview

Signature Development Group is planning to redevelop an existing office park at Mitchell Drive and Oak Grove Road in Walnut Creek, CA. The current site use consists of 11 office buildings with associated parking lots and landscaping. HortScience | Bartlett Consulting, divisions of the F.A. Bartlett Tree Expert Company, was asked to prepare an **Arborist Report** for the trees potentially impacted by the project as required by the City of Walnut Creek Tree Preservation Ordinance Title 3 Chapter 8.

This report provides the following information:

1. Assessment of the health and structural condition of the trees within the proposed project area based on a visual inspection from the ground.
2. Appraised value of each tree using the methods described in Guide for Plant Appraisal, 10th Ed., International Society of Arboriculture, 2018.
3. Guidelines for tree preservation during the design, construction, and maintenance phases of development.

Tree Assessment Methods

Trees were assessed on February 26 and March 4, 2024. The assessment included all trees measuring 6 inches and larger in diameter located within and adjacent to the project area. The assessment procedure consisted of the following steps:

1. Identifying the tree as to species.
2. Tagging all trees with an identifying number and plotting on a site map.
3. Measuring the trunk diameter at a point 54" above grade.
4. Evaluating the health and structural condition using a scale of 1 – 5 based on a visual inspection from the ground:
 - 5 - A healthy, vigorous tree, reasonably free of signs and symptom of disease, with good structure and form typical of the species.
 - 4 - Tree with slight decline in vigor, small amount of twig dieback, minor structural defects that could be corrected.
 - 3 - Tree with moderate vigor, moderate twig and small branch dieback, thinning of crown, poor leaf color, moderate structural defects that might be mitigated with regular care.
 - 2 - Tree in decline, epicormic growth, extensive dieback of medium to large branches, significant structural defects that cannot be abated.
 - 1 - Tree in severe decline, dieback of scaffold branches and/or trunk; most of foliage from epicormics; extensive structural defects that cannot be abated.
5. Rating the suitability for preservation as "high," "moderate" or "low." Suitability for preservation considers the health, age and structural condition of the tree, and its potential to remain an asset to the site for years to come.

High: Trees with good health and structural stability that have the potential for longevity at the site.

Moderate: Trees with somewhat declining health and/or structural defects that can be abated with treatment. The tree will require more intense management and monitoring, and may have shorter life span than those in 'high' category.

Low: Tree in poor health or with significant structural defects that cannot be mitigated. Tree is expected to continue to decline, regardless of treatment. The species or individual may have characteristics that are undesirable for landscapes and generally are unsuited for use areas.

Description of Trees

Four hundred and eighty-eight (488) trees were assessed representing 27 species (Table 1). Of the 488 trees assessed, 24 were located off-site in the adjacent southeast office park parking lot and seven off-site trees were along the west edge. Overall, 107 trees (22%) were in good condition, 338 (69%) were fair and 43 (9%) were poor. No species except for valley oak were native to the Walnut Creek area and no trees were indigenous to the site. Descriptions of each tree are provided in the **Tree Assessment**, and locations are plotted on the **Tree Assessment Map** (see Exhibits).

**Table 1. Condition ratings and frequency of occurrence of trees
Shadelands Walnut Creek, CA**

Common Name	Scientific Name	Condition			Total
		Poor (1-2)	Fair (3)	Good (4-5)	
Red maple	<i>Acer rubrum</i>	-	2	-	2
European white birch	<i>Betula pendula</i>	-	3	-	3
Deodar cedar	<i>Cedrus deodara</i>	-	7	-	7
Camphor	<i>Cinnamomum camphora</i>	-	-	1	1
Blue gum	<i>Eucalyptus globulus</i>	-	1	-	1
Fig	<i>Ficus carica</i>	-	1	-	1
Raywood ash	<i>Fraxinus angustifolia</i> 'Raywood'	29	105	-	134
Evergreen ash	<i>Fraxinus uhdei</i>	2	51	11	64
Honey locust	<i>Gleditsia triacanthos</i>	1	-	-	1
Sweetgum	<i>Liquidambar styraciflua</i>	3	71	-	74
Crabapple	<i>Malus sylvestris</i>	-	1	-	1
Mayten	<i>Maytenus boaria</i>	4	4	-	8
Canary Island date palm	<i>Phoenix canariensis</i>	-	-	1	1
Canary Island pine	<i>Pinus canariensis</i>	1	2	2	5
Monterey pine	<i>Pinus radiata</i>	-	1	-	1
Chinese pistache	<i>Pistacia chinensis</i>	-	3	-	3
London plane	<i>Platanus x hispanica</i>	1	40	4	45
Carolina cherry laurel	<i>Prunus caroliniana</i>	-	1	-	1
Purpleleaf plum	<i>Prunus cerasifera</i>	1	1	-	2
Callery pear	<i>Pyrus calleryana</i>	-	1	-	1
Valley oak	<i>Quercus lobata</i>	-	2	2	4
Weeping willow	<i>Salix babylonica</i>	-	1	-	1
Willow	<i>Salix</i> sp.	1	-	-	1
California pepper	<i>Schinus molle</i>	-	1	-	1
Coast redwood	<i>Sequoia sempervirens</i>	-	21	82	103
Chinese tallow	<i>Triadica sebifera</i>	-	2	-	2
Chinese elm	<i>Ulmus parvifolia</i>	-	16	4	20
Total		43	338	107	488

Raywood ash was the most common tree species with 134 trees or 27% of the total population. One hundred five (105) were in fair condition and 29 were poor. Trees in poor condition had poor structure and form with several being previously topped (Photo 1). Many trees also had large surface roots, especially those growing in narrow parking lot planting beds. Trees in fair condition had more balanced crowns with multiple attachments arising between 8-12 feet. Trunk diameters ranged between 6 – 32 inches with an average diameter of 12 inches.

Photo1. Raywood ash #80 was in poor condition with poor structure and form.



Of the 103 coast redwoods, 82 were in good condition and 21 were fair. Trees in good condition had upright form with full, dense crowns and good leaf color (Photo 2). Trees in fair condition had structural defects such as codominant trunks, previously broken tops or were one-sided due to tight growing proximity to adjacent trees. Trunk diameters ranged between 14 – 64 inches with an average of just under 29 inches. Redwood # 186 was the largest tree on the property with a trunk diameter of 64 inches.

Photo 2. Coast redwood #71 was in good condition with a full crown and good leaf color.



Seventy-four (74) sweetgum trees were growing throughout the project site. All but three were in fair condition. Trees #63, 99 and 388 were in poor condition with poor form. Crowns consisted of co-dominant trunks at 6 – 10 feet with large heading cuts on the main branches. Most trees had recent evidence of moderate to heavy pruning, resulting in several thin crowns with several epicormic water sprouts. Trunk diameters ranged between 6 – 18 inches with an average of just under 12 inches.

Sixty-four (64) evergreen ash trees were within the project area. Fifty-one (51) were in fair condition with medium to large crowns with variable structures. Most trees had co-dominant trunks between 6 – 15 feet with fair form. Trees in poor condition had been previously topped or had very reduced crowns with branch dieback and epicormic sprouts throughout the crowns. Eleven (11) trees were in good condition with stately, large open crowns, good

branch structure and minimal twig or branch dieback. Trees #47 and 332 were in poor condition with small crowns and poor structure. Trunk diameters ranged between 8 – 37 inches with an average of just under 20 inches.

Of the 45 London plane trees, 40 were in fair condition, four were good and #405 was poor with major branch dieback. Trees in fair condition had medium-sized crowns with fair form. Most were growing in 4-foot-wide parking lot islands and confined root space. Trunk diameters ranged from 8 – 16 inches with an average of 11.5 inches. All trees were semi-mature in development (Photo 3).

Photo 3. London plane trees #445 (Right) had good form and was semi-mature in development.

Thirteen (13) of the 20 Chinese elm trees were growing in the southeast parking lot. All trees were young to semi-mature in development with trunk diameters ranging between 12 – 21 inches, averaging 15.6 inches. Sixteen (16) trees were in fair condition with medium size crowns, fair form with codominant trunks between 6 – 8 feet. Elms #3, 9, 40 and 190 were in good condition with full, wide crowns and good structure and form.



Eight (8) Mayten trees were located near ponds around the site. Trees #70, 175, 317 and 318 were in fair condition with small crowns, slight leans and fair form. Trees #69, 77, 333 and 478 were in poor condition with crown dieback, poor pruning and heavy leans. Trunk diameters averaged 10.5 inches for all trees.

All seven deodar cedar trees were in fair condition. All trees had some defect in structure either on their main stem or branch architecture. Most had a typical upright form with varying degrees of internal structure. Cedar #78 had the largest trunk diameter at 35 inches (Photo 4). The crown consisted of a large, wide structure with multiple attachments at 40 feet. The main stem was also twisted growing upright.

Photo 4. Deodar cedar #78 was in fair condition with a 35-inch diameter trunk.



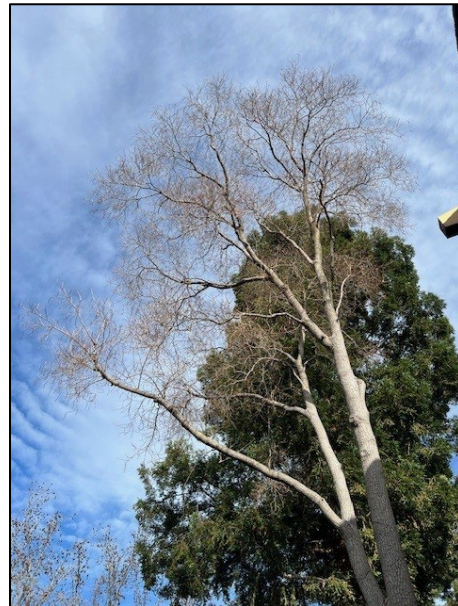
The remaining species were each represented by five or fewer trees. These included:

- Five (5) Canary Island pines of which #172 and 173 were in good condition, #174 and 261 were fair and #171 was poor. Pine #173 had a 27 inch diameter trunk with a full crown and slight lean south. Pines 171 and 174 had poor structure with codominant top or one-sided.
- Three (3) valley oaks (#434, 437 and 429) were located off-site in a landscape bed dividing the property to the west. Trees #434 and 437 were in good condition with good structure and full crowns. Valley oak #393 was located on-site. Oak #393 and 439 were in fair condition with medium-sized crowns and fair form with branch attachments between 8 – 12 feet. Trunk diameters ranged between 13 – 23 inches with an average of 15.5 inches.
- Three Chinese pistache trees were in fair condition with wide crowns and fair structure and form. All trees were young in development with an average trunk diameter of 7.5 inches.
- Three European white birch trees were in fair condition. Tree #337 was previously topped and bowed south and all three had surface roots. They were young to semi-mature in development with trunk diameters ranging between 8 – 18 inches.

Photo 5. European white birch #340 was in fair condition growing in a tight location between the pond, sidewalk and bridge.



- Red maples #189 and 269 were both 6 inches in diameter and in fair condition. They had small, round crowns with fair form.
 - Purple leaf plum #260 was in fair condition with an upright form and codominant trunk at 6 feet. Plum #325 was in poor condition with branch dieback and overall decline. Both had 12-inch trunk diameters.
 - Chinese tallows #342 and 345 were in fair condition. Both had a 13-inch trunk diameter. Tree #342 had a codominant trunk at 15 feet and was one-sided to the west.
- Photo 6.** Chinese tallow #342 was in fair condition with a codominant trunk at 15 feet.
- Willow #54 was a small tree in poor condition. It had a trunk diameter of 7 inches with branch dieback and lean west.



- Carolina cherry laurel #181 was in fair condition with a one-sided crown. It had a 10-inch diameter trunk that was codominant trunk at 4 feet.
- California pepper #185 was in fair condition with multiple attachments at the base. It had a wide crown with epicormic growth around the base. The three trunk diameters were 17, 17 and 13 inches.
- Monterey pine #290 was in fair condition with a medium size crown. It had a 25-inch diameter trunk with a codominant attachment at 9 feet.
- Fig #300 had multiple attachments at the base with a full, wide crown. It was in fair condition but had poor structure and form.
- Weeping willow #310 was in fair condition with a large, wide crown, typical of weeping willows. It had a 34-inch diameter trunk with an inverse trunk taper at 10 feet. Large surface roots were present under the canopy.
- Crabapple #341 was in fair condition with a small crown in fair form. It had a slight lean to the west.
- Callery pear #338 was in fair condition, but with poor structure and form. Multiple attachments arose from 10 feet, and it had a 17-inch diameter trunk.
- Canary Island date palm #435 was off-site on the west side and was in good condition. The trunk was 29 inches in diameter and located 1 foot away from the chain link fence. Evidence of the old fence was embedded in the trunk.
- Blue gum #438 was in fair condition growing off-site on the southwest side of the property. It had a trunk diameter of 26 inches and had poor structure and form.
- Camphor #444 was in good condition growing in a 4-foot parking lot island. It had a 14-inch diameter trunk that was codominant at 6 feet.
- Honey locust #452 was in poor condition with branch dieback, one-sided crown and girdling roots. It had a trunk diameter of 12 inches.



Photo 7. Fig #300 had multiple attachments at the base creating poor structure and form.

Walnut Creek Tree Protection Requirements

The City of Walnut Creek's Tree Preservation Chapter 8. Preservation of Trees on Private Property defines certain native species (valley oak, blue oak, coast live oak, California black oak, canyon live oak, interior live oak, madrone, California buckeye, California black walnut, and grey pine) having a single perennial stem with a circumference of 28 inches (diameter 9 inches) or greater, or multi-stem perennial plant having an aggregate circumference of 40 inches (13-inch diameter) or greater as *Highly protected*. Based on this definition, off-site valley oak trees (#434, 437, 439) and on-site #393 qualified as *Highly Protected* and can be found in the **Tree Assessment** Exhibit.

All trees 9 inches in diameter and larger (441 trees) require a permit for removal in Walnut Creek. Blue gums and Monterey pines are not considered protected in Walnut Creek.

Suitability for Preservation

Before evaluating the impacts that will occur during development, it is important to consider the quality of the tree resource itself, and the potential for individual trees to function well over an extended length of time. Trees preserved on development sites must be carefully selected to ensure they may survive development impacts, adapt to a new environment and perform well in the landscape.

Our goal is to identify trees with the potential for long-term health, structural stability and longevity. For trees growing in open fields, away from areas where people and property are present, structural defects and / or poor health presents a low risk of damage or injury if they fail. However, we must be concerned about safety in use areas. Therefore, where development encroaches into existing plantings, we must consider their structural stability as well as their potential to grow and thrive in a new environment. Where development will not occur, the normal life cycles of decline, structural failure and death should be allowed to continue.

Evaluation of suitability for preservation considers several factors:

- **Tree health**
Healthy, vigorous trees are better able to tolerate impacts such as root injury, demolition of existing structures, changes in soil grade and moisture, and soil compaction than are non-vigorous trees. For example, coast redwoods in good condition are more likely to survive construction than trees in fair condition.
- **Structural integrity**
Trees with significant amounts of wood decay and other structural defects that cannot be corrected are likely to fail. Such trees should not be preserved in areas where damage to people or property is likely. For example, evergreen ash with multiple attachments arising from one location have a higher likelihood of failure than single stem trees.
- **Species response**
There is a wide variation in the response of individual species to construction impacts and changes in the environment. For example, coast redwood and evergreen ash are tolerant of root loss while deodar cedar and Raywood ash are more moderate in response.

- **Tree age and longevity**
Old trees, while having significant emotional and aesthetic appeal, have limited physiological capacity to adjust to an altered environment. Young trees are better able to generate new tissue and respond to change.
- **Species invasiveness**
Species that spread across a site and displace desired vegetation are not always appropriate for retention. This is particularly true when indigenous species are displaced. The California Invasive Plant Inventory Database <http://www.cal-ipc.org/plants/inventory/> lists species identified as being invasive. Blue gum and fig are listed as being moderately invasive. California pepper, Canary Island date palm and purpleleaf plum have limited invasive potential.

Each tree was rated for suitability for preservation based upon its age, health, structural condition and ability to safely coexist within a development environment (see **Tree Assessment** in Exhibits, and Table 2). We consider trees with high suitability for preservation to be the best candidates for preservation. We do not recommend retention of trees with low suitability for preservation in areas where people or property will be present. Retention of trees with moderate suitability for preservation depends upon the intensity of proposed site changes.

**Table 2. Tree suitability for preservation
Shadelands, Walnut Creek, CA**

High	These are trees with good health and structural stability that have the potential for longevity at the site. Thirty-six (36) trees had high suitability for preservation including 34 coast redwoods, evergreen ash #349 and valley oak #434.
Moderate	Trees in this category have fair health and/or structural defects that may be abated with treatment. These trees require more intense management and monitoring and may have shorter life spans than those in the “high” category. Three hundred and six (306) trees had moderate suitability for preservation including 69 coast redwoods, 57 evergreen ash, 48 sweetgum, 44 London plane, 39 Raywood ash, 20 Chinese elm, six deodar cedar, and three or less of each of the following species: California pepper, camphor, Canary Island data palm, Canary Island pine, Carolina cherry laurel, Chinese pistache, Chinese tallow, crabapple, European white birch, mayten, Monterey pine, red maple, valley oak and weeping willow.
Low	Trees in this category are in poor health or have significant defects in structure that cannot be abated with treatment. These trees can be expected to decline regardless of management. The species or individual tree may possess either characteristics that are undesirable in landscape settings or be unsuited for use areas. One hundred and forty-six (146) trees had low suitability for preservation including 95 Raywood ash, 26 sweetgums, 6 evergreen ash, 6 mayten, and 10 other species with two or fewer.

Estimate of Tree Value

The City of Walnut Creek requires that the value of all trees within the development site and trees located off-site that could be impacted be included in Arborist Reports. To estimate the value of the trees, I used the cost approach, reproduction method, and trunk formula technique, as described in the **Guide for Plant Appraisal**, 10th edition (International Society of Arboriculture, Champaign IL, 2018). In addition, I referred to **Species Classification and Group Assignment** (2004), a publication of the Western Chapter of the International Society of Arboriculture.

When estimating reproduction cost, the trunk formula technique considers four factors: size, condition, functional limitations, and external limitations. Size is measured as trunk diameter, normally 54" above grade. Condition reflects the health and structural integrity of the tree. Functional limitations reflect constraints to tree development based on the site and species. For this site, I did not factor in any external limitations.

The estimated value of all trees was \$1,941,600. Each tree and its estimated value are listed in the **Estimated Value and Disposition** exhibit.

Evaluation of Impacts and Recommendations

Appropriate tree retention develops a practical match between the location and intensity of construction activities and the quality and health of trees. The **Tree Assessment Form** was the reference point for tree condition and quality. I reviewed the Existing Site & Utility Plan C1.0, Overall Site and Development Plan C3.0, and Overall Grading Plan C4.0 (Signature Development Group, KTGy, CBG, TGP, 6/28/24) to evaluate the impacts on trees.

The project proposes to remove the existing buildings, hardscape and landscaping. Four hundred and sixty-one (461) trees are within the footprint of the new development and will be impacted beyond their tolerance. Of the 461 trees to be removed, 12 are located within the office park parking lot at the southeast. These trees were included in the assessment due to the proposed reconfiguration of the parking lot and property line adjustment. No off-site trees on the west side will be removed.

Of the 27 trees to be preserved, 12 are located within the southeast office park parking lot (Trees #1, 2, 3, 4, 5, 17, 18, 31, 32, 33, 34 and 35). Seven trees (#162, 164, 168, 169, 170, 182 and 184) are located in the middle of the project site and can be preserved with appropriate tree protection. Seven off-site trees (#363, 434, 435, 436, 437, 438 and 439) and on-site valley oak #393 on the west border and will be preserved. This group includes all four valley oaks, the only trees in the project area considered "highly protected."

In summary, my preliminary evaluation of impacts would require the removal of 461 trees and the preservation of 27 trees (refer to the **Estimated Value and Disposition** in the **Exhibits**). Of the 461 trees to be removed, 416 are considered *Protected*. The estimated value for the *Protected* tree removals was \$1,789,300. The estimated value for 27 preserved trees was \$118,900. The Estimated Value and Disposition form has been completed per WC MC Section 3-8.07(b). As all "highly protected trees" will not be removed, and 538 trees will be planted in place of the 461 trees that will be removed (416 of which are considered "protected trees"), there is no in-lieu fee payment required.

Successful preservation of trees will require adherence to the **Tree Preservation Guidelines**. **Preliminary Tree Preservation Guidelines** can be found on the following pages.

Tree Preservation Guidelines

The goal of tree preservation is not merely tree survival during development but maintenance of tree health and beauty for many years. Trees retained on sites that are either subject to extensive injury during construction or are inadequately maintained become a liability rather than an asset. The response of individual trees depends on the amount of excavation and grading, care with which demolition is undertaken, and construction methods. Coordinating any construction activity inside the **TREE PROTECTION ZONE** can minimize these impacts. A Tree Protection Zone in Walnut Creek is defined as “the dripline of the canopy.” Tree protection fencing shall be located as close to the dripline as possible while allowing room for construction to occur.

The majority of trees are expected to be removed. Twenty-seven 27 trees are listed for preservation in the Evaluation of Impacts section. These trees include: seven trees (#363, 434, 435, 436, 437, 438 and 439) located off-site to the west and on-site oak #393; seven trees (#162, 164, 168, 169, 170, 182 and 184) in the middle park section and 12 trees (#1, 2, 3, 4, 5, 17, 18, 31, 32, 33, 34 and 35) in the southeast office park parking lot area.

The following recommendations will help reduce the impacts on these trees from the development. These guidelines will help maintain their health and structural stability through the clearing, grading and construction phases. Pruning may be necessary to provide clearance to construction equipment and building construction.

Per Walnut Creek Ordinance 3-8.05 Preservation and Maintenance of Existing Trees:

“Tree protection fencing shall be established at the drip line at a minimum of all preserved trees. All fence sections shall be clearly marked with a sign stating: This is a Tree Protection Zone (TPZ), and no one is allowed to disturb this area. The sign shall also list contact information for the contractor and the Project Arborist and clearly state that a violation of the TPZ will result in a stop work order.”

The following recommendations will help reduce impacts on trees from development and maintain and improve their health and vitality through the clearing, grading, and construction phases.

Tree Protection Zone

1. A **TREE PROTECTION ZONE** shall be no less than the edge of the drip line. The dripline shall be defined by the natural edge of the crown of the tree.
 - a. Fence all trees to be retained within the site to completely enclose the **TREE PROTECTION ZONE** prior to demolition, grubbing or grading. Fences shall be 6-foot chain link with posts mounted on 8-foot tall, 2-inch diameter galvanized posts, driven 24 inches into the ground and spaced no more than 10 feet apart, per Walnut Creek requirements. Areas in hardscape may use free-standing fences using a temporary fence base.
 - b. Fences must be installed before beginning demolition and must remain until construction is complete. Fencing must be inspected by the City Arborist before issuance of building permits.
 - c. No grading, excavation, construction or storage or dumping of materials shall occur within the **TREE PROTECTION ZONE**.
 - d. No underground services including utilities, sub-drains, water or sewer shall be placed in the **TREE PROTECTION ZONE**.
 - e. Fenced areas shall be posted with signs stating, “This is a Tree Protection Zone (TPZ), and no one is allowed to disturb this area.” The sign shall also list contact

information for the contractor and the Project Arborist and clearly state that a violation of the TPZ will result in a stop work order.”

Design recommendations

1. Any changes to the plans affecting the trees should be reviewed by the consulting arborist concerning tree impacts. These include, but are not limited to, site plans, improvement plans, utility and drainage plans, grading plans, landscape and irrigation plans, and demolition plans.
2. Plot accurate locations of all trees to be preserved on all project plans. Identify the **TREE PROTECTION ZONE** for each tree.
3. Plan for tree preservation by designing adequate space around trees to be preserved. This is the **TREE PROTECTION ZONE**: No grading, excavation, construction or storage of materials should occur within that zone. Route underground services including utilities, sub-drains, water or sewer around the **TREE PROTECTION ZONE**.
4. All plans affecting trees shall be reviewed by the Consulting Arborist concerning tree impacts. These include, but are not limited to, demolition plans, grading plans, drainage plans, utility plans, and landscape and irrigation plans.
5. Irrigation systems must be designed so that no trenching severs roots larger than 1 inch in diameter will occur within the **TREE PROTECTION ZONE**. Do not water valley oaks on the west side of the site during the summer months.
6. **Tree Preservation Guidelines** prepared by the Consulting Arborist, which include specifications for tree protection during demolition and construction, should be included on all demolition and construction plans.
7. Any herbicides placed under paving materials must be safe for use around trees and labeled for that use.
8. As trees withdraw water from the soil, expansive soils may shrink within the root area. Therefore, foundations, footings and pavements on expansive soils near trees should be designed to withstand differential displacement.
9. Ensure adequate but not excessive water is supplied to trees; in most cases occasional irrigation will be required. Avoid directing runoff toward trees.

Pre-demolition and pre-construction treatments and recommendations

1. The demolition and construction superintendents shall meet with the Consulting Arborist before beginning work to review all work procedures, access routes, storage areas, and tree protection measures.
2. Fence all trees to be retained to completely enclose the **TREE PROTECTION ZONE** prior to demolition, grubbing or grading. Fences shall be 6 feet chain link with posts sunk into the ground or equivalent as approved by the City.
3. Where demolition must occur close to trees (for example Chinese elm #5), such as removing curb and pavement, install temporary trunk protection devices such as winding silt sock wattle or wood planks around trunks or stacking hay bales around tree trunks to a height of approximately 5 feet. Any low branches that are within the work zone should also be protected. Remove trunk protection after demolition is completed and install a protective fence at the limits of the tree protection zone.



Do not retain wattling around tree trunks for more than 2-3 weeks to avoid damaging trunks from excess moisture.

4. Apply and maintain 4-6 inches of wood chip mulch within the **TREE PROTECTION ZONE**. Keep the mulch 6 inches from the base of tree trunks.
5. Branches extending into the work area that can remain following demolition shall be tied back or properly pruned and protected from damage.
6. Prune trees to be preserved to clean the crown of dead branches 1" and larger in diameter, raise and reduce canopies as needed for construction activities.
 - a. Do not remove more than 20-25% of each tree's crown.
 - b. All pruning shall be done by a State of California Licensed Tree Contractor (C61/D49). All pruning shall be done by a Certified Arborist or Certified Tree Worker in accordance with the Best Management Practices for Pruning (International Society of Arboriculture, 2002) and adhere to the most recent editions of the American National Standard for Tree Care Operations (Z133.1) and Pruning (A300).
 - c. Branches extending into the work area that can remain following demolition shall be tied back and protected from damage.
 - d. While in the tree, the arborist shall perform an aerial inspection to identify any defects, weak branches and trunk attachments and decay not visible from the ground. Any additional work needed to mitigate defects shall be reported to the property owner.
7. Trees to be removed shall be felled to fall away from **TREE PROTECTION ZONE** and avoid pulling and breaking of roots of trees to remain.
8. All down brush and trees shall be removed from the **TREE PROTECTION ZONE** either by hand, or with equipment sitting outside the **TREE PROTECTION ZONE**. Extraction shall occur by lifting the material out, not by skidding across the ground. Brush shall be chipped and spread beneath the trees within the **TREE PROTECTION ZONE**
9. All tree work shall comply with the Migratory Bird Treaty Act as well as California Fish and Wildlife code 3503-3513 to not disturb nesting birds. To the extent feasible tree pruning and removal should be scheduled outside of the breeding season. Breeding bird surveys should be conducted before tree work. Qualified biologists should be involved in establishing work buffers for active nests.

Recommendations for tree protection during construction

1. Any approved grading, construction, demolition, or other work within the **TREE PROTECTION ZONE** should be monitored by the Consulting Arborist.
2. All contractors shall conduct operations in a manner that will prevent damage to trees to be preserved.
3. Tree protection devices are to remain until all site work has been completed within the work area. Fences or other protection devices may not be relocated or removed without permission of the Consulting Arborist.
4. Construction trailers, traffic, and storage areas must remain outside **TREE PROTECTION ZONE** at all times.
5. Any root pruning required for construction purposes shall receive prior approval of and be supervised by the Consulting Arborist. Roots should be cut with a saw to provide a flat and smooth cut. Removal of roots larger than 2 inches in diameter should be avoided.

6. If roots 2 inches and greater in diameter are encountered during site work and must be cut to complete the construction, the Consulting Arborist must be consulted to evaluate the effects on the health and stability of the tree and recommend treatment.

Maintenance of impacted trees

Preserved trees will experience a physical environment different from that pre-development. As a result, tree health and structural stability should be monitored. Occasional pruning, fertilization, mulch, pest management, replanting and irrigation may be required. In addition, provisions for monitoring both tree health and structural stability following construction must be made a priority. Inspect trees annually and following major storms to identify conditions requiring treatment to manage risk associated with tree failure.

Our procedures included assessing trees for observable defects in structure. This is not to say that trees without significant defects will not fail. Failure of apparently defect-free trees does occur, especially during storm events. Wind forces, for example, can exceed the strength of defect-free wood causing branches and trunks to break. Wind forces coupled with rain can saturate soils, reducing their ability to hold roots, and blow over defect-free trees. Although we cannot predict all failures, identifying those trees with observable defects is a critical component of enhancing public safety.

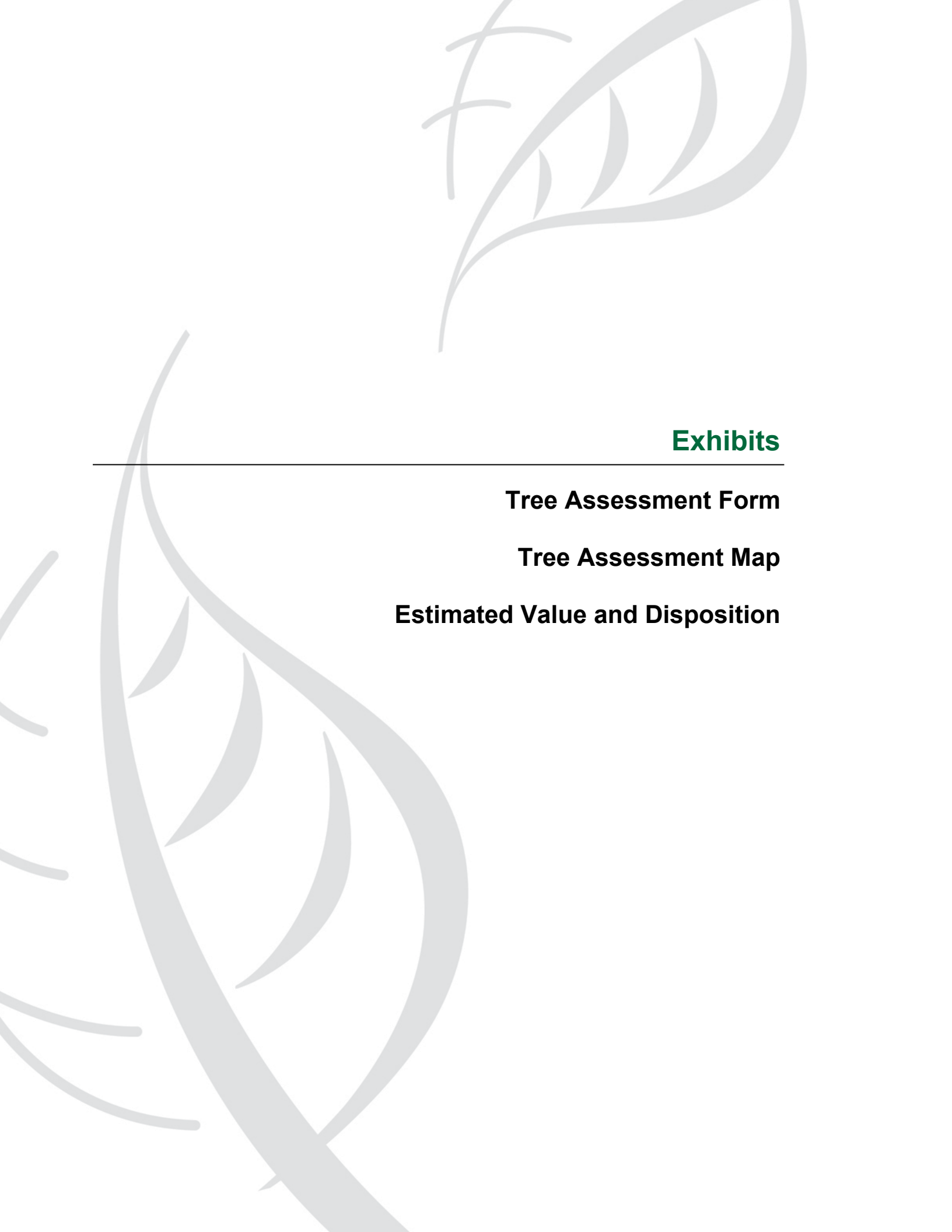
Furthermore, trees change over time. Our inspections represent the condition of the tree at the time of inspection. As trees age, the likelihood of failure of branches or entire trees increases. Annual tree inspections are recommended to identify changes to tree health and structure. In addition, trees should be inspected after storms of unusual severity to evaluate damage and structural changes. Initiating these inspections is the responsibility of the client and/or tree owner.

If you have any questions regarding my observations or recommendations, please contact me.

HortScience | Bartlett Consulting



Scott Stringer
Consulting Arborist & Urban Forester
ISA Certified Arborist, WE-5544A
ISA Tree Risk Assessment Qualified



Exhibits

Tree Assessment Form

Tree Assessment Map

Estimated Value and Disposition

Tree Assessment

Shadelands of Walnut Creek
Walnut Creek, CA
June 2024



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
1	Chinese elm	19	Yes	3	Moderate	Office park; 4' wide parking lot bed; codominant trunk at 7'; wide crown; girdling root on north side; leans south.
2	Chinese elm	13	Yes	3	Moderate	Office park; leans north west; codominant trunk at 7'; fair form;
3	Chinese elm	21	Yes	4	Moderate	Office park; large crown; wide spreading; good structure and form; multiple attachments at 9'.
4	Evergreen ash	30	Yes	3	Moderate	Office park; multiple attachments trunk at 10'; narrow crown; heavily pruned.
5	Chinese elm	14	Yes	3	Moderate	Office park; codominant trunk at 6'; medium crown; fair form.
6	Chinese elm	13	Yes	3	Moderate	Fair form; medium crown; thick bark around base.
7	Chinese elm	17	Yes	3	Moderate	Fair form; large crown; large structural root on south side; codominant trunk at 7'.
8	Chinese elm	13	Yes	3	Moderate	Fair form; medium crown; codominant trunk at 7'.
9	Chinese elm	18	Yes	4	Moderate	Good structure and form; large crown; codominant trunk at 7'.
10	Chinese elm	15	Yes	3	Moderate	Fair structure and form; medium crown; multiple attachments at 7'.
11	Raywood ash	8	No	3	Low	Poor form; epicormics on main trunk; large girdling root on north side.
12	Raywood ash	8	No	3	Low	Poor form; epicormics on main trunk; large surface surrounding
13	Raywood ash	10	Yes	3	Low	Office park; poor form; epicormics on main trunk; multiple attachments at 10'; large surface roots surrounding tree.
14	Raywood ash	8	No	2	Low	Office park; poor form; epicormics on main trunk; multiple attachments at 10'; leans north.
15	Raywood ash	6	No	2	Low	Poor form; epicormic on main trunk; codominant trunk at 8'; surface roots.
16	Raywood ash	12	Yes	3	Moderate	Office park; fair form; multiple attachments at 8'; wide crown; surface roots.
17	Raywood ash	13	Yes	3	Moderate	Office park; fair form; multiple attachments at 9'; medium crown; surface roots.
18	Raywood ash	11	Yes	3	Moderate	Office park; fair form; multiple attachments at 9'; small crown; surface roots.
19	Raywood ash	13	Yes	3	Moderate	Office park; fair form; multiple attachments at 10'; medium crown;

Tree Assessment

Shadelands of Walnut Creek
Walnut Creek, CA
June 2024



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
20	Raywood ash	8	No	3	Low	Office park; poor form; codominant trunk at 7'; small crown; surface roots; heavy lean south.
21	Raywood ash	8	No	2	Low	Office park; poor form; codominant trunk at 7'; small crown; surface roots; heavy lean north.
22	Raywood ash	10	Yes	2	Low	Poor form; codominant trunk at 7'; small crown; surface roots; slight lean north.
23	Raywood ash	11	Yes	3	Moderate	Fair form; multiple attachments at 7'; small crown; surface roots; slight lean east.
24	Chinese elm	17	Yes	3	Moderate	Fair form; wide crown; multiple attachments at 6'.
25	Chinese elm	15	Yes	3	Moderate	Fair form; medium crown; multiple attachments at 6'.
26	Chinese elm	16	Yes	3	Moderate	Fair form; medium crown; codominant trunk at 6'; leans north.
27	Raywood ash	12	Yes	3	Moderate	Fair form; medium crown; codominant trunk at 8'; surface roots; leans north.
28	Raywood ash	6	No	3	Low	Office park; fair form; medium crown; codominant trunk at 8'; surface roots; leans north.
29	Raywood ash	8	No	3	Low	Office park; fair form; medium crown; multiple attachments at 8'; surface roots; leans north.
30	Raywood ash	8	No	2	Low	Office park; poor form; small crown; top removed at 7'; surface roots; leans north.
31	Raywood ash	9	Yes	2	Low	Office park; poor form; small crown; codominant trunk at 7'; surface roots; leans east.
32	Sweetgum	10	Yes	3	Moderate	Office park; fair form; small crown; codominant trunk at 6'; surface roots.
33	Sweetgum	10	Yes	3	Low	Office park; poor form; medium crown; codominant trunk at 6'; surface roots.
34	Sweetgum	8	No	3	Low	Office park; poor form; narrow crown; codominant trunk at 6'; surface roots.
35	Raywood ash	14	Yes	3	Low	Office park; poor form; medium crown; multiple attachments at 6'; leans north.
36	Raywood ash	7	No	3	Low	Office park; poor form; small crown; multiple attachments at 7'; leans east; inverse trunk taper.

Tree Assessment

Shadelands of Walnut Creek
Walnut Creek, CA
June 2024



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
37	Raywood ash	12	Yes	3	Moderate	Office park; fair form; medium crown; multiple attachments at 12'; large surface roots.
38	Raywood ash	12	Yes	3	Moderate	Fair form; medium crown; multiple attachments at 12'; large surface roots displacing curb.
39	Sweetgum	7	No	3	Low	Poor form; narrow crown; multiple attachments at 12'; thin lower branches.
40	Chinese elm	17	Yes	4	Moderate	Good structure and form; wide crown; cracking 5" diameter branch on west side.
41	Evergreen ash	16	Yes	4	Moderate	Good structure and form; medium crown; multiple attachments at 10'.
42	Evergreen ash	14	Yes	4	Moderate	Good structure and form; medium crown; multiple attachments at 10'.
43	Evergreen ash	16	Yes	3	Moderate	Good structure and form; medium crown; multiple attachments at 9'; decay on south side.
44	Evergreen ash	18	Yes	4	Moderate	Good structure and form; large crown; multiple attachments at 9'.
45	Evergreen ash	10	Yes	3	Moderate	Fair structure and form; small crown; codominant trunk at 5'.
46	Evergreen ash	20	Yes	4	Moderate	Good structure and form; large crown; codominant trunk at 12'.
47	Evergreen ash	9	Yes	2	Low	Poor structure and form; small crown; leans heavy south; codominant trunk at 7'.
48	Evergreen ash	12	Yes	3	Moderate	Fair structure and form; medium crown; multiple attachments at 7'.
49	Evergreen ash	15	Yes	4	Moderate	Good structure and form; medium crown; multiple attachments at 7'; surface roots near pond.
50	Evergreen ash	17	Yes	3	Moderate	Fair structure and form; medium crown; multiple attachments at 6';
51	Coast redwood	35	Yes	4	Moderate	Upright form; full crown; good leaf color.
52	Coast redwood	32	Yes	4	Moderate	Upright form; full crown; good leaf color.
53	Coast redwood	29	Yes	4	Moderate	Upright form; full crown; good leaf color; broken hanging 3" branch on north side.
54	Willow	7	No	2	Low	Upright form; branch dieback; leans west.
55	Evergreen ash	24	Yes	3	Moderate	Upright form; codominant trunk at 20'; heavily pruned.
56	Evergreen ash	24	Yes	3	Moderate	Upright form; multiple attachments at 10'; heavily pruned.

Tree Assessment

Shadelands of Walnut Creek
Walnut Creek, CA
June 2024



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
57	Evergreen ash	29	Yes	3	Moderate	Upright form; codominant at 10'; heavily pruned.
58	Evergreen ash	26	Yes	3	Moderate	Upright form; codominant trunk at 20'; heavily pruned.
59	Evergreen ash	26	Yes	3	Moderate	Upright form; codominant trunk at 25'; fair form.
60	Deodar cedar	25	Yes	3	Moderate	Upright form; wide crown; first branch at 20'.
61	Deodar cedar	20	Yes	3	Moderate	Upright form; slight lean northeast; full crown; first branch at 20'.
62	Deodar cedar	24	Yes	3	Moderate	Previously broken top; leans north; wide crown; girdling root on north side.
63	Sweetgum	14	Yes	2	Low	Poor form; topped and headed back; surface roots.
64	Sweetgum	13	Yes	3	Moderate	Fair form; medium crown; surface roots.
65	Sweetgum	11	Yes	3	Moderate	Fair form; medium crown; buried root collar.
66	Sweetgum	6	No	3	Moderate	Fair form; small crown; buried root collar.
67	Sweetgum	18	Yes	3	Moderate	Fair form; medium crown; surface roots.
68	Coast redwood	44	Yes	4	Moderate	Upright form; 2' off roofline; good leaf color.
69	Mayten	8	No	2	Low	Codominant trunk at 6'; poor form; branch dieback; leans west.
70	Mayten	15	Yes	3	Low	Multiple attachments at 8'; poor form; leans west.
71	Coast redwood	47	Yes	4	Moderate	Large crown; upright form; good leaf color.
72	Coast redwood	43	Yes	4	Moderate	Large crown; upright form; good leaf color.
73	Coast redwood	51	Yes	3	Moderate	Large crown; upright form; good leaf color; codominant top at 90'.
74	Coast redwood	33	Yes	4	Moderate	Large crown; upright form; good leaf color.
75	Coast redwood	35	Yes	4	Moderate	Large crown; upright form; good leaf color.
76	Coast redwood	34	Yes	4	Moderate	Large crown; upright form; good leaf color.
77	Mayten	9	Yes	2	Low	Branch dieback; poor form; leans heavy east.
78	Deodar cedar	35	Yes	3	Moderate	Large, wide crown; multiple attachments at 40'; twisting main stem in middle of tree; surface roots.
79	Deodar cedar	29	Yes	3	Low	Large, wide crown; multiple attachments at 10'; included bark; surface roots.
80	Raywood ash	23	Yes	2	Low	Poor form; previously topped; multiple attachments at 10'.
81	Raywood ash	21	Yes	2	Low	Poor form; previously topped; multiple attachments at 10'.

Tree Assessment

Shadelands of Walnut Creek
Walnut Creek, CA
June 2024



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
82	Raywood ash	18	Yes	2	Low	Poor form; branch dieback; epicormics; multiple attachments at 10'.
83	Raywood ash	22	Yes	3	Moderate	Poor form; branch dieback; epicormics; multiple attachments at 10'.
84	Raywood ash	26	Yes	3	Moderate	Fair form; branch dieback; epicormics; multiple attachments at 10'.
85	Raywood ash	23	Yes	3	Moderate	Fair form; branch dieback; epicormics; surface roots; multiple attachments at 10'.
86	Raywood ash	21	Yes	2	Low	Poor form; branch dieback; epicormics; surface roots; multiple
87	Raywood ash	22	Yes	3	Low	Poor form; branch dieback; epicormics; surface roots; multiple attachments at 9'.
88	Raywood ash	23	Yes	3	Low	Poor form; branch dieback; epicormics; surface roots; multiple attachments at 12'.
89	Raywood ash	25	Yes	3	Moderate	Fair form; branch dieback; epicormics; surface roots; multiple attachments at 10'.
90	Sweetgum	15	Yes	3	Low	Fair form; branch dieback; epicormics; surface roots displacing curb; codominant trunk at 18'.
91	Raywood ash	24	Yes	3	Low	Poor form; girdled base; multiple attachments at 8'; crown dieback.
92	Raywood ash	20	Yes	3	Low	Poor form; girdling roots around base; multiple attachments at 8'; crown dieback.
93	Evergreen ash	21	Yes	3	Moderate	Fair form; multiple attachments at 10'; wide crown.
94	Raywood ash	11	Yes	2	Low	Poor form; multiple attachments at 8'; small crown; decay on main trunk.
95	Raywood ash	12	Yes	3	Moderate	Fair form; codominant trunk at 8'; small crown; surface roots.
96	Raywood ash	11	Yes	3	Moderate	Fair form; codominant trunk at 8'; small crown; surface roots.
97	Raywood ash	12	Yes	3	Moderate	Fair form; multiple attachments at 8'; medium crown; surface roots.
98	Raywood ash	11	Yes	3	Moderate	Fair form; multiple attachments at 8'; medium crown; surface roots; epicormics.
99	Sweetgum	13	Yes	2	Low	Poor form; poor pruning; heading cuts.
100	Sweetgum	10	Yes	3	Low	Poor form; codominant trunk at 9'; narrow crown.
101	Sweetgum	11	Yes	3	Low	Poor form; codominant trunk at 9'; narrow crown.
102	Raywood ash	10	Yes	3	Low	Fair form; codominant trunk at 9'; surface roots.
103	Raywood ash	8	No	3	Low	Fair form; codominant trunk at 9'; surface roots.

Tree Assessment

Shadelands of Walnut Creek
Walnut Creek, CA
June 2024



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
104	Raywood ash	10	Yes	3	Low	Fair form; multiple attachments at 9'; surface roots displacing curb and asphalt.
105	Raywood ash	8	No	2	Low	Fair form; multiple attachments at 9'; surface roots.
106	Raywood ash	9	Yes	3	Low	Fair form; multiple attachments at 9'; surface roots.
107	Raywood ash	9	Yes	3	Moderate	Fair form; multiple attachments at 9'; surface roots.
108	Raywood ash	8	No	3	Moderate	Fair form; multiple attachments at 9'; surface roots.
109	Raywood ash	13	Yes	3	Moderate	Fair form; multiple attachments at 15'; branch dieback.
110	Sweetgum	11	Yes	3	Moderate	Fair form; multiple attachments at 8'; branch dieback.
111	Sweetgum	8	No	3	Moderate	Fair form; multiple attachments at 15'; small crown.
112	Sweetgum	8	No	3	Moderate	Fair form; multiple attachments at 15'; small crown.
113	Sweetgum	15	Yes	3	Moderate	Fair form; most branches headed back; medium crown.
114	Raywood ash	11	Yes	2	Low	Poor form; multiple attachments at 8; leans north.
115	Raywood ash	11	Yes	2	Low	Poor form; multiple attachments at 8; leans north.
116	Raywood ash	13	Yes	3	Low	Poor form; codominant trunk at 8; medium crown.
117	Raywood ash	11	Yes	3	Low	Poor form; multiple attachments at 12'; medium crown.
118	Raywood ash	7	No	3	Low	Poor form; multiple attachments at 10'; small crown.
119	Raywood ash	10	Yes	3	Low	Poor form; multiple attachments at 8'; small crown.
120	Raywood ash	12	Yes	3	Low	Poor form; multiple attachments at 8'; medium crown.
121	Raywood ash	9	Yes	3	Low	Poor form; multiple attachments at 8'; medium crown.
122	Raywood ash	6	No	3	Low	Poor form; multiple attachments at 8'; small crown.
123	Sweetgum	13	Yes	3	Moderate	Poor form; multiple attachments at 8'; medium crown; most branches headed back.
124	Sweetgum	10	Yes	3	Moderate	Poor form; multiple attachments at 8'; small crown; most branches headed back.
125	Sweetgum	11	Yes	3	Moderate	Poor form; small crown; most branches headed back.
126	Sweetgum	11	Yes	3	Moderate	Poor form; small crown; most branches headed back.
127	Raywood ash	11	Yes	3	Moderate	Fair form; medium crown; surface roots.
128	Raywood ash	12	Yes	3	Moderate	Fair form; medium crown; multiple attachments at 10'.

Tree Assessment

Shadelands of Walnut Creek
Walnut Creek, CA
June 2024



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
129	Raywood ash	14	Yes	3	Moderate	Fair form; medium crown; multiple attachments at 10'.
130	Raywood ash	8	No	2	Low	Poor form; small crown; limited branches.
131	Raywood ash	10	Yes	3	Moderate	Fair form; medium crown; multiple attachments at 10'.
132	Raywood ash	11	Yes	3	Moderate	Fair form; medium crown; multiple attachments at 10'; surface
133	Raywood ash	10	Yes	2	Low	Poor form; small crown; history of branch failures.
134	Sweetgum	12	Yes	3	Low	Fair form; medium crown; headed back.
135	Sweetgum	10	Yes	3	Low	Fair form; medium crown; headed back; surface roots.
136	Sweetgum	14	Yes	3	Moderate	Fair form; medium crown; headed back.
137	Sweetgum	10	Yes	3	Moderate	Fair form; medium crown; headed back.
138	Raywood ash	12	Yes	3	Moderate	Multiple attachments at 15'; wide crown; fair form.
139	Raywood ash	10	Yes	3	Moderate	Multiple attachments at 15'; wide crown; fair form; girdled trunk on west side.
140	Raywood ash	13	Yes	3	Moderate	Multiple attachments at 12'; medium crown; fair form.
141	Raywood ash	15	Yes	3	Moderate	Multiple attachments at 12'; medium crown; large basal flare.
142	Raywood ash	14	Yes	3	Moderate	Multiple attachments at 12'; medium crown.
143	Raywood ash	12	Yes	3	Moderate	Multiple attachments at 10'; medium crown.
144	Sweetgum	16	Yes	3	Moderate	Multiple attachments at 10'; all branches headed back.
145	Sweetgum	10	Yes	3	Low	Fair form; several branches headed back; base covered by ground cover.
146	Raywood ash	14	Yes	3	Low	Fair form; several branches headed back; sunburnt bark on south side.
147	Raywood ash	15	Yes	3	Low	Fair form; medium crown; epicormics.
148	Raywood ash	12	Yes	2	Low	Poor form; medium crown; epicormics.
149	Raywood ash	11	Yes	3	Low	Fair form; medium crown; multiple attachments at 9'.
150	Raywood ash	9	Yes	3	Low	Fair form; medium crown; epicormics; multiple attachments at 9'.
151	Raywood ash	12	Yes	3	Low	Fair form; medium crown; epicormics; multiple attachments at 9'; leans south.
152	Sweetgum	15	Yes	3	Low	Fair form; medium crown; epicormics; codominant trunk at 9'.

Tree Assessment

Shadelands of Walnut Creek
Walnut Creek, CA
June 2024



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
153	Sweetgum	15	Yes	3	Low	Fair form; medium crown; epicormics; multiple attachments at 12'.
154	Sweetgum	11	Yes	3	Moderate	Fair form; medium crown; codominant trunk at 10'.
155	Sweetgum	16	Yes	3	Moderate	Fair form; medium crown; codominant trunk at 15'.
156	Sweetgum	14	Yes	3	Low	Fair form; medium crown; codominant trunk at 15'.
157	Evergreen ash	31	Yes	3	Moderate	Large crown; fair form; multiple attachments at 12'.
158	Evergreen ash	21	Yes	3	Moderate	Medium crown; fair form; multiple attachments at 12'; large girdling root on north east side.
159	Evergreen ash	16	Yes	3	Moderate	Medium crown; fair form; codominant trunk at 12'; large girdling root on south side.
160	Coast redwood	21	Yes	4	Moderate	Upright form; full crown; good leaf color.
161	Coast redwood	18	Yes	4	Moderate	Upright form; full crown; good leaf color.
162	Coast redwood	19	Yes	4	Moderate	Upright form; full crown; good leaf color.
163	Coast redwood	15	Yes	4	Moderate	Upright form; full crown; good leaf color; 1" broken hanging branch.
164	Coast redwood	19	Yes	4	Moderate	Upright form; full crown; good leaf color; history of branch failures.
165	Coast redwood	24	Yes	4	Moderate	Upright form; full crown; good leaf color.
166	Coast redwood	26	Yes	4	Moderate	Upright form; full crown; good leaf color.
167	Coast redwood	42	Yes	4	Moderate	Upright form; full crown; good leaf color.
168	Coast redwood	39	Yes	5	Moderate	Upright form; full crown; good leaf color.
169	Coast redwood	24	Yes	3	Moderate	Upright form; full crown; good leaf color; codominant trunk at 30'.
170	Coast redwood	15	Yes	3	Moderate	Upright form; full crown; good leaf color; codominant trunk at 10'.
171	Canary Island pine	10	Yes	2	Low	One sided south; poor form; twig dieback.
172	Canary Island pine	20	Yes	4	Moderate	One sided south; fair form; medium crown.
173	Canary Island pine	27	Yes	4	Moderate	Full crown; good form; slight lean south.
174	Canary Island pine	20	Yes	3	Low	Poor structure; codominant top at 30' included bark.
175	Mayten	8	No	3	Low	Small crown; fair form; history of branch failures.
176	Coast redwood	16	Yes	3	Moderate	One sided southwest; 2' off roofline; upright form; good leaf color.
177	Coast redwood	17	Yes	3	Moderate	One sided northwest; 4' off roofline; upright form; good leaf color.
178	Coast redwood	20	Yes	4	Moderate	Upright form; full crown; good leaf color.

Tree Assessment

Shadelands of Walnut Creek
Walnut Creek, CA
June 2024



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
179	Coast redwood	17	Yes	5	Moderate	Upright form; full crown; good leaf color.
180	Coast redwood	20	Yes	4	Moderate	Upright form; full crown; good leaf color.
181	Carolina cherry	10	Yes	3	Moderate	Codominant trunk at 4'; one sided north; poor form.
182	Coast redwood	22	Yes	4	Moderate	Upright form; full crown; good leaf color.
183	Coast redwood	18	Yes	3	Moderate	Upright form; full crown; good leaf color; one sided south.
184	Coast redwood	18	Yes	3	Moderate	Upright form; full crown; good leaf color; one sided south, small broken branches.
185	California pepper	17,17,13	Yes	3	Moderate	Multiple attachments at the base; wide crown; epicormics at base.
186	Coast redwood	64	Yes	4	Moderate	Large crown, upright form; good structure; and good leaf color.
187	Coast redwood	33	Yes	3	Moderate	Large crown, upright form; fair structure; previous top failure; good
188	Coast redwood	29	Yes	3	Moderate	Upright form; fair structure; thin crown; good leaf color.
189	Red maple	6	No	3	Moderate	Small crown; immature tree; fair form.
190	Chinese elm	17	Yes	4	Moderate	Wide crown; multiple attachments at 8'; fair form.
191	Chinese elm	12	Yes	3	Moderate	Wide crown; multiple attachments at 7'; fair form.
192	Raywood ash	10	Yes	3	Low	Small crowns multiple attachments at 9'; fair form.
193	Raywood ash	11	Yes	3	Low	Small crown; multiple attachments at 9'; fair form.
194	Raywood ash	9	Yes	3	Low	Small crown; multiple attachments at 10'; fair form; large surface roots.
195	Raywood ash	10	Yes	3	Low	Small crown; multiple attachments at 10'; fair form.
196	Raywood ash	9	Yes	3	Low	Small crown; multiple attachments at 10'; fair form.
197	Raywood ash	11	Yes	3	Low	Small crown; multiple attachments at 10'; fair form.
198	Raywood ash	10	Yes	3	Low	Small crown; multiple attachments at 10'; fair form.
199	Raywood ash	9	Yes	3	Low	Small crown; multiple attachments at 10'; fair form; large surface roots.
200	Raywood ash	9	Yes	3	Low	Small crown; multiple attachments at 10'; poor form.
201	Evergreen ash	15	Yes	3	Moderate	Small crown; multiple attachments at 10'; fair form.
202	Raywood ash	10	Yes	3	Moderate	Small crown; multiple attachments at 10'; fair form.
203	Sweetgum	7	No	3	Moderate	Small crown; fair form; thin crown.

Tree Assessment

Shadelands of Walnut Creek
Walnut Creek, CA
June 2024



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
204	Sweetgum	9	Yes	3	Moderate	Small crown; fair form; codominant trunk at 7'.
205	Sweetgum	11	Yes	3	Moderate	Small crown; fair form; codominant trunk at 7'; history of branch failures.
206	Raywood ash	10	Yes	3	Low	Small crown; fair form; codominant trunk at 7'; history of branch failures.
207	Raywood ash	11	Yes	3	Low	Small crown; good form; multiple attachments at 7'.
208	Raywood ash	11	Yes	3	Low	Small crown; good form; multiple attachments at 7'; girdling root on south side.
209	Raywood ash	11	Yes	3	Low	Small crown; fair form; multiple attachments at 7'; girdling root on west side.
210	Raywood ash	10	Yes	3	Low	Small crown; fair form; multiple attachments at 7'; roots displacing curb.
211	Raywood ash	10	Yes	3	Low	Small crown; fair form; multiple attachments at 7'; sunburnt trunk.
212	Raywood ash	8	No	3	Low	Small crown; fair form; multiple attachments at 7'; sunburnt trunk.
213	Raywood ash	9	Yes	2	Low	Small crown; poor form; multiple attachments at 7'; sunburnt trunk.
214	Raywood ash	10	Yes	3	Low	Small crown; poor form; multiple attachments at 7'; sunburnt trunk; epicormics.
215	Raywood ash	9	Yes	3	Low	Small crown; poor form; multiple attachments at 7'; sunburnt trunk.
216	Raywood ash	10	Yes	3	Low	Small crown; poor form; multiple attachments at 9'; sunburnt trunk.
217	Raywood ash	9	Yes	3	Low	Small crown; poor form; multiple attachments at 9'; sunburnt trunk.
218	Raywood ash	7	No	2	Low	Small crown; poor form; multiple attachments at 9'; sunburnt trunk.
219	Chinese elm	12	Yes	3	Moderate	Medium crown; fair form; codominant trunks at 6 and 8'.
220	Chinese elm	13	Yes	3	Moderate	Medium crown; fair form; codominant trunks at 6 and 8'.
221	Chinese elm	15	Yes	3	Moderate	Medium crown; fair form; codominant trunks at 8'.
222	Raywood ash	12	Yes	3	Moderate	Medium crown; fair form; multiple attachments at 8'.
223	Raywood ash	10	Yes	3	Low	Medium crown; fair form; codominant trunk at 8'; large surface roots displacing curb and asphalt.
224	Raywood ash	7	No	2	Low	Poor form; multiple attachments at 9'; included bark; small crown.
225	Raywood ash	9	Yes	3	Low	Poor form; multiple attachments at 9'; small crown.

Tree Assessment

Shadelands of Walnut Creek
Walnut Creek, CA
June 2024



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
226	Raywood ash	13	Yes	3	Low	Poor form; multiple attachments at 9'; small crown.
227	Raywood ash	7	No	2	Low	Poor form; multiple attachments at 9'; small crown.
228	Raywood ash	10	Yes	3	Low	Poor form; multiple attachments at 9'; small crown.
229	Raywood ash	7	No	3	Low	Poor form; multiple attachments at 9'; small crown.
230	Raywood ash	10	Yes	3	Low	Poor form; multiple attachments at 9'; small crown; large surface roots.
231	Raywood ash	9	Yes	2	Low	Poor form; multiple attachments at 9'; small crown; large surface roots; sunburnt.
232	Raywood ash	9	Yes	2	Low	Fair form; multiple attachments at 9'; small crown; surface roots; bad sunburn on trunk.
233	Raywood ash	11	Yes	3	Low	Fair form; multiple attachments at 9'; small crown; surface roots.
234	Raywood ash	13	Yes	3	Moderate	Fair form; multiple attachments at 9'; small crown; surface roots.
235	Raywood ash	14	Yes	3	Moderate	Fair form; multiple attachments at 9'; medium crown.
236	Sweetgum	9	Yes	3	Moderate	Fair form; multiple attachments at 9'; medium crown.
237	Sweetgum	9	Yes	3	Moderate	Fair form; multiple attachments at 9'; small crown.
238	Sweetgum	11	Yes	3	Low	Poor form; multiple attachments at 9'; small crown.
239	Raywood ash	9	Yes	2	Low	Poor form; multiple attachments at 9'; small crown; surface roots.
240	Raywood ash	10	Yes	3	Low	Poor form; multiple attachments at 9'; small crown; surface roots.
241	Raywood ash	17	Yes	3	Moderate	Poor form; multiple attachments at 9'; small crown; surface roots.
242	Raywood ash	10	Yes	3	Low	Poor form; multiple attachments at 9'; small crown; surface roots; history of branch failure.
243	Raywood ash	11	Yes	3	Low	Fair form; multiple attachments at 9'; small crown; surface roots; history of branch failure.
244	Raywood ash	10	Yes	3	Low	Fair form; multiple attachments at 9'; small crown; surface roots.
245	Raywood ash	11	Yes	3	Low	Fair form; codominant trunk at 9'; small crown; surface roots.
246	Raywood ash	8	No	2	Low	Fair form; codominant trunk at 9'; small crown; surface roots.
247	Raywood ash	12	Yes	3	Low	Fair form; multiple attachments at 9'; small crown; surface roots; leans west.

Tree Assessment

Shadelands of Walnut Creek
Walnut Creek, CA
June 2024



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
248	Raywood ash	10	Yes	3	Low	Fair form; multiple attachments at 9'; small crown; surface roots; sunburn on trunk.
249	Raywood ash	9	Yes	2	Low	Poor form; multiple attachments at 8'; small crown; surface roots; sunburn on trunk.
250	Raywood ash	7	No	3	Low	Poor form; multiple attachments at 8'; small crown; surface roots.
251	Raywood ash	10	Yes	3	Moderate	Fair form; multiple attachments at 8'; medium crown; surface roots.
252	Raywood ash	13	Yes	3	Moderate	Fair form; multiple attachments at 10'; medium crown; surface roots displacing curb.
253	Raywood ash	16	Yes	3	Moderate	Fair form; codominant trunk at 10'; medium crown; surface roots
254	Chinese pistache	9	Yes	3	Moderate	Fair structure and form; wide crown; slight lean north.
255	Chinese pistache	8	No	3	Moderate	Fair structure and form; wide crown; slight lean north.
256	Coast redwood	33	Yes	4	Moderate	Upright form; full crown; good leaf color.
257	Chinese pistache	6	No	3	Moderate	Wide crown; fair form.
258	Coast redwood	14	Yes	4	Moderate	Upright form; full crown; good leaf color.
259	Coast redwood	34	Yes	4	Moderate	Upright form; full crown; good leaf color.
260	Purpleleaf plum	12	Yes	3	Low	Upright form; epicormic crown; codominant trunk at 6'..
261	Canary Island pine	19	Yes	3	Moderate	Upright form; medium crown; first branch at 20'.
262	Coast redwood	27	Yes	3	Moderate	Upright form; one sided crown south; good leaf color.
263	Coast redwood	27	Yes	3	Moderate	Upright form; one sided crown south; good leaf color; slight lean north.
264	Coast redwood	25	Yes	3	Moderate	Upright form; one sided south; good leaf color; 1' off root line.
265	Coast redwood	38	Yes	4	Moderate	Upright form; history of branch failure; full crown.
266	Coast redwood	33	Yes	4	Moderate	Upright form; history of branch failure; full crown.
267	Coast redwood	22	Yes	4	Moderate	Upright form; one sided west; good leaf color.
268	Coast redwood	37	Yes	4	Moderate	Upright form; full crown; good leaf color.
269	Red maple	6	No	3	Moderate	Small crown; immature; fair form.
270	Coast redwood	22	Yes	3	Moderate	Upright form; one sided south; good leaf color.
271	Coast redwood	18	Yes	4	Moderate	Upright form; full crown; good leaf color.

Tree Assessment

Shadelands of Walnut Creek
Walnut Creek, CA
June 2024



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
272	Coast redwood	34	Yes	4	Moderate	Upright form; large, full crown; good leaf color.
273	Coast redwood	14	Yes	4	Moderate	Upright form; full crown; good leaf color.
274	Coast redwood	20	Yes	4	Moderate	Upright form; full crown; good leaf color.
275	Coast redwood	21	Yes	4	Moderate	Upright form; full crown; good leaf color.
276	Coast redwood	25	Yes	4	Moderate	Upright form; full crown; good leaf color.
277	Coast redwood	22	Yes	3	Moderate	Upright form; narrow crown; good leaf color.
278	Coast redwood	31	Yes	4	Moderate	Upright form; full crown; good leaf color.
279	Coast redwood	21	Yes	4	Moderate	Upright form; full crown; good leaf color.
280	Evergreen ash	16	Yes	3	Moderate	Multiple attachments at 12'; fair form; twig dieback.
281	Evergreen ash	28	Yes	3	Moderate	Codominant trunks at 8'; wide crown; branch dieback; fair form.
282	Evergreen ash	20	Yes	3	Moderate	Codominant trunks at 15'; wide crown; branch dieback; fair form; surface roots.
283	Evergreen ash	20	Yes	3	Moderate	Codominant trunks at 15'; wide crown; branch dieback; fair form; surface roots.
284	Evergreen ash	21	Yes	4	Moderate	Multiple attachments at 15'; wide crown; twig dieback; good form; surface roots.
285	Evergreen ash	16	Yes	3	Moderate	Codominant trunk at 10'; fair form; branch dieback; leans north
286	Evergreen ash	26	Yes	3	Moderate	Codominant trunk at 10'; fair form; multiple attachments at 15'.
287	Evergreen ash	18	Yes	3	Moderate	Codominant trunk at 10'; fair form; thin crown.
288	Chinese elm	19	Yes	3	Moderate	Codominant trunk at 10'; fair form; wide crown; surface roots.
289	Evergreen ash	15	Yes	3	Moderate	Codominant trunk at 10'; fair form; medium crown.
290	Monterey pine	25	No	3	Moderate	Codominant trunk at 9'; fair form; medium crown.
291	Chinese elm	16	Yes	3	Moderate	Multiple attachments at 8'; one sided East; poor form.
292	Evergreen ash	21	Yes	3	Moderate	Multiple attachments at 12'; full crown; fair form.
293	Evergreen ash	21	Yes	3	Moderate	Multiple attachments at 12'; full crown; fair form; surface roots.
294	Raywood ash	18	Yes	3	Moderate	Multiple attachments at 12'; full crown; fair form.
295	Evergreen ash	23	Yes	4	Moderate	Multiple attachments at 12'; full crown; good structure and form.
296	Evergreen ash	20	Yes	3	Moderate	Multiple attachments at 12'; full crown; good structure and form.

Tree Assessment

Shadelands of Walnut Creek
Walnut Creek, CA
June 2024



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
297	Evergreen ash	23	Yes	3	Moderate	Multiple attachments at 10'; full crown; 18" x 10" trunk wound on west side; good structure and form.
298	Sweetgum	15	Yes	3	Moderate	Multiple attachments at 8'; medium crown; fair form.
299	Coast redwood	37	Yes	4	Moderate	Upright form; large crown; surface roots.
300	Fig	10,9,7,5,4	Yes	3	Low	Wide crown; multiple attachments at the base; poor form.
301	Coast redwood	39	Yes	4	High	Upright form; full crown; small broken branches hanging in crown; good leaf color; 4 feet off electric transformer.
302	Coast redwood	38	Yes	4	High	Upright form; full crown; good leaf color; 5 feet off sidewalk.
303	Sweetgum	15	Yes	3	Low	Codominant trunk at 20'; fair poor; growing over building.
304	Sweetgum	12	Yes	3	Low	Codominant trunk at 18'; poor form; large roots decayed at irrigation box..
305	Sweetgum	13	Yes	3	Low	Codominant trunk at 15'; poor form; 5' off building.
306	Sweetgum	14	Yes	3	Low	Fair form; decay on west root flare.
307	Sweetgum	11	Yes	3	Low	Fair form; decay on East root flare and damage to trunk on East side..
308	Sweetgum	10	Yes	3	Low	Fair form; 1' off patio; upright, narrow crown.
309	Coast redwood	32	Yes	4	High	Tall, upright form; full crown; good leaf color.
310	Weeping willow	34	Yes	3	Moderate	Tall, wide crown; inverse taper at 10'; large surface roots.
311	Evergreen ash	12	Yes	3	Moderate	Codominant trunk at 10'; poor form; medium crown.
312	Coast redwood	36	Yes	4	High	Large, upright crown; between pond and sidewalk; good leaf color.
313	Coast redwood	31	Yes	4	High	Large, upright crown; between pond and sidewalk; good leaf color.
314	Coast redwood	36	Yes	4	High	Large, upright crown; between pond and sidewalk; good leaf color.
315	Coast redwood	36	Yes	4	High	Large, upright crown; between pond and sidewalk; good leaf color.
316	Coast redwood	37	Yes	4	High	Large, upright crown; between pond and sidewalk; good leaf color.
317	Mayten	11	Yes	3	Moderate	Small crown; leans west; fair form; surface roots.
318	Mayten	10	Yes	3	Moderate	Small crown; leans west; fair form; surface roots.
319	Coast redwood	36	Yes	4	High	Tall, upright form; full crown; 3' off bridge and near creek.
320	Sweetgum	14	Yes	3	Moderate	Fair structure and form; 4' off building; surface roots.

Tree Assessment

Shadelands of Walnut Creek
Walnut Creek, CA
June 2024



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
321	Sweetgum	16	Yes	3	Moderate	Fair structure and form; 4' off building; codominant trunk at 25'; surface roots.
322	Coast redwood	33	Yes	3	Moderate	Low live crown ratio; first branch at 30'; good leaf color.
323	Coast redwood	30	Yes	3	Moderate	Low live crown ratio; first branch at 30'; good leaf color.
324	Coast redwood	29	Yes	3	Moderate	Low live crown ratio; first branch at 30'; good leaf color; small broken , hanging branch .
325	Purpleleaf plum	12	Yes	2	Low	Declining; poor form; branch dieback.
326	Coast redwood	16	Yes	4	High	Small crown; good form; 2' off sidewalk and pond.
327	Sweetgum	11	Yes	3	Low	Small crown; branches headed back; poor form; between sidewalk and pond.
328	Sweetgum	10	Yes	3	Low	Small crown; branches headed back; poor form; between sidewalk and pond.
329	Coast redwood	29	Yes	4	High	Large, upright crown; good leaf color; 3' off bench by pond.
330	Coast redwood	28	Yes	4	High	Large, upright crown; good leaf color; between sidewalk and pond.
331	Coast redwood	32	Yes	4	High	Large, upright crown; good leaf color; between sidewalk and pond.
332	Evergreen ash	8	No	2	Low	Codominant trunk at 8'; poor form; very high crown.
333	Mayten	8	No	2	Low	Crown dieback; poor form; leans north.
334	Coast redwood	30	Yes	4	High	Tall, upright form; good leaf color.
335	Coast redwood	26	Yes	4	High	Tall, upright form; good leaf color.
336	Coast redwood	31	Yes	4	High	Tall, upright form; good leaf color; 8" off sidewalk, displacing sidewalk.
337	European white birch	17	Yes	3	Low	Bows south; previously topped; branch dieback; surface roots.
338	Callery pear	17	Yes	3	Low	Poor structure; included bark in multiple attachments at 10'.
339	European white birch	8	No	3	Low	Poor structure and form; first branch at 20'; surface roots.
340	European white birch	14	Yes	3	Moderate	Fair structure and form; between sidewalk and pond..
341	Crabapple	7	No	3	Moderate	Fair structure and form; small crown; leans west.
342	Chinese tallow	13	Yes	3	Moderate	Codominant trunk at 15'; one-sided west; surface roots.
343	Coast redwood	34	Yes	4	High	Tall, upright form; good leaf color.

Tree Assessment

Shadelands of Walnut Creek
Walnut Creek, CA
June 2024



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
344	Coast redwood	35	Yes	4	High	Tall, upright form; broken hanging branches in crown; good leaf color.
345	Chinese tallow	13	Yes	3	Moderate	Poor form; medium crown; slight lean west.
346	Coast redwood	29	Yes	3	Moderate	Upright form; full crown; good leaf color.
347	Coast redwood	34	Yes	4	High	Upright form; full crown; good leaf color.
348	Coast redwood	39	Yes	4	High	Upright form; full crown; good leaf color.
349	Evergreen ash	30	Yes	4	High	Large, wide crown; good structure and form; multiple attachments at 12'.
350	Evergreen ash	19	Yes	3	Moderate	Medium crown; fair structure and form; multiple attachments at 10'.
351	Evergreen ash	19	Yes	3	Low	Medium crown; poor structure and form; codominant trunk at 10'.
352	Evergreen ash	37	Yes	3	Moderate	Large, wide crown; fair structure and form; codominant trunk at 8'.
353	Evergreen ash	24	Yes	3	Moderate	Large, wide crown; fair structure and form; multiple attachments at 8'.
354	Evergreen ash	22	Yes	3	Moderate	Narrow crown; fair structure and form; codominant trunks at 6 and 8'.
355	Evergreen ash	33	Yes	3	Moderate	Large, wide crown; multiple attachments at 12'; included bark.
356	Sweetgum	13	Yes	3	Low	Fair form; poor structure; broken hanging branch; growing in 3' wide parking lot island.
357	Evergreen ash	25	Yes	3	Low	Poor form; leans east; one sided; multiple attachments at 10'.
358	Evergreen ash	31	Yes	4	Moderate	Good structure and form; codominant trunk at 10'; large wide
359	Evergreen ash	18	Yes	4	Moderate	Good structure and form; multiple attachments at 12'; full crown.
360	Evergreen ash	24	Yes	3	Moderate	Fair structure and form; multiple attachments at 12'; reduced
361	Sweetgum	8	No	3	Moderate	Small crown; fair form; ground in 4' island.
362	Evergreen ash	8	No	3	Moderate	Small crown; fair form; trunk bows east.
363	Evergreen ash	21	Yes	3	Moderate	Off-site; medium crown; fair form; trunk wound on east side.
364	Evergreen ash	11	Yes	3	Low	Small crown; poor form; codominant trunk at 10'.
365	Sweetgum	12	Yes	3	Moderate	Medium crown; fair form; multiple attachments at 10'; in 4' parking lot island.
366	Sweetgum	10	Yes	3	Moderate	Medium crown; fair form; in 4' parking lot island.

Tree Assessment

Shadelands of Walnut Creek
Walnut Creek, CA
June 2024



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
367	London plane	9	Yes	3	Moderate	Medium crown; fair form; in 4' parking lot island.
368	London plane	10	Yes	3	Moderate	Medium crown; fair form; in 4' parking lot island.
369	London plane	11	Yes	3	Moderate	Medium crown; fair form; in 4' parking lot island.
370	London plane	12	Yes	3	Moderate	Medium crown; fair form; in 4' parking lot island.
371	London plane	11	Yes	3	Moderate	Medium crown; fair form; in 4' parking lot island.
372	London plane	12	Yes	3	Moderate	Medium crown; fair form; in 4' parking lot island.
373	London plane	12	Yes	3	Moderate	Medium crown; fair form; in 4' parking lot island.
374	London plane	10	Yes	3	Moderate	Medium crown; fair form; in 4' parking lot island.
375	London plane	11	Yes	3	Moderate	Medium crown; fair form; in 4' parking lot island.
376	Sweetgum	11	Yes	3	Moderate	Medium crown; fair form; in 4' parking lot island.
377	Sweetgum	14	Yes	3	Moderate	Medium crown; fair form; in 4' parking lot island.
378	London plane	12	Yes	3	Moderate	Medium crown; fair form; in 4' parking lot island.
379	London plane	12	Yes	3	Moderate	Medium crown; fair form; in 4' parking lot island.
380	London plane	13	Yes	3	Moderate	Medium crown; fair form; in 4' parking lot island.
381	London plane	10	Yes	3	Moderate	Medium crown; fair form; in 4' parking lot island.
382	London plane	10	Yes	3	Moderate	Medium crown; fair form; in 4' parking lot island.
383	London plane	13	Yes	3	Moderate	Medium crown; fair form; in 4' parking lot island.
384	London plane	9	Yes	3	Moderate	Medium crown; fair form; in 4' parking lot island.
385	London plane	10	Yes	3	Moderate	Medium crown; fair form; in 4' parking lot island.
386	London plane	16	Yes	4	Moderate	Medium crown; fair form; in 4' parking lot island.
387	Sweetgum	15	Yes	3	Moderate	Medium crown; fair form; in 4' parking lot island.
388	Sweetgum	9	Yes	2	Low	Poor form; codominant trunk at 10'; in 4' bed.
389	Evergreen ash	12	Yes	3	Moderate	Poor form; high crown; thin branching.
390	Evergreen ash	14	Yes	3	Moderate	Fair form; high crown; twig dieback.
391	Sweetgum	11	Yes	3	Moderate	Medium crown; fair form; roots displacing curbing; growing in 3' planting strip.
392	Sweetgum	11	Yes	3	Moderate	Medium crown; fair form; roots displacing curbing; growing in 3' planting strip.

Tree Assessment

Shadelands of Walnut Creek
Walnut Creek, CA
June 2024



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
393	Valley oak	13	Yes	3	Moderate	Medium crown; fair form; multiple attachments at 12'.
394	London plane	9	Yes	3	Moderate	Medium crown; fair form; multiple attachment at 12'; growing in 4' parking lot bed.
395	London plane	13	Yes	3	Moderate	Medium crown; fair form; growing in 4' parking lot bed.
396	London plane	12	Yes	3	Moderate	Medium crown; fair form; growing in 4' parking lot bed.
397	London plane	14	Yes	3	Moderate	Medium crown; fair form; codominant trunk at 10'; growing in 4' parking lot bed.
398	London plane	11	Yes	3	Moderate	Medium crown; fair form; codominant trunk at 10'; growing in 4' parking lot bed.
399	London plane	10	Yes	3	Moderate	Medium crown; fair form; codominant trunk at 10'; growing in 4' parking lot bed.
400	London plane	11	Yes	3	Moderate	Medium crown; growing in 4' parking lot bed.
401	Sweetgum	9	Yes	3	Moderate	Medium crown; codominant trunk at 15'; growing in 4' parking lot bed.
402	Sweetgum	17	Yes	3	Moderate	Large crown; codominant trunk at 12'; growing in 4' parking lot bed.
403	Sweetgum	16	Yes	3	Moderate	Large crown; codominant trunk at 12'; growing in 4' parking lot bed.
404	Sweetgum	11,9	Yes	3	Low	Medium crown; codominant trunk at 2'; growing in 4' parking lot
405	London plane	8	No	2	Low	Small crown; declining; branch dieback.
406	London plane	11	Yes	3	Moderate	Medium crown; fair structure and form; growing in 3' planting island..
407	London plane	11	Yes	3	Moderate	Medium crown; fair structure and form; growing in 4' planting island.
408	London plane	15	Yes	4	Moderate	Medium crown; good structure and form; growing in 4' planting island.
409	London plane	13	Yes	4	Moderate	Medium crown; good structure and form; growing in 4' planting island.
410	London plane	13	Yes	3	Moderate	Medium crown; fair structure and form; growing in 4' planting
411	Sweetgum	8	No	3	Moderate	Medium crown; fair structure and form; growing in 4' planting
412	Sweetgum	14	Yes	3	Moderate	Medium crown; fair structure and form; growing in 4' planting

Tree Assessment

Shadelands of Walnut Creek
Walnut Creek, CA
June 2024



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
413	Evergreen ash	10	Yes	3	Moderate	Small crown; fair structure and form; by trash collection; tag on fence.
414	Sweetgum	13	Yes	3	Moderate	Medium crown; fair structure and form; in 4' parking lot island..
415	Sweetgum	13	Yes	3	Moderate	Medium crown; fair structure and form; in 4' parking lot island.
416	London plane	13	Yes	3	Moderate	Medium crown; fair structure and form; in 4' parking lot island.
417	London plane	10	Yes	3	Moderate	Medium crown; fair structure and form; in 4' parking lot island.
418	London plane	13	Yes	3	Moderate	Medium crown; fair structure and form; in 4' parking lot island.
419	London plane	11	Yes	3	Moderate	Medium crown; fair structure and form; in 4' parking lot island.
420	London plane	12	Yes	3	Moderate	Medium crown; fair structure and form; in 4' parking lot island.
421	London plane	11	Yes	3	Moderate	Medium crown; fair structure and form; in 4' parking lot island.
422	Sweetgum	13	Yes	3	Moderate	Medium crown; fair structure and form; in 4' parking lot island.
423	Sweetgum	13	Yes	3	Moderate	Medium crown; fair structure and form; in 4' parking lot island.
424	London plane	11	Yes	3	Moderate	Medium crown; fair structure and form; in 4' parking lot island.
425	London plane	12	Yes	3	Moderate	Medium crown; fair structure and form; in 4' parking lot island.
426	London plane	11	Yes	3	Moderate	Medium crown; fair structure and form; in 4' parking lot island.
427	London plane	10	Yes	3	Moderate	Medium crown; fair structure and form; in 4' parking lot island.
428	London plane	11	Yes	3	Moderate	Medium crown; fair structure and form; in 4' parking lot island.
429	London plane	8	No	3	Moderate	Medium crown; fair structure and form; in 4' parking lot island.
430	Sweetgum	12	Yes	3	Moderate	Medium crown; fair structure and form; in 4' parking lot island.
431	Sweetgum	13	Yes	3	Moderate	Medium crown; fair structure and form; codominant trunk at 5'; in 8' parking lot island.
432	Sweetgum	12	Yes	3	Moderate	Medium crown; fair structure and form; multiple attachments at 12'; in 8' parking lot island.
433	Coast redwood	17	Yes	4	Moderate	Upright form; 1' off fence; good leaf color.
434	Valley oak	23	Yes	4	High	Off-site; good structure and form; 1' off fence line.
435	Canary Island date palm	29	Yes	4	High	Off-site; good structure and form; 1' off fence line; old fence imbedded on east side of trunk.

Tree Assessment

Shadelands of Walnut Creek
Walnut Creek, CA
June 2024



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
436	Evergreen ash	23,10	Yes	3	Low	Off-site; poor structure and form; 1' off fence line; codominant trunk at 2'..
437	Valley oak	13	Yes	4	Moderate	Off-site; good structure and form; multiple attachments at 12'.
438	Blue gum	26	No	3	Low	Off-site; poor structure and form; codominant trunk at 10'; leans east.
439	Valley oak	13	Yes	3	Moderate	Off-site; fair structure and form; codominant trunk at 8'.
440	Evergreen ash	22	Yes	3	Moderate	Codominant trunk at 8' ; fair form; medium crown; displacing curbing.
441	Evergreen ash	23	Yes	3	Moderate	Codominant trunk at 10'; fair form; large crown; girdling root and large surface roots; displacing curbing.
442	Evergreen ash	20	Yes	3	Moderate	Codominant trunk at 15'; fair form; large crown; large surface root.
443	Evergreen ash	14	Yes	3	Moderate	Codominant trunk at 15'; fair form; medium crown; 3' off crosswalk retaining wall..
444	Camphor	14	Yes	4	Moderate	Codominant trunk at 6'; good form; medium crown; growing in 4' parking lot island.
445	London plane	16	Yes	4	Moderate	Codominant trunk at 15'; good form; large crown; 2'off sidewalk.
446	London plane	14	Yes	3	Moderate	Codominant trunk at 15'; good form; surface roots.
447	Coast redwood	25	Yes	4	High	Upright form; full crown; surface roots.
448	Coast redwood	37	Yes	4	High	Upright form; full crown; good leaf color.
449	Coast redwood	33	Yes	4	High	Upright form; full crown; good leaf color.
450	Coast redwood	40	Yes	4	High	Upright form; full crown; good leaf color.
451	Coast redwood	32	Yes	3	Moderate	Upright form; medium crown; fair leaf color; broken hanging branches.
452	Honey locust	12	Yes	2	Low	Declining; branch dieback; girdling roots; one sided west.
453	Evergreen ash	17	Yes	3	Moderate	Large, wide crown; codominant trunk at 10'; fair forms large surface roots; displacing sidewalk.
454	Coast redwood	28	Yes	4	Moderate	Upright form; fair leaf color; full crown.
455	Coast redwood	25	Yes	4	Moderate	Upright form; fair leaf color; full crown.
456	Coast redwood	28	Yes	4	Moderate	Upright form; fair leaf color; full crown.

Tree Assessment

Shadelands of Walnut Creek
Walnut Creek, CA
June 2024



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
457	Coast redwood	31	Yes	4	Moderate	Upright form; fair leaf color; full crown.
458	Coast redwood	33	Yes	4	Moderate	Upright form; fair leaf color; full crown.
459	Evergreen ash	11	Yes	3	Moderate	Fair form; codominant trunk at 12'; one sided south.
460	Coast redwood	30	Yes	4	High	Upright form; full crown; good leaf color.
461	Coast redwood	30	Yes	4	High	Upright form; full crown; good leaf color.
462	Coast redwood	20	Yes	4	High	Upright form; full crown; good leaf color.
463	Coast redwood	22	Yes	4	High	Upright form; full crown; good leaf color.
464	Coast redwood	21	Yes	4	High	Upright form; full crown; good leaf color.
465	Coast redwood	20	Yes	4	High	Upright form; full crown; good leaf color.
466	Evergreen ash	25	Yes	4	Moderate	Large, wide crown; good form; twig dieback; surface roots.
467	Evergreen ash	14	Yes	3	Moderate	Small crown; codominant trunk at 8'; surface roots.
468	Evergreen ash	25	Yes	3	Moderate	Large crown; codominant trunk at 10'; surface roots.
469	Sweetgum	9	Yes	3	Moderate	Small crown; fair form; growing in 4' parking lot island.
470	Sweetgum	10	Yes	3	Moderate	Small crown; fair form; growing in 4' parking lot island.
471	Coast redwood	33	Yes	4	High	Upright form; full crown; good leaf color.
472	Coast redwood	33	Yes	4	High	Upright form; full crown; good leaf color.
473	Coast redwood	23	Yes	3	Moderate	Upright form; fair crown; good leaf color.
474	Coast redwood	22	Yes	3	Moderate	Upright form; fair crown; fair leaf color.
475	Coast redwood	30	Yes	4	Moderate	Upright form; fair crown; good leaf color.
476	Coast redwood	27	Yes	4	Moderate	Upright form; fair crown; good leaf color.
477	Coast redwood	30	Yes	4	Moderate	Upright form; fair crown; good leaf color.
478	Mayten	15	Yes	2	Low	Very poor form; 3/4 crown removed; surface roots.
479	Coast redwood	34	Yes	4	High	Upright form; full crown; good leaf color.
480	Coast redwood	30	Yes	4	High	Upright form; full crown; good leaf color.
481	Raywood ash	28	Yes	3	Low	Poor form; medium crown; headed back on several branches.
482	Raywood ash	26	Yes	3	Low	Poor form; medium crown; headed back on several branches.
483	Raywood ash	32	Yes	2	Low	Poor form; small crown; headed back on several branches.

Tree Assessment

Shadelands of Walnut Creek
Walnut Creek, CA
June 2024



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
484	Deodar cedar	17	Yes	3	Moderate	Thin crown; upright; fair form; surface roots.
485	Deodar cedar	34	Yes	3	Moderate	Large, wide crown; fair form; codominant top at 40'.
486	Raywood ash	24	Yes	2	Low	Poor form; topped; large surface roots.
487	Raywood ash	18	Yes	2	Low	Poor form; topped; large surface roots.
488	Raywood ash	20	Yes	3	Low	Poor form; codominant trunk at 10'; decay in east stem with 18"x10" wound on trunk.



Tree Assessment Map

Shadelands
Walnut Creek, CA

Prepared for:
Signature Development Group
Oakland, CA

June 2024



No Scale

Notes:

Base map provided by:
Google Earth

Numbered tree locations are approximate.



2550 Ninth Street, Suite 112
Berkeley, CA 94710
Phone 925.484.0211
Fax 925.484.0596

Estimated Value and Disposition



Tree No.	Species	Trunk Diameter (in.)	Protected Tree	Disposition	Estimated Value
1	Chinese elm	19	Yes	Preserve	\$ 4,550
2	Chinese elm	13	Yes	Preserve	\$ 2,750
3	Chinese elm	21	Yes	Preserve	\$ 11,350
4	Evergreen ash	30	Yes	Preserve	\$ 7,900
5	Chinese elm	14	Yes	Preserve	\$ 3,750
6	Chinese elm	13	Yes	Remove	\$ 3,250
7	Chinese elm	17	Yes	Remove	\$ 4,550
8	Chinese elm	13	Yes	Remove	\$ 2,200
9	Chinese elm	18	Yes	Remove	\$ 7,050
10	Chinese elm	15	Yes	Remove	\$ 3,550
11	Raywood ash	8	No	Remove	\$ 750
12	Raywood ash	8	No	Remove	\$ 750
13	Raywood ash	10	Yes	Remove	\$ 1,100
14	Raywood ash	8	No	Remove	\$ 500
15	Raywood ash	6	No	Remove	\$ 350
16	Raywood ash	12	Yes	Remove	\$ 1,500
17	Raywood ash	13	Yes	Preserve	\$ 1,700
18	Raywood ash	11	Yes	Preserve	\$ 1,250
19	Raywood ash	13	Yes	Remove	\$ 1,700
20	Raywood ash	8	No	Remove	\$ 750
21	Raywood ash	8	No	Remove	\$ 500
22	Raywood ash	10	Yes	Remove	\$ 700
23	Raywood ash	11	Yes	Remove	\$ 1,250
24	Chinese elm	17	Yes	Remove	\$ 3,650
25	Chinese elm	15	Yes	Remove	\$ 2,900
26	Chinese elm	16	Yes	Remove	\$ 4,050
27	Raywood ash	12	Yes	Remove	\$ 1,500
28	Raywood ash	6	No	Remove	\$ 500
29	Raywood ash	8	No	Remove	\$ 750
30	Raywood ash	8	No	Remove	\$ 500
31	Raywood ash	9	Yes	Preserve	\$ 600
32	Sweetgum	10	Yes	Preserve	\$ 1,400
33	Sweetgum	10	Yes	Preserve	\$ 1,700
34	Sweetgum	8	No	Preserve	\$ 950
35	Raywood ash	14	Yes	Preserve	\$ 1,950
36	Raywood ash	7	No	Remove	\$ 600
37	Raywood ash	12	Yes	Remove	\$ 1,500
38	Raywood ash	12	Yes	Remove	\$ 1,500
39	Sweetgum	7	No	Remove	\$ 750
40	Chinese elm	17	Yes	Remove	\$ 6,300
41	Evergreen ash	16	Yes	Remove	\$ 3,250

Estimated Value and Disposition



Tree No.	Species	Trunk Diameter (in.)	Protected Tree	Disposition	Estimated Value
42	Evergreen ash	14	Yes	Remove	\$ 2,500
43	Evergreen ash	16	Yes	Remove	\$ 2,350
44	Evergreen ash	18	Yes	Remove	\$ 4,050
45	Evergreen ash	10	Yes	Remove	\$ 1,050
46	Evergreen ash	20	Yes	Remove	\$ 4,950
47	Evergreen ash	9	Yes	Remove	\$ 600
48	Evergreen ash	12	Yes	Remove	\$ 1,400
49	Evergreen ash	15	Yes	Remove	\$ 2,400
50	Evergreen ash	17	Yes	Remove	\$ 2,250
51	Coast redwood	35	Yes	Remove	\$ 14,850
52	Coast redwood	32	Yes	Remove	\$ 12,450
53	Coast redwood	29	Yes	Remove	\$ 10,250
54	Willow	7	No	Remove	\$ 400
55	Evergreen ash	24	Yes	Remove	\$ 4,300
56	Evergreen ash	24	Yes	Remove	\$ 5,100
57	Evergreen ash	29	Yes	Remove	\$ 7,350
58	Evergreen ash	26	Yes	Remove	\$ 5,950
59	Evergreen ash	26	Yes	Remove	\$ 5,950
60	Deodar cedar	25	Yes	Remove	\$ 6,850
61	Deodar cedar	20	Yes	Remove	\$ 4,450
62	Deodar cedar	24	Yes	Remove	\$ 6,350
63	Sweetgum	14	Yes	Remove	\$ 2,300
64	Sweetgum	13	Yes	Remove	\$ 3,250
65	Sweetgum	11	Yes	Remove	\$ 2,350
66	Sweetgum	6	No	Remove	\$ 700
67	Sweetgum	18	Yes	Remove	\$ 5,050
68	Coast redwood	44	Yes	Remove	\$ 19,500
69	Mayten	8	No	Remove	\$ 800
70	Mayten	15	Yes	Remove	\$ 3,850
71	Coast redwood	47	Yes	Remove	\$ 17,850
72	Coast redwood	43	Yes	Remove	\$ 14,950
73	Coast redwood	51	Yes	Remove	\$ 18,750
74	Coast redwood	33	Yes	Remove	\$ 11,050
75	Coast redwood	35	Yes	Remove	\$ 12,400
76	Coast redwood	34	Yes	Remove	\$ 11,700
77	Mayten	9	Yes	Remove	\$ 1,100
78	Deodar cedar	35	Yes	Remove	\$ 13,300
79	Deodar cedar	29	Yes	Remove	\$ 9,200
80	Raywood ash	23	Yes	Remove	\$ 5,950
81	Raywood ash	21	Yes	Remove	\$ 4,950
82	Raywood ash	18	Yes	Remove	\$ 3,700

Estimated Value and Disposition



Tree No.	Species	Trunk Diameter (in.)	Protected Tree	Disposition	Estimated Value
83	Raywood ash	22	Yes	Remove	\$ 7,500
84	Raywood ash	26	Yes	Remove	\$ 12,450
85	Raywood ash	23	Yes	Remove	\$ 8,150
86	Raywood ash	21	Yes	Remove	\$ 4,150
87	Raywood ash	22	Yes	Remove	\$ 8,950
88	Raywood ash	23	Yes	Remove	\$ 9,750
89	Raywood ash	25	Yes	Remove	\$ 11,500
90	Sweetgum	15	Yes	Remove	\$ 2,200
91	Raywood ash	24	Yes	Remove	\$ 8,900
92	Raywood ash	20	Yes	Remove	\$ 6,200
93	Evergreen ash	21	Yes	Remove	\$ 3,950
94	Raywood ash	11	Yes	Remove	\$ 1,500
95	Raywood ash	12	Yes	Remove	\$ 2,800
96	Raywood ash	11	Yes	Remove	\$ 2,350
97	Raywood ash	12	Yes	Remove	\$ 2,800
98	Raywood ash	11	Yes	Remove	\$ 2,350
99	Sweetgum	13	Yes	Remove	\$ 1,100
100	Sweetgum	10	Yes	Remove	\$ 1,400
101	Sweetgum	11	Yes	Remove	\$ 1,650
102	Raywood ash	10	Yes	Remove	\$ 1,100
103	Raywood ash	8	No	Remove	\$ 750
104	Raywood ash	10	Yes	Remove	\$ 1,100
105	Raywood ash	8	No	Remove	\$ 500
106	Raywood ash	9	Yes	Remove	\$ 900
107	Raywood ash	9	Yes	Remove	\$ 900
108	Raywood ash	8	No	Remove	\$ 750
109	Raywood ash	13	Yes	Remove	\$ 1,700
110	Sweetgum	11	Yes	Remove	\$ 1,250
111	Sweetgum	8	No	Remove	\$ 750
112	Sweetgum	8	No	Remove	\$ 750
113	Sweetgum	15	Yes	Remove	\$ 2,200
114	Raywood ash	11	Yes	Remove	\$ 850
115	Raywood ash	11	Yes	Remove	\$ 850
116	Raywood ash	13	Yes	Remove	\$ 1,700
117	Raywood ash	11	Yes	Remove	\$ 1,250
118	Raywood ash	7	No	Remove	\$ 600
119	Raywood ash	10	Yes	Remove	\$ 1,100
120	Raywood ash	12	Yes	Remove	\$ 1,500
121	Raywood ash	9	Yes	Remove	\$ 900
122	Raywood ash	6	No	Remove	\$ 500
123	Sweetgum	13	Yes	Remove	\$ 2,200

Estimated Value and Disposition



Tree No.	Species	Trunk Diameter (in.)	Protected Tree	Disposition	Estimated Value
124	Sweetgum	10	Yes	Remove	\$ 1,100
125	Sweetgum	11	Yes	Remove	\$ 1,250
126	Sweetgum	11	Yes	Remove	\$ 1,250
127	Raywood ash	11	Yes	Remove	\$ 1,250
128	Raywood ash	12	Yes	Remove	\$ 1,500
129	Raywood ash	14	Yes	Remove	\$ 1,950
130	Raywood ash	8	No	Remove	\$ 500
131	Raywood ash	10	Yes	Remove	\$ 1,100
132	Raywood ash	11	Yes	Remove	\$ 1,250
133	Raywood ash	10	Yes	Remove	\$ 700
134	Sweetgum	12	Yes	Remove	\$ 1,500
135	Sweetgum	10	Yes	Remove	\$ 1,100
136	Sweetgum	14	Yes	Remove	\$ 1,950
137	Sweetgum	10	Yes	Remove	\$ 1,100
138	Raywood ash	12	Yes	Remove	\$ 1,500
139	Raywood ash	10	Yes	Remove	\$ 1,100
140	Raywood ash	13	Yes	Remove	\$ 1,700
141	Raywood ash	15	Yes	Remove	\$ 2,200
142	Raywood ash	14	Yes	Remove	\$ 1,950
143	Raywood ash	12	Yes	Remove	\$ 1,500
144	Sweetgum	16	Yes	Remove	\$ 2,500
145	Sweetgum	10	Yes	Remove	\$ 1,100
146	Raywood ash	14	Yes	Remove	\$ 1,950
147	Raywood ash	15	Yes	Remove	\$ 2,200
148	Raywood ash	12	Yes	Remove	\$ 950
149	Raywood ash	11	Yes	Remove	\$ 1,250
150	Raywood ash	9	Yes	Remove	\$ 900
151	Raywood ash	12	Yes	Remove	\$ 1,500
152	Sweetgum	15	Yes	Remove	\$ 2,200
153	Sweetgum	15	Yes	Remove	\$ 2,200
154	Sweetgum	11	Yes	Remove	\$ 1,650
155	Sweetgum	16	Yes	Remove	\$ 4,050
156	Sweetgum	14	Yes	Remove	\$ 3,150
157	Evergreen ash	31	Yes	Remove	\$ 7,050
158	Evergreen ash	21	Yes	Remove	\$ 3,300
159	Evergreen ash	16	Yes	Remove	\$ 2,350
160	Coast redwood	21	Yes	Remove	\$ 5,450
161	Coast redwood	18	Yes	Remove	\$ 4,050
162	Coast redwood	19	Yes	Preserve	\$ 5,200
163	Coast redwood	15	Yes	Remove	\$ 2,850
164	Coast redwood	19	Yes	Preserve	\$ 4,500

Estimated Value and Disposition



Tree No.	Species	Trunk Diameter (in.)	Protected Tree	Disposition	Estimated Value
165	Coast redwood	24	Yes	Remove	\$ 7,100
166	Coast redwood	26	Yes	Remove	\$ 8,300
167	Coast redwood	42	Yes	Remove	\$ 21,300
168	Coast redwood	39	Yes	Preserve	\$ 23,600
169	Coast redwood	24	Yes	Preserve	\$ 5,100
170	Coast redwood	15	Yes	Preserve	\$ 2,100
171	Canary Island pine	10	Yes	Remove	\$ 800
172	Canary Island pine	20	Yes	Remove	\$ 6,150
173	Canary Island pine	27	Yes	Remove	\$ 11,100
174	Canary Island pine	20	Yes	Remove	\$ 4,450
175	Mayten	8	No	Remove	\$ 1,200
176	Coast redwood	16	Yes	Remove	\$ 1,650
177	Coast redwood	17	Yes	Remove	\$ 2,250
178	Coast redwood	20	Yes	Remove	\$ 4,950
179	Coast redwood	17	Yes	Remove	\$ 4,650
180	Coast redwood	20	Yes	Remove	\$ 4,950
181	Carolina cherry laurel	10	Yes	Remove	\$ 2,000
182	Coast redwood	22	Yes	Preserve	\$ 5,000
183	Coast redwood	18	Yes	Remove	\$ 2,500
184	Coast redwood	18	Yes	Preserve	\$ 2,500
185	California pepper	17,17,13	Yes	Remove	\$ 5,350
186	Coast redwood	64	Yes	Remove	\$ 49,300
187	Coast redwood	33	Yes	Remove	\$ 9,500
188	Coast redwood	29	Yes	Remove	\$ 7,350
189	Red maple	6	No	Remove	\$ 500
190	Chinese elm	17	Yes	Remove	\$ 3,850
191	Chinese elm	12	Yes	Remove	\$ 1,500
192	Raywood ash	10	Yes	Remove	\$ 1,100
193	Raywood ash	11	Yes	Remove	\$ 1,250
194	Raywood ash	9	Yes	Remove	\$ 900
195	Raywood ash	10	Yes	Remove	\$ 1,100
196	Raywood ash	9	Yes	Remove	\$ 900
197	Raywood ash	11	Yes	Remove	\$ 1,250
198	Raywood ash	10	Yes	Remove	\$ 1,100
199	Raywood ash	9	Yes	Remove	\$ 900
200	Raywood ash	9	Yes	Remove	\$ 900
201	Evergreen ash	15	Yes	Remove	\$ 1,150
202	Raywood ash	10	Yes	Remove	\$ 1,100
203	Sweetgum	7	No	Remove	\$ 600
204	Sweetgum	9	Yes	Remove	\$ 900
205	Sweetgum	11	Yes	Remove	\$ 1,250

Estimated Value and Disposition



Tree No.	Species	Trunk Diameter (in.)	Protected Tree	Disposition	Estimated Value
206	Raywood ash	10	Yes	Remove	\$ 1,100
207	Raywood ash	11	Yes	Remove	\$ 1,250
208	Raywood ash	11	Yes	Remove	\$ 1,250
209	Raywood ash	11	Yes	Remove	\$ 1,250
210	Raywood ash	10	Yes	Remove	\$ 1,100
211	Raywood ash	10	Yes	Remove	\$ 1,100
212	Raywood ash	8	No	Remove	\$ 750
213	Raywood ash	9	Yes	Remove	\$ 600
214	Raywood ash	10	Yes	Remove	\$ 1,100
215	Raywood ash	9	Yes	Remove	\$ 900
216	Raywood ash	10	Yes	Remove	\$ 1,100
217	Raywood ash	9	Yes	Remove	\$ 900
218	Raywood ash	7	No	Remove	\$ 450
219	Chinese elm	12	Yes	Remove	\$ 1,900
220	Chinese elm	13	Yes	Remove	\$ 2,200
221	Chinese elm	15	Yes	Remove	\$ 2,900
222	Raywood ash	12	Yes	Remove	\$ 1,500
223	Raywood ash	10	Yes	Remove	\$ 1,100
224	Raywood ash	7	No	Remove	\$ 450
225	Raywood ash	9	Yes	Remove	\$ 900
226	Raywood ash	13	Yes	Remove	\$ 1,700
227	Raywood ash	7	No	Remove	\$ 450
228	Raywood ash	10	Yes	Remove	\$ 1,100
229	Raywood ash	7	No	Remove	\$ 600
230	Raywood ash	10	Yes	Remove	\$ 1,100
231	Raywood ash	9	Yes	Remove	\$ 600
232	Raywood ash	9	Yes	Remove	\$ 600
233	Raywood ash	11	Yes	Remove	\$ 1,250
234	Raywood ash	13	Yes	Remove	\$ 1,700
235	Raywood ash	14	Yes	Remove	\$ 1,950
236	Sweetgum	9	Yes	Remove	\$ 900
237	Sweetgum	9	Yes	Remove	\$ 900
238	Sweetgum	11	Yes	Remove	\$ 1,250
239	Raywood ash	9	Yes	Remove	\$ 600
240	Raywood ash	10	Yes	Remove	\$ 1,100
241	Raywood ash	17	Yes	Remove	\$ 2,800
242	Raywood ash	10	Yes	Remove	\$ 1,100
243	Raywood ash	11	Yes	Remove	\$ 1,250
244	Raywood ash	10	Yes	Remove	\$ 1,100
245	Raywood ash	11	Yes	Remove	\$ 1,250
246	Raywood ash	8	No	Remove	\$ 500

Estimated Value and Disposition



Tree No.	Species	Trunk Diameter (in.)	Protected Tree	Disposition	Estimated Value
247	Raywood ash	12	Yes	Remove	\$ 1,500
248	Raywood ash	10	Yes	Remove	\$ 1,100
249	Raywood ash	9	Yes	Remove	\$ 600
250	Raywood ash	7	No	Remove	\$ 600
251	Raywood ash	10	Yes	Remove	\$ 1,100
252	Raywood ash	13	Yes	Remove	\$ 1,700
253	Raywood ash	16	Yes	Remove	\$ 2,500
254	Chinese pistache	9	Yes	Remove	\$ 1,400
255	Chinese pistache	8	No	Remove	\$ 1,150
256	Coast redwood	33	Yes	Remove	\$ 11,050
257	Chinese pistache	6	No	Remove	\$ 700
258	Coast redwood	14	Yes	Remove	\$ 2,500
259	Coast redwood	34	Yes	Remove	\$ 11,700
260	Purpleleaf plum	12	Yes	Remove	\$ 2,350
261	Canary Island pine	19	Yes	Remove	\$ 3,400
262	Coast redwood	27	Yes	Remove	\$ 6,400
263	Coast redwood	27	Yes	Remove	\$ 5,350
264	Coast redwood	25	Yes	Remove	\$ 4,650
265	Coast redwood	38	Yes	Remove	\$ 17,500
266	Coast redwood	33	Yes	Remove	\$ 13,250
267	Coast redwood	22	Yes	Remove	\$ 5,950
268	Coast redwood	37	Yes	Remove	\$ 16,600
269	Red maple	6	No	Remove	\$ 500
270	Coast redwood	22	Yes	Remove	\$ 3,650
271	Coast redwood	18	Yes	Remove	\$ 3,400
272	Coast redwood	34	Yes	Remove	\$ 11,700
273	Coast redwood	14	Yes	Remove	\$ 2,900
274	Coast redwood	20	Yes	Remove	\$ 5,750
275	Coast redwood	21	Yes	Remove	\$ 6,350
276	Coast redwood	25	Yes	Remove	\$ 8,900
277	Coast redwood	22	Yes	Remove	\$ 4,300
278	Coast redwood	31	Yes	Remove	\$ 13,600
279	Coast redwood	21	Yes	Remove	\$ 5,450
280	Evergreen ash	16	Yes	Remove	\$ 2,000
281	Evergreen ash	28	Yes	Remove	\$ 5,750
282	Evergreen ash	20	Yes	Remove	\$ 3,600
283	Evergreen ash	20	Yes	Remove	\$ 3,600
284	Evergreen ash	21	Yes	Remove	\$ 5,450
285	Evergreen ash	16	Yes	Remove	\$ 2,350
286	Evergreen ash	26	Yes	Remove	\$ 5,950
287	Evergreen ash	18	Yes	Remove	\$ 2,500

Estimated Value and Disposition



Tree No.	Species	Trunk Diameter (in.)	Protected Tree	Disposition	Estimated Value
288	Chinese elm	19	Yes	Remove	\$ 5,650
289	Evergreen ash	15	Yes	Remove	\$ 2,100
290	Monterey pine	25	No	Remove	\$ 5,500
291	Chinese elm	16	Yes	Remove	\$ 2,500
292	Evergreen ash	21	Yes	Remove	\$ 3,300
293	Evergreen ash	21	Yes	Remove	\$ 3,950
294	Raywood ash	18	Yes	Remove	\$ 6,050
295	Evergreen ash	23	Yes	Remove	\$ 6,500
296	Evergreen ash	20	Yes	Remove	\$ 3,600
297	Evergreen ash	23	Yes	Remove	\$ 4,700
298	Sweetgum	15	Yes	Remove	\$ 2,900
299	Coast redwood	37	Yes	Remove	\$ 11,100
300	Fig	10,9,7,5,4	Yes	Remove	\$ 2,350
301	Coast redwood	39	Yes	Remove	\$ 15,350
302	Coast redwood	38	Yes	Remove	\$ 17,500
303	Sweetgum	15	Yes	Remove	\$ 2,900
304	Sweetgum	12	Yes	Remove	\$ 1,500
305	Sweetgum	13	Yes	Remove	\$ 1,700
306	Sweetgum	14	Yes	Remove	\$ 1,950
307	Sweetgum	11	Yes	Remove	\$ 1,250
308	Sweetgum	10	Yes	Remove	\$ 1,100
309	Coast redwood	32	Yes	Remove	\$ 8,350
310	Weeping willow	34	Yes	Remove	\$ 6,750
311	Evergreen ash	12	Yes	Remove	\$ 1,000
312	Coast redwood	36	Yes	Remove	\$ 10,550
313	Coast redwood	31	Yes	Remove	\$ 7,850
314	Coast redwood	36	Yes	Remove	\$ 10,550
315	Coast redwood	36	Yes	Remove	\$ 10,550
316	Coast redwood	37	Yes	Remove	\$ 11,100
317	Mayten	11	Yes	Remove	\$ 1,750
318	Mayten	10	Yes	Remove	\$ 1,450
319	Coast redwood	36	Yes	Remove	\$ 10,550
320	Sweetgum	14	Yes	Remove	\$ 3,150
321	Sweetgum	16	Yes	Remove	\$ 4,050
322	Coast redwood	33	Yes	Remove	\$ 7,950
323	Coast redwood	30	Yes	Remove	\$ 6,600
324	Coast redwood	29	Yes	Remove	\$ 6,150
325	Purpleleaf plum	12	Yes	Remove	\$ 1,750
326	Coast redwood	16	Yes	Remove	\$ 2,200
327	Sweetgum	11	Yes	Remove	\$ 1,650
328	Sweetgum	10	Yes	Remove	\$ 1,400

Estimated Value and Disposition



Tree No.	Species	Trunk Diameter (in.)	Protected Tree	Disposition	Estimated Value
329	Coast redwood	29	Yes	Remove	\$ 6,900
330	Coast redwood	28	Yes	Remove	\$ 6,450
331	Coast redwood	32	Yes	Remove	\$ 10,400
332	Evergreen ash	8	No	Remove	\$ 450
333	Mayten	8	No	Remove	\$ 800
334	Coast redwood	30	Yes	Remove	\$ 10,950
335	Coast redwood	26	Yes	Remove	\$ 8,300
336	Coast redwood	31	Yes	Remove	\$ 5,950
337	European white birch	17	Yes	Remove	\$ 1,700
338	Callery pear	17	Yes	Remove	\$ 2,800
339	European white birch	8	No	Remove	\$ 650
340	European white birch	14	Yes	Remove	\$ 1,550
341	Crabapple	7	No	Remove	\$ 700
342	Chinese tallow	13	Yes	Remove	\$ 2,750
343	Coast redwood	34	Yes	Remove	\$ 14,050
344	Coast redwood	35	Yes	Remove	\$ 14,850
345	Chinese tallow	13	Yes	Remove	\$ 3,250
346	Coast redwood	29	Yes	Remove	\$ 7,350
347	Coast redwood	34	Yes	Remove	\$ 14,050
348	Coast redwood	39	Yes	Remove	\$ 18,400
349	Evergreen ash	30	Yes	Remove	\$ 12,750
350	Evergreen ash	19	Yes	Remove	\$ 3,250
351	Evergreen ash	19	Yes	Remove	\$ 3,250
352	Evergreen ash	37	Yes	Remove	\$ 11,900
353	Evergreen ash	24	Yes	Remove	\$ 5,100
354	Evergreen ash	22	Yes	Remove	\$ 4,300
355	Evergreen ash	33	Yes	Remove	\$ 9,500
356	Sweetgum	13	Yes	Remove	\$ 1,700
357	Evergreen ash	25	Yes	Remove	\$ 4,650
358	Evergreen ash	31	Yes	Remove	\$ 11,700
359	Evergreen ash	18	Yes	Remove	\$ 4,050
360	Evergreen ash	24	Yes	Remove	\$ 5,100
361	Sweetgum	8	No	Remove	\$ 950
362	Evergreen ash	8	No	Remove	\$ 550
363	Evergreen ash	21	Yes	Preserve	\$ 2,700
364	Evergreen ash	11	Yes	Remove	\$ 850
365	Sweetgum	12	Yes	Remove	\$ 1,500
366	Sweetgum	10	Yes	Remove	\$ 1,100
367	London plane	9	Yes	Remove	\$ 600
368	London plane	10	Yes	Remove	\$ 700
369	London plane	11	Yes	Remove	\$ 800

Estimated Value and Disposition



Tree No.	Species	Trunk Diameter (in.)	Protected Tree	Disposition	Estimated Value
370	London plane	12	Yes	Remove	\$ 950
371	London plane	11	Yes	Remove	\$ 800
372	London plane	12	Yes	Remove	\$ 950
373	London plane	12	Yes	Remove	\$ 950
374	London plane	10	Yes	Remove	\$ 700
375	London plane	11	Yes	Remove	\$ 800
376	Sweetgum	11	Yes	Remove	\$ 1,250
377	Sweetgum	14	Yes	Remove	\$ 1,950
378	London plane	12	Yes	Remove	\$ 950
379	London plane	12	Yes	Remove	\$ 950
380	London plane	13	Yes	Remove	\$ 1,100
381	London plane	10	Yes	Remove	\$ 700
382	London plane	10	Yes	Remove	\$ 700
383	London plane	13	Yes	Remove	\$ 1,100
384	London plane	9	Yes	Remove	\$ 600
385	London plane	10	Yes	Remove	\$ 700
386	London plane	16	Yes	Remove	\$ 2,100
387	Sweetgum	15	Yes	Remove	\$ 2,200
388	Sweetgum	9	Yes	Remove	\$ 600
389	Evergreen ash	12	Yes	Remove	\$ 800
390	Evergreen ash	14	Yes	Remove	\$ 1,000
391	Sweetgum	11	Yes	Remove	\$ 1,250
392	Sweetgum	11	Yes	Remove	\$ 1,250
393	Valley oak	13	Yes	Preserve	\$ 1,700
394	London plane	9	Yes	Remove	\$ 600
395	London plane	13	Yes	Remove	\$ 1,100
396	London plane	12	Yes	Remove	\$ 950
397	London plane	14	Yes	Remove	\$ 1,200
398	London plane	11	Yes	Remove	\$ 800
399	London plane	10	Yes	Remove	\$ 700
400	London plane	11	Yes	Remove	\$ 800
401	Sweetgum	9	Yes	Remove	\$ 900
402	Sweetgum	17	Yes	Remove	\$ 2,800
403	Sweetgum	16	Yes	Remove	\$ 2,500
404	Sweetgum	11,9	Yes	Remove	\$ 2,000
405	London plane	8	No	Remove	\$ 400
406	London plane	11	Yes	Remove	\$ 800
407	London plane	11	Yes	Remove	\$ 800
408	London plane	15	Yes	Remove	\$ 1,850
409	London plane	13	Yes	Remove	\$ 1,450
410	London plane	13	Yes	Remove	\$ 1,100

Estimated Value and Disposition



Tree No.	Species	Trunk Diameter (in.)	Protected Tree	Disposition	Estimated Value
411	Sweetgum	8	No	Remove	\$ 750
412	Sweetgum	14	Yes	Remove	\$ 1,950
413	Evergreen ash	10	Yes	Remove	\$ 600
414	Sweetgum	13	Yes	Remove	\$ 1,700
415	Sweetgum	13	Yes	Remove	\$ 1,700
416	London plane	13	Yes	Remove	\$ 1,100
417	London plane	10	Yes	Remove	\$ 700
418	London plane	13	Yes	Remove	\$ 1,100
419	London plane	11	Yes	Remove	\$ 800
420	London plane	12	Yes	Remove	\$ 950
421	London plane	11	Yes	Remove	\$ 800
422	Sweetgum	13	Yes	Remove	\$ 1,700
423	Sweetgum	13	Yes	Remove	\$ 1,700
424	London plane	11	Yes	Remove	\$ 800
425	London plane	12	Yes	Remove	\$ 950
426	London plane	11	Yes	Remove	\$ 800
427	London plane	10	Yes	Remove	\$ 700
428	London plane	11	Yes	Remove	\$ 800
429	London plane	8	No	Remove	\$ 500
430	Sweetgum	12	Yes	Remove	\$ 1,500
431	Sweetgum	13	Yes	Remove	\$ 2,200
432	Sweetgum	12	Yes	Remove	\$ 1,900
433	Coast redwood	17	Yes	Remove	\$ 1,900
434	Valley oak	23	Yes	Preserve	\$ 6,900
435	Canary Island date palm	29	Yes	Preserve	\$ 6,900
436	Evergreen ash	23,10	Yes	Preserve	\$ 3,550
437	Valley oak	13	Yes	Preserve	\$ 3,050
438	Blue gum	26	No	Preserve	\$ 4,050
439	Valley oak	13	Yes	Preserve	\$ 2,200
440	Evergreen ash	22	Yes	Remove	\$ 2,950
441	Evergreen ash	23	Yes	Remove	\$ 3,200
442	Evergreen ash	20	Yes	Remove	\$ 2,450
443	Evergreen ash	14	Yes	Remove	\$ 1,300
444	Camphor	14	Yes	Remove	\$ 2,650
445	London plane	16	Yes	Remove	\$ 2,750
446	London plane	14	Yes	Remove	\$ 2,250
447	Coast redwood	25	Yes	Remove	\$ 7,650
448	Coast redwood	37	Yes	Remove	\$ 16,600
449	Coast redwood	33	Yes	Remove	\$ 13,250
450	Coast redwood	40	Yes	Remove	\$ 19,350
451	Coast redwood	32	Yes	Remove	\$ 7,500

Estimated Value and Disposition



Tree No.	Species	Trunk Diameter (in.)	Protected Tree	Disposition	Estimated Value
452	Honey locust	12	Yes	Remove	\$ 800
453	Evergreen ash	17	Yes	Remove	\$ 2,250
454	Coast redwood	28	Yes	Remove	\$ 8,000
455	Coast redwood	25	Yes	Remove	\$ 6,400
456	Coast redwood	28	Yes	Remove	\$ 9,550
457	Coast redwood	31	Yes	Remove	\$ 11,700
458	Coast redwood	33	Yes	Remove	\$ 13,250
459	Evergreen ash	11	Yes	Remove	\$ 1,200
460	Coast redwood	30	Yes	Remove	\$ 10,950
461	Coast redwood	30	Yes	Remove	\$ 10,950
462	Coast redwood	20	Yes	Remove	\$ 4,950
463	Coast redwood	22	Yes	Remove	\$ 5,950
464	Coast redwood	21	Yes	Remove	\$ 5,450
465	Coast redwood	20	Yes	Remove	\$ 4,950
466	Evergreen ash	25	Yes	Remove	\$ 7,650
467	Evergreen ash	14	Yes	Remove	\$ 1,850
468	Evergreen ash	25	Yes	Remove	\$ 5,500
469	Sweetgum	9	Yes	Remove	\$ 900
470	Sweetgum	10	Yes	Remove	\$ 1,100
471	Coast redwood	33	Yes	Remove	\$ 15,400
472	Coast redwood	33	Yes	Remove	\$ 15,400
473	Coast redwood	23	Yes	Remove	\$ 5,450
474	Coast redwood	22	Yes	Remove	\$ 3,650
475	Coast redwood	30	Yes	Remove	\$ 9,150
476	Coast redwood	27	Yes	Remove	\$ 7,450
477	Coast redwood	30	Yes	Remove	\$ 9,150
478	Mayten	15	Yes	Remove	\$ 2,350
479	Coast redwood	34	Yes	Remove	\$ 14,050
480	Coast redwood	30	Yes	Remove	\$ 10,950
481	Raywood ash	28	Yes	Remove	\$ 9,650
482	Raywood ash	26	Yes	Remove	\$ 12,450
483	Raywood ash	32	Yes	Remove	\$ 11,300
484	Deodar cedar	17	Yes	Remove	\$ 3,250
485	Deodar cedar	34	Yes	Remove	\$ 12,550
486	Raywood ash	24	Yes	Remove	\$ 6,450
487	Raywood ash	18	Yes	Remove	\$ 3,700
488	Raywood ash	20	Yes	Remove	\$ 5,000
Total					\$ 1,941,600



Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad(Diablo (3712178) OR Clayton (3712188) OR Oakland East (3712272) OR Briones Valley (3712282) OR Walnut Creek (3712281) OR Honker Bay (3812118) OR Vine Hill (3812211) OR Benicia (3812212) OR Las Trampas Ridge (3712271))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Accipiter cooperii</i> Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
<i>Acipenser medirostris pop. 1</i> green sturgeon - southern DPS	AFCAA01031	Threatened	None	G2T1	S1	SSC
<i>Actinemys marmorata</i> northwestern pond turtle	ARAAD02031	Proposed Threatened	None	G2	SNR	SSC
<i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S2	SSC
<i>Ambystoma californiense pop. 1</i> California tiger salamander - central California DPS	AAAAA01181	Threatened	Threatened	G2G3T3	S3	WL
<i>Amsinckia lunaris</i> bent-flowered fiddleneck	PDBOR01070	None	None	G3	S3	1B.2
<i>Anniella pulchra</i> Northern California legless lizard	ARACC01020	None	None	G3	S2S3	SSC
<i>Anomobryum julaceum</i> slender silver moss	NBMUS80010	None	None	G5	S2	4.2
<i>Antrozous pallidus</i> pallid bat	AMACC10010	None	None	G4	S3	SSC
<i>Aquila chrysaetos</i> golden eagle	ABNKC22010	None	None	G5	S3	FP
<i>Archoplites interruptus</i> Sacramento perch	AFCQB07010	None	None	G1	S1	SSC
<i>Arctostaphylos auriculata</i> Mt. Diablo manzanita	PDERI04040	None	None	G2	S2	1B.3
<i>Arctostaphylos manzanita ssp. laevigata</i> Contra Costa manzanita	PDERI04273	None	None	G5T2	S2	1B.2
<i>Arctostaphylos pallida</i> pallid manzanita	PDERI04110	Threatened	Endangered	G1	S1	1B.1
<i>Ardea herodias</i> great blue heron	ABNGA04010	None	None	G5	S4	
<i>Asio flammeus</i> short-eared owl	ABNSB13040	None	None	G5	S2	SSC
<i>Astragalus tener var. tener</i> alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2
<i>Athene cunicularia</i> burrowing owl	ABNSB10010	None	None	G4	S2	SSC



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Blepharizonia plumosa</i> big tarplant	PDAST1C011	None	None	G1G2	S1S2	1B.1
<i>Bombus caliginosus</i> obscure bumble bee	IIHYM24380	None	None	G2G3	S1S2	
<i>Bombus crotchii</i> Crotch's bumble bee	IIHYM24480	None	Candidate Endangered	G2	S2	
<i>Bombus occidentalis</i> western bumble bee	IIHYM24252	None	Candidate Endangered	G3	S1	
<i>Bombus pensylvanicus</i> American bumble bee	IIHYM24260	None	None	G3G4	S2	
<i>Branchinecta conservatio</i> Conservancy fairy shrimp	ICBRA03010	Endangered	None	G2	S2	
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
<i>Branta hutchinsii leucopareia</i> cackling (=Aleutian Canada) goose	ABNJB05035	Delisted	None	G5T3	S3	WL
<i>Buteo regalis</i> ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
<i>Buteo swainsoni</i> Swainson's hawk	ABNKC19070	None	Threatened	G5	S4	
<i>Calochortus pulchellus</i> Mt. Diablo fairy-lantern	PMLIL0D160	None	None	G2	S2	1B.2
<i>Centromadia parryi ssp. congdonii</i> Congdon's tarplant	PDAST4R0P1	None	None	G3T2	S2	1B.1
<i>Charadrius nivosus nivosus</i> western snowy plover	ABNNB03031	Threatened	None	G3T3	S3	SSC
<i>Chloropyron maritimum ssp. palustre</i> Point Reyes salty bird's-beak	PDSCR0J0C3	None	None	G4?T2	S2	1B.2
<i>Chloropyron molle ssp. molle</i> soft salty bird's-beak	PDSCR0J0D2	Endangered	Rare	G2T1	S1	1B.2
<i>Chorizanthe robusta var. robusta</i> robust spineflower	PDPGN040Q2	Endangered	None	G2T1	S1	1B.1
<i>Cicuta maculata var. bolanderi</i> Bolander's water-hemlock	PDAP10M051	None	None	G5T4T5	S2?	2B.1
<i>Circus hudsonius</i> northern harrier	ABNKC11011	None	None	G5	S3	SSC
<i>Cirsium andrewsii</i> Franciscan thistle	PDAST2E050	None	None	G3	S3	1B.2
<i>Clarkia concinna ssp. automixa</i> Santa Clara red ribbons	PDONA050A1	None	None	G5?T3	S3	4.3
<i>Clarkia franciscana</i> Presidio clarkia	PDONA050H0	Endangered	Endangered	G1	S1	1B.1



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Coastal Brackish Marsh Coastal Brackish Marsh	CTT52200CA	None	None	G2	S2.1	
Cordylanthus nidularius Mt. Diablo bird's-beak	PDSCR0J0F0	None	Rare	G1	S1	1B.1
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G4	S2	SSC
Coturnicops noveboracensis yellow rail	ABNME01010	None	None	G4	S2	SSC
Danaus plexippus plexippus pop. 1 monarch - California overwintering population	IILEPP2012	Candidate	None	G4T1T2Q	S2	
Delphinium californicum ssp. interius Hospital Canyon larkspur	PDRAN0B0A2	None	None	G3T3	S3	1B.2
Dipodomys heermanni berkeleyensis Berkeley kangaroo rat	AMAFD03061	None	None	G4T1	S2	
Dirca occidentalis western leatherwood	PDTHY03010	None	None	G2	S2	1B.2
Efferia antiochi Antioch efferian robberfly	IIDIP07010	None	None	G1G2	S1S2	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Eremophila alpestris actia California horned lark	ABPAT02011	None	None	G5T4Q	S4	WL
Eriastrum ertterae Lime Ridge eriastrum	PDPLM030F0	None	Candidate Endangered	G1	S1	1B.1
Eriogonum luteolum var. caninum Tiburon buckwheat	PDPGN083S1	None	None	G5T2	S2	1B.2
Eriogonum truncatum Mt. Diablo buckwheat	PDPGN085Z0	None	None	G1	S1	1B.1
Eryngium jepsonii Jepson's coyote-thistle	PDAPI0Z130	None	None	G2	S2	1B.2
Erysimum capitatum var. angustatum Contra Costa wallflower	PDBRA16052	Endangered	Endangered	G5T1	S1	1B.1
Eucyclogobius newberryi tidewater goby	AFCQN04010	Endangered	None	G3	S3	SSC
Euphydryas editha bayensis Bay checkerspot butterfly	IILEPK4055	Threatened	None	G4G5T1	S3	
Extriplex joaquinana San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
Falco mexicanus prairie falcon	ABNKD06090	None	None	G5	S4	WL
Falco peregrinus anatum American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Fissidens pauperculus</i> minute pocket moss	NBMUS2W0U0	None	None	G3?	S2	1B.2
<i>Fritillaria liliacea</i> fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
<i>Geothlypis trichas sinuosa</i> saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T3	S3	SSC
<i>Gilia millefoliata</i> dark-eyed gilia	PDPLM04130	None	None	G2	S2	1B.2
<i>Grimmia torenii</i> Toren's grimmia	NBMUS32330	None	None	G2	S2	1B.3
<i>Haliaeetus leucocephalus</i> bald eagle	ABNKC10010	Delisted	Endangered	G5	S3	FP
<i>Helianthella castanea</i> Diablo helianthella	PDAST4M020	None	None	G2	S2	1B.2
<i>Helminthoglypta nickliniana bridgesi</i> Bridges' coast range shoulderband	IMGASC2362	None	None	G3T1	S1S2	
<i>Hesperolinon breweri</i> Brewer's western flax	PDLIN01030	None	None	G2	S2	1B.2
<i>Hoita strobilina</i> Loma Prieta hoita	PDFAB5Z030	None	None	G2?	S2?	1B.1
<i>Holocarpha macradenia</i> Santa Cruz tarplant	PDAST4X020	Threatened	Endangered	G1	S1	1B.1
<i>Horkelia cuneata var. sericea</i> Kellogg's horkelia	PDROS0W043	None	None	G4T1?	S1?	1B.1
<i>Isocoma arguta</i> Carquinez goldenbush	PDAST57050	None	None	G1	S1	1B.1
<i>Lasionycteris noctivagans</i> silver-haired bat	AMACC02010	None	None	G3G4	S3S4	
<i>Lasiurus cinereus</i> hoary bat	AMACC05032	None	None	G3G4	S4	
<i>Lasthenia conjugens</i> Contra Costa goldfields	PDAST5L040	Endangered	None	G1	S1	1B.1
<i>Laterallus jamaicensis coturniculus</i> California black rail	ABNME03041	None	Threatened	G3T1	S2	FP
<i>Lathyrus jepsonii var. jepsonii</i> Delta tule pea	PDFAB250D2	None	None	G5T2	S2	1B.2
<i>Lepidurus packardi</i> vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G3	S3	
<i>Lilaeopsis masonii</i> Mason's lilaeopsis	PDAPI19030	None	Rare	G2	S2	1B.1
<i>Limosella australis</i> Delta mudwort	PDSCR10030	None	None	G5	S2	2B.1



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Linderiella occidentalis</i> California linderiella	ICBRA06010	None	None	G2G3	S2S3	
<i>Madia radiata</i> showy golden madia	PDAST650E0	None	None	G3	S3	1B.1
<i>Malacothamnus hallii</i> Hall's bushmallow	PDMAL0Q0F0	None	None	G2	S2	1B.2
<i>Masticophis lateralis euryxanthus</i> Alameda whipsnake	ARADB21031	Threatened	Threatened	G4T2	S2	
<i>Meconella oregana</i> Oregon meconella	PDPAP0G030	None	None	G2	S2	1B.1
<i>Melospiza melodia maxillaris</i> Suisun song sparrow	ABPBXA301K	None	None	G5T3	S2	SSC
<i>Melospiza melodia pusillula</i> Alameda song sparrow	ABPBXA301S	None	None	G5T2T3	S2	SSC
<i>Melospiza melodia samuelis</i> San Pablo song sparrow	ABPBXA301W	None	None	G5T2	S2	SSC
<i>Microcina leei</i> Lee's micro-blind harvestman	ILARA47040	None	None	G1	S1	
<i>Monolopia gracilens</i> woodland woollythreads	PDAST6G010	None	None	G3	S3	1B.2
<i>Navarretia gowenii</i> Lime Ridge navarretia	PDPLM0C120	None	None	G1	S1	1B.1
<i>Neotoma fuscipes annectens</i> San Francisco dusky-footed woodrat	AMAFF08082	None	None	G5T2T3	S2S3	SSC
<i>Northern Coastal Salt Marsh</i> Northern Coastal Salt Marsh	CTT52110CA	None	None	G3	S3.2	
<i>Northern Maritime Chaparral</i> Northern Maritime Chaparral	CTT37C10CA	None	None	G1	S1.2	
<i>Nyctinomops macrotis</i> big free-tailed bat	AMACD04020	None	None	G5	S3	SSC
<i>Oenothera deltooides ssp. howellii</i> Antioch Dunes evening-primrose	PDONA0C0B4	Endangered	Endangered	G5T1	S1	1B.1
<i>Oncorhynchus mykiss irideus pop. 11</i> steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	SSC
<i>Pandion haliaetus</i> osprey	ABNKC01010	None	None	G5	S4	WL
<i>Perognathus inornatus</i> San Joaquin pocket mouse	AMAFD01060	None	None	G2G3	S2S3	
<i>Phacelia phacelioides</i> Mt. Diablo phacelia	PDHYD0C3Q0	None	None	G2	S2	1B.2
<i>Phrynosoma blainvillii</i> coast horned lizard	ARACF12100	None	None	G4	S4	SSC



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Plagiobothrys diffusus</i> San Francisco popcornflower	PDBOR0V080	None	Endangered	G1Q	S1	1B.1
<i>Pogonichthys macrolepidotus</i> Sacramento splittail	AFCJB34020	None	None	G3	S3	SSC
<i>Polygonum marinense</i> Marin knotweed	PDPGN0L1C0	None	None	G2Q	S2	3.1
<i>Pomatiopsis californica</i> Pacific walker	IMGASJ9020	None	None	G1	S1	
<i>Rallus obsoletus obsoletus</i> California Ridgway's rail	ABNME05011	Endangered	Endangered	G3T1	S2	FP
<i>Rana boylei</i> pop. 4 foothill yellow-legged frog - central coast DPS	AAABH01054	Threatened	Endangered	G3T2	S2	
<i>Rana draytonii</i> California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
<i>Ravenella exigua</i> chaparral harebell	PDCAM020A0	None	None	G2	S2	1B.2
<i>Reithrodontomys raviventris</i> salt-marsh harvest mouse	AMAFF02040	Endangered	Endangered	G1G2	S3	FP
<i>Sanicula maritima</i> adobe sanicle	PDAP11Z0D0	None	Rare	G2	S2	1B.1
<i>Sanicula saxatilis</i> rock sanicle	PDAP11Z0H0	None	Rare	G2	S2	1B.2
<i>Scapanus latimanus parvus</i> Alameda Island mole	AMABB02031	None	None	G5T1Q	SH	SSC
<i>Senecio aphanactis</i> chaparral ragwort	PDAST8H060	None	None	G3	S2	2B.2
<i>Serpentine Bunchgrass</i> Serpentine Bunchgrass	CTT42130CA	None	None	G2	S2.2	
<i>Sorex ornatus sinuosus</i> Suisun shrew	AMABA01103	None	None	G5T1T2Q	S1S2	SSC
<i>Spergularia macrotheca</i> var. <i>longistyla</i> long-styled sand-spurrey	PDCAR0W062	None	None	G5T2	S2	1B.2
<i>Speyeria callippe callippe</i> callippe silverspot butterfly	IILEPJ6091	Endangered	None	G5T1	S1	
<i>Spirinchus thaleichthys</i> pop. 2 longfin smelt - San Francisco Bay-Delta DPS	AFCHB03040	Endangered	Threatened	G5TNRQ	S1	
<i>Sternula antillarum browni</i> California least tern	ABNNM08103	Endangered	Endangered	G4T2T3Q	S2	FP
<i>Streptanthus albidus</i> ssp. <i>peramoenus</i> most beautiful jewelflower	PDBRA2G012	None	None	G2T2	S2	1B.2
<i>Streptanthus hispidus</i> Mt. Diablo jewelflower	PDBRA2G0M0	None	None	G2	S2	1B.3



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Stuckenia filiformis ssp. alpina</i> northern slender pondweed	PMPOT03091	None	None	G5T5	S2S3	2B.2
<i>Symphotrichum lentum</i> Suisun Marsh aster	PDASTE8470	None	None	G2	S2	1B.2
<i>Taxidea taxus</i> American badger	AMAJF04010	None	None	G5	S3	SSC
<i>Thamnophis gigas</i> giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
<i>Trifolium hydrophilum</i> saline clover	PDFAB400R5	None	None	G2	S2	1B.2
<i>Triquetrella californica</i> coastal triquetrella	NBMUS7S010	None	None	G2	S2	1B.2
<i>Tropidocarpum capparideum</i> caper-fruited tropidocarpum	PDBRA2R010	None	None	G1	S1	1B.1
<i>Tryonia imitator</i> mimic tryonia (=California brackishwater snail)	IMGASJ7040	None	None	G2	S2	
<i>Viburnum ellipticum</i> oval-leaved viburnum	PDCPR07080	None	None	G4G5	S3	2B.3
<i>Vulpes macrotis mutica</i> San Joaquin kit fox	AMAJA03041	Endangered	Threatened	G4T2	S3	

Record Count: 133



[CNPS Rare Plant Inventory](#)

Search Results

14 matches found. Click on scientific name for details

Search Criteria: [Fed List](#) is one of [FE:FT:FC:FD] or [State List](#) is one of [CE:CT:CR:CC:CD], [S Rank](#) is one of [S1:S2:S3:S4], [9-Quad](#) include [3712178:3712188:3712272:3712282:3712281:3812118:3812211:3812212:3712271]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	CA ENDEMIC	DATE ADDED	PHOTO
<i>Arctostaphylos pallida</i>	pallid manzanita	Ericaceae	perennial evergreen shrub	Dec-Mar	FT	CE	G1	S1	1B.1	Yes	1974-01-01	No Photo Available
<i>Chloropyron molle</i> ssp. <i>molle</i>	soft salty bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Nov	FE	CR	G2T1	S1	1B.2	Yes	1974-01-01	 © 2014 John Doyen
<i>Chorizanthe robusta</i> var. <i>robusta</i>	robust spineflower	Polygonaceae	annual herb	Apr-Sep	FE	None	G2T1	S1	1B.1	Yes	1980-01-01	No Photo Available
<i>Clarkia franciscana</i>	Presidio clarkia	Onagraceae	annual herb	May-Jul	FE	CE	G1	S1	1B.1	Yes	1974-01-01	No Photo Available
<i>Cordylanthus nidularius</i>	Mt. Diablo bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Aug	None	CR	G1	S1	1B.1	Yes	1974-01-01	No Photo Available
<i>Eriastrum ertterae</i>	Lime Ridge eriastrum	Polemoniaceae	annual herb	Jun-Jul	None	CC	G1	S1	1B.1	Yes	2013-12-19	 © 2013 John Doyen
<i>Erysimum capitatum</i> var. <i>angustatum</i>	Contra Costa wallflower	Brassicaceae	perennial herb	Mar-Jul	FE	CE	G5T1	S1	1B.1	Yes	1974-01-01	No Photo Available
<i>Holocarpha macradenia</i>	Santa Cruz tarplant	Asteraceae	annual herb	Jun-Oct	FT	CE	G1	S1	1B.1	Yes	1974-01-01	 © 2011 Dylan Neubauer

<u><i>Lasthenia conjugens</i></u>	Contra Costa goldfields	Asteraceae	annual herb	Mar-Jun	FE	None	G1	S1	1B.1	Yes	1974-01-01	 © 2013 Neal Kramer
<u><i>Lilaeopsis masonii</i></u>	Mason's lilaeopsis	Apiaceae	perennial rhizomatous herb	Apr-Nov	None	CR	G2	S2	1B.1	Yes	1974-01-01	No Photo Available
<u><i>Oenothera deltooides</i> ssp. <i>howellii</i></u>	Antioch Dunes evening-primrose	Onagraceae	perennial herb	Mar-Sep	FE	CE	G5T1	S1	1B.1	Yes	1974-01-01	No Photo Available
<u><i>Plagiobothrys diffusus</i></u>	San Francisco popcornflower	Boraginaceae	annual herb	Mar-Jun	None	CE	G1Q	S1	1B.1	Yes	1974-01-01	No Photo Available
<u><i>Sanicula maritima</i></u>	adobe sanicle	Apiaceae	perennial herb	Feb-May	None	CR	G2	S2	1B.1	Yes	1974-01-01	No Photo Available
<u><i>Sanicula saxatilis</i></u>	rock sanicle	Apiaceae	perennial herb	Apr-May	None	CR	G2	S2	1B.2	Yes	1974-01-01	 © 1998 John Game

Showing 1 to 14 of 14 entries

Suggested Citation:
 California Native Plant Society, Rare Plant Program. 2024. Rare Plant Inventory (online edition, v9.5). Website <https://www.rareplants.cnps.org> [accessed 25 September 2024].

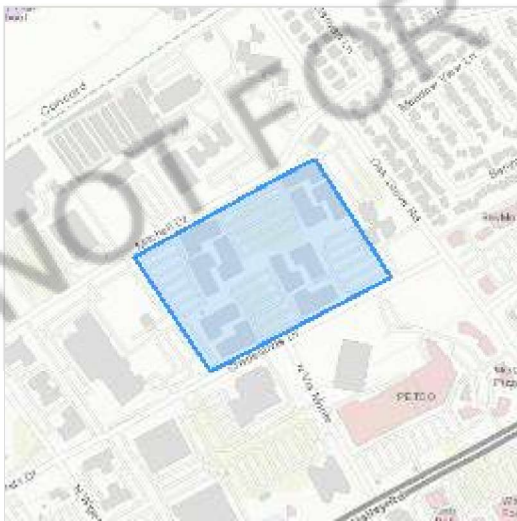
IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Contra Costa County, California



Local office

Sacramento Fish And Wildlife Office

☎ (916) 414-6600

📅 (916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

-
1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS
California Least Tern <i>Sternula antillarum browni</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8104	Endangered
California Ridgway's Rail <i>Rallus obsoletus obsoletus</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4240	Endangered

Reptiles

NAME	STATUS
Alameda Whipsnake (=striped Racer) <i>Masticophis lateralis euryxanthus</i> Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5524	Threatened
Northwestern Pond Turtle <i>Actinemys marmorata</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/2891	Threatened

California Tiger Salamander	Ambystoma californiense	Threatened
There is final critical habitat for this species. Your location does not overlap the critical habitat.		
https://ecos.fws.gov/ecp/species/2076		

Foothill Yellow-legged Frog	Rana boylei	Threatened
No critical habitat has been designated for this species.		
https://ecos.fws.gov/ecp/species/5133		

Insects

NAME	STATUS
Monarch Butterfly	Candidate
Danaus plexippus	
Wherever found	
No critical habitat has been designated for this species.	
https://ecos.fws.gov/ecp/species/9743	

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp	Threatened
Branchinecta lynchi	
Wherever found	
There is final critical habitat for this species. Your location does not overlap the critical habitat.	
https://ecos.fws.gov/ecp/species/498	

Flowering Plants

NAME	STATUS
Contra Costa Goldfields	Endangered
Lasthenia conjugens	
Wherever found	
There is final critical habitat for this species. Your location does not overlap the critical habitat.	
https://ecos.fws.gov/ecp/species/7058	

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act¹ and the Migratory Bird Treaty Act².

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats³, should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below.

Specifically, please review the "[Supplemental Information on Migratory Birds and Eagles](#)".

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds
<https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds
<https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC
<https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to [Bald Eagle Nesting and Sensitivity to Human Activity](#)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1680>

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read ["Supplemental Information on Migratory Birds and Eagles"](#), specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

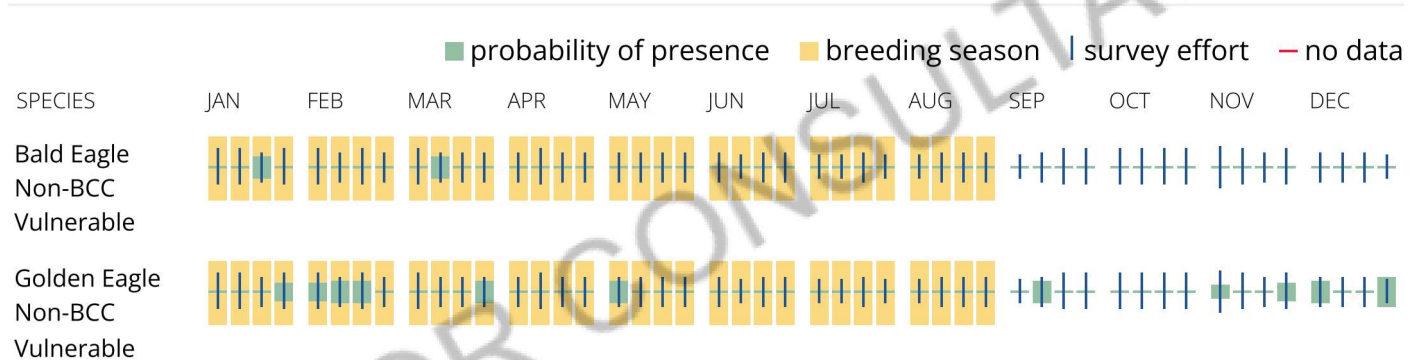
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply). To see a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid

cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the [Eagle Act](#) should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats³ should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "[Supplemental Information on Migratory Birds and Eagles](#)".

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds
<https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC
<https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around

your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Allen's Hummingbird <i>Selasphorus sasin</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
Belding's Savannah Sparrow <i>Passerculus sandwichensis beldingi</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8	Breeds Apr 1 to Aug 15
Bullock's Oriole <i>Icterus bullockii</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 21 to Jul 25
California Gull <i>Larus californicus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 1 to Jul 31
California Thrasher <i>Toxostoma redivivum</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Jul 31

Common Yellowthroat <i>Geothlypis trichas sinuosa</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31
Golden Eagle <i>Aquila chrysaetos</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Lawrence's Goldfinch <i>Spinus lawrencei</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20
Northern Harrier <i>Circus hudsonius</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8350	Breeds Apr 1 to Sep 15
Nuttall's Woodpecker <i>Dryobates nuttallii</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Oak Titmouse <i>Baeolophus inornatus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9656	Breeds Mar 15 to Jul 15
Olive-sided Flycatcher <i>Contopus cooperi</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Santa Barbara Song Sparrow <i>Melospiza melodia graminea</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/5513	Breeds Mar 1 to Sep 5

Tricolored Blackbird *Agelaius tricolor*

Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/3910>

Western Gull *Larus occidentalis*

Breeds Apr 21 to Aug 25

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Western Screech-owl *Megascops kennicottii cardonensis*

Breeds Mar 1 to Jun 30

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Willet *Tringa semipalmata*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wrentit *Chamaea fasciata*

Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read ["Supplemental Information on Migratory Birds and Eagles"](#), specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted

Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

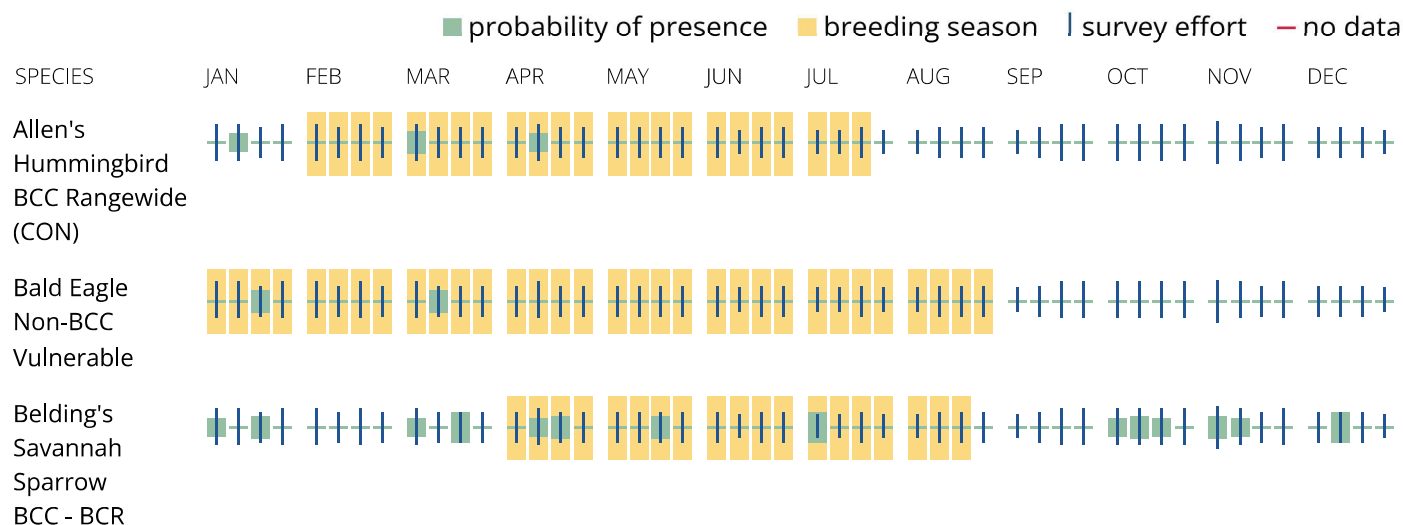
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

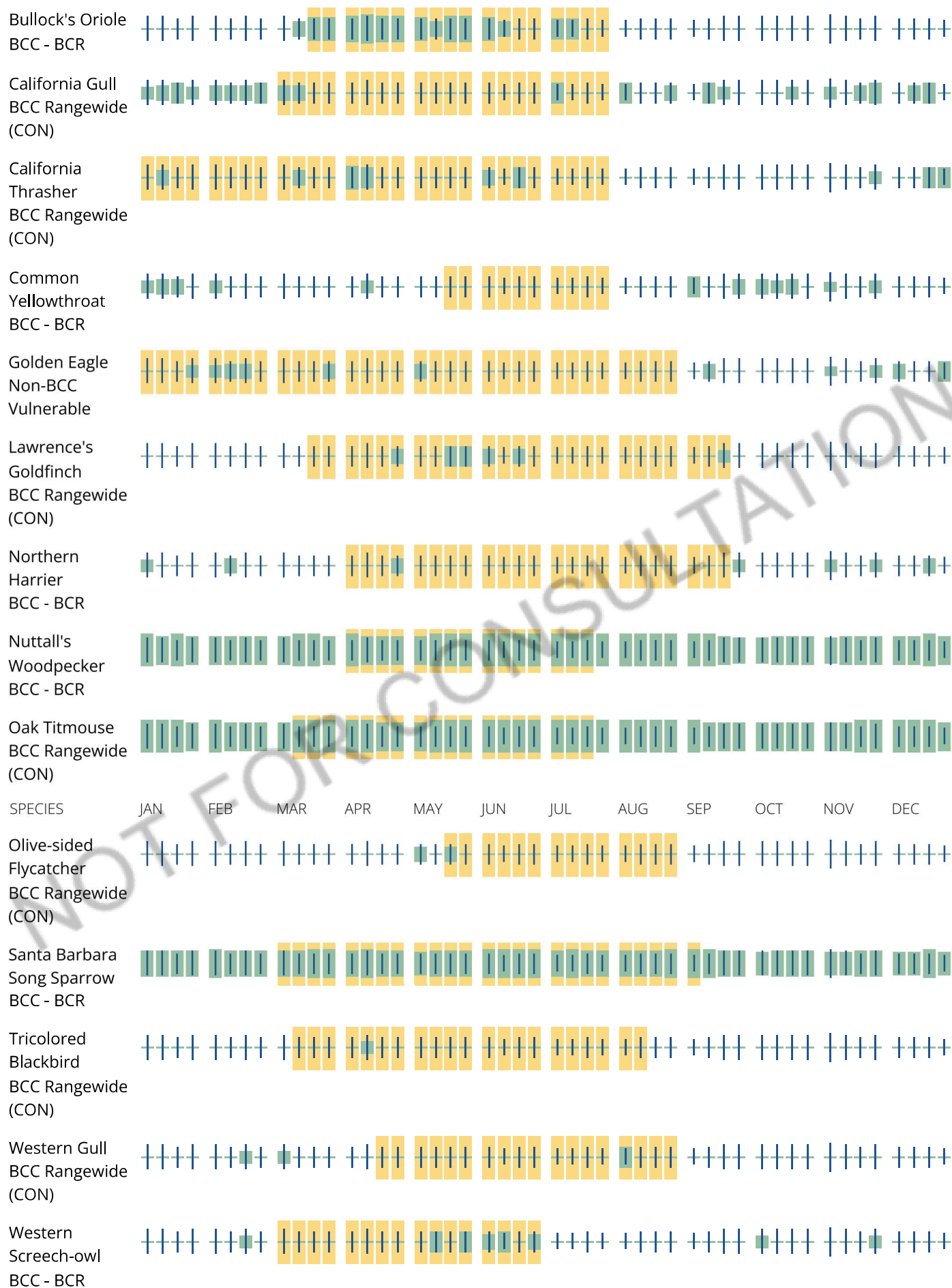
No Data (—)

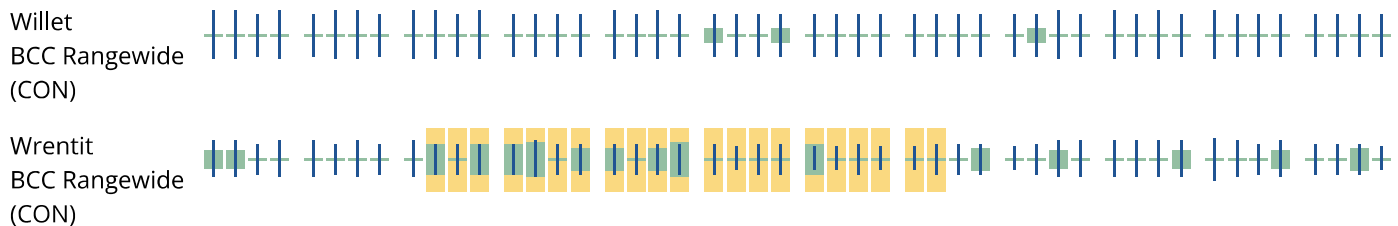
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.







Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of

presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Coastal Barrier Resources System

Projects within the [John H. Chafee Coastal Barrier Resources System](#) (CBRS) may be subject to the restrictions on Federal expenditures and financial assistance and the consultation requirements of the Coastal Barrier Resources Act (CBRA) (16 U.S.C. 3501 et seq.). For more information, please contact the local [Ecological Services Field Office](#) or visit the [CBRA Consultations website](#). The CBRA website provides tools such as a flow chart to help determine whether consultation is required and a template to facilitate the consultation process.

CBRA information is not available at this time

This can happen when the CBRS map service is unavailable, or for very large projects that intersect many coastal areas. Try again, or visit the [CBRS map](#) to view coastal barriers at this location.

Data limitations

The CBRS boundaries used in IPaC are representations of the controlling boundaries, which are depicted on the [official CBRS maps](#). The boundaries depicted in this layer are not to be considered authoritative for in/out determinations close to a CBRS boundary (i.e., within the "CBRS Buffer Zone" that appears as a hatched area on either side of the boundary). For projects that are very close to a CBRS boundary but do not clearly intersect a unit, you may contact the Service for an official determination by following the instructions here: <https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation>

Data exclusions

CBRS units extend seaward out to either the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS data, therefore projects in the offshore areas of units (e.g., dredging, breakwaters, offshore wind energy or oil and gas projects) may be

subject to CBRA even if they do not intersect the CBRS data. For additional information, please contact CBRA@fws.gov.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

This location did not intersect any wetlands mapped by NWI.

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Table 1: Special-status Plant Species Habitat Value Evaluation

Scientific Name Common Name	Status			Habitat Description ⁴	Habitat Value and Rationale
	ESA ¹	CESA ²	CRPR ³		
<i>Amsinckia grandiflora</i> Large-flowered fiddleneck	FE	SE	1B.1	Annual herb found in cismontane woodland, valley and foothill grassland. Found in Annual grassland in various soils. Elevation: 275-550 m. Bloom period: April-May	None: The project site does not contain suitable cismontane woodland, valley and foothill grassland. There are no occurrences of the species within 5 miles of the project site.
<i>Amsinckia lunaris</i> bent-flowered fiddleneck	—	—	1B.2	Annual herb found in coastal bluff scrub, cismontane woodland, valley and foothill grassland. Found on gravelly slopes on serpentine. Elevation: 3-500 m. Bloom period: March-June	None. The project site does not contain suitable coastal bluff scrub, cismontane woodland or gravelly slopes habitat to support this species. There are no occurrences of the species within 5 miles of the project site.
<i>Androsace elongata ssp. acuta</i> California androsace	—	—	4.2	Annual herb found in chaparral, cismontane woodland, coastal scrub, meadows and seeps, Pinyon and juniper woodland, valley and foothill grassland. Elevation: 150-1350 m. Blooming period: Mar-Jun	None: The project site does not contain suitable habitat in the form of chaparral, cismontane woodland, coastal scrub, meadows and seeps, Pinyon and juniper woodland, or valley and foothill grassland. There are no occurrences of the species within 5 miles of the project site.
<i>Anomobryum julaceum</i> slender silver moss	—	—	4.3	Moss found on damp rocks and soil outcrops, usually on roadcuts. Elevation: 100-1000 m. Blooming period: N/A	None: The project site does not contain suitable habitat in the form of damp rocks and soil outcrops. There are no occurrences of the species within 5 miles of the project site.
<i>Arabis blepharophylla</i> coast rockcress	—	—	4.3	Perennial herb found in broadleaved upland forests, coastal bluff scrub, coastal prairie, coastal scrub. Grows in rocky soils. Elevation: 3-1100 m. Blooming period: Feb-May	None: The project site does not contain suitable habitat in the form of perennial herb found in broadleaved upland forest, coastal bluff scrub, coastal prairie, coastal scrub. There are no occurrences of the species within 5 miles of the project site.
<i>Arctostaphylos andersonii</i> Anderson's manzanita	—	—	1B.2	Perennial evergreen shrub found in coastal dunes, marshes and swamps, coastal scrub. Mesic sites in dunes or along streams or coastal salt marshes. Elevation: 0-155 m.	None: The project site does not contain suitable coastal dune or marsh habitat to support this species. There are no occurrences of the species within 5 miles of the project site.

Scientific Name Common Name	Status			Habitat Description ⁴	Habitat Value and Rationale
	ESA ¹	CESA ²	CRPR ³		
				Blooming period: Feb-May	
<i>Arctostaphylos auriculata</i> Mt. Diablo manzanita	—	—	1B.3	Perennial evergreen shrub found in sandstone chaparral and cismontane woodland. Elevation: 135-650 m. Blooming period: Jan-Mar	None: The project site does not contain suitable habitat in the form of sandstone chaparral and cismontane woodland. There is one recent occurrence of the species within 5 miles of the project site.
<i>Arctostaphylos manzanita ssp. laevigata</i> Contra Costa manzanita	—	—	1B.2	Perennial evergreen shrub found in chaparral on rocky slopes. Elevation: 150-610 m. Blooming period: Jan-Mar(Apr)	None: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of chaparral or rocky slopes onsite. There are no occurrences of the species within 5 miles of the project site.
<i>Arctostaphylos pallida</i> pallid manzanita	FT	SE	1B.1	Perennial evergreen shrub found in broadleafed upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub. Grows on uplifted marine terraces on siliceous shale or thin chert. May require fire. Elevation: 180-460 m. Blooming period: Dec-Mar	None: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of upland and coniferous forest onsite. There are no occurrences of the species within 5 miles of the project site.
<i>Astragalus tener var. tener</i> alkali milk-vetch	—	—	1B.2	Annual herb found in playas, valley and foothill grassland, and vernal pools. Prefers alkaline soils. Elevation: 1-60 m. Bloom period: March-June	None: Lack of playas or vernal pools on site to offer habitat value. There are no occurrences of the species within 5 miles of the project site.
<i>Atriplex coronata var. coronata</i> crownscale	—	—	4.2	Annual herb found in chenopod scrub, valley and foothill grassland, vernal pools. Grows often in clay or alkaline soils. Elevation: 1-590 m. Blooming period: Mar-Oct	None: The project site does not contain suitable habitat in the form of chenopod scrub, valley and foothill grassland, and vernal pools. There are no occurrences of the species within 5 miles of the project site.
<i>Blepharizonia plumosa</i> big tarplant	—	—	1B.1	Annual herb found in valley and foothill grassland. Dry hills & plains in annual grassland. Clay to clay-loam soils; usually on slopes and often in burned areas. Elevation: 60-505 m. Blooming period: Aug-Oct	None: Lack of suitable habitat and high level of disturbance at site preclude presence. The project site lacks clay soil. There are two historic occurrences of the species within 5 miles of the project site.

Scientific Name Common Name	Status			Habitat Description ⁴	Habitat Value and Rationale
	ESA ¹	CESA ²	CRPR ³		
<i>Calandrinia breweri</i> Brewer's calandrinia	—	—	4.2	Annual herb found in chaparral and coastal scrub. Occurs in burned or disturbed areas. Grows in loam and sandy soils. Elevation: 10-1220 m. Blooming period: (Jan)Mar-Jun	None: The project site does not contain suitable habitat in the form of chaparral and coastal scrub. There are no occurrences of the species within 5 miles of the project site.
<i>Calochortus pulchellus</i> Mt. Diablo fairy-lantern	—	—	1B.2	Perennial bulbiferous herb found in chaparral, cismontane woodland, riparian woodland, valley, and foothill grassland. Elevation: 30 - 840 m. Bloom period: April – June.	None: The project site does not contain habitat suitable for this species. Lack of chaparral, cismontane woodland, riparian woodland. There are six recent occurrences of the species within 5 miles of the project site.
<i>Calochortus umbellatus</i> Oakland star-tulip	—	—	4.2	Perennial bulbiferous herb found in broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland. Often grows in serpentinite soils. Elevation: 100-700 m. Blooming period: Mar-May	None: The project site does not contain suitable habitat in the form of broad-leafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland. There are no occurrences of the species within 5 miles of the project site.
<i>Castilleja ambigua</i> var. <i>ambigua</i> johnny-nip	—	—	4.2	Annual hemiparasitic herb found in coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, margins of vernal pools. Elevation: 0-435 m. Blooming period: Mar-Aug	None: The project site does not contain suitable habitat in the form of bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grasslands or vernal pools. There are no occurrences of the species within 5 miles of the project site.
<i>Centromadia parryi</i> ssp. <i>congdonii</i> Congdon's tarplant	—	—	1B.1	Annual herb valley and foothill grassland. Alkaline soils sometimes described as heavy white clay. Elevation: 0-230 m. Blooming period: (Apr)May-Oct(Nov)	None: Project site does not contain suitable foothill grassland to support this species. There are two historic occurrences of the species within 5 miles of the project site. There are no occurrences of the species within 5 miles of the project site.
<i>Chloropyron maritimum</i> ssp. <i>palustre</i> Point Reyes salty bird's-beak	—	—	1B.2	Annual hemiparasitic herb coastal salt marsh. Usually in coastal salt marsh with <i>Salicornia</i> , <i>Distichlis</i> , <i>Jaumea</i> , <i>Spartina</i> , etc. Elevation: 0-115 m. Bloom period: Jun-Oct	None: The project site does not contain suitable coastal or marsh habitat to support this species. There are no occurrences of the species within 5 miles of the project site.
<i>Chloropyron molle</i> ssp. <i>molle</i> soft salty bird's-beak	FE	CR	1B.2	Annual hemiparasitic herb coastal salt marsh. In coastal salt marsh with <i>Distichlis</i> , <i>Salicornia</i> , <i>Frankenia</i> , etc.	None: The project site is fully developed and therefore does not contain suitable habitat to support this species. There are no occurrences of the species within 5 miles of the project site.

Scientific Name Common Name	Status			Habitat Description ⁴	Habitat Value and Rationale
	ESA ¹	CESA ²	CRPR ³		
				Elevation: 0-3 m. Bloom period: Jun-Nov	
<i>Chorizanthe robusta</i> var. <i>robusta</i> robust spineflower	FE	—	1B.1	Annual herb found in cismontane woodland, coastal dunes, coastal scrub, chaparral. Sandy terraces and bluffs or in loose sand. Elevation: 5-245 m. Blooming period: Apr-Sep	None: Lack of suitable habitat and high level of disturbance at site preclude presence. There are no occurrences of the species within 5 miles of the project site.
<i>Cicuta maculata</i> var. <i>bolanderi</i> Bolander's water-hemlock	—	—	2B.1	Perennial herb found in marshes and swamps. Grows in coastal or fresh brackish water. Elevation: 0-200 m. Blooming period: Jul-Sep	None: The project site does not contain habitat suitable for this species. There are no occurrences of the species within 5 miles of the project site.
<i>Cirsium andrewsii</i> Franciscan thistle	—	—	1B.2	Perennial herb found in coastal bluff scrub, broadleafed upland forest, coastal scrub, coastal prairie. Sometimes grows in serpentine or mesic soils. Elevation: 0-150 m. Bloom period: Mar-Jul	None: The project site does not contain habitat suitable for this species. No coastal bluff scrub or upland forest. There are no occurrences of the species within 5 miles of the project site.
<i>Clarkia concinna</i> ssp. <i>automixa</i> Santa Clara red ribbons	—	—	4.3	Annual herb found in chaparral and cismontane woodland. Elevation: 90-1500 m. Bloom period: (Apr)May-Jun(Jul)	None: The project site does not contain any foothill woodland to support this species. There are no occurrences of the species within 5 miles of the project site.
<i>Clarkia franciscana</i> Presidio clarkia	FE	CE	1B.1	Annual herb found in coastal scrub, valley and foothill grassland. Grows in serpentine outcrops in grassland or scrub. Elevation: 20-335 m. Blooming period: May-Jul	None: Lack of coastal scrub and serpentine outcrops onsite. There are no occurrences of the species within 5 miles of the project site.
<i>Cordylanthus nidularius</i> Mt. Diablo bird's-beak	—	CR	1B.1	Annual hemiparasitic herb found in chaparral. Grows in grassy or rocky areas. Elevation: 600-800 m. Blooming period: Jun-Aug	None: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of chaparral habitat on site. There are no occurrences of the species within 5 miles of the project site.
<i>Delphinium californicum</i> ssp. <i>interius</i> Hospital Canyon larkspur	—	—	1B.2	Perennial herb found in cismontane woodland, chaparral, coastal scrub. Grows in wet, boggy meadows, openings in chaparral and in canyons. Elevation: 195-109 m.	None: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of chaparral and coastal scrub on site. There are three recent and one historic occurrences of the species within 5 miles of the project site.

Scientific Name Common Name	Status			Habitat Description ⁴	Habitat Value and Rationale
	ESA ¹	CESA ²	CRPR ³		
				Blooming period: Apr-Jun	
<i>Dirca occidentalis</i> western leatherwood	—	—	1B.2	perennial deciduous shrub found in broadleafed upland forest, chaparral, closed-cone coniferous forest, cismontane woodland, north coast coniferous forest, riparian forest, riparian woodland. On brushy slopes, mesic sites; mostly in mixed evergreen & foothill woodland communities. Elevation: 25-425 m. Blooming period: Jan-Mar(Apr)	None: The project site is fully developed and therefore does not contain suitable habitat to support this species. There are no occurrences of the species within 5 miles of the project site.
<i>Eleocharis parvula</i> small spikerush	—	—	4.3	Perennial herb found in marshes and swamps. Elevation: 1-3020 m. Blooming period: (Apr)Jun-Aug(Sep)	None: The project site does not contain suitable habitat in the form of marshes and swamps. There are no occurrences of the species within 5 miles of the project site.
<i>Eriastrum ertterae</i> Lime Ridge eriastrum	—	—	1B.1	Perennial herb found in chaparral in openings or edges. Alkaline or semi alkaline sandy substrates. Elevation: 210-290 m. Blooming period: Jun-Jul	None: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of chaparral or alkaline soils on site. There are two recent occurrences of the species within 5 miles of the project site.
<i>Eriogonum luteolum</i> var. <i>caninum</i> Tiburon buckwheat	—	—	1B.2	Annual herb found in chaparral, valley and foothill grassland, cismontane woodland, coastal prairie. Serpentine soils; sandy to gravelly sites. Elevation: 0-700 m. Blooming period: May-Sep	None. The project site does not contain serpentine soil. There are no occurrences of the species within 5 miles of the project site.
<i>Eriogonum truncatum</i> Mt. Diablo buckwheat	—	—	1B.1	Annual herb found in chaparral, coastal scrub, valley and foothill grassland. In dry, exposed clay or sandy substrates. Elevation: 3-350 m. Blooming period: Apr-Sep(Nov-Dec)	None: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of chaparral, or clay and sandy substrates on site. There is one historic occurrence of the species within 5 miles of the project site.
<i>Eriogonum umbellatum</i> var. <i>bahiiforme</i> bay buckwheat	—	—	4.2	Perennial herb found in cismontane woodland, lower montane coniferous forest. Grows in rocky and serpentinite soils. Elevation: 700-2200 m. Blooming period: Jul-Sep	None: The project site does not contain suitable habitat in the form of cismontane woodland or lower montane coniferous forest. There are no occurrences of the species within 5 miles of the project site.

Scientific Name Common Name	Status			Habitat Description ⁴	Habitat Value and Rationale
	ESA ¹	CESA ²	CRPR ³		
<i>Eriophyllum jepsonii</i> Jepson's woolly sunflower	—	—	4.3	Perennial herb found in chaparral, cismontane woodland, coastal scrub. Grows in serpentinite soils. Elevation: 200-1025 Blooming -period: Apr-Jun	None: The project site does not contain suitable habitat in the form of chaparral, cismontane woodland or coastal scrub. There are no occurrences of the species within 5 miles of the project site. There are no occurrences of the species within 5 miles of the project site.
<i>Eryngium jepsonii</i> Jepson's coyote-thistle	—	—	1B.2	Perennial herb found in vernal pools, valley and foothill grassland. Grows in clay substrate. Elevation: 3-300 m. Blooming period: Apr-Aug	None: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of vernal pools, or clay substrate on site. There are no occurrences of the species within 5 miles of the project site.
Contra Costa wallflower <i>Erysimum capitatum</i> var. <i>angustatum</i>	FE	SE	1B.1	Perennial herb found in inland dunes. Stabilized dunes of sand and clay near Antioch along the San Joaquin River. Elevation: 3-20 m. Blooming period: Mar-Jul	None: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of dunes on site. There are no occurrences of the species within 5 miles of the project site.
<i>Erythranthe inconspicua</i> small-flowered monkeyflower	—	—	4.3	Annual herb found in chaparral, cismontane woodland, lower montane coniferous forest. Grows in mesic soils. Elevation: 274-760 m. Blooming period: May-Jun	None: The project site does not contain chaparral, cismontane woodland or lower montane coniferous forest. There are no occurrences of the species within 5 miles of the project site.
<i>Erythranthe laciniata</i> cut-leaved monkeyflower	—	—	4.3	Annual herb found in chaparral, lower montane coniferous forest, upper montane coniferous forest. Grows in granitic and mesic soils. Elevation: 490-2650 m. Blooming period: Apr-Jul	None: The project site does not contain suitable habitat in the form of chaparral, lower montane coniferous forest or upper montane coniferous forest. There are no occurrences of the species within 5 miles of the project site.
<i>Extriplex joaquinana</i> San Joaquin spearscale	—	—	1B.2	Annual herb found in chenopod scrub, meadows and seeps, Playas, Valley and foothill grassland. In seasonal alkali wetlands or alkali sink scrub with <i>Distichlis spicata</i> , <i>Frankenia</i> , etc. Elevation: 0-835 m. Blooming period: Apr-Oct	None: The project site does not contain Chenopod scrub, meadows, or foothill grassland habitat to support this species. There is one historic occurrence of the species within 5 miles of the project site.
<i>Fissidens pauperculus</i> minute pocket moss	—	—	1B.2	A moss found in north coast coniferous forest. Grows in damp, coastal soil. Elevation: 10-1024 m. Blooming period: N/A	None: The project site does not contain suitable habitat in the form of north coast coniferous forest. There are no occurrences of the species within 5 miles of the project site.

Scientific Name Common Name	Status			Habitat Description ⁴	Habitat Value and Rationale
	ESA ¹	CESA ²	CRPR ³		
<i>Fritillaria agrestis</i> stinkbells	—	—	4.2	Perennial bulbiferous herb found in chaparral, cismontane woodland, pinyon juniper woodland, valley and foothill grassland. Grows in clay and serpentinite soils. Elevation: 10-1555 Blooming period: Mar-Jun	None: The project site does not contain suitable habitat in the form of chaparral, cismontane woodland, pinyon juniper woodland or valley and foothill grassland. There are no occurrences of the species within 5 miles of the project site.
<i>Fritillaria liliacea</i> fragrant fritillary	—	—	1B.2	Perennial bulbiferous herb coastal scrub, valley and foothill grassland, coastal prairie, and cismontane woodland. Often on serpentine; various soils reported though usually on clay, in grassland. Elevation: 3-410 m. Blooming period: Feb-Apr	None: Project site is disturbed and offers no habitat value. Necessary habitats such as coastal scrub, valley, and foothill grasslands to support this species are not present on site. There are two recent occurrences of the species within 5 miles of the project site.
<i>Galium andrewsii</i> phlox-leaf serpentine bedstraw	—	—	4.2	Perennial herb found in chaparral, cismontane woodland, lower montane coniferous forest. Grows in rocky and serpentinite soils. Elevation: 150-1450 m. Blooming period: Apr-Jul	None: The project site does not contain suitable habitat in the form of chaparral, cismontane woodland or lower montane coniferous forest. There are no occurrences of the species within 5 miles of the project site.
<i>Gilia millefoliata</i> dark-eyed gilia	—	—	1B.2	Annual herb found in coastal dunes. Elevation: 2-30 m. Blooming period: Apr-July	None: Lack of suitable habitat and high level of development at site preclude presence. Lack of dune habitat on site. There are no occurrences of the species within 5 miles of the project site.
<i>Grimmia torenii</i> Toren's grimmia	—	—	1B.3	Moss found in chaparral, cismontane woodland, lower montane coniferous forest. Grows on boulders, rock walls, openings in rocky or volcanic substrate. Elevation: 325-1160 m. Blooming period: N/A	None: The project site does not contain suitable habitat in the form of chaparral, cismontane woodland or lower montane coniferous forest. There are no occurrences of the species within 5 miles of the project site.
<i>Helianthella castanea</i> Diablo helianthella	—	—	1B.2	Perennial herb found in broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Usually in chaparral/oak woodland interface in rocky, azonal soils. Often in partial shade. Elevation: 60-1300 m. Blooming period: Mar-Jun	None: The project site is fully developed and therefore does not contain suitable habitat to support this species. There are nine recent occurrences of the species within 5 miles of the project site.

Scientific Name Common Name	Status			Habitat Description ⁴	Habitat Value and Rationale
	ESA ¹	CESA ²	CRPR ³		
<i>Hesperevax caulescens</i> hogwallow starfish	—	—	4.2	Annual herb found in valley and foothill grassland and shallow vernal pools. Grows in mesic clay and alkaline soils. Elevation: 0-505 m. Blooming period: Mar-Jun	None: The project site does not contain suitable habitat in the form of valley and foothill grassland or vernal pools. There are no occurrences of the species within 5 miles of the project site.
<i>Hesperolinon breweri</i> Brewer's western flax	—	—	1B.2	Annual herb found in chaparral, cismontane woodland, valley and foothill grassland. Often in rocky serpentine soil in serpentine chaparral and serpentine grassland. Elevation: 30-945 m. Blooming period: May-Jul	None: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of chaparral or grassland habitat onsite. There are four recent occurrences of the species within 5 miles of the project site.
<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i> woolly rose-mallow	—	—	1B.2	Emergent perennial rhizomatous herb found in freshwater marshes and swamps. Often grows in riprap on the sides of levees.	None: The project site does not contain suitable habitat in the form of freshwater marshes and swamps. There are no occurrences of the species within 5 miles of the project site.
<i>Hoita strobilina</i> Loma Prieta hoita	—	—	1B.1	Perennial herb found in chaparral, cismontane woodland, riparian woodland. Grows in serpentine; mesic soils. Elevation: 30-860 m. Blooming period: May-Jul(Aug-Oct)	None: Project site is disturbed and offers no habitat value. Necessary habitats such as chaparral, cismontane woodland, or riparian woodland to support this species are not present on site. There are no occurrences of the species within 5 miles of the project site.
<i>Holocarpha macradenia</i> Santa Cruz tarplant	FT	CE	1B.1	Annual herb found in coastal prairie, coastal scrub, valley and foothill grassland. Grows in light, sandy soil or sandy clay; often with nonnatives. Elevation: 10-220 m. Blooming period: Jun-Oct	None: Lack of suitable habitat and high level of development at site preclude presence. Lack of prairie, scrub, or grassland habitat onsite. There are no occurrences of the species within 5 miles of the project site.
<i>Horkelia cuneata</i> var. <i>sericea</i> Kellogg's horkelia	—	—	1B.1	Perennial herb found in closed-cone coniferous forest, coastal scrub, coastal dunes, chaparral. Old dunes, coastal sandhills; openings. Sandy or gravelly soils. Elevation: 10-200 m. Blooming period: Apr-Sep	None: The project site does not contain habitat suitable for this species. There are no occurrences of the species within 5 miles of the project site.
<i>Iris longipetala</i> coast iris	—	—	4.2	Perennial rhizomatous herb found in coastal prairie, lower montane coniferous forest, meadows and seeps. Grows in mesic soils. Elevation: 0-600 m. Blooming period: Mar-May(Jun)	None: The project site does not contain suitable habitat in the form of coastal prairie, lower montane coniferous forest, meadows or seeps. There are no occurrences of the species within 5 miles of the project site.

Scientific Name Common Name	Status			Habitat Description ⁴	Habitat Value and Rationale
	ESA ¹	CESA ²	CRPR ³		
<i>Isocoma arguta</i> Carquinez goldenbush	—	—	1B.1	Perennial shrub found in valley and foothill grassland. Alkaline soils, flats, lower hills. On low benches near drainages and on tops and sides of mounds in swale habitat. Elevation: 1-20 m Blooming period: Aug-Dec	None: The project site does not contain habitat suitable for this species. There are no occurrences of the species within 5 miles of the project site.
<i>Lasthenia conjugens</i> Contra Costa goldfields	FE	—	1B.1	Annual herb found in valley and foothill grassland, vernal pools, alkaline playas, cismontane woodland, swales, low depressions, in open grassy areas. Grows in mesic soils. Elevation: 0-470 m. Blooming Period: Mar-Jun	None: Lack of suitable habitat and high level of development at site preclude presence. Lack of vernal pools and cismontane woodlands onsite. There are two historic occurrences of the species within 5 miles of the project site.
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i> Delta tule pea	—	—	1B.2	Perennial herb found in marshes and swamps. In freshwater and brackish marshes. Often found with <i>Typha</i> , <i>Aster lentus</i> , <i>Rosa californica</i> , <i>Juncus spp.</i> , <i>Scirpus</i> , etc. Usually on marsh and slough edges. Elevation: 0-5 m. Blooming period: May-Jul(Aug-Sep)	None: The project site does not contain habitat suitable for this species. There are no occurrences of the species within 5 miles of the project site.
<i>Leptosiphon ambiguous</i> serpentine leptosiphon	—	—	4.2	Annual herb found in cismontane woodland, coastal scrub, valley and foothill grassland. Grows in serpentinite soils. Elevation: 120-1130 m. Blooming period: Mar-Jun	None: The project site does not contain suitable habitat in the form of cismontane woodland, coastal scrub, valley or foothill grassland. There are no occurrences of the species within 5 miles of the project site.
<i>Leptosiphon aureus</i> bristly leptosiphon	—	—	4.2	Annual herb found in chaparral, cismontane woodland, coastal prairie, valley and foothill grassland. Elevation: 55-1500 m. Blooming period: Apr-Jul	None: The project site does not contain suitable habitat in the form of chaparral, cismontane woodland, coastal prairie, valley or foothill grassland. There are no occurrences of the species within 5 miles of the project site.
<i>Leptosiphon grandifloras</i> large-flowered leptosiphon	—	—	4.2	Annual herb found in coastal bluff scrub, closed-cone coniferous forest, cismontane woodland, coastal dune, coastal prairie, coastal scrub, valley and foothill grassland. Usually grows in sandy soils. Elevation: 5-1220 m.	None: The project site does not contain suitable habitat in the form of coastal bluff scrub, closed-cone coniferous forest, cismontane woodland, coastal dune, coastal prairie, coastal scrub, valley or foothill grassland. There are no occurrences of the species within 5 miles of the project site.

Scientific Name Common Name	Status			Habitat Description ⁴	Habitat Value and Rationale
	ESA ¹	CESA ²	CRPR ³		
				Blooming period: Apr-Aug	
<i>Lessingia hololeuca</i> woolly-headed lessingia	—	—	3	Annual herb found in broadleafed upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland. Grows in clay and serpentinite soils. Elevation: 15-305 m. Blooming period: Jun-Oct	None: The project site does not contain suitable habitat in the form of broadleafed upland forest, coastal scrub, lower montane coniferous forest, valley or foothill grassland. There are no occurrences of the species within 5 miles of the project site.
<i>Lilaeopsis masonii</i> Mason's lilaeopsis	—	CR	1B.1	Perennial rhizomatous herb found in marshes and swamps, riparian scrub. Tidal zones, in muddy or silty soil formed through river deposition or river bank erosion. In brackish or freshwater. Elevation: 0-10 m. Blooming period: Apr-Nov	None: The project site does not contain habitat suitable for this species. There are no occurrences of the species within 5 miles of the project site.
<i>Lilium rubescens</i> redwood lily	—	—	4.2	perennial bulbiferous herb found in broadleafed upland forest, chaparral, lower montane coniferous forest, North Coast coniferous forest, upper montane coniferous forest. Grows in roadsides and serpentinite soils. Elevation: 30-1910 m. Blooming period: (Mar)Apr-Aug(Sep)	None: The project site does not contain suitable habitat in the form of broadleafed upland forest, chaparral, lower montane coniferous forest, north coast coniferous forest, or upper montane coniferous forest. There are no occurrences of the species within 5 miles of the project site.
<i>Limosella australis</i> Delta mudwort	—	—	2B.1	Perennial stoloniferous herb found in riparian scrub, marshes and swamps. Usually on mud banks of the Delta in marshy or scrubby riparian associations; often with <i>Lilaeopsis masonii</i> . Elevation: 0-3 m. Blooming period: May-Aug	None: Lack of suitable habitat and high level of disturbance at site preclude presence. The project site lacks riparian scrub, marshes, or swamps. There are no occurrences of the species within 5 miles of the project site.
<i>Madia radiata</i> showy golden madia	—	—	1B.1	Annual herb found in valley and foothill grassland, cismontane woodland. Mostly on adobe clay in grassland or among shrubs. Elevation: 25-1215 m. Blooming period: Mar-May	None: Lack of suitable habitat and high level of disturbance at site preclude presence. There are no occurrences of the species within 5 miles of the project site.

Scientific Name Common Name	Status			Habitat Description ⁴	Habitat Value and Rationale
	ESA ¹	CESA ²	CRPR ³		
<i>Malacothamnus hallii</i> Hall's bush-mallo	—	—	1B.2	Perennial deciduous shrub found in chaparral, coastal scrub. Some populations on serpentine soils. Elevation: 10-760 m. Blooming period: (Apr)May-Sep(Oct)	None: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of chaparral and coastal scrub onsite. There are eight recent occurrences of the species within 5 miles of the project site.
<i>Meconella oregana</i> Oregon meconella	—	—	1B.1	Annual herb found in coastal prairie, coastal scrub. Grows in open, moist places. Elevation: 250-620 m. Blooming period: Mar-Apr	None: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of prairie and coastal scrub onsite. There are no occurrences of the species within 5 miles of the project site.
<i>Microseris sylvatica</i> sylvan microseris	—	—	4.2	Perennial herb found in chaparral, cismontane woodland, Great Basin scrub, Pinyon and juniper woodland, valley and foothill grassland. Rarely grows in serpentinite soils. Elevation: 45-1500 m. Blooming period: Mar-Jun	None: The project site does not contain suitable habitat in the form of chaparral, cismontane woodland, Great Basin scrub, pinyon and juniper woodland, valley or foothill grassland. There are no occurrences of the species within 5 miles of the project site.
<i>Monardella antonina</i> ssp. <i>Antonina</i> San Antonio Hills monardella	—	—	3	Perennial rhizomatous herb found in chaparral and cismontane woodland. Elevation: 320-1000 m. Blooming period: Jun-Aug	None: The project site does not contain suitable habitat in the form of chaparral and cismontane woodland. There are no occurrences of the species within 5 miles of the project site.
<i>Monolopia gracilens</i> woodland woollythreads	—	—	1B.2	Annual herb found in chaparral, valley and foothill grassland, cismontane woodland, broadleafed upland forest, North Coast coniferous forest. Grassy sites, in openings; sandy to rocky soils. Often seen on serpentine after burns but may have only weak affinity to serpentine. Elevation: 100-1200 m. Blooming Period: (Feb)Mar-Jul	None: The project site does not contain suitable forest, chaparral, or grassland habitat to support this species. There is one recent occurrence of the species within 5 miles of the project site. There are no occurrences of the species within 5 miles of the project site.
<i>Navarretia gowenii</i> Lime Ridge navarretia	—	—	1B.1	Annual herb found in chaparral on calcium carbonate rich soils with high clay content. Elevation: 180-305 Blooming period: May-Jun	None: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of chaparral onsite. There are two recent occurrences of the species within 5 miles of the project site.
<i>Navarretia heterandra</i> Tehama navarretia				Annual herb found in mesic valley and foothill grassland, vernal pools. Elevation: 30-1010 m. Blooming period: Apr-Jun	None: The project site does not contain suitable habitat in the form of mesic valley and foothill grasslands, or vernal pools. There are no occurrences of the species within 5 miles of the project site.

Scientific Name Common Name	Status			Habitat Description ⁴	Habitat Value and Rationale
	ESA ¹	CESA ²	CRPR ³		
<i>Oenothera deltoides</i> ssp. <i>howellii</i> Antioch Dunes evening-primrose	FE	SE	1B.1	Perennial herb found in interior dunes in remnant river bluffs and sand dunes east of Antioch. Elevation: 1-30 m. Blooming period: Mar-Sep	None: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack dunes or river bluffs onsite. There are no occurrences of the species within 5 miles of the project site.
<i>Phacelia phacelioides</i> Mt. Diablo phacelia	—	—	1B.2	Annual herb found in chaparral, cismontane woodland. Adjacent to trails, on rock outcrops and talus slopes; sometimes on serpentine. Elevation: 500-1370 m. Blooming period: Apr-May	None: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack chaparral or woodland habitat onsite. There are no occurrences of the species within 5 miles of the project site.
<i>Piperia michaelii</i> Michael's rein orchid	—	—	4.2	Perennial herb found in coastal bluff scrub, closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest. Elevation: 3-915 m. Blooming period: Apr-Aug	None: The project site does not contain suitable habitat in the form of coastal bluff scrub, closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub, or lower montane coniferous forest. There are no occurrences of the species within 5 miles of the project site.
<i>Plagiobothrys diffusus</i> San Francisco popcornflower	—	CE	1B.1	Annual herb found in coastal prairie and valley and foothill grassland. Elevation: 60-360 m. Bloom period: Mar-Jun	None: The project site does not contain habitat suitable for this species. There are no occurrences of the species within 5 miles of the project site.
<i>Polygonum marinense</i> Marin knotweed	—	—	3.1	Annual herb found in marshes and swamps. Elevation: 0-10 m. Bloom period: (Apr)May-Aug(Oct)	None: The project site does not contain habitat suitable for this species. There are no occurrences of the species within 5 miles of the project site.
<i>Ranunculus lobbii</i> Lobb's aquatic buttercup	—	—	4.2	Aquatic annual herb found in cismontane woodland, North Coast coniferous forest, valley and foothill grassland, vernal pools. Grows in mesic soils. Elevation: 15-470 m. Blooming period: Feb-May	None: The project site does not contain suitable habitat in the form of cismontane woodland, North Coast coniferous forest, valley and foothill grassland, or vernal pools. There are no occurrences of the species within 5 miles of the project site.
<i>Ravenella exigua</i> chaparral harebell	—	—	1B.2	Annual herb found in chaparral on rocky areas, usually serpentinite. Elevation: 275-1250 m. Bloom period: May-Jun	None: Lack of suitable habitat and high level of disturbance at site preclude presence. The project site lacks chaparral or rocky area habitat. There are no occurrences of the species within 5 miles of the project site.

Scientific Name Common Name	Status			Habitat Description ⁴	Habitat Value and Rationale
	ESA ¹	CESA ²	CRPR ³		
<i>Sanicula maritima</i> adobe sanicle	—	CR	1B.1	Perennial herb found in meadows and seeps, valley and foothill grassland, chaparral, coastal prairie. Moist clay or ultramafic soils. Elevation: 15-215 m. Bloom period: Feb-May	None: The project site does not contain habitat suitable for this species. There are no occurrences of the species within 5 miles of the project site.
<i>Sanicula saxatilis</i> rock sanicle	—	—	1B.2	Perennial herb found in broadleaved upland forest, chaparral, valley and foothill grassland. Bedrock outcrops and talus slopes in chaparral or oak woodland habitat. Elevation: 670-1175 m. Blooming period: Apr-May	None: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack forest, grassland, or chaparral habitat onsite. There is one recent occurrence of the species within 5 miles of the project site.
<i>Senecio aphanactis</i> chaparral ragwort	—	—	1B.2	Annual herb found in chaparral, cismontane woodland, and coastal scrub habitat. Prefers drying alkaline flats. Elevation: 15-800m. Bloom period: Jan-Apr(May)	None: The project site does not contain chaparral/cismontane or coastal scrub habitat to support this species. There are no occurrences of the species within 5 miles of the project site.
<i>Spergularia macrotheca</i> var. <i>longistyla</i> long-styled sand-spurrey	—	—	1B.2	Perennial herb found in marshes and swamps, meadows and seeps. Grows in alkaline soils. Elevation: 0-255 m. Blooming period: Feb-May	None: Lack of marshes or swamps onsite. There are no occurrences of the species within 5 miles of the project site.
<i>Streptanthus albidus</i> ssp. <i>peramoenus</i> most beautiful jewelflower	—	—	1B.2	Annual herb found in chaparral, cismontane woodland, and valley and foothill grassland. Grows on serpentinite. Elevation: 95-1000 m. Bloom period: (Mar)Apr-Sep(Oct)	None: The project site does not contain chaparral/cismontane woodland or grassland habitat to support this species. There are three recent and one historic occurrence of the species within 5 miles of the project site.
<i>Streptanthus hispidus</i> Mt. Diablo jewelflower	—	—	1B.3	Annual herb found in valley and foothill grassland, chaparral. Grows in talus or rocky outcrops. Elevation: 365-1200 m. Blooming period: Mar-Jun	None: Lack of suitable habitat and high level of disturbance at site preclude presence. Lack of chaparral or grassland habitat onsite. There is one recent occurrence of the species within 5 miles of the project site.
<i>Stuckenia filiformis</i> ssp. <i>alpina</i> northern slender pondweed	—	—	2B.2	Aquatic perennial rhizomatous herb found in marshes and swamps. Shallow, clear water of lakes and drainage channels. Elevation: 300-2150 m. Blooming period: May-Jul	None: The project site does not contain marsh or swamp habitat to support this species. There are no occurrences of the species within 5 miles of the project site.

Scientific Name Common Name	Status			Habitat Description ⁴	Habitat Value and Rationale
	ESA ¹	CESA ²	CRPR ³		
<i>Stuckenia striata</i> broadleaf pondweed	—	—	2B.3	Aquatic perennial rhizomatous herb found in marshes and swamps. Grows in lakes, ponds, rivers, and drainage canals. Elevation: 70-2135 m. Blooming period: (Jun)Jul-Aug	None: The project site does not contain suitable habitat in the form of broadleaf pondweed. There are no occurrences of the species within 5 miles of the project site.
<i>Symphotrichum lentum</i> Suisun Marsh aster	—	—	1B.2	Perennial rhizomatous herb found in marshes and swamps (brackish and freshwater). Most often seen along sloughs with Phragmites, Scirpus, blackberry, Typha, etc. Elevation: 0-3 m. Blooming period: (Apr)May-Nov	None: The project site does not contain habitat suitable for this species. There are no occurrences of the species within 5 miles of the project site.
<i>Trifolium hydrophilum</i> saline clover	—	—	1B.2	Annual herb found in marshes and swamps, valley and foothill grassland in mesic or alkaline soils, and vernal pools. Elevation: 0-300 m. Bloom period: Apr-Jun	None: Lack of marshes and swamps and necessary soil composition on site to offer habitat value. There are no occurrences of the species within 5 miles of the project site.
<i>Trifolium buckwestiorum</i> Santa Cruz clover	—	—	1B.1	Broadleaved upland forest, cismontane woodland and coastal prairies. Often found along gravelly road margins. Elevation: 105-610 m. Bloom period: April-October	None. The project site does not contain suitable woodland habitat to support this species. There are no occurrences of the species within 5 miles of the project site.
<i>Triquetrella californica</i> coastal triquetrella	—	—	1B.2	Moss found in coastal bluff scrub, coastal scrub. Elevation: 10-100 m. Blooming period: N/A	None: The project site does not contain suitable habitat in the form of coastal bluff scrub or coastal scrub. There are no occurrences of the species within 5 miles of the project site.
<i>Tropidocarpum capparideum</i> Caper-fruited tropidocarpum	—	—	1B.1	Annual herb found in valley and foothill grassland (alkaline hills). Grows in alkaline clay soils. Elevation: 0-455 m. Blooming period: Mar-Apr	None: Lack of suitable habitat and high level of disturbance at site preclude presence. There are no occurrences of the species within 5 miles of the project site. .
<i>Viburnum ellipticum</i> oval-leaved viburnum	—	—	2B.3	Perennial deciduous shrub found in chaparral, cismontane woodland, lower montane coniferous forest. Elevation: 215-1400 m. Blooming period: May-Jun	None: The project site does not contain habitat suitable for this species. There is one recent occurrence of the species within 5 miles of the project site.

Scientific Name Common Name	Status			Habitat Description ⁴	Habitat Value and Rationale	
	ESA ¹	CESA ²	CRPR ³			
Code Designations						
¹ Federal Status: 2024 Endangered Species Act (ESA) Listing			² State Status: 2024 California Endangered Species Act (CESA) Listing		³ California Rare Plant Rank (CRPR): 2024 CRPR Listing	
ESU = Evolutionary Significant Unit is a distinctive population. FE = Listed as endangered under the Endangered Species Act. FT = Listed as threatened under the Endangered Species Act. FC = Candidate for listing (threatened or endangered) under the Endangered Species Act. FD = Delisted in accordance with the Endangered Species Act. FPD = Federally Proposed to be Delisted. MBTA = Protected by the Migratory Bird Treaty Act — = Not federally listed			SE = Listed as endangered under the California Endangered Species Act. ST = Listed as threatened under CESA. SSC = Species of Special Concern as identified by the CDFW. FP = Listed as fully protected under the Fish and Game Code. CFG = FGC =protected by Fish and Game Code 3503.5 CR = Rare in California. — = Not State-listed		Rank 1A = Plants species that presumed extinct in California. Rank 1B = Plant species that are rare, threatened, or endangered in California and elsewhere. Rank 2 = Plant species that are rare, threatened, or endangered in California, but more common elsewhere. Rank 3 = Plants about which we need more information—A Review List Rank 4 = Plants of limited distribution—A Watch List Blooming period: Months in parentheses are uncommon.	
Notes: ⁴ Habitat Description: Habitat description adapted from CNDDDB and CNPS online inventory or other specified source. ⁵ Potential to Occur and Rationale: Location of recorded species occurrences determined by geospatial information from BIOS 6 or other specified source. Sources: California Department of Fish and Wildlife (CDFW). 2024. CNDDDB RareFind 5 California Natural Diversity Database Query for Special-Status Species. Website: https://apps.wildlife.ca.gov/rarefind/view/RareFind.aspx . Accessed September 25, 2024. California Native Plant Society (CNPS). 2024. California Native Plant Society Rare and Endangered Plant Inventory. Website: http://www.rareplants.cnps.org/ . Accessed September 25, 2024. California Department of Fish and Wildlife (CDFW). 2024. Biogeographic Information and Observation System (BIOS 6). Website: https://wildlife.ca.gov/Data/BIOS . Accessed September 25, 2024.						

Table 2: Special-status Wildlife Species Habitat Value Evaluation

Scientific Name Common Name	Status		Habitat Description ³	Habitat Value and Rationale
	ESA ¹	CESA/FGC ²		
Amphibians				
<i>Ambystoma californiense</i> <i>pop. 1</i> California tiger salamander - central California DPS	FT	ST WL	Need underground refuges, especially ground squirrel burrows, and vernal pools, ponds, or other standing water bodies for breeding.	None: There are 7 recent occurrences of this species within 5 miles of the site with the nearest occurrence found 0.62 miles west of the site. However, the project site does not contain suitable habitat to support this species. The site is devoid of natural habitat and is a developed office park.
<i>Rana boylei pop. 4</i> foothill yellow-legged frog - central coast DPS	FC	CE	Partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	None: The project site does not contain streams to support this species. There are no occurrences of the species within 5 miles of the project site.
<i>Rana draytonii</i> California red-legged frog	FT	SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development	None: There are 10 recent records within 5 miles of the site with the nearest occurrence 3.08 miles southeast of the site. The site is outside the dispersal distance of this species. Moreover, the project site does not contain suitable habitat to support this species. The site is a fully developed business park in regular operation for over 40 years.
Birds				
<i>Accipiter cooperii</i> Cooper’s hawk	MSHCP MBTA	WL FGC	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	None: The project site does not suitable habitat(s) that would support this species. There are no recent records of this species within 5 miles. Lack of foraging habitat further precludes presence.
<i>Agelaius tricolor</i> tricolored blackbird	MBTA	FT SSC FGC	Occurs and nests in large freshwater marshes with dense stands of hydrophytic vegetation (cattails, bulrushes, etc.). Short-distance migrant.	None: The project site does not contain suitable habitat(s) that would support occurrence of this species such as marshes. There are no occurrences of the species within 5 miles of the project site.
<i>Aquila chrysaetos</i> golden eagle	MBTA	FP	Typically frequents rolling foothills, mountain areas, sage-juniper flats, and desert.	None: The project site does not contain suitable nesting or foraging habitat to support this species such as foothills, mountain areas, sage-juniper flats, or deserts. There is one recent occurrence of the species within 5 miles of the project site. However, the site is completely developed and does not contain suitable foraging habitat to support this species.
<i>Asio flammeus</i> short-eared owl	— MBTA	SSC	Occur in wide open spaces including marshes, open shrublands, grassland, prairie, and agricultural field habitats, and need dense ground cover to conceal nests.	None: The site does not contain suitable habitat to support this species. No recent recorded occurrences are within 5 miles of the project site.

Scientific Name Common Name	Status		Habitat Description ³	Habitat Value and Rationale
	ESA ¹	CESA/FGC ²		
<i>Athene cunicularia</i> burrowing owl	MBTA	SSC FGC	Occurs and nests in open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. A subterranean nester, dependent upon burrowing mammals, most notably the California ground squirrel. Short-distance migrant.	None: The site is completely developed and does not contain habitat to support this species.
<i>Bufo regalis</i> Ferruginous hawk	— MBTA	WL	Found in open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon and juniper habitats.	None: There is one recent occurrence of the species within 5 miles of the project site. However, the site does not contain suitable habitat in the form of open grasslands, sagebrush flats, desert scrub, low foothills or pinyon and juniper habitats.
<i>Buteo swainsoni</i> Swainson's hawk	MBTA	FT FGC	Occurs and nests in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations. Long-distance migrant.	None: The project site itself does not contain adequate habitat to support this species such as juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands. There are no occurrences of the species within 5 miles of the project site.
<i>Charadrius nivosus nivosus</i> western snowy plover	FT MBTA	SSC	Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	None. Suitable habitat for this species is not present on or adjacent to the project site. There are no recent records within 5 miles of the project site.
<i>Circus hudsonius</i> northern harrier	MSHCP MBTA	SSC	Frequents meadows, grasslands, open rangelands, freshwater emergent wetlands; uncommon in wooded habitats.	None. Suitable habitat for this species is not present on or adjacent to the project site. There are no recent records within 5 miles of the project site.
<i>Coturnicops noveboracensis</i> yellow rail	MBTA	SSC	Occurs in wet meadows, shallow marshes, and agricultural fields with grassy cover or heavy stubbles with fairly short vegetation. Often nest among sedges of the genus <i>Carex</i> .	None. The project site does not contain suitable wetland habitat to support this species such as wet meadows, shallow marshes, or agricultural fields. There are no occurrences of the species within 5 miles of the project site.
<i>Elanus leucurus</i> white-tailed kite	MBTA	FP FGC	Found in rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Requires open grasslands, meadows, or marshes for foraging close to the isolated, dense-topped trees for nesting and perching.	None: Suitable habitat for this species is not present on or adjacent to the project site. There are no recent records within 5 miles of the project site.
<i>Eremophila alpestris actia</i> California horned lark	MSHCP MBTA	WL FGC	Occurs and nests in open areas with sparse vegetation. Year-round resident in southern California.	None. Suitable habitat for this species is not present on or adjacent to the project site. There are no recent records within 5 miles of the project site.

Scientific Name Common Name	Status		Habitat Description ³	Habitat Value and Rationale
	ESA ¹	CESA/FGC ²		
<i>Falco peregrinus anatum</i> American peregrine falcon	FD MBTA	SD FP FGC	Occurs near bodies of water, including wetlands, lakes, and rivers, in open areas with cliffs, ledges, and canyons nearby for cover and nesting. They will also nest on banks, dunes, and mounds. Their nests are a scrape on a depression or ledge on an open site. They will nest on human-made structures, and occasionally uses tree or snag cavities or old nests of other raptors.	None: The project site does not contain suitable habitat that would support occurrence of this species. There is one recent record within five miles of the project site.
<i>Geothlypis trichas sinuosa</i> saltmarsh common yellowthroat	—	SSC	Resident of the San Francisco Bay region, in fresh and saltwater marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	None: Lack of marsh habitat precludes this species. There are no occurrences of the species within 5 miles of the project site.
<i>Haliaeetus leucocephalus</i> bald eagle	FD	SE FP	Breeding habitat is usually within 4 km of a water source in a tall tree or cliffs; roosting in large numbers in winter is common.	None: Suitable habitat for this species is not present on or adjacent to the project site. There is one recent record within 5 miles of the project site.
<i>Laterallus jamaicensis coturniculus</i> California black rail	—	FP	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	None: Suitable habitat for this species is not present on or adjacent to the project site. There are no recent records within 5 miles of the project site.
<i>Melospiza melodia maxillaris</i> Suisun song sparrow	—	SSC	Resident of brackish-water marshes surrounding Suisun Bay. Inhabits cattails, tules and other sedges, and Salicornia; also known to frequent tangles bordering sloughs.	None: the project site does not contain habitat suitable for this species. There are no occurrences of the species within 5 miles of the project site..
<i>Melospiza melodia pusillula</i> Alameda song sparrow	—	SSC	Resident of salt marshes bordering south arm of San Francisco Bay. Inhabits Salicornia marshes; nests low in Grindelia bushes (high enough to escape high tides) and in Salicornia.	None: The project site does not contain Salicornia marsh habitat. There are no occurrences of the species within 5 miles of the project site.
<i>Melospiza melodia samuelis</i> San Pablo song sparrow	—	SSC	Resident of salt marshes along the north side of San Francisco and San Pablo bays. Inhabits tidal sloughs in the <i>Salicornia</i> marshes; nests in <i>Grindelia</i> bordering slough channels.	None. The project site lacks suitable salt marsh habitat to support this species. There are no occurrences of the species within 5 miles of the project site.
<i>Rallus obsoletus obsoletus</i> California Ridgway's rail	FE	FP	Salt water and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed, but feeds away from cover on invertebrates from mud-bottomed sloughs	None: The site does not contain suitable habitat for this species such as salt water and brackish marshes. There are no occurrences of the species within 5 miles of the project site.

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	ESA ¹	CESA/FGC ²		
<i>Sternula antillarum browni</i> California least tern	FE	FP	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.	None: The project site does not contain coastal habitat including sand beaches, or alkali flats to support this species. There are no occurrences of the species within 5 miles of the project site.
Invertebrates				
<i>Bombus crotchii</i> Crotch bumble bee	—	SC	Occurs in grassland and scrubland habitats. Nests in abandoned rodent burrows.	None. The site does not contain suitable grassland or scrubland habitat to support this species. There are no occurrences of the species within 5 miles of the project site.
<i>Bombus occidentalis</i> western bumble bee	—	SC	Formerly found in large parts of California but has been reduced in abundance and is now mostly restricted to high meadows or coastal environments. Species requires floral resources, and undisturbed nest and overwintering sites	None: The site does not provide habitat for this species in the form of high meadows or coastal environments. There are no occurrences of the species within 5 miles of the project site.
<i>Branchinecta conservatio</i> Conservancy fairy shrimp	FE	—	Vernal pools found in California's Central Valley from Tehama County in the north to Merced County in the south.	None: The site does not contain vernal pools to support this species. There are no occurrences of the species within 5 miles of the project site.
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	FT	—	Vernal pool fairy shrimp occur primarily in vernal pools, seasonal wetlands, and stagnant ditches that fill with water during fall and winter rains and dry up in spring and summer.	None: The project site does not contain suitable vernal pool habitat to support this species. There are no occurrences of the species within 5 miles of the project site.
<i>Danaus plexippus plexippus</i> pop. 1 monarch - California overwintering population	FC	—	Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	None: The site does not provide suitable habitat for this species. There are no occurrences of the species within 5 miles of the project site.
<i>Lepidurus packardii</i> vernal pool tadpole shrimp	FE	—	Vernal pool tadpole shrimp occur in a wide variety of seasonal habitats, including vernal pools, clay flats, alkaline pools, ephemeral stock tanks, roadside ditches, and road ruts.	None: The project site does not contain suitable vernal pool habitat to support this species. There are no occurrences of the species within 5 miles of the project site.
<i>Euphydryas editha bayensis</i> Bay checkerspot butterfly	FT	—	Restricted to native grasslands on outcrops of serpentine soil in the vicinity of San Francisco Bay. <i>Plantago erecta</i> is the primary host plant; <i>Orthocarpus densiflorus</i> and <i>O. purpureus</i> are the secondary host plants.	None: High development around the project site lowers likelihood of presence. The site does not contain serpentine soils or suitable host plants. There are no occurrences of the species within 5 miles of the project site.

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<i>Lepidurus packardii</i> vernal pool tadpole shrimp	FE		Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water.	None: The project site does not contain suitable vernal pool habitat to support this species. There are no occurrences of the species within 5 miles of the project site.
<i>Speyeria callippe callippe</i> callippe silverspot butterfly	FE	—	Restricted to the northern coastal scrub of the San Francisco peninsula. Hostplant is <i>Viola pedunculata</i> . Most adults found on east facing slopes; males congregate on hilltops in search of females.	None: the project site does not contain habitat suitable for this species. No recent occurrence within 5 mi of the project site.
Fish				
<i>Acipenser medirostris</i> pop. 1 green sturgeon - southern DPS	FT	—	Spawning occurs primarily in cool (11-15 C) sections of mainstem rivers in deep pools (8-9 meters) with substrate containing small to medium sized sand, gravel, cobble, or boulder.	None: The site does not contain suitable aquatic habitat to support this species. There are no occurrences of the species within 5 miles of the project site.
<i>Archoplites interruptus</i> Sacramento perch		SSC	Historically found in the sloughs, slow-moving rivers, and lakes of the Central Valley. Prefers warm water. Aquatic vegetation is essential for young. Tolerates wide range of physio-chemical water conditions.	None: Lack of suitable aquatic habitat precludes this species. There are no occurrences of the species within 5 miles of the project site.
<i>Eucyclogobius newberryi</i> tidewater goby	FE	—	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	None: The site does not contain suitable aquatic habitat to support this species. There are no occurrences of the species within 5 miles of the project site.
<i>Oncorhynchus mykiss irideus</i> pop. 11 steelhead - Central Valley DPS	FT	—	DPS includes all naturally spawned populations of steelhead (and their progeny) in streams from the Russian River to Aptos Creek, Santa Cruz County, California (inclusive). Also includes the drainages of San Francisco and San Pablo Bays.	None: The project site does not contain water bodies necessary for spawning. There are no occurrences of the species within 5 miles of the project site.
<i>Pogonichthys macrolepidotus</i> Sacramento splittail	—	SSC	Endemic to the lakes and rivers of the Central Valley, but now confined to the Delta, Suisun Bay and associated marshes. Slow moving river sections, dead end sloughs. Requires flooded vegetation for spawning and foraging for young.	None: The site does not contain suitable aquatic habitat to support this species. There are no occurrences of the species within 5 miles of the project site.

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Spirinchus thaleichthys pop. 2 longfin smelt - San Francisco Bay-Delta DPS	FE	ST	Middle or deeper parts of the water column of estuaries and bays.	None: The site does not contain suitable aquatic habitat to support this species. There are no occurrences of the species within 5 miles of the project site.
Mammals				
<i>Antrozous pallidus</i> pallid bat	—	SSC	Found in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures and include trees and buildings. Species is very sensitive to disturbance of roosting sites.	None: Habitat to support this species such as desert, grasslands, shrublands, or woodlands are not present within the project site. There are no occurrences of the species within 5 miles of the project site. Moreover, high levels of disturbance are present on-site due to the presence of an active business park.
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	—	SSC	Throughout California in a wide variety of habitats. Most common in areas associated with mixed conifer forest, desert scrub, or pine forest habitat. Roosts in caves, mines, and buildings. Extremely sensitive to human disturbance.	None: The project site does not contain suitable habitat in the form of conifer forest, desert scrub or pine forest habitat. High levels of disturbance onsite preclude presence. There are no occurrences of the species within 5 miles of the project site.
<i>Neotoma fuscipes annectens</i> San Francisco dusky-footed woodrat	—	SSC	Forest habitats of moderate canopy & moderate to dense understory. May prefer chaparral & redwood habitats. Constructs nests of shredded grass, leaves & other material. May be limited by availability of nest-building materials.	None: There is one recent occurrence of the species within 5 miles of the project site. However the site does not contain forest habitat or to support this species.
<i>Nyctinomops macrotis</i> big free-tailed bat		SSC	Migrant bats using elevations from 0-2600 meters. Roosts in rock crevices cliffs as well as in buildings, caves, and tree cavities	None: The project site does not contain habitat suitable for this species. There are no occurrences of the species within 5 miles of the project site. High levels of disturbance onsite preclude presence
<i>Reithrodontomys raviventris</i> salt-marsh harvest mouse	—	FP	Only in the saline emergent wetlands of San Francisco Bay and its tributaries. Pickleweed is primary habitat but may occur in other marsh vegetation types and in adjacent upland areas. Does not burrow; builds loosely organized nests. Requires higher areas for flood escape.	None: The project site does not contain pickleweed or marsh habitat to support this species. There are no occurrences of the species within 5 miles of the project site.
<i>Scapanus latimanus parvus</i> Alameda Island mole	—	SSC	Only known from Alameda Island. Found in a variety of habitats, especially annual and perennial grasslands. Prefers moist, friable soils.	None: The project site does not contain habitat suitable for this species. There are no occurrences of the species within 5 miles of the project site.

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<i>Sorex ornatus sinuosus</i> Suisun shrew	—	SSC	Tidal marshes of the northern shores of San Pablo and Suisun bays. Require dense low-lying cover and driftweed and other litter above the mean hightide line for nesting and foraging.	None. The project site does not contain saltmarsh habitat to support this species. There are no occurrences of the species within 5 miles of the project site.
<i>Taxidea taxus</i> American badger	—	SSC	Found in drier open stages of most shrub, forest and herbaceous habitats with friable soils, specifically grassland environments. Natal dens occur on slopes.	None. There are no recent records of this species within 5 miles of the site and the site does not contain habitat suitable to support this species such as shrub, forest, friable soils, or grassland.
<i>Vulpes macrotis mutica</i> San Joaquin kit fox	FE	ST	Annual grasslands or grassy open stages with scattered shrubby vegetation.	None: The project site does not contain shrubby vegetation to support this species and although there is grassland onsite. There are no occurrences of the species within 5 miles of the project site.
Reptiles				
<i>Actinemys marmorata</i> northwestern pond turtle	—	SSC	Marshes, streams, rivers, ponds, lakes, still or slow-moving water, areas with muddy bottoms, vegetation mats, logs, debris, and mud banks for basking, suitable upland habitat for egg laying.	None: The site contains two recent records of this species within 5 miles of the site. However, these occurrences are separated from the site by development and busy roadways and the site does not contain habitat suitable to support this species.
<i>Anniella pulchra</i> Northern California legless lizard	—	SSC	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.	None: The project site does not contain habitat with high soil moisture to support this species. There are no occurrences of the species within 5 miles of the project site.
<i>Masticophis lateralis euryxanthus</i> Alameda whipsnake	FT	—	Typically found in chaparral and scrub habitats but will also use adjacent grassland, oak savanna and woodland habitats. Specifically, mostly south-facing slopes and ravines, with rock outcrops, deep crevices or abundant rodent burrows, where shrubs form a vegetative mosaic with oak trees and grasses.	None: There are six recent records of this species within 5 miles of the project site with the nearest located 1.4 miles southeast of the site. However, all occurrences are located within undeveloped habitat and the site is fully developed with roadways and building separating occurrences from the site, lowering the likelihood of occurrence.
<i>Phrynosoma blainvillii</i> coast horned lizard	—	SSC	Inhabits open areas of sandy soil and low vegetation in valleys, foothills and semiarid mountains. Found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose soil. Often found in lowlands along sandy washes with scattered shrubs and along dirt roads. Often found near ant hills feeding on ants.	None: There are three recent occurrences of the species within 5 miles of the project site. However, the project site does not contain suitable habitat that would support occurrence of this species, and intensive use of the project site and vicinity in recent and historical times has likely eliminated the possibility for occurrence of this species on the project site.
<i>Thamnophis gigas</i> giant gartersnake	FT	ST	Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches.	None: No suitable habitat is present within the project site. There are no occurrences of the species within 5 miles of the project site.

Scientific Name Common Name	Status		Habitat Description ³	Habitat Value and Rationale	
	ESA ¹	CESA/FGC ²			
Code Designations					
¹ Federal Status: 2024 Endangered Species Act (ESA) Listing					² State Status: 2024 California Endangered Species Act (CESA) Listing
ESU = Evolutionary Significant Unit is a distinctive population. FE = Listed as endangered under the Endangered Species Act. FT = Listed as threatened under the Endangered Species Act. FC = Candidate for listing (threatened or endangered) under the Endangered Species Act. FD = Delisted in accordance with the Endangered Species Act. FPD = Federally Proposed to be Delisted. MBTA = protected by the Migratory Bird Treaty Act — = Not federally listed					SE = Listed as endangered under CESA. ST = Listed as threatened under CESA. SSC = Species of Special Concern as identified by the CDFW. FP = Listed as fully protected under the Fish and Game Code. CFG = FGC = protected by Fish and Game Code 3503.5 CR = Rare in California. — = Not State-listed
Notes: ³ Habitat Description: Habitat description adapted from CNDDDB or other specified source. ⁴ Potential to Occur and Rationale: Location of recorded species occurrences determined by geospatial information from BIOS 5 or other specified source. Sources: California Department of Fish and Wildlife (CDFW). 2024. CNDDDB RareFind 5 California Natural Diversity Database Query for Special-Status Species. Website: https://apps.wildlife.ca.gov/rarefind/view/RareFind.aspx . Accessed September 25, 2024. California Department of Fish and Wildlife (CDFW). 2024. Biogeographic Information and Observation System (BIOS 6). Website: https://wildlife.ca.gov/Data/BIOS . Accessed September 25, 2024.					