

*Appendix B: Biological Resources Background  
Report*

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Ecological Consultants

Saratoga Quarry Park Master Plan Project  
Biological Resources Report

Prepared for:

Placeworks  
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Project No. 3494-01

# Table of Contents

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Section 1.0	Introduction.....	1
1.1	Project Description.....	1
1.1.1	Project Components.....	1
1.1.2	Project Phasing.....	6
1.1.3	Conservation Measures.....	7
Section 2.0	Methods.....	14
Section 3.0	Environmental Setting.....	15
3.1	General Project Area Description.....	15
3.2	Biotic Habitats.....	15
3.2.1	Riparian Forest.....	15
3.2.2	Northern Coastal Scrub.....	17
3.2.3	Broadleaved Upland Forest.....	18
3.2.4	Mixed Native/Non-native Woodland.....	19
3.2.5	Aquatic/Wetland.....	20
3.2.6	Developed/Disturbed.....	22
3.3	Wildlife Movement.....	22
Section 4.0	Regulatory Setting.....	24
4.1	Federal.....	24
4.1.1	Clean Water Act.....	24
4.1.2	Federal Endangered Species Act.....	24
4.1.3	Federal Migratory Bird Treaty Act.....	25
4.2	State.....	25
4.2.1	Section 401 Water Quality Certification.....	25
4.2.2	Porter-Cologne Water Quality Control Act.....	25
4.2.3	California Endangered Species Act.....	26
4.2.4	California Environmental Quality Act.....	26
4.2.5	California Fish and Game Code.....	28
4.3	Local.....	28
4.3.1	City of Saratoga Tree Ordinance.....	28
4.3.2	County of Santa Clara – Riparian Setback.....	29
Section 5.0	Special-Status Species and Sensitive Habitats.....	30
5.1	Special-status Plant Species.....	30
5.2	Special-status Animal Species.....	33
5.2.1	Federal or State Threatened, Endangered, or Candidate Species.....	39
5.2.2	California Species of Special Concern and Fully Protected Species.....	41
5.3	Sensitive and Regulated Plant Communities and Habitats.....	44
5.4	Non-Native and Invasive Species.....	45
Section 6.0	Impacts and Mitigation Measures.....	46
6.1	Key Assumptions.....	46
6.2	Impacts Found to be Less than Significant.....	47
6.2.1	Impacts on Upland Habitats and Associated Common Plant and Wildlife Species.....	47
6.2.2	Impacts on Western Pond Turtles.....	47
6.2.3	Impacts on Nesting Special-status Birds.....	48
6.2.4	Impacts on Other Special-status Birds.....	49
6.2.5	Impacts on the San Francisco Dusky-footed Woodrat.....	49
6.2.6	Impacts on Bats.....	50

6.2.7 Introduction of Invasive Species .....	51
6.2.8 Impacts on Wildlife Movement .....	51
6.3 Impacts Found to be Less than Significant with Mitigation .....	52
6.3.1 Loss or Disturbance of Wetlands or Other Waters.....	52
6.3.2 Impacts on Special-status Plants.....	54
6.3.3 Impacts on Riparian Habitat .....	57
6.3.4 Encroachment into Protective Buffers for Sensitive Habitats.....	58
6.3.5 Loss of Ordinance Trees.....	59
6.3.6 Impacts on California Red-legged Frogs.....	60
6.4 Cumulative Impacts .....	63
Section 7.0 Compliance with Additional Laws and Regulations Applicable to Biotic Resources of the Project Site	64
7.1 Regulatory Overview for Nesting Birds .....	64
Section 8.0 References .....	65

## Figures

Figure 1. Project Vicinity Map .....	2
Figure 2. Habitat and Impacts Map .....	3
Figure 3. CNDDDB Occurrences Map.....	31

## Tables

Table 1. Special-status Animal Species, Their Status, and Potential Occurrence in the Study Area .....	34
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## Appendices

Appendix A. Special-Status Plant Species Rejected for Occurrence at the Project Site .....	1
Appendix B. Plants Identified on the Project Site .....	1

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# Section 1.0 Introduction

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This report describes the biological resources present in the area of the proposed Saratoga Quarry Park Master Plan (Master Plan) Project, as well as the potential impacts of the proposed Project on biological resources and measures necessary to reduce these impacts to less-than-significant levels under the California Environmental Quality Act (CEQA).

## 1.1 Project Description

The Project entails the establishment of a new 64-acre (ac) park at the site of a former gravel quarry in a mountainous area of western Santa Clara County (Figure 1), in the *Cupertino* and *Castle Rock Ridge, California* U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles. The Project study area (Figure 2) is composed of two adjoining parcels, which were formerly used for limestone and gravel quarrying and later for recreational purposes. Evidence of the site's former use is still present, including a quarry loading structure, stonework, picnic tables, barbecue pits, and sitting areas. In addition, a significant amount of remediation has been done on the site, including hillside rehabilitation with multiple graded pads and benches to reduce the steep grades of the quarry face.

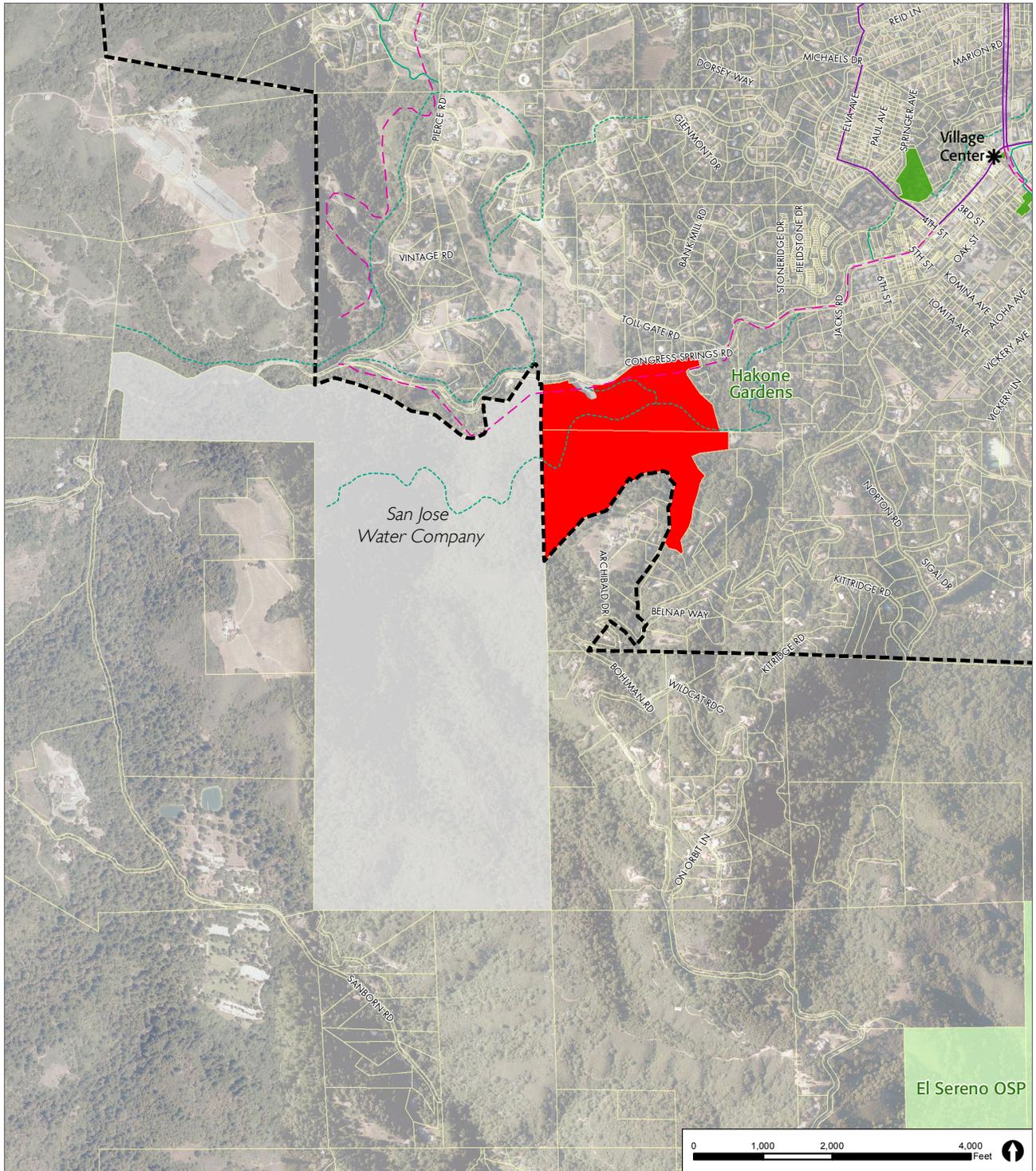
The proposed park would be developed as a passive use facility, emphasizing the site's natural and historic features, connections to adjacent open space, and opportunities for resource-based outdoor recreation and education. Park development would include the establishment of hiking trails, a boardwalk trail, picnic areas, staging areas, recreational facilities, event space, and a multipurpose field, as well as implementation of measures to achieve habitat restoration and historic preservation goals. Additionally, the proposed Project would allow the City of Saratoga to increase its acreage of open and recreational space. This Biological Resources Report evaluates the potential impacts of the Project on biological resources in the study area. Components and phasing of the Project are described below.

### 1.1.1 Project Components

#### Use Areas

Project features are organized around three programmatic use areas (Figure 2), the lower plaza and adjacent historic loading structure, the mid-level event space and associated picnic areas, and the upper use area that includes a multi-purpose field and group picnic areas.

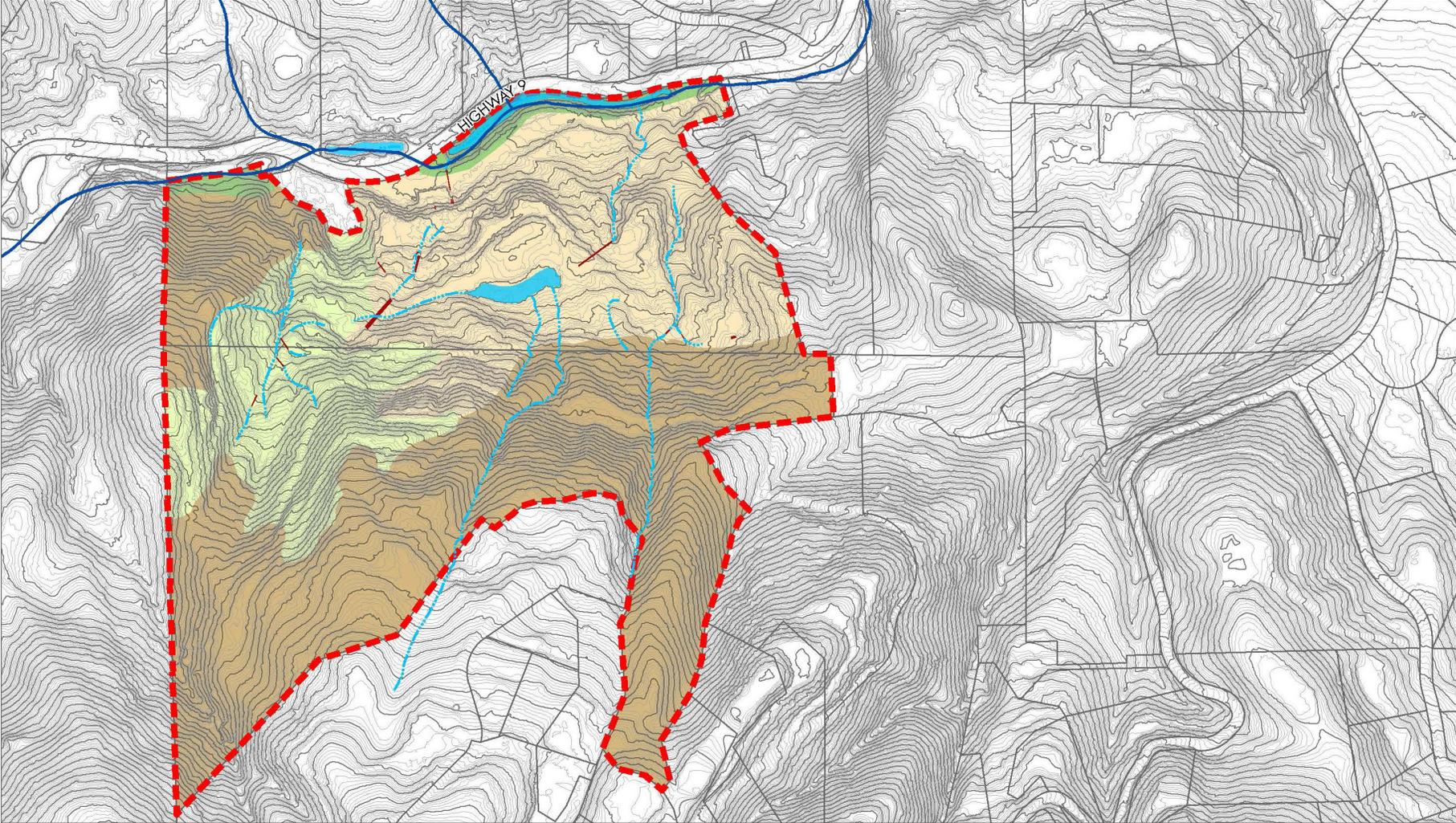
*Lower Plaza and Historic Loading Structure.* The lower use area would be located at the base of the hillside, adjacent to Saratoga Creek. Approximately 0.8 ac in size, it would include a welcome plaza, informational signage and restrooms, and the historic loading structure. Pending structural evaluation, the loading structure may become an open-air museum and event space with a useable roof amenity area. An information kiosk



Source: City of Saratoga; Santa Clara County; Midpeninsula Regional Open Space District, 2012; Conservation Lands Network, 2012; PlaceWorks, 2013.

- |   |  |  |
|---|--|--|
| <b>Administrative Boundaries</b>                  | <b>City of Saratoga Trails</b>                           | <b>Santa Clara County Trails</b>                 |
| <span style="color: red;">■</span> Plan Area      | <span style="color: green;">—</span> Existing            | <span style="color: brown;">—</span> Existing    |
| Saratoga City Limit                               | <span style="color: green;">- - -</span> Potential       | <span style="color: brown;">- - -</span> Planned |
| <b>City of Saratoga Bicycle Facilities</b>        | <b>Parks and Open Space</b>                              |  |
| <span style="color: purple;">—</span> Existing    | <span style="color: green;">■</span> Saratoga Parks      |  |
| <span style="color: purple;">- - -</span> Planned | <span style="color: lightgreen;">■</span> Regional Parks |  |

Figure 1  
Project Vicinity



Source: HT Harvey Associates, 2013; PlaceWorks, 2014.

- |                    |                |                              |
|--------------------|----------------|------------------------------|
| Plan Area Boundary | Creeks         | <b>Habitat Type</b>          |
| Parcels            | Drains_Streams | Broad leaved Upland Forest   |
| 2" Contour Lines   | Culverts       | Mixed Native/Non-native Wood |
| 10" Contour Lines  | Wetland        | Northern Coastal Scrub       |
|                    |                | Riparian Forest              |



Figure 2  
 Habitat and Impacts Map

and sufficient seating would be incorporated into the plaza, along with a public composting restroom. A grand staircase that is 10 feet (ft) wide and built into the hillside would connect the plaza to the mid-level event space via the roof of the loading structure. The park entrance from California State Route (SR) 9 and a parking area are also located in this use area.

*Mid-level Event Space and Picnic Areas.* The mid-level event space would include an area for special events as well as the restoration of historic picnic areas and furniture. Located just uphill from the loading structure, the 0.2-ac event space could be rented as a venue for small weddings and special functions. A small, temporary staging or catering area would be located adjacent to the open space for use during special events. There would be approximately ten picnic tables, with four located in the historic picnic area and the rest scattered in nooks around the cleared event space.

*Upper Use Area.* The upper use area, located south of the mid-level use area, is approximately 2.0 ac in size, and would include a staging area, multi-purpose field, pond, and numerous amenities. The staging area for the upper use zone would include a drop-off circle that supports school buses, two accessible parking spots, restroom facilities (composting toilets), a drinking fountain, garbage and recycling receptacles, solar lighting, and informational signage. The multi-purpose field could be either a maintained lawn or a planted meadow that requires minimal maintenance. Around the perimeter of the multi-purpose field would be a group picnic area with a shade structure, small picnicking nooks, and a natural playground. The group picnic shelter would be large enough to support 50 people with an overhang to provide shade, and the natural playground would be composed of elements (logs, boulders, etc.) that create “nature” play opportunities. An observation platform would be cantilevered over the pond edge and serve as a learning station with seating areas and opportunities for interpretation and education.

### **Circulation and Access**

*Trails.* The Project would provide 2.5 miles (mi) of trail, including approximately 1.0 mi on existing roadways (Figure 2). There would be designated trails for equestrian use. Mountain biking would not be permitted. The park’s hiking trails would be part of a greater regional trail network. As a result of steep grades and other geographic constraints, not all trails would be American with Disabilities Act (ADA)-accessible. Trail accessibility information would be posted on all trail signage as well as on the proposed park’s circulation map. The staging areas and visitor contact points with kiosks and restrooms would be connected to parking lots and vehicle drop-off areas with ADA-compliant paths.

*Vehicular.* The proposed park’s primary access point is the lower road of Quarry Park from SR 9. This would be a two-way road, approximately 20 ft wide. With respect to circulation within the proposed park, the main entrance road would begin at the access point off SR 9 and run parallel to Saratoga Creek along the northern boundary of the site. The road to the upper use area connects from the main entrance road to the upper parking lot. The road that connects up to the mid-level event space would only be open during special events for ADA drop-off and parking, as well as catering/service vehicle access.

*Parking.* The Master Plan provides for a total of 120 parking spaces at two different locations within the proposed park. From the access point off SR 9, approximately 80 parallel parking spaces would be provided. There would be a hammerhead turn around at the end of the parking lot. The upper parking lot would have capacity for approximately 40 cars. The Project would include equestrian trailer parking in the lower parking lot. The drop-off loop proposed as a part of the Project would be equipped with two ADA parking stalls to provide direct access to the upper use area's welcome plaza and restroom, adjacent to the multi-use field and pond.

### **Habitat Enhancements and Natural Resource Management**

Habitat restoration would be focused on the riparian zone along Saratoga Creek and the existing pond. Site-wide restoration efforts would involve the removal of invasive species and the revegetation of native plants. The on-site pond would be improved to enhance habitat and aesthetic resources. Improvements would include:

- Widening the pond by relaxing the bank on the downhill side (this may require relocating the existing road) and revegetating the slope with low-growing native plants that would not impede pond views.
- Creating a deep area on the uphill side (away from trails) for improved habitat.
- Constructing an observation platform.
- Limiting trails and access to the trail on the downhill side of the pond.
- Providing signage and split-rail fencing to reduce intrusion into the pond and revegetated area.
- Maintaining an open-water area.
- Minimizing encroachments within a 100-ft riparian setback, and mitigating when necessary.

### **Utilities**

In order to provide the infrastructure necessary to irrigate portions of the park and to provide water to serve proposed drinking fountains, a water line running along the north side of SR 9 would need to be accessed, with a 900-ft extension to the upper use area. Restrooms would be designed with composting toilets making additional sources of water or extensions unnecessary.

Electricity for lighting around restrooms and other needs would be accessed from the existing utility poles running through the site. Because it is anticipated that the park would not be open during nighttime hours, additional lighting is not proposed.

### **ADA Access**

As discussed above, some of the proposed trails would be ADA accessible and some of the parking spaces provided would be ADA accessible. Additionally, the staging areas, visitor contact points with kiosks, and restrooms would be connected to parking lots and vehicle drop-offs with ADA compliant paths.

## Historic Preservation

Given the historic significance of the quarry as a major contributor to the local economy, the proposed Master Plan recommends preservation of the remaining elements of the quarry. Additionally, the proposed Master Plan indicates that there would be no legal barriers to restoring these features in the proposed park. Some of the existing features that would be restored as a part of the proposed Project include the historic loading structure, picnic tables, barbecue pits, sitting areas, and stonework landscaping.

## Signage

The proposed Project would include the provision of informational, wayfinding, and interpretive signage. Informational signage would be located at park entrances and would include park hours of operation, and park regulations. Wayfinding signage would be located at trail intersections and would only provide directional information. Interpretive signs would be located near historic sites including the historic loading structure and the pond. These signs would provide information on the park's history and natural features.

### 1.1.2 Project Phasing

Implementation of the Master Plan has been divided into the three phases. The components of each of these phases are described below. The schedule of implementation for each phase would be determined based on available funds.

#### Phase 1

*Staging Area.* In the first phase, the staging area would be the existing gravel driveway (western entrance) and parking lot adjacent to the loading structure. The parking lot would provide parking for 40 to 50 vehicles and require only minor improvements to ensure proper drainage. A bioswale would be constructed around the northern perimeter of the parking area to capture and treat stormwater prior to reaching Saratoga Creek.

*Trail Network.* As discussed above, the proposed trail network is composed of mostly existing roads and trails that vary in condition from good to poor. While some roads and trails are in good shape and require minimal work, other trails would need to be realigned with drainage crossings and/or would require retaining walls to be installed to stabilize the trail and prevent erosion.

*Habitat Restoration.* In the first phase, habitat restoration would include planting native trees and shrubs to buffer the parking area from the Saratoga Creek corridor. Additional drainage elements and planting may be required by permitting agencies.

*Signage and Site Furniture.* Signage recommended for opening the park includes an entry sign on SR 9, a welcome kiosk with a trail network map, and interpretive signage. Hazard signage at the loading structure, at steep drop-offs next to trails, and at the existing stairs should be installed prior to allowing the public onto the property. Directional signage and "End-of-Trail" signage are also recommended.

*Historic Picnic Area Improvements.* The site furniture, stone walls and steps, and barbeque pits require restoration that would be done in the first phase.

## **Phase 2**

The second phase would involve construction of the upper use area, which includes the upper parking lot and staging area, the road connecting up the hill to these spaces, the pond restoration and overlook platform, and the multi-use field with the large group picnic structure and natural play feature. Additionally, the mid-level event space, including the road up to the area, the ADA parking spaces, and the trails connecting the space to the upper use area would be formalized in phase two. Interpretive elements and signage not installed during the first phase would be included in phase two, except for the loading structure, which is anticipated to be a component of phase three.

## **Phase 3**

The third phase would include four separate projects that could be implemented simultaneously or consecutively. The prioritization order will be determined based on funding and public interest/demand. Projects reserved for the third phase include the following: implementing the upper loop trail; renovating the loading structure and constructing the adjacent plaza, restrooms, and stairs connecting to the mid-level event space; converting the lower road into a two-way road with another means of egress-ingress, using the existing access point in the northeast corner of the property, which would require moving a utility pole, replacing a culvert, and the possible reconstruction of the bridge structure, pending assessment; adding parking along the lower road, perpendicular if the road is two-way and diagonal if it is one-way, and designating space for equestrian trailer parking if feasible.

### **1.1.3 Conservation Measures**

The following conservation measures (CM) have been incorporated into the Master Plan, and are intended to prevent adverse effects on wildlife species and other biological resources:

#### **CM-1. Prepare and Present a Worker Environmental Awareness Program**

The City will retain a qualified biologist to prepare a Worker Environmental Awareness Program that will be presented to all construction personnel and employees before any ground-disturbing activities commence at the Project site. This presentation shall explain to construction personnel how best to avoid impacts to special-status species during construction. The program shall consist of a brief presentation explaining special-status species concerns to all personnel involved in the Project. The program shall include a description of special-status species potentially on the Project site and their habitat needs; an explanation of the status of the species and their protection under the federal Endangered Species Act (FESA), the California Endangered Species Act (CESA), the Migratory Bird Treaty Act (MBTA), and/or the California Fish and Game Code; specific Conservation Measures applicable to special-status species; and the penalties for impacts.

The program shall also explain to construction personnel how to avoid impacts on areas subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW). The program shall include a description of these respective jurisdictional areas on the site, specifically permitted impacts, and measures to protect jurisdictional areas to be avoided. It will include maps showing the locations of jurisdictional areas and permitted impacts.

The Worker Environmental Awareness Program will be implemented by the City before the start of initial ground disturbance and will be continued through all phases of construction.

### **CM-2. Stormwater Pollution Prevention BMPs**

Stormwater pollution prevention best management practices (BMPs) designed to prevent construction-related discharge into all surface waters shall be implemented. These BMPs must consider not only mobilization of sediments during construction (which will likely occur primarily in dry conditions), but also the potential for sediments loosened by Project activities to be moved downstream during the following wet season. These BMPs shall include, but not be limited to, the following:

- No debris, soil, silt, sand, bark, slash, sawdust, cement, concrete, washings, petroleum products or other organic or earthen material will be allowed to enter into or be placed where it may be washed by rainfall or runoff into waters of the U.S./State or aquatic habitat.
- No equipment will be operated in a live stream channel.
- Equipment shall be regularly maintained to prevent fluid leaks. Any leaks shall be captured in containers until the equipment is moved to a repair location. A spill prevention and response plan will be prepared prior to construction and will be implemented immediately for cleanup of fluid or hazardous materials spills.
- Standard erosion control and slope stabilization measures will be required for ground-disturbing activities performed in any area where erosion could lead to sedimentation of a waterbody.

### **CM-3. Minimize Impacts on Special-status Plants and Sensitive Natural Communities including Wetlands**

All Project construction activities will be preceded by a pre-construction survey during which a qualified botanist will identify sensitive natural vegetation communities, including wetlands and other waters, within the activity area and clearly map or delineate them as needed in order to avoid and/or minimize disturbance. The botanist will use the results of the pre-construction survey, as well as information available from the California Natural Diversity Database (CNDDDB), Initial Study, and/or other suitable tools to determine whether habitat for special-status plants is present in or adjacent to the activity area. If the qualified botanist determines that no special-status plants are reasonably expected to occur within the activity area, no further action will be warranted. If the biologist determines that suitable habitat for special-status plants is present, the botanist shall conduct a focused survey for special-status plants during the appropriate time of the year to adequately identify special-status plants that could occur within the activity area.

To the extent feasible, the City will avoid and/or minimize impacts on sensitive natural communities and special-status plants by implementing one or more of the following, as appropriate, per the botanist's recommendation:

- Flag or otherwise delineate in the field the special-status plant populations and/or sensitive natural community to be protected. All such areas to be avoided shall be clearly marked on construction plans and designated as “no construction” zones.
- Allow adequate buffers around plants or habitat; the location of the buffer zone will be shown on the design drawings and marked in the field with stakes and/or flagging in such a way that exclusion zones are visible to construction personnel without excessive disturbance of the sensitive habitat or population itself (e.g., from installation of fencing).
- Time construction or other activities during dormant and/or non-critical life cycle period;
- Limit the operation of construction equipment to established roads whenever possible.

If special-status plant species or sensitive communities are present, then a qualified botanist will determine if a specific method of vegetation management is ecologically appropriate for a given area.

#### **CM-4. Minimize Impacts on Special-status Amphibian and Reptile Species**

The following measures shall be implemented prior to and during any ground-disturbing Project activities to avoid or minimize impacts on special-status amphibians and reptiles:

- Initial ground-disturbing activities within areas where California red-legged frogs (*Rana draytonii*) and western pond turtles (*Actinemys marmorata*) are most likely to occur (i.e., on-site pond, Saratoga Creek, and areas within 200 feet of these features) shall be performed during the dry season to the extent practicable.
- A qualified biologist will conduct one daytime and one nighttime survey within a 48-hour period preceding the onset of construction activities. Such surveys shall focus on wetlands, streams, ponds, riparian habitats, and areas within 200 feet of these features, but they shall also include a pedestrian survey of the entire impact area to survey for California red-legged frogs and western pond turtles in vegetation, under debris, in culverts, or in other areas that could provide refugia for these species.
- A qualified biologist will be present during all initial ground-disturbing activities performed in suitable habitat for the California red-legged frog or western pond turtle.
- If a California red-legged or western pond turtle (or any animal that personnel think may be one of these species), the following protocol shall be implemented:
  - All work that could result in direct injury, disturbance, or harassment of the individual animal shall immediately cease.
  - A dedicated Project contact (e.g., a supervisor) shall be immediately notified.

- If adults or non-larval juveniles of one of these species are present, the individuals will be allowed to leave the activity area undisturbed or they will be captured and relocated by a qualified biologist (with USFWS and/or CDFW approval, depending on the listing status of the species in question), after which work may proceed. The candidate sites for relocation shall be identified before construction begins and shall be selected based on the size and type of habitat present, the potential for negative interactions with resident species, and the species' range (e.g. in pools within Saratoga Creek immediately upstream or downstream of the study area).
  - If eggs or larvae of one of these species are found, a buffer will be established around the location of the eggs/larvae and work may proceed outside of the buffer zone. No work will occur within the buffer zone. Work within the buffer zone will be rescheduled until the time that eggs have hatched and/or larvae have metamorphosed, at which time the following measure shall be implemented.
- A qualified biologist will be present to monitor all vegetation removal within aquatic or riparian habitats, and such vegetation removal will be conducted by hand.
  - Vehicles will observe a 15-mile-per-hour speed limit during construction. Off-road traffic outside of the designated development area will be prohibited.
  - To eliminate an attraction to the predators of the California red-legged frog, western pond turtle, or other special-status wildlife species, all food-related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in solid, closed containers (trash cans) and removed at the end of each working day from the entire construction site.
  - Tightly woven fiber netting or similar material will be used for erosion control or other purposes at the Project site to ensure that individuals are not trapped. This limitation will be communicated to the contractor through use of Special Provisions included in the bid solicitation package. Plastic monofilament netting (erosion control matting) or similar material will not be used at the Project site because California red-legged frogs may become entangled or trapped in it.
  - The use of pesticides in or near all wetlands and riparian areas should be avoided to the extent possible, must be in compliance with the City of Saratoga's Integrated Pest Management policy, and must also comply with a Stipulated Injunction that applies to "buffer areas around certain habitats of the California red-legged frog, and disallows use of certain pesticides within those habitats and buffer zones" (<http://www.epa.gov/espp/litstatus/redleg-frog/steps-info.htm>).

#### **CM-5. Minimize Impacts on Nesting Birds**

Project construction activities that occur between 1 February and 31 August will be preceded by a survey for nesting birds. Activity areas will be checked by a qualified biologist for nesting birds no more than one week prior to starting work. If a lapse in Project-related work of one week or longer occurs, another focused survey will be conducted before Project work can be reinitiated.

If an active nest is found sufficiently close to the Project work area (i.e., within 300 feet for raptors or 100 feet for non-raptors), a qualified biologist will determine the extent of a disturbance-free buffer zone to be established around the nest (typically 300 feet for raptors and 100 feet for non-raptors), to ensure that no nests of species protected by the MBTA and California Fish and Game Code will be disturbed during Project implementation. The buffer distance is measured as the straight-line distance between an active nest and the activity, taking both horizontal and vertical distance into account. No Project-related activities will be performed within the buffer until the young have fledged or the nest has been determined to be inactive by a qualified ornithologist. The boundary of each buffer zone will be marked with fencing, flagging, or other easily identifiable marking if work will occur immediately outside the buffer zone.

Reductions in the standard buffers (i.e., to buffers less than 100 feet for non-raptors and less than 300 feet for raptors) may be allowed where circumstances suggest the birds will not abandon the active nest with a reduced buffer size. A qualified biologist, in consultation with CDFW, will determine whether reducing the buffer is likely to substantially increase disturbance of nesting birds and if not, what reduced buffer is appropriate.

#### **CM-6. Minimize Impacts on San Francisco Dusky-footed Woodrats**

The following measures will be implemented prior to and during any ground-disturbing Project activities to avoid or minimize impacts on San Francisco dusky-footed woodrats:

- Prior to any clearing of, or work within, woodland, forest, riparian, and scrub habitats, a qualified biologist will conduct a survey for San Francisco dusky-footed woodrat nests. If active nests are determined to be present within or very close to the impact areas, the following measures will be implemented.
  - Dusky-footed woodrats are year-round residents. Therefore, avoidance measures are limited to restricting Project activities to avoid direct impacts on woodrats and their active nests to the extent feasible. Ideally, a minimum 10-foot buffer will be maintained between Project activities and each nest to avoid disturbance. In some situations, a smaller buffer may be allowed if, in the opinion of a qualified biologist, removing the nest would be a greater impact than that anticipated as a result of Project activities.
  - If avoidance of active nests is not feasible, then the woodrats will be evicted from their nests prior to the removal of the nests and onset of any clearing or ground-disturbing activities to avoid injury or mortality of the woodrats. The nests will be dismantled and the nesting material moved to a new location outside the Project's impact areas so that it can be used by woodrats to construct new nests. Prior to nest deconstruction, each active nest will be disturbed by a qualified wildlife biologist to the degree that all woodrats leave the nest and seek refuge out of the impact area. Whether the nest is on the ground or in a tree, the nest will be nudged to cause the woodrats to flee. For tree nests, a tarp will be placed below the nest and the nest dismantled using hand tools (either from the ground or from a lift). The nest material will then be piled at

the base of a nearby hardwood tree or shrub (preferably an oak with refuge sites among the tree roots or with dense vegetation or other refugia nearby) outside of the impact area. The spacing between relocated nests will not be less than 100 feet, unless a qualified biologist has determined that the habitat can support higher densities of nests.

#### **CM-7. Lighting**

During construction and operation, low-intensity lighting, downcast lighting, or other appropriate lighting technology shall be incorporated into the design where lighting is to be placed adjacent to sensitive habitat for wildlife, to reduce potential adverse effects on wildlife. During operations, lighting will be limited to that necessary for public safety.

#### **CM-8. Work Site Housekeeping**

- Employees and contractors will maintain the work site in neat and orderly conditions on a daily basis, and will leave the site in a neat, clean, and orderly condition when work is complete.
- For activities that last more than one day, materials or equipment left on the site overnight will be stored to avoid erosion, leaks, or other potential impacts to water quality.
- All trash that is brought to a Project site (e.g., plastic water bottles, plastic lunch bags, cigarettes) will be collected at the site daily and removed or stored in a secured container.

#### **CM-9. Invasive Species Control Measures**

In order to minimize the potential for Project activities to result in the introduction or spread of non-native plant species, the following measures will be implemented:

- Potential sources of weed propagule spread will be removed by cleaning equipment used in vegetation removal or ground disturbance. Prior to beginning work involving vegetation removal or ground disturbance, all hand tools and equipment used in these activities will be thoroughly washed at a location where wash water is deposited into a sanitary sewer (i.e., wash water potentially containing weed seeds will not be deposited in habitats or areas where this could cause new weed infestations). After being used at the Project site, and before being used at another Project site, the equipment will be washed again using these same methods.
- Following the completion of any work involving vegetation removal or trimming, invasive vegetation trimmed from within the study area will be collected and taken to a composting facility capable of neutralizing invasive plant material through high-heat composting or similar methods.

#### **CM-10. Herbicide Use**

A qualified biologist will determine presence/absence of sensitive resources in designated herbicide use areas. A certified pest control advisor will then prepare a written recommendation including site-specific control methods (including the use of approved herbicide and surfactants), which will include, but not be limited to, the following:

- All applications of herbicides and adjuvants will occur in accordance with federal and state regulations.
- Herbicide application shall not occur when wind conditions may result in drift.

#### **CM-11. Restore Temporarily Impacted Area Habitats**

Temporarily impacted habitats are generally those habitat types that support herbaceous vegetation and can be re-established within one growing season of the impacts. Areas where temporary, construction-related impacts have taken place shall be restored to pre-project conditions. Temporary impacts would include ground disturbance and removal of non-native groundcovers. Restoration would typically include decompacting and finish-grading the soil surface and applying appropriate erosion control measures, including seeding.

## Section 2.0 Methods

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Prior to conducting field work, H. T. Harvey & Associates biologists reviewed Project plans; environmental documents for the nearby Conservation Center for Wildlife Care Project (H. T. Harvey & Associates 2014); aerial photos and topographic maps; a U.S. Fish and Wildlife Service (USFWS) species list for the Cupertino and Castle Rock Ridge, California 7.5-minute USGS quadrangles; the CDFW's CNDDDB (CNDDDB 2014); Calflora (2014); the Consortium of California Herbaria (2014); and other relevant scientific literature, technical databases, and resource agency reports in order to assess the current distribution of special-status plants and animals in the Project vicinity. For the purposes of this report, the general vicinity of the Project is defined as the area within a 5-mi radius.

Reconnaissance-level field surveys of the Project study area were conducted by H. T. Harvey & Associates wildlife ecologist Robin Carle, M. S., senior mammalogist Dave Johnston, Ph.D., and/or botanist Chris Gurney, M.S., on 1, 3, 13, and 15 July 2013. The purpose of these surveys was to provide a Project-specific impact assessment for development of the proposed Project under the Master Plan, as described above. Specifically, surveys were conducted to: (1) assess existing biotic habitats and general wildlife communities in the study area, (2) assess the site for its potential to support special-status species and their habitats, and (3) identify potential jurisdictional habitats, such as waters of the U.S. and riparian habitat.

## Section 3.0 Environmental Setting

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### 3.1 General Project Area Description

The study area is located along the urban/rural interface, on the western boundary of the City of Saratoga in Santa Clara County, California. Lands to the north, east, and south of the site have experienced disturbance from agricultural and rural residential development. Land to the west is generally undisturbed and is managed by the San Jose Water Company. The study area itself was previously used as a quarry and later as a recreational area; however, the steepest areas within the southern portion of the site have remained largely undisturbed.

The study area is located near the base of the eastern slope of the Coast Ranges, on a northeast-facing slope. Topography on the site is steeply sloping (15 to 50 percent slopes), with elevation ranging from approximately 550 ft in the northeast corner to 1170 ft in the southeast corner. The hill slopes are interspersed with intermittent streams that flow into Saratoga Creek along the site's northern boundary. Saratoga Creek is a perennial stream that enters the site from the northwest and flows eastward. The study area has an estimated mean annual temperature of 59 degrees Fahrenheit and an estimated mean annual precipitation of 34.5 inches (PRISM Climate Group 2014).

Two soil types are present in the study area: (1) Katykat-Mouser-Sanikara complex, 30 to 50 percent slopes, and (2) Literr-Urbanland-Merbeth complex, 15 to 30 percent slopes. These soils are predominantly well-drained, fine loams derived from weathered sandstone and mudstone.

### 3.2 Biotic Habitats

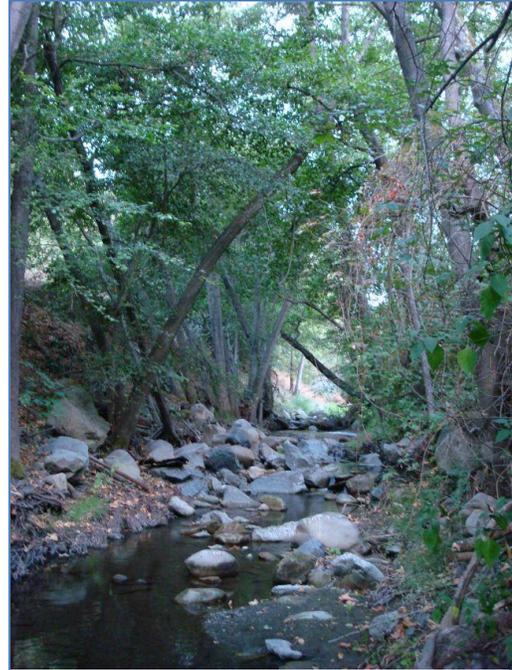
Reconnaissance-level surveys identified six general biotic habitat types in the study area: riparian forest, northern coastal scrub, broadleaved upland forest, mixed native/non-native woodland, developed/disturbed, and aquatic/wetland. Figure 2 shows the locations of each habitat type within the study area.

#### 3.2.1 Riparian Forest

**Vegetation.** Riparian forest habitat occurs adjacent to Saratoga Creek, where tall riparian trees form a dense canopy over a sparsely vegetated understory (Photograph 1). Dominant tree species include native white alder (*Alnus rhombifolia*) and big leaf maple (*Acer macrophylla*). Other common tree species include native Fremont's cottonwood (*Populus fremontii*), willows (*Salix* spp.), California bay (*Umbellularia californica*), and coast live oak (*Quercus agrifolia*). The understory includes native stinging nettle (*Urtica dioica*), common horsetail (*Equisetum arvense*), blue wildrye (*Elymus glaucus*), poison oak (*Toxicodendron diversilobum*), and invasive poison hemlock (*Conium maculatum*). Existing disturbances to this habitat include erosion of soil and debris (e.g., large concrete blocks from a former retaining wall) along the banks, and the invasion of non-native plant species in the

understory. However, overall habitat quality is good, and native plant species still dominate this riparian corridor.

**Wildlife.** Riparian habitats in California generally support exceptionally rich animal communities and contribute disproportionately to landscape-level species diversity. The presence of year-round water and abundant invertebrate fauna provide foraging opportunities and the diverse habitat structure provides cover and breeding opportunities for many species. However, the riparian habitat along the reach of Saratoga Creek within the study area has been degraded by a variety of factors. The creek lies along the urban interface, which includes nearby residences and vineyards as well as disturbances associated with adjacent SR 9. The stream banks within the study area are extremely steep and incised, and have been stabilized in several areas with sakrete or sheer concrete banks. No large, mature trees are present within this habitat, possibly due to the extremely steep banks along the stream channel and historic disturbance associated with quarry activities. The understory within this habitat is only moderately dense, likely also due to the steepness of the stream banks. Where sakrete has been used to stabilize the banks, the riparian canopy is more open with less overstory cover. The channel has been modified with a bridge crossing at the eastern site entrance and a box culvert at the western entrance. Despite these factors, the riparian forest in the study area is of moderate quality and provides cover and foraging habitat for a wide variety of terrestrial vertebrates (e.g., amphibians, reptiles, and mammals), as well as several functional groups of birds including insectivores (e.g., warblers, flycatchers), seed-eaters (e.g., finches), and raptors. Cavity-nesters (e.g., swallows and woodpeckers) are not expected to nest within this habitat due to the absence of large, mature trees with cavities for nesting.



**Photograph 1. Riparian habitat along Saratoga Creek.**

Several species of amphibians and reptiles occur in the riparian forest along Saratoga Creek. Leaf litter, downed tree branches, low-growing forbs, and fallen logs provide cover for the slender salamander (*Batrachoseps attenuatus*), arboreal salamander (*Aneides lugubris*), ensatina (*Ensatina eschscholtzii*), California newt (*Taricha torosa*), western toad (*Anaxyrus boreas*), and Sierran chorus frog (*Pseudacris sierrae*). Reptile species found in this habitat include the western fence lizard (*Sceloporus occidentalis*), western skink (*Plestiodon skiltonianus*), southern alligator lizard (*Elgaria multicarinata*), ringneck snake (*Diadophis punctatus*), and common kingsnake (*Lampropeltis getula*).

Among the species of birds that use the riparian forest habitat within the study area for breeding are the Pacific-slope flycatcher (*Empidonax difficilis*), warbling vireo (*Vireo gilvus*), western scrub-jay (*Apelocoma*

*californica*), and bushtit (*Psaltriparus minimus*). Limited nesting habitat for smaller raptors, such as the Cooper's hawk (*Cooper's hawk*) and red-shouldered hawk (*Buteo lineatus*), occurs in some of the larger trees within this habitat; however, no existing nests of raptors were observed in this habitat during the site visits. Black phoebes (*Sayornis nigricans*) may nest on the culverts and bridge crossing in the study area and forage within this habitat.

Small mammals, such as the ornate shrew (*Sorex ornatus*), broad-footed mole (*Scapanus latimanus*), native western gray squirrel (*Sciurus griseus*), and nonnative fox squirrel (*Sciurus niger*) use the Saratoga Creek riparian forest for breeding and foraging. No nests of the San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*) were observed during reconnaissance-level surveys, likely due to the creek's extremely steep banks and lack of dense understory vegetation, although woodrats inhabiting adjacent habitats likely forage here. Medium-sized mammals such as the raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), bobcat (*Lynx rufus*), gray fox (*Urocyon cinereoargenteus*), and nonnative opossum (*Didelphis virginiana*) are also present in this habitat. Mule deer (*Odocoileus hemionus*) are common in the surrounding habitats and use riparian areas for access to water and foraging. Several species of bats, including the Yuma bat (*Myotis yumanensis*) and Mexican free-tailed bat (*Tadarida brasiliensis*), forage over riparian habitats.

### 3.2.2 Northern Coastal Scrub

**Vegetation.** Northern coastal scrub habitat occurs on dry exposed slopes with coarse sandy soils (Photograph 2). Within the study area, the locations occupied by this habitat type were likely once forested, but were converted after logging and disturbance associated with quarry activities. After several decades



**Photograph 2. Northern coastal scrub.**

without disturbance, this habitat is recovering and now supports many native plant species. Dominant species in the shrub layer include native coyote brush (*Baccharis pilularis*) and sticky monkey flower (*Mimulus aurantiacus*). The understory is composed of a mixed of both native and exotic non-native annual grasses and forbs.

**Wildlife.** Northern coastal scrub habitats are typically dry and provide relatively low and homogeneous vegetative structure. Therefore, wildlife species diversity in this habitat is often correspondingly low. In the study area, coastal

scrub habitat is restricted in extent and is surrounded by woodland, forest, and developed/disturbed habitats. Therefore, wildlife use of this habitat is strongly influenced by the suites of species that occur in adjacent habitats.

Amphibians are usually absent or scarce in coastal scrub habitat due to the very dry conditions, and many other wildlife species that inhabit these areas either derive moisture directly from food or synthesize their water metabolically from seeds (e.g., the California pocket mouse [*Chaetodipus californicus*]). Mammals that use the northern coastal scrub habitats for foraging and cover include the coyote (*Canis latrans*), bobcat, and brush rabbit (*Sylvilagus bachmani*), among others. Nests of San Francisco dusky-footed woodrats are present where oaks and/or poison oak is mixed with coyote brush scrub, and this species will nest and forage throughout scrub habitat in the study area. Bird species that nest in coastal scrub habitats include the western scrub-jay, California thrasher (*Toxostoma redivivum*), California towhee (*Melospiza crissalis*), spotted towhee (*Pipilo maculatus*), California quail (*Callipepla californica*), wren-tit (*Chamaea fasciata*), and Anna's hummingbird (*Calypte anna*). Reptiles that occur in these habitats include the gopher snake (*Pituophis catenifer*), southern alligator lizard, and western fence lizard.

Many wildlife species that use the coastal scrub habitat in the study area breed in adjacent woodland and forest habitats and forage in areas of open scrub. These include the olive-sided flycatcher (*Contopus cooperi*), mule deer, hairy woodpecker (*Picoides villosus*), chestnut-backed chickadee (*Poecile rufescens*), bushtit, and house finch (*Haemorhous mexicanus*). Raptors, such as red-tailed hawks (*Buteo jamaicensis*) and great-horned owls (*Bubo virginianus*) will nest in surrounding forest habitat and forage in open scrub.

### 3.2.3 Broadleaved Upland Forest

**Vegetation.** Broadleaved upland forest habitat typically occurs on higher slopes and in areas that are difficult to access. This is the least disturbed and highest quality habitat in the study area, and within this habitat native plant species predominate (Photograph 3). Native coast live oak and California bay are common throughout this habitat and form a dense canopy. Other native tree species such as big leaf maple, madrone (*Arbutus menziesii*), and Douglas fir (*Pseudotsuga menziesii*) co-dominate with oak and bay, varying in abundance depending on slope and exposure. The understory is mostly dominated by native species, including oceanspray (*Holodiscus discolor*), poison oak, common snowberry (*Symphoricarpos album*), pink honeysuckle (*Lonicera hispidula*), and common wood fern (*Dryopteris expansa*). Although this habitat is mostly undisturbed, several cleared trails support dense stands of invasive French broom (*Genista monspessulana*).



**Photograph 3. Broadleaved forest.**

**Wildlife.** Broadleaved forests produce mast crops that are an important food source for many birds and mammals. Birds such as the Steller's jay (*Cyanocitta stelleri*), California quail, dark-eyed junco (*Junco hyemalis*),

Nuttall's woodpecker (*Picoides nuttallii*), chestnut-backed chickadee, Bewick's wren (*Thryomanes bewickii*), and white-breasted nuthatch (*Sitta carolinensis*) are year-round residents in broadleaved forest habitat. Many additional species of birds, including the Allen's hummingbird (*Selasphorus sasin*), olive-sided flycatcher, Cassin's vireo (*Vireo cassinii*), and western screech owl (*Megascops kennicottii*), may nest here. San Francisco dusky-footed woodrats are common in the thick understory of oak-dominated forests, and deer mice (*Peromyscus maniculatus*), California mice (*Peromyscus californicus*), mule deer, native western gray squirrels and nonnative fox squirrels will also occur there. The California myotis (*Myotis californicus*) and long-eared myotis (*Myotis evotis*) may occur in oak-dominated forests with a closed canopy. Reptiles found in adjacent coastal scrub and mixed woodland habitats will occur regularly in this habitat, and common amphibians, such as the California slender salamander, occur here as well.

### 3.2.4 Mixed Native/Non-native Woodland

**Vegetation.** Mixed native/non-native woodland habitat encompasses most of the northern parcel within the study area. It supports a mix of highly disturbed areas dominated by invasive species, and less disturbed areas dominated by mostly native species. Slopes in this habitat are typically less steep than in the broadleaved upland forest habitat, making this area more accessible for development. As a result, most of the structures,



**Photograph 4. Mixed native/non-native woodland.**

roads, trails, campsites, and other developed areas are located within this habitat. The canopy in this habitat is generally more open than in the broadleaved upland forest habitat, largely due to the extensive road and trail network. Tree cover within this habitat includes a mix of naturally occurring native species (e.g. coast live oak, California bay, and big leaf maple), planted native species (e.g. coast redwood [*Sequoia sempervirens*], giant sequoia [*Sequoiadendron giganteum*], Monterey pine [*Pinus radiata*], and Monterey cypress [*Hesperocyparis macrocarpa*]) mainly occurring in undisturbed areas, and planted and naturalized non-native species (e.g. blue gum [*Eucalyptus globulus*] and cotoneaster [*Cotoneaster pannosus*]) mainly occurring in disturbed areas. The trails,

canopy openings, and canopy edges are largely dominated by invasive weeds including French broom, yellow star-thistle (*Centaurea solstitialis*), fennel (*Foeniculum vulgare*), Italian thistle (*Carduus pycnocephalus*), poison hemlock, and ripgut brome (*Bromus diandrus*).

**Wildlife.** The fragmented structure of the mixed native/nonnative woodland habitat in the study area and the presence of adjacent disturbed, open areas limit the value of this habitat to some wildlife species that occur in the more extensive, native forests in the vicinity. In addition, this woodland lacks large, mature trees, which provide overstory structure and cavities for some wildlife species. Overall, this habitat supports a moderately

dense understory and many food-bearing trees and plants, and wildlife species commonly found in disturbed or limited woodland habitats in the region occur here. In addition, the presence of adjacent northern coastal scrub and broadleaved upland forest allows this woodland to provide breeding and/or foraging habitat for species that are associated with these adjacent habitats. As a result, wildlife species associated with a variety of habitats occur in the mixed native/nonnative woodland on the site.

Several common amphibian species will forage or take refuge in this woodland, such as the western toad, Sierran chorus frog, slender salamander, and arboreal salamander. Reptiles such as the gopher snake, western fence lizard, and southern alligator lizard are also present here. Native mammals such as the mule deer, striped skunk, bobcat, and raccoon breed and forage in this woodland, and the native western gray squirrel and nonnative fox squirrel occur in this habitat as well. Cavities and hollows in trees, as well as exfoliating bark, provide potential roosting habitat for several species of bats, including the Yuma myotis and California myotis. Several nests of San Francisco dusky-footed woodrats were observed in the dense understory of this woodland during the site surveys, and woodrats will forage throughout this habitat.

Many common species of birds nest in this habitat, including the dark-eyed junco, American crow (*Corvus brachyrhynchos*), American robin (*Turdus migratorius*), California towhee, western scrub-jay, Anna's hummingbird, lesser goldfinch (*Spinus psaltria*), and bushtit. A few forest-associated birds, such as the Steller's jay and olive-sided flycatcher, will nest and forage here as well. Common cavity-nesting birds such as the chestnut-backed chickadee, Nuttall's woodpecker, Bewick's wren, and oak titmouse (*Baeolophus inornatus*) nest in the numerous cavities present in this habitat. Raptors, such as Cooper's hawks and red-shouldered hawks, may nest in larger trees within the woodland. These species forage for prey within this habitat as well as within adjacent scrub, riparian, and broadleaved upland forest habitats.

### 3.2.5 Aquatic/Wetland

Aquatic and wetland communities are periodically to perennially inundated. These communities perform many important environmental functions, including recycling nutrients, purifying water, attenuating floods, recharging ground water, and providing habitats for flora and fauna. In addition, they serve as habitat for many aquatic species. Three types of aquatic and wetland communities are present in the study area: perennial stream, intermittent/ephemeral stream, and pond.



**Photograph 5. Saratoga Creek.**

#### **Perennial Stream**

**Vegetation.** Saratoga Creek, a perennial stream (Photograph 5), flows along the northern boundary of the study area, through a deeply incised riparian corridor. The streambed is generally unvegetated, but supports

occasional hydrophytes including common horsetails and stinging nettle along the channel edge. The channel bed is formed of coarse sediments including sand, cobbles, and boulders.

**Wildlife.** A drop structure and a concrete chute located several miles downstream of the study area on Saratoga Creek prevents anadromous fish from migrating up the creek to the study area. Nevertheless, many wildlife species are expected to occur in the reach of Saratoga Creek that occurs within the study area. Native fish species such as the California roach (*Lavinia symmetricus*), Sacramento sucker (*Catostomus occidentalis*), resident rainbow trout (*Oncorhynchus mykiss*), and threespine stickleback (*Gasterosteus aculeatus*) may occur in deeper pools within this reach of the creek. Nonnative fish species may include sunfish (*Lepomis* sp.) and mosquitofish (*Gambusia affinis*). Amphibians such as the western toad, Sierran chorus frog, nonnative bullfrog (*Rana catesbeianus*), and California newt are characteristic of creeks in the Santa Cruz Mountains and are expected to breed in the perennial stream habitat within the study area. Birds such as the mallard (*Anas platyrhynchos*), American dipper (*Cinclus mexicanus*), and belted kingfisher (*Ceryle alcyon*) forage in these waters. Bats, including the Yuma myotis, forage aerially on insects over the creek.

#### **Intermittent/Ephemeral Stream**

**Vegetation.** Intermittent/ephemeral streams are found throughout the study area where hill slopes meet. Intermittent streams are sparsely vegetated with hydrophytes including common horsetails and giant chain fern (*Woodwardia fimbriata*), as well as upland species including poison oak and California blackberry (*Rubus ursinus*).

**Wildlife.** Because the intermittent/ephemeral streams in the study area do not hold standing water for long periods and do not support wetland vegetation, they do not provide breeding habitat for amphibious or aquatic species. Amphibians, as well as birds, mammals, and invertebrates in surrounding habitats may use these streams opportunistically during wet periods when they contain water. The remainder of the year, wildlife use of this habitat is similar to that of the surrounding habitats.



**Photograph 6. On-site pond.**

#### **Pond**

**Vegetation.** A small, artificially created pond (Photograph 6) is located within the mixed native/non-native woodland habitat. This pond supports a dense cover of cattails (*Typha* sp.) and aquatic species including common duckweed (*Lemna minor*).

**Wildlife.** The small size and isolation of the pond in the study area precludes its use by many wetland-associated wildlife species. Nevertheless, common amphibians found in the surrounding habitats, such as Sierran chorus frogs and nonnative bullfrogs, may breed and forage within this wetland habitat, and

California red-legged frogs may also occur here. In addition, small numbers of western pond turtles may bask and forage at the pond and nest in nearby upland habitats. A pair of song sparrows (*Melospiza melodia*) was detected at the pond during the site surveys, but many marsh-nesting birds, such as common yellowthroats (*Geothlypis trichas*) and red-winged blackbirds (*Agelaius phoeniceus*), as well as waterbirds such as ducks, coots, and rails, are not expected to breed or occur here due to the pond's small size and isolation.

### 3.2.6 Developed/Disturbed

**Vegetation.** Developed/disturbed habitat includes structures, roads, trails, campsites, and other developed/disturbed areas within the study area (Photograph 7). These areas are mostly barren, but support



**Photograph 7. Developed/disturbed habitat.**

localized patches of invasive weeds including French broom, yellow star-thistle, fennel, Italian thistle, poison hemlock, and ripgut brome.

**Wildlife.** Many wildlife species make use of structures, roads, trails, campsites, and other developed/disturbed areas such as those found in the study area. The majority of these species are common in developed areas in the region, such as the City of Saratoga and nearby farms and ranches, and are tolerant of human disturbances. Native house finches and black phoebes may nest on structures, culverts, and bridges within the study area. Native raccoons and nonnative Virginia opossums will forage in

developed areas. Many bird species that nest in adjacent forest, woodland, and scrub habitats will forage in disturbed areas, including the western scrub-jay, California towhee, dark-eyed junco, lesser goldfinch, northern flicker, and Bewick's wren. Migrating sparrows (e.g., the white-crowed sparrow [*Zonotrichia leucophrys*] and golden-crowed sparrow [*Zonotrichia atricapilla*]) are common foragers in these areas during the spring and fall.

## 3.3 Wildlife Movement

Wildlife movement within the study area takes many forms, and is different for the various suites of species associated with these lands. Bird and bat species move readily over the landscape, foraging over and within both natural lands and disturbed areas. Fish and amphibian species move along the Saratoga Creek corridor. Mammals of different species move within their home ranges, but also disperse between patches of high-quality habitat. Generally, reptiles and amphibians similarly settle within home ranges, sometimes moving to central breeding areas, upland refugia, or hibernacula in a predictable manner, but also dispersing to new areas. Some species, especially among the birds and bats, are migratory, moving into or through the study area during specific seasons. Aside from bats, there are no other mammal species in the study area that are truly

migratory. However, the young of many mammal species disperse from their natal home ranges, sometimes moving over relatively long distances in search of new areas in which to establish.

Movement corridors are segments of land that provide a link for wildlife through the mosaic of suitable and unsuitable habitat types found within a landscape while also providing cover. On a broader level, corridors also function as paths along which wide-ranging animals can travel, populations can move in response to environmental changes and natural disasters, and genetic interchange can occur. In California, wildlife movement corridors often consist of riparian areas along streams, rivers, or other natural features, and within the study area, Saratoga Creek is expected to function as a wildlife movement corridor.

## Section 4.0 Regulatory Setting

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Biological resources within the study area are regulated by a number of federal, state, and local laws and ordinances, as described below.

### 4.1 Federal

#### 4.1.1 Clean Water Act

Under Section 404 of the Clean Water Act (CWA), the USACE is responsible for regulating the discharge of fill material into waters of the U.S. Waters of the U.S. and their lateral limits are defined in 33 Code of Federal Regulations (CFR) Part 328.3 (a) and include streams that are tributary to navigable waters up to the ordinary high water (OHW) mark and their adjacent wetlands. Wetlands that are not adjacent to waters of the U.S. are termed “isolated wetlands” and, depending on the circumstances, may be subject to USACE jurisdiction.

Project Applicability: Likely waters of the U.S. within the study area include Saratoga Creek, all intermittent/ephemeral streams, and the pond. Any work within waters of the U.S. (i.e., wetlands and other waters) may require a Section 404 fill discharge permit from the USACE and Section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB).

#### 4.1.2 Federal Endangered Species Act

The FESA protects federally listed wildlife species from harm or “take”, which is broadly defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct.” Take can also include habitat modification or degradation that directly results in death or injury to a listed wildlife species. An activity can be defined as “take” even if it is unintentional or accidental. Listed plant species are provided less protection than listed wildlife species. Listed plant species are legally protected from take under the FESA only if they occur on federal lands.

The USFWS and the National Marine Fisheries Service (NMFS) have jurisdiction over federally listed, threatened, and endangered species under the FESA. The USFWS also maintains lists of proposed and candidate species. Species on these lists are not legally protected under the FESA, but may become listed in the near future and are often included in their review of a project.

Project Applicability: No federally listed plant species are expected to occur or potentially occur in the Plan Area. Federally listed animal species that occur, or could potentially occur in the study area include only the California red-legged frog.

### **4.1.3 Federal Migratory Bird Treaty Act**

The federal Migratory Bird Treaty Act (MBTA), 16 U.S.C. §703, prohibits killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. The MBTA protects whole birds, parts of birds, and bird eggs and nests; and prohibits the possession of all nests of protected bird species whether they are active or inactive. An active nest is defined as having eggs or young, as described by the Department of the Interior in its 16 April 2003 Migratory Bird Permit Memorandum. Nest starts (nests that are under construction and do not yet contain eggs) are not protected from destruction.

Project Applicability: All native bird species that occur in the study area are protected under the MBTA.

## **4.2 State**

### **4.2.1 Section 401 Water Quality Certification**

The RWQCB is responsible for protecting surface, ground, and coastal waters within its boundaries. It requires that a project proponent apply for and obtain a CWA Section 401 Water Quality Certification for any project that requires a CWA Section 404 permit from the USACE.

Project Applicability: Likely waters of the U.S. within the study area include Saratoga Creek, all intermittent/ephemeral streams, and the pond. Any Section 404 permit authorized by the USACE for the Project would be inoperative without also obtaining authorization from the RWQCB pursuant to Section 401 of the Clean Water Act (i.e., without obtaining a certification of water quality). The RWQCB requirements for issuance of a “401 Permit” typically parallel the USACE requirements for permitting impacts to USACE regulated areas pursuant to Section 404 of the Clean Water Act (see Section 3.1.1 Clean Water Act).

### **4.2.2 Porter-Cologne Water Quality Control Act**

The RWQCB is responsible for protecting surface, ground, and coastal waters within its boundaries, pursuant to the Porter-Cologne Water Quality Control Act of the California Water Code. The RWQCB has jurisdiction under Section 401 of the Clean Water Act for activities that could result in a discharge of dredged or fill material to a water body. Federal authority is exercised whenever a proposed project requires a CWA Section 404 permit from the USACE in the form of a Section 401 Water Quality Certification. State authority is exercised when a proposed project is not subject to federal authority, in the form of a Notice of Coverage, Waiver of Waste Discharge Requirements. RWQCB jurisdiction of other waters, such as streams and lakes, extends to all areas below the OHW mark.

The RWQCB has no formal technical manual or expanded regulations to help in identifying their jurisdiction. The only guidance can be found in Porter-Cologne Water Quality Control Act, Chapter 2 (Definitions), which states, “‘waters of the State’ means any surface water or ground water, including saline waters, within the boundaries of the state.”

Under the Porter-Cologne Water Quality Control Act, the State Water Quality Control Board and the nine regional boards also have the responsibility of granting CWA National Pollutant Discharge Elimination System permits and waste discharge requirements for certain point-source and non-point discharges to waters. These regulations limit impacts to aquatic and riparian habitats from a variety of urban sources.

Project Applicability: As described above, any Section 404 permit authorized by the USACE for the Project would be inoperative without also obtaining authorization from the RWQCB pursuant to Section 401 of the CWA (i.e., without obtaining a certification of water quality). Additionally, any isolated wetlands or other waters that are determined to be in the study area that are not regulated by the USACE pursuant to the SWANCC decision would still be regulated by the RWQCB pursuant to the Porter-Cologne Water Quality Control Act. Any impacts to waters of the state would have to be mitigated to the satisfaction of the RWQCB prior to the time this resource agency would issue a permit for impacts to such features.

#### **4.2.3 California Endangered Species Act**

The CESA (California Fish and Game Code, Chapter 1.5, §§2050-2116) prohibits the take of any plant or animal listed or proposed for listing as rare (plants only), threatened, or endangered. In accordance with the CESA, the CDFW has jurisdiction over state-listed species (Fish and Game Code 2070). The CDFW regulates activities that may result in “take” of individuals (i.e., “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”). Habitat degradation or modification is not expressly included in the definition of “take” under the California Fish and Game Code. The CDFW, however, has interpreted “take” to include the “killing of a member of a species which is the proximate result of habitat modification.”

Project Applicability: No state listed plant or animal species are expected to occur or potentially occur in the study area. However, one candidate for state listing, the Townsend’s big-eared bat (*Corynorhinus townsendii*), may occur.

#### **4.2.4 California Environmental Quality Act**

The CEQA is a state law that requires state and local agencies, such as the City of Saratoga, to document and consider the environmental implications of their actions and to refrain from approving projects with significant environmental effects if there are feasible alternatives or mitigation measures that can substantially lessen or avoid those effects. The CEQA requires the full disclosure of the environmental effects of agency actions, such as approval of a general plan update or the projects covered by that plan, on resources such as air quality, water quality, cultural resources, and biological resources. The State Resources Agency promulgated guidelines for implementing CEQA known as the State CEQA Guidelines.

Section 15380(b) of the State CEQA Guidelines provides that a species not listed on the federal or state lists of protected species may be considered rare if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definitions in the FESA and the CESA and the section of the California Fish and Game Code dealing with rare or endangered plants or animals. This section was included

in the guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on a species that has not yet been listed by either the USFWS or CDFW or species that are locally or regionally rare.

The CDFW has produced three lists (amphibians and reptiles, birds, and mammals) of “species of special concern” that serve as “watch lists”. Species on these lists are of limited distribution or the extent of their habitats has been reduced substantially, such that threat to their populations may be imminent. Thus, their populations should be monitored. They may receive special attention during environmental review as potential rare species, but do not have specific statutory protection. All potentially rare or sensitive species, or habitats capable of supporting rare species, are considered for environmental review per the CEQA §15380(b).

The California Native Plant Society (CNPS), a non-governmental conservation organization, has developed ranks of plant species of concern in California. Vascular plants included in these ranks are defined as follows:

- Rank 1A Plants considered extinct
- Rank 1B Plants rare, threatened, or endangered in California and elsewhere
- Rank 2A Plants considered extinct in California but more common elsewhere
- Rank 2B Plants rare, threatened, or endangered in California but more common elsewhere
- Rank 3 Plants about which more information is needed – a review list
- Rank 4 Plants of limited distribution – a watch list.

These CNPS rankings are further described by the following threat code extensions:

- .1—Seriously endangered in California
- .2—Fairly endangered in California
- .3—Not very endangered in California.

Although the CNPS is not a regulatory agency and plants in these ranks have no formal regulatory protection, plants appearing in Rank 1B or Rank 2 are, in general, considered to meet the CEQA’s §15380 criteria, and adverse effects on these species may be considered significant. Impacts on plants that are ranked by the CNPS in Rank 3 or 4 are also considered during CEQA review, although because these species are typically not as rare as those in Rank 1B or Rank 2, impacts on them are less frequently considered significant.

Project Applicability: All potential impacts on biological resources will be considered during CEQA review of the Project in the context of the Initial Study. Project impacts are discussed below.

## **4.2.5 California Fish and Game Code**

The California Fish and Game Code includes regulations governing the use of, or effects on, many of the state's fish, wildlife, and sensitive habitats. The CDFW exerts jurisdiction over the bed and banks of rivers, lakes, and streams according to provisions of §§1601 - 1603 of the California Fish and Game Code. The Code requires a Streambed Alteration Agreement for the fill or removal of material within the bed and banks of a watercourse or water body and for the removal of riparian vegetation.

Certain sections of the California Fish and Game Code describe regulations pertaining to protection of certain wildlife species. For example, Code §2000 prohibits take of any bird, mammal, fish, reptile, or amphibian except as provided by other sections of the code. The California Fish and Game Code §§3503, 3513, and 3800 (and other sections and subsections) protects native birds, including their nests and eggs, from all forms of take. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by the CDFW. Raptors (i.e., eagles, hawks, and owls) and their nests are specifically protected in California under Code §3503.5. Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto."

Bats and other non-game mammals are protected by California Fish and Game Code §4150, which states that all non-game mammals or parts thereof may not be taken or possessed except as provided otherwise in the code or in accordance with regulations adopted by the commission. Activities resulting in mortality of non-game mammals (e.g., destruction of an occupied nonbreeding bat roost, resulting in the death of bats), or disturbance that causes the loss of a maternity colony of bats (resulting in the death of young), may be considered "take" by the CDFW.

Project Applicability: Any work within channels with a clear bed and banks, which in the study area includes Saratoga Creek and many of its tributaries, would require a Streambed Alteration Agreement from the CDFW per §1602 of the California Fish and Game Code.

All native bird species that occur in the study area are protected by the California Fish and Game Code. The Project will be required to take measures to avoid impacts on nesting birds per California Fish and Game Code §§3503, 3513, and 3800. Native mammals and other wildlife species in the study area are also protected by the California Fish and Game Code.

## **4.3 Local**

### **4.3.1 City of Saratoga Tree Ordinance**

According to the City of Saratoga Municipal Code §15-50.050, except as otherwise provided in §15-50.060, it is unlawful for any person to remove, damage, prune, or encroach upon, or cause to be removed, damaged,

pruned, or encroached upon any protected tree, located on any private or public property in the City without first having obtained a tree removal, pruning or encroachment permit issued pursuant to this Article and authorizing the proposed action. A protected tree shall consist of any of the following:

- Any native tree having a diameter at breast height (DBH) of six inches or greater
- Any other tree having a DBH of ten inches or greater.
- Any street tree, as defined in Section 15-50.020(v), regardless of size.
- Any heritage tree, as defined in Subsection 15-50.020(1) regardless of size.
- Any tree required to be planted or retained as a condition of any approval granted under this Chapter or Chapter 14 of this Code.
- Any tree required to be planted as a replacement, as provided in Section 15-50.170 of this Article. (Amended by Ord. 226 § 2 (part), 2003)

Project Applicability: Project construction may necessitate the removal of protected trees. The removal of these trees will be subject to the provisions of this ordinance, and a tree removal permit from the City of Saratoga will be required prior to removal of any protected trees within the Project site.

#### **4.3.2 County of Santa Clara – Riparian Setback**

The Santa Clara County General Plan Policy R-RC 37 (Santa Clara County 1994) requires that a protective buffer be established along streams, creeks, and freshwater marshes so that these resources are not impacted by development. For streams that are in their natural state, this buffer is to extend 150 feet from the top of bank on both sides of the waterway. Policy R-RC37 contains three setback options that may apply to a site:

- Setback Option 1: 150 feet from the top of bank on both sides where the creek or stream is predominantly in its natural state;
- Setback Option 2: 100 feet from the top of bank on both sides where the creek or stream has had major alterations; and
- Setback Option 3: In the case that neither (1) nor (2) are applicable, an area sufficient to protect the stream environment from adverse impacts of adjacent development, including impacts upon habitat, from sedimentation, biochemical, thermal and aesthetic impacts.

Project Applicability: Saratoga Creek and the on-site pond require protective buffers per Santa Clara General Plan Policy R-RC-37. The on-site pond should be considered as having had “major alteration” because it was built during the quarry operation, and a portion of Saratoga Creek within the study area has been placed into a culvert.

## Section 5.0 Special-Status Species and Sensitive Habitats

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The CEQA requires assessment of the effects of a project on species that are protected by state, federal, or local governments as “threatened, rare, or endangered”; such species are typically described as “special-status species”. For the purpose of the environmental review of the Project, special-status species have been defined as described below. Impacts to these species are regulated by some of the federal, state, and local laws and ordinances described in Section 4.0 *Regulatory Setting* above.

For purposes of this analysis, “special-status” plants are considered plant species that are:

- Listed under the FESA as threatened, endangered, proposed threatened, proposed endangered, or a candidate species.
- Listed under the CESA as threatened, endangered, rare, or a candidate species.
- Ranked by the CNPS as rare or endangered in Ranks 1A, 1B, 2, 3, or 4.

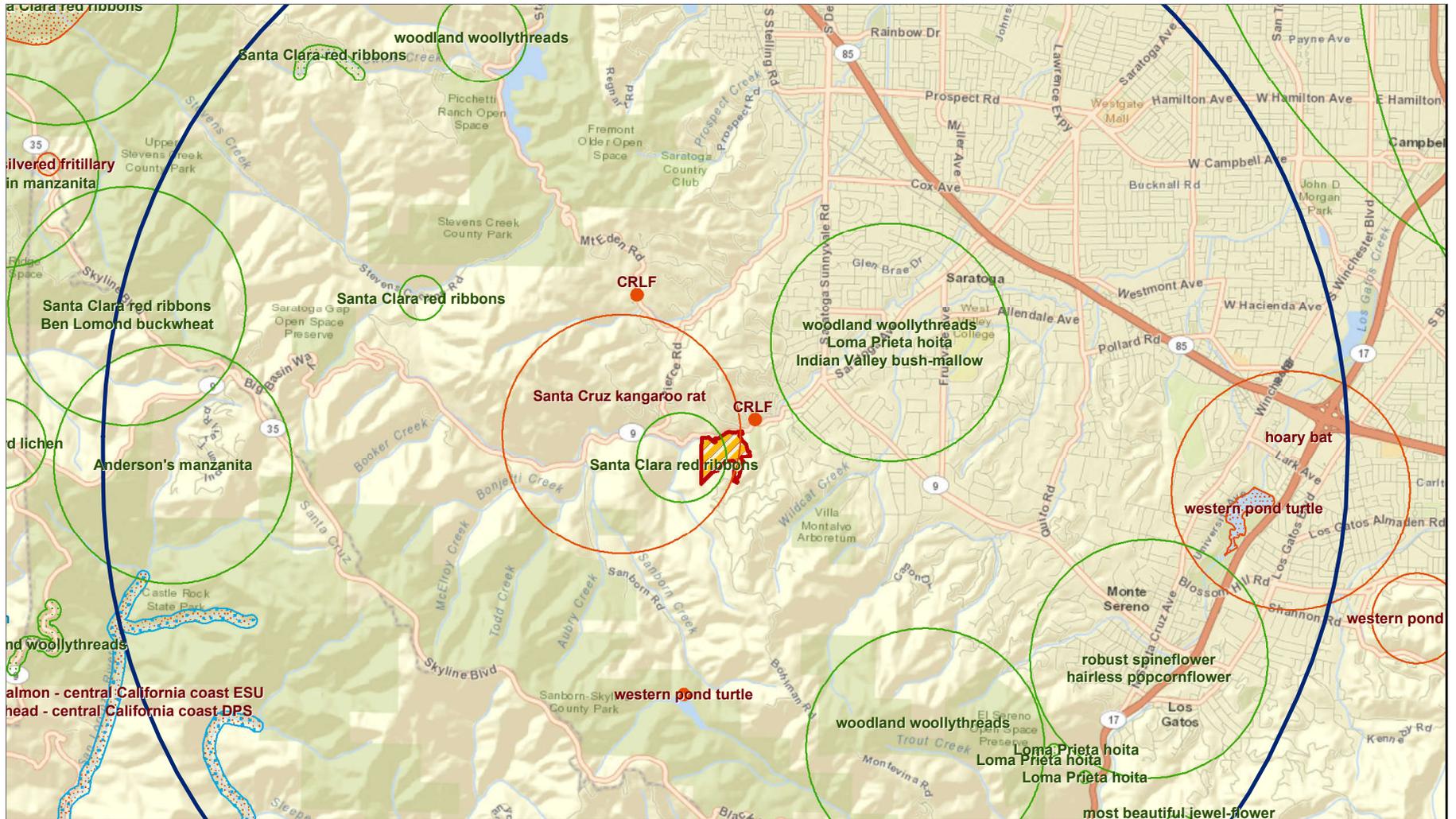
For purposes of this analysis, “special-status” animals are considered animal species that are:

- Listed under the FESA as threatened, endangered, proposed threatened, proposed endangered, or a candidate species.
- Listed under the CESA as threatened, endangered, or a candidate threatened or endangered species.
- Designated by the CDFW as a California species of special concern.
- Listed in the California Fish and Game Code as fully protected species (fully protected birds are provided in §3511, mammals in §4700, reptiles and amphibians in §5050, and fish in §5515).

Information concerning threatened, endangered, and other special-status species that may occur in the study area and surrounding vicinity was collected from several sources and reviewed by H. T. Harvey & Associates biologists as described under *Methods* above. The specific habitat requirements and the locations of known occurrences of each special-status species were the principal criteria used to determine which species potentially occur in the study area. Figure 3a depicts CNDDDB records of special-status plant and animal species in the general vicinity of the study area. This generalized map shows areas where special-status species are known to occur or have occurred previously.

### 5.1 Special-status Plant Species

A list of 98 special-status plants thought to have some potential for occurrence in the study area was compiled using a search of CNPS lists and CNDDDB records (CNPS 2014; CNDDDB 2014; Figure 3). Our search included records from the *Castle Rock Ridge, California* 7.5-minute USGS quadrangle and the eight



Source: HT Harvey Associates, 2013; PlaceWorks, 2014.



Figure 3  
CNDDDB Occurrences Map

surrounding quadrangles for CNPS Rank 1, 2, and 3 species. Our search also included all CNPS Rank 4 species known to occur in Santa Clara County since these species are only tracked at the county level.

All but four of the special-status plant species identified during the background review were determined to be absent from Project site due to one or more of the following reasons (see Appendix A):

- A lack of specific habitat (e.g., wetlands) and/or or edaphic requirements (e.g., serpentine soils) for the species in question.
- The species is known to be extirpated from the area.
- The study area is outside the highly-endemic range of the species in question.
- The elevation range of the species is outside of the range in the study area.

The four species with potential to occur in the study area are described in detail below:

**Anderson's manzanita (*Arctostaphylos andersonii*) Federal Listing Status: None; State Listing Status: None; CNPS List: 1B.2.** Anderson's manzanita is an evergreen shrub in the heath (Ericaceae) family that blooms from November through April. It occurs at openings and along the edges of broadleaved upland forest, chaparral, and North Coast coniferous forest habitats at elevations of 197 to 2395 ft. It may be confused with other species of manzanita merged with it as varieties. Anderson's manzanita occurs within 13 USGS 7.5-minute quadrangles in Santa Clara, Santa Cruz, and San Mateo counties (CNPS 2014). Within the study area, there is potential for this species to occur in broadleaved upland forest habitat.

**Kings Mountain manzanita (*Arctostaphylos regismontana*). Federal Listing Status: None; State Listing Status: None; CNPS List: 1B.2.** Kings Mountain manzanita is a perennial evergreen shrub in the heath family (Ericaceae) that blooms from January through April. This species occurs in granitic or sandstone substrates in broadleaved upland forest, chaparral, and North Coast coniferous forest habitats from 1000 to 2395 ft in elevation. It is a California endemic occurring in seven USGS quadrangles in Santa Clara and San Mateo counties, and possibly also in Santa Cruz County (CNPS 2014). Within the study area, there is potential for this species to occur in broadleaved upland forest habitat.

**Western leatherwood (*Dirca occidentalis*). Federal Listing Status: None; State Listing Status: None; CNPS List: 1B.2.** Western leatherwood is a deciduous shrub in the mezereum family (Thymelaeaceae) that blooms from January through April, and sometimes as late as May. It is endemic to California, and is the only species in its family found in the state. This shrub occurs in mesic broadleaved upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, North Coast coniferous forest, riparian forest, and riparian woodland habitats from 164 to 1296 ft in elevation. The species has been documented in 19 USGS quadrangles in Alameda, Contra Costa, Marin, Santa Clara, San Mateo, and Sonoma counties (CNPS 2014). Within the Project site, there is potential for this species to occur in broadleaved upland forest habitat.

**White-flowered rein orchid (*Piperia candida*). Federal Listing Status: None; State Listing Status: None; CNPS List: 1B.2.** White-flowered rein orchid is a perennial herb in the orchid family (Orchidaceae) that blooms from May through September. This species occurs in broadleaved upland forests, lower montane coniferous forests, and North Coast coniferous forests at an elevation range of approximately 99 to 4325 ft. Sometimes, this species is found in serpentinite substrates. White-flowered rein orchid is known from 46 Californian USGS 7.5-minute quadrangles in Del Norte, Humboldt, Mendocino, Santa Clara, Santa Cruz, Siskiyou, San Mateo, Sonoma, and Trinity counties, as well as in Oregon and possibly Washington states. This species may flower infrequently in some locations, and identification from herbarium materials is very difficult, two factors that make a rarity rating difficult to determine (CNPS 2014). Populations are typically very small (CNPS 2014). Within the study area, there is potential for this species to occur in broadleaved upland forest habitat.

## 5.2 Special-status Animal Species

The legal status and likelihood of occurrence of special-status animal species known to occur or potentially occurring in the general Project region are presented in Table 4. Figure 3 depicts the CNDDDB-mapped locations of special-status animals in the Project vicinity.

Twelve of the special-status species listed in Table 4 are not expected to occur in the study area because the site lacks suitable habitat or is outside the known range of the species, these are the Bay checkerspot butterfly (*Euphydryas editha bayensis*), Central California Coast steelhead (*Oncorhynchus mykiss*), California tiger salamander (*Ambystoma californiense*), foothill yellow-legged frog (*Rana boylei*), northern harrier (*Circus cyaneus*), tricolored blackbird (*Agelaius tricolor*), burrowing owl (*Athene cunicularia*), San Francisco common yellowthroat (*Geothlypis trichas sinuosa*), loggerhead shrike (*Lanius ludovicianus*), American badger (*Taxidea taxus*), American peregrine falcon (*Falco peregrinus anatum*), and white-tailed kite (*Elanus leucurus*). These species are determined to be absent from the study area, and are not discussed further.

Many special-status birds are protected as California species of special concern only when nesting. One of these species, the Vaux's swift (*Chaetura vauxi*) may occur in the study area as uncommon to rare visitors, migrants, or transients, but suitable nesting habitat for these species is absent from the site and from adjacent areas. Because these species only occur in the study area as nonbreeders, they are not considered "special-status" when they occur. Two additional special-status species, the pallid bat (*Antrozous pallidus*) and western red bat (*Lasiurus blossewillii*), are expected to occur in the study area only as uncommon to rare visitors, migrants, or transients, but are considered "special-status" regardless of the breeding season. These species are not expected to breed on the site or to occur in large numbers, and given the habitat conditions in the study area and surrounding vicinity, the study area does not provide habitat that is important to populations of these species.

Finally, seven special-status animal species are known or expected to occur on or near the study area and may breed there, these are the California red-legged frog, Townsend's big-eared bat, western pond turtle, long-

**Table 1. Special-status Animal Species, Their Status, and Potential Occurrence in the Study Area**

Name	Regulatory Status	Habitat	Potential for Occurrence in the Study Area
<b>Federal or State Endangered, Threatened, or Candidate Species</b>			
Bay checkerspot butterfly ( <i>Euphydryas editha bayensis</i> )	FT	Native grasslands on serpentine soils. Larval host plants are <i>Plantago erecta</i> and/or <i>Castilleja</i> sp.	<b>Absent.</b> Serpentine habitat is absent from the study area, and the site is isolated from known populations.
Central California coast steelhead ( <i>Oncorhynchus mykiss</i> )	FT	Cool streams with suitable spawning habitat and conditions allowing migration between spawning and marine habitats.	<b>Absent.</b> Barriers to up-migration in the form of downstream drop structures preclude presence of this species in Saratoga Creek within the study area (Leidy et al. 2005, Smith 1999).
California tiger salamander ( <i>Ambystoma californiense</i> )	FT, ST, CSSC	Vernal or temporary pools in annual grasslands or open woodlands.	<b>Absent.</b> There is an absence of recent records of this species from the study area vicinity (nearby occurrences are from 1893; CNDDDB 2014). The nearest recent record is from Senator Mine at Almaden Quicksilver County Park, approximately 9 mi from the study area (CNDDDB 2014). Further, the density of scrub and woodland areas, lack of California ground squirrel ( <i>Spermophilus beecheyi</i> ) burrows and large open grassland areas, the presence of non-native predators (e.g., bullfrogs) in the on-site pond, and the dense vegetation cover associated with the on-site pond, likely prevent persistence of any population on the site or colonization of the site by this species. Therefore, the species is determined to be absent.
California red-legged frog ( <i>Rana draytonii</i> )	FT, CSSC	Streams, freshwater pools, and ponds with emergent or overhanging vegetation.	<b>May be Present.</b> Although not ideal habitat, the study area provides breeding habitat (i.e., Saratoga Creek, on-site pond), as well as foraging and dispersal habitat (i.e., undisturbed areas of study area) for this species, although the presence of exotic predators (e.g., bullfrogs) in the on-site pond diminishes the value of the pond as breeding habitat. The species has also been recorded less than 1000 ft downstream of the study area along Saratoga Creek, just east of Toll House Road Bridge (CNDDDB 2014).

Name	Regulatory Status	Habitat	Potential for Occurrence in the Study Area
Townsend's big-eared bat ( <i>Corynorhinus townsendii</i> )	SC, CSSC	Roosts in caves and mine tunnels, and occasionally in deep crevices in trees such as redwoods or in abandoned buildings, in a variety of habitats.	<b>Absent as Breeder.</b> Cave-like habitat present in the study area (i.e., mine) is too open and cool to be used as a maternity roost by this species during the summer months. However, males may occasionally use the mine as a hibernaculum during winter months, and the species may be present on the site as an occasional migrant or forager.
<b>California Species of Special Concern</b>			
Foothill yellow-legged frog ( <i>Rana boylei</i> )	CSSC	Partially shaded shallow streams and riffles with a rocky substrate. Occurs in a variety of habitats in coast ranges.	<b>Absent.</b> There are no occurrence records for this species in the study area vicinity. The nearest CNDDDB record is from approximately 10 mi to the southeast at Guadalupe Creek, downstream of Guadalupe Reservoir (CNDDDB 2014). Saratoga Creek within the study area may have historically provided suitable habitat for this species; however, the moderately dense overstory vegetation and lack of sufficient open habitat along the creek in the study area precludes it from currently being suitable habitat for this species. The foothill yellow-legged frog is a stream-breeding frog, and the on-site pond is not suitable breeding habitat for this species. While foothill yellow-legged frogs may occasionally use ponds as temporary refugia during dispersal, this species is not expected to use the pond or any portion of the study area for dispersal as there is no suitable breeding habitat within the Project site to serve as a source of dispersing individuals.
Western pond turtle ( <i>Actinemys marmorata</i> )	CSSC	Permanent or nearly permanent water in a variety of habitats.	<b>May be Present.</b> Saratoga Creek within the study area and the on-site pond provide only marginal quality basking habitat due to the paucity of open water and basking sites. Therefore, there is a low probability of this species using the study area for nesting. However, pond turtles likely use the study area (especially Saratoga Creek) for dispersal.

Name	Regulatory Status	Habitat	Potential for Occurrence in the Study Area
Northern harrier ( <i>Circus cyaneus</i> )	CSSC (nesting)	Nests in marshes and moist fields, forages over open areas.	<b>Absent.</b> Minimal open habitat present in the study area and open grassland habitat at the site is too restricted and too isolated from vast expanses of open habitat elsewhere to support this species (even for foraging by migrants).
Long-eared owl ( <i>Asio otus</i> )	CSSC (nesting)	Riparian bottomlands with tall, dense willows and cottonwood stands (also dense live oak and California Bay along upland streams); forages primarily in adjacent open areas.	<b>May be Present.</b> Rare resident and occasional winter visitor in Santa Clara County (Bousman 2007c). Historical breeding records are known from the Santa Clara Valley floor and one recent nest was recorded at Ed Levin County Park west of Calaveras Reservoir (Noble 2007). The riparian forest habitat along Saratoga Creek does not contain suitably dense nesting habitat for this species, but it could potentially nest in the broadleaved upland forest in the southern portion of the site; however, it is expected to occur only in very low numbers, if at all.
Vaux's swift ( <i>Chaetura vauxi</i> )	CSSC (nesting)	Nests in snags in coastal coniferous forests or, occasionally, in chimneys. Forages aerially over many habitats.	<b>Absent as Breeder.</b> In western Santa Clara County, known to nest in chimneys and may nest in snags in coniferous forest (Rottenborn 2007). Snags in mixed woodland habitat in the study area provide ostensible nesting habitat for this species, but Vaux's swifts are not known to nest in mixed woodlands in Santa Clara County. May forage aerially over the site.
Olive-sided flycatcher ( <i>Contopus cooperi</i> )	CSSC (nesting)	Nests in mature forests with open canopies, along forest edges in more densely vegetated areas, in recently burned forest habitats, and in selectively harvested landscapes.	<b>May be Present.</b> The riparian, mixed woodland, and broadleaved upland forest habitats in the study area provide suitable nesting habitat for this species. The species is known to nest in similar habitats in the vicinity (Bousman 2007a) and is often detected in nearby parks during the nesting season (Cornell Lab of Ornithology 2014). Up to one or two pairs could nest in the study area.
Yellow warbler ( <i>Setophaga petechia</i> )	CSSC (nesting)	Nests in dense stands of willow and other riparian habitat.	<b>May be Present.</b> Although this species is known to nest in the site vicinity (Bousman 2007b), the riparian habitat along Saratoga Creek provides only marginally suitable nesting habitat for this species, and no more than one to two pairs are expected to breed on the site, if any. Migrants may forage throughout the site during the spring and fall.

Name	Regulatory Status	Habitat	Potential for Occurrence in the Study Area
Tricolored blackbird ( <i>Agelaius tricolor</i> )	CSSC (nesting colony)	Nests near fresh water in dense emergent vegetation.	<b>Absent.</b> The on-site pond is too small to support a colony of this species and the study area provides insufficient open habitat for foraging.
Burrowing owl ( <i>Athene cunicularia</i> )	CSSC	Open grasslands and ruderal habitats with suitable burrows, usually those made by California ground squirrels.	<b>Absent.</b> Minimal open habitat is present in the study area and open grassland habitat at the site is too restricted and too isolated from vast expanses of open habitat elsewhere to support this species. No burrows of California ground squirrels occur on the site to provide nesting and roosting habitat. There are no records of this species from anywhere in the vicinity (i.e., well-forested foothills of the Santa Cruz Mountains).
Black swift ( <i>Cypseloides niger</i> )	CSSC (nesting)	Nest on cliffs and coastal bluffs; forage aerially for insects.	<b>Absent.</b> Suitable cliff and coastal bluff habitats are not present in the study area.
San Francisco common yellowthroat ( <i>Geothlypis trichas sinuosa</i> )	CSSC	Nests in herbaceous vegetation, usually in wetlands or moist floodplains.	<b>Absent.</b> The on-site pond is too small to support nesting by this species.
Loggerhead shrike ( <i>Lanius ludovicianus</i> )	CSSC (nesting)	Nests in tall shrubs and dense trees; forages in grasslands, marshes, and ruderal habitats.	<b>Absent.</b> The open disturbed and coastal scrub habitat present in the study area is too restricted and too isolated from vast expanses of open habitat elsewhere to support this species (even for foraging by migrants).
Pallid bat ( <i>Antrozous pallidus</i> )	CSSC	Forages over many habitats; roosts in caves, rock outcrops, buildings, and hollow trees.	<b>Absent as Breeder.</b> Maternity colony likely absent due to a lack of structures or trees with high-quality roost sites. The nearest maternity colony is approximately 1.9 mi north of the study area. This species will forage for miles surrounding a maternity colony and individuals may forage in scrub or open disturbed areas on the site.
Western red bat ( <i>Lasiurus blossevillii</i> )	CSSC	Roosts in foliage in forest or woodlands, especially in or near riparian habitat.	<b>Absent as Breeder.</b> May occur in low numbers as a migrant and winter resident, but does not breed in the Project vicinity. May roost in foliage in trees virtually anywhere in the study area, but is expected to roost primarily in riparian areas.

Name	Regulatory Status	Habitat	Potential for Occurrence in the Study Area
San Francisco dusky-footed woodrat ( <i>Neotoma fuscipes annectens</i> )	CSSC	Nests in a variety of habitats including riparian areas, oak woodlands, and scrub.	<b>Present.</b> Many woodrat nests were observed at the site in coastal scrub, mixed woodland, and broadleaved forest habitats adjacent to existing trails during field surveys. Additional nests are likely scattered throughout these habitats in the study area.
American badger ( <i>Taxidea taxus</i> )	CSSC	Burrows in grasslands and occasionally in infrequently disked agricultural areas.	<b>Absent.</b> Open disturbed and coastal scrub habitats in the study area are too restricted and too isolated from vast expanses of open habitat elsewhere to support this species.
<b>State Fully Protected Species</b>			
American peregrine falcon ( <i>Falco peregrinus anatum</i> )	SP	Forages in many habitats; nests on cliffs and tall bridges and buildings.	<b>Absent.</b> Study area lacks suitable cliff-like habitat for nesting and site has minimal open habitat for foraging opportunities.
White-tailed kite ( <i>Elanus leucurus</i> )	SP	Nests in tall shrubs and trees, forages in grasslands, marshes, and ruderal habitats.	<b>Absent.</b> Open disturbed and coastal scrub habitats in the study area are too restricted and too isolated from vast expanses of open habitat elsewhere to support this species (even for foraging by migrants).

**SPECIAL-STATUS SPECIES CODE DESIGNATIONS**

- FT = Federally listed Threatened
- ST = State listed Threatened
- SC = State Candidate for listing
- CSSC = California Species of Special Concern
- SP = State Fully Protected Species

eared owl (*Asio otus*), olive-sided flycatcher, yellow warbler (*Setophaga petechia*), and San Francisco dusky-footed woodrat. Expanded descriptions of these species are provided below.

### 5.2.1 Federal or State Threatened, Endangered, or Candidate Species

**California Red-legged Frog (*Rana draytonii*). Federal Listing Status: Threatened; State Listing Status: Species of Special Concern.** The historic distribution of the California red-legged frog extended from the City of Redding in the Central Valley and Point Reyes National Seashore along the coast south to Baja California, Mexico. However, the species' current distribution is much reduced. California red-legged frogs have been predominantly extirpated from the southern Transverse and Peninsular ranges, and there are only five or six known populations in the Sierra foothills, and only two extant populations in southern California (Fellers 2005). In the central California Coast Ranges, California red-legged frogs are still present throughout much of their former range, although the number of extant populations has been reduced substantially (Fellers 2005).

The key to this species' occurrence in these habitats is the presence of perennial, or near-perennial, water and a general lack of introduced aquatic predators such as centrarchid fishes (e.g., largemouth bass [*Micropterus salmoides*], green sunfish [*Lepomis cyanellus*], and bluegill [*Lepomis macrochirus*]), crayfish (*Pacifastacus leniusculus* and *Procambarus clarkii*), and bullfrogs. As long as there is standing water at least several inches deep, and introduced aquatic predators are rare or nonexistent, conditions are at least potentially suitable for red-legged frogs. If the aquatic habitat favors introduced aquatic predators, then red-legged frogs will probably disappear over time unless there is a nearby breeding site available that excludes introduced predators. Adults need dense shrubby or emergent riparian vegetation closely associated with deep (more than 2.3 ft deep) still or slow-moving water (USFWS 2010). Preferred breeding habitat consists of deep perennial pools with emergent vegetation such as cattails, tules (*Scirpus* spp.), or sedges (*Carex* spp.) for attaching egg clusters (Hayes and Jennings 1988, Fellers 2005), as well as shallow benches to act as nurseries for juveniles (Jennings and Hayes 1994). However, California red-legged frogs have also been observed to inhabit stock ponds, sewage treatment ponds, and artificial (i.e., concrete) pools completely devoid of vegetation (Storer 1925). Continued survival of frogs in all aquatic habitats seems to be based on the continued presence of ponds, springs, or pools that are disjunct from perennial streams. Such habitats provide the continued basis for successful reproduction and recruitment year after year into nearby drainages that may lose frog populations due to stochastic events such as extreme flooding or droughts.

When not breeding, red-legged frogs can be found adjacent to streams and ponds in grasslands and woodlands. They use small mammal burrows in or under vegetation, willow root wads, the undersides of old boards and other debris within the riparian zone, and large cracks in the bottom of dried ponds as refugia (Jennings and Hayes 1994, USFWS 2002). Individuals also occasionally use California ground squirrel (*Spermophilus beecheyi*) burrows as refugia (Tatarian 2008).

California red-legged frogs do not have a distinct breeding migration. Some frogs remain at breeding sites all year while others disperse. Red-legged frogs are often found in summer months in foraging habitat that

would not be suitable for breeding; these individuals presumably move seasonally between summer foraging habitat and winter breeding habitat. Movements occur along riparian corridors, but some individuals move directly from one site to another through normally inhospitable habitats (e.g., heavily grazed pastures or oak-grassland savannas) (USFWS 2002, Fellers 2005, Fellers and Kleeman 2007). Evidence from marked and radio-tagged frogs on the San Luis Obispo County coast suggests that frog movements, via upland habitats, of about 1 mi are possible over the course of a wet season (USFWS 2002). A radio-tracking study in Marin County found a range of migration distances (0.02–0.87 mi, straight-line) (Fellers and Kleeman 2007), and migrating frogs in northern Santa Cruz County traveled straight-line distances of 0.12–1.74 mi (Bulger et al. 2003). The distance moved is highly site-dependent, as influenced by the local landscape (Fellers and Kleeman 2007). The USFWS (USFWS 2010) considered 1.0 mi a more typical dispersal distance for the species in its critical habitat designation.

The on-site pond provides suitable breeding habitat for California red-legged frogs, and perennial water in Saratoga Creek provides suitable foraging and dispersal habitat for this species, which was recorded in Saratoga Creek less than 1000 ft downstream of the study area, east of Toll House Road Bridge, in 1997 (CNDDB 2014). The intermittent drainages throughout the site also provide suitable nonbreeding and dispersal habitat for red-legged frogs during or immediately following wet periods, when they contain water, and uplands on the site could be used for dispersal by frogs as well, particularly during the wet season. Thus, California red-legged frogs could potentially breed and occur within the study area.

**Townsend’s big-eared bat (*Corynorhinus blossevillii*). Federal Listing Status: None; State Listing Status: Candidate.** Townsend’s big-eared bats occur throughout California to elevations of approximately 5971 ft in the Sierra Nevada (Pierson and Rainey 1998a). Although the Townsend’s big-eared bat is usually a cave dwelling species, many colonies are found in anthropogenic structures, such as the attics of buildings or old abandoned mines. Known roost sites in California include limestone caves, lava tubes, mine tunnels, buildings, and other structures (Williams 1986). This species also roosts in deep crevices of redwood trees.

The Townsend’s big-eared bat is a colonial species, with females aggregating in the spring at maternity colonies to begin their breeding season. Maternity colonies in California may be active from March to September (Pierson and Rainey 1998b). Females typically give birth to one young, and both females and young show a high fidelity to their group and their specific roost site (Pearson et al. 1952). The Townsend’s big-eared bat is easily disturbed while roosting in buildings, and females are known to abandon their young when disturbed (Humphrey and Kunz 1976). They forage primarily upon small moths, and feeds both in-flight and by gleaning insects from foliage (Zeiner et al. 1990).

Suitable foraging habitat for Townsend’s big-eared bats is present throughout the study area, and suitable roosting habitat is present in the abandoned mine. However, there are no recent records of Townsend’s big-eared bats breeding in Santa Clara County, and the habitat within the mine is too cool to be used as a maternity roost by this species during the summer. Nevertheless, male Townsend’s big-eared bats could

ostensibly use the mine as a hibernaculum during the winter, and individuals could roost in crevices in redwood trees. The species may also occur in the study area as an occasional forager or migrant.

## 5.2.2 California Species of Special Concern and Fully Protected Species

**Western Pond Turtle (*Actinemys marmorata*). Federal Listing Status: None; State Listing Status: Species of Special Concern.** The western pond turtle occurs in ponds, streams, and other wetland habitats in the Pacific slope drainages of California and northern Baja California, Mexico (Bury and Germano 2008). The central California population was historically present in most drainages on the Pacific slope (Jennings and Hayes 1994), but streambed alterations and other sources of habitat destruction, exacerbated by frequent drought events, have caused substantial population declines throughout most of the species' range (Stebbins 2003). Ponds or slack-water pools with suitable basking sites (such as logs) are an important habitat component for this species, and western pond turtles do not occur commonly along high-gradient streams. Females lay eggs in upland habitats, in clay or silty soils in unshaded (often south-facing) areas up to 0.25 mi from aquatic habitat (Jennings and Hayes 1994). Juveniles feed and grow in shallow aquatic habitats (often creeks) with emergent vegetation and ample invertebrate prey. Nesting habitat is typically found within 600 ft of aquatic habitat (Jennings and Hayes 1994), but if no suitable nesting habitat can be found close by adults may travel overland considerable distances to nest.

Saratoga Creek within the study area and the on-site pond provide only marginal quality basking habitat due to the paucity of open water (i.e., dense vegetation cover associated with the on-site pond and dense overstory vegetation along the creek) and basking sites. However, western pond turtles are likely present in the creek, using it for dispersal and foraging. Given the paucity of pooled open water or basking habitat in the site vicinity, there is a low probability of this species using the study area for nesting.

**Long-eared Owl (*Asio otus*). Federal Listing Status: None; State Listing Status: Species of Special Concern (Nesting).** The long-eared owl is an uncommon, year-long resident throughout much of California. It frequents dense riparian and live oak thickets near meadow edges, and nearby woodland and forest habitats, but also may be found in dense conifer stands at higher elevations. This species forages over open areas, where it hunts for rodents and small birds. It breeds from valley foothill hardwood up to ponderosa pine habitats from early March to late July. This species is considered a California species of special concern only when breeding.

The long-eared owl is only a rare resident and occasional winter visitor in Santa Clara County (Bousman 2007c), and there are no known nesting locations in the Project vicinity (Noble 2007). The riparian forest habitat along Saratoga Creek within the study area is only marginally dense and lacks mature, overstory trees. Thus, long-eared owls are not expected to breed in this habitat. However, the native, mature broadleaved upland forest habitat within the study area provides ostensibly suitable nesting habitat and the species could forage in open coastal scrub habitat or disturbed areas, though only in very low numbers.

**Olive-sided Flycatcher (*Contopus cooperi*).** **Federal Listing Status: None; State Listing Status: Species of Special Concern (Nesting).** In northern California, the olive-sided flycatcher is distributed along the Coast Ranges and the Sierra Nevada (Altman and Sallabanks 2000, Widdowson 2008). Olive-sided flycatchers are associated with coniferous forest habitats and breed in mature forests with open canopies, along forest edges in more densely vegetated areas, in recently burned forest habitats, and in selectively harvested landscapes (Altman and Sallabanks 2000, Robertson and Hutto 2007). Olive-sided flycatchers nest in tall trees, building an open-cup nest away from the main trunk in the middle to upper reaches of the tree (Widdowson 2008). This species makes one of the longest annual migrations of any songbird, from the Andes Mountains of South America to boreal breeding grounds in the United States and Canada. Individuals exhibit high site fidelity and arrive at their breeding territories beginning in mid-May, remaining until late July.

This species breeds widely in the Santa Cruz Mountains, and the broadleaved upland forest, mixed native/nonnative woodland, and riparian forest habitats in the study area provide suitable nesting habitat for this species. Olive-sided flycatchers are known to nest in similar habitats in the Project vicinity (Noble 2007), and are often detected in nearby parks during the nesting season (Cornell Lab of Ornithology 2014). Up to one or two pairs could nest in the study area, if present.

**Yellow Warbler (*Setophaga petechia*).** **Federal Listing Status: None; State Listing Status: Species of Special Concern (Nesting).** The yellow warbler is a widespread neotropical migrant that inhabits wet deciduous forests throughout North America (Lowther et al. 1999). In California, yellow warblers occupy wooded riparian habitats along the coast, on both eastern and western slopes of the Sierra Nevada, and throughout the northern portion of the state (Heath 2008). Their range has remained relatively stable over time, but populations have declined substantially in many localities due to habitat loss (Cain et al. 2003; Heath 2008) and expansion of the brood-parasitic brown-headed cowbird. As a result, nesting yellow warblers have been largely extirpated from the Santa Clara Valley (Heath 2008). However, small numbers of yellow warblers still nest in riparian habitats within Santa Clara County (Bousman 2007b). Ideal nesting habitat for yellow warblers consists of riparian corridors with dense, shrubby understory and open canopy (Lowther et al. 1999; Cain et al. 2003; Heath 2008). Yellow warblers nest from early May through early August and construct open cup nests in upright forks of shrubs or trees in dense willow thickets or other dense vegetation (Lowther et al. 1999).

Suitable nesting habitat for yellow warblers occurs in the riparian corridor along Saratoga Creek in the study area, and the species has been recorded breeding in riparian habitat along a number of creeks, including creeks in the vicinity of the study area (Bousman 2007b). If this species is present, one or two pairs could potentially nest in this habitat within the study area. In addition, yellow warblers are an abundant migrant throughout the Project region, and the species could forage throughout the study area during the spring and fall.

**Pallid Bat (*Antrozous pallidus*).** **Federal Listing Status: None; State Listing Status: Species of Special Concern.** The pallid bat is a light brown or sandy-colored, long-eared, moderate-sized bat that occurs

throughout California with the exception of the northwest corner of the state and the high Sierra Nevada (Zeiner et al. 1990). Pallid bats are most commonly found in oak savannah and in open dry habitats with rocky areas, trees, buildings, or bridge structures that are used for roosting (Zeiner et al. 1990, Ferguson and Azerrad 2004). Coastal colonies commonly roost in deep crevices in rocky outcroppings, in buildings, under bridges, and in the crevices, hollows, and exfoliating bark of trees. Night roosts often occur in open buildings, porches, garages, highway bridges, and mines. Colonies can range in size from a few individuals to over a hundred (Barbour and Davis 1969), and usually consist of at least 20 individuals (Wilson and Ruff 1999). Pallid bats typically winter in canyon bottoms and riparian areas. After mating during the late fall and winter, females leave to form maternity colonies, often on ridge tops or other warmer locales (Johnston et al. 2006). Pallid bat roosts are very susceptible to human disturbance, and urban development has been cited as the most significant factor contributing to their regional decline (Miner and Stokes 2005).

Pallid bats are not expected to breed in the study area due to a lack of structures or trees with high-quality roost sites. Nevertheless, small numbers of individuals could potentially roost on the site, in mature trees with cavities or exfoliating bark in the broadleaved upland forest habitat. In addition, pallid bats may move through the site occasionally, as this species forages for miles surrounding a maternity colony (the nearest known maternity colony is approximately 1.9 mi northeast of the study area), and individuals may forage in scrub or open disturbed habitats in the study area.

**Western Red Bat (*Lasiurus blossevillii*). Federal Listing Status: None; State Listing Status: Species of Special Concern.** The western red bat is a locally common bat in coastal California and the Central Valley, and its range extends from Shasta County to Baja California, Mexico (Zeiner et al. 1990). Western red bats are strongly associated with intact cottonwood and sycamore valley riparian habitats in low elevations (Pierson et al. 2006). Both day and night roosts are usually located in the foliage of trees; red bats in the Central Valley show a preference for large trees and extensive, intact riparian habitat (Pierson et al. 2006). Day roosts are often located along the edges of riparian areas, near streams, grasslands, and even urban areas (Western Bat Working Group 2005). During the breeding season, red bats establish individual tree roosts and occasionally small maternity colonies in riparian habitats (Zeiner et al. 1990). Little is known about the habitat use of western red bats during the nonbreeding season (Pierson et al. 2006).

The Central Valley is assumed to be the primary breeding location of western red bat populations in California, and red bats likely occur in the San Francisco Bay area only during winter and migration (Pierson et al. 2006). Western red bats may occur in low numbers as migrants and winter residents in the study area, but they are not known or expected to breed here. Individual male and female bats may occur as occasional migrants during the fall and spring or as foragers during the winter, and nonbreeding individual males may occur during the summer. Western red bats may roost in the foliage in trees virtually anywhere throughout the study area, but they are expected to roost primarily in wooded riparian areas.

**San Francisco Dusky-footed Woodrat (*Neotoma fuscipes annectens*). Federal Listing Status: None; State Listing Status: Species of Special Concern.** The San Francisco dusky-footed woodrat occurs in a

variety of woodland and scrub habitats throughout the South Bay and the adjacent Central Coast Range, south to the Pajaro River in Monterey County (Hall 1981, Zeiner et al. 1990). Woodrats prefer riparian and oak woodland forests with dense understory cover, or thick chaparral habitat (Lee and Tietje 2005). Dusky-footed woodrats build large, complex nests of sticks and other woody debris, which may be maintained by a series of occupants for several years (Carraway and Verts 1991). Woodrats also are very adept at making use of human-made structures, and can nest in such things as electrical boxes, pipes, wooden pallets, and even portable storage containers. Woodrat nest densities increase with canopy density and with the presence of poison oak (Carraway and Verts 1991). Although the San Francisco dusky-footed woodrat is described as a generalist omnivore, individuals may specialize on local plants that are available for forage (Haynie et al. 2007). The breeding season for dusky-footed woodrat begins in February and sometimes continues through September, with females bearing a single brood of one to four young per year (Carraway and Verts 1991).

San Francisco dusky-footed woodrats are common and widespread in hardwood forests in the Santa Cruz Mountains. Fourteen woodrat nests were observed in the mixed native/nonnative woodland and broadleaved upland forest habitats in the study area during recent site visits, and several of these nests appeared to be active (i.e., the nest contained fresh sticks, had recently used entrance tunnels, or fresh fecal matter/urine was present nearby). Nests of this species are absent from the riparian habitat, and woodrats are not expected to nest along Saratoga Creek in the study area due to its extremely steep banks. However, woodrats may forage throughout the study area, including riparian habitats.

### 5.3 Sensitive and Regulated Plant Communities and Habitats

The CDFW ranks certain rare or threatened plant communities, such as wetlands, meadows, and riparian forest and scrub, as ‘threatened’ or ‘very threatened’. These communities are tracked in the CNDDDB. Impacts on CDFW sensitive plant communities, or any such community identified in local or regional plans, policies, and regulations, must be considered and evaluated under CEQA (California Code of Regulations: Title 14, Div. 6, Chap. 3, Appendix G). Furthermore, aquatic, wetland and riparian habitats are also afforded protection under applicable federal, state, or local regulations, and are generally subject to regulation, protection, or consideration by the USACE, RWQCB, CDFW, and/or the USFWS.

**CDFW Sensitive Habitats.** A query of sensitive habitats was performed for the *Cupertino* and *Castle Rock Ridge, California* 7.5-minute USGS quadrangles using Rarefind 4 (CNDDDB 2014). Based on this query, only one sensitive habitat, North Central Coast Drainage Sacramento Sucker/Roach River occurs within these quadrangles. However, this habitat does not occur within the study area.

The California Fish and Game Code includes regulations governing the use of, or impacts on, many of the state’s fish, wildlife, and sensitive habitats, including the bed and banks of rivers, lakes, and streams. As discussed under *Regulatory Setting* above, permits will be required from the appropriate agencies before work is conducted in these habitats.

**Waters of the U.S./State.** A number of features in the study area are expected to be considered waters of the U.S. under the Clean Water Act and Waters of the State under the Porter-Cologne Water Quality Control Act. These features include perennial, intermittent, and ephemeral streams as well as a constructed pond. As discussed under *Regulatory Setting* above, permits will be required from the appropriate agencies before work is conducted in these habitats.

## 5.4 Non-Native and Invasive Species

Plant pests are defined by law, regulation, and technical organizations, and are regulated by many different sources, including the California Department of Food and Agriculture (CDFA) and the United States Department of Agriculture (USDA). The CDFA (2012) uses an action-oriented pest-rating system. The rating assigned to a pest by the CDFA does not necessarily mean that one with a low rating is not a problem; rather the rating system is meant to prioritize response by the CDFA and county agricultural commissioners. The California Invasive Plant Council (Cal-IPC 2014) has developed a list of plant pests specific to California wildlands, based on information submitted by land managers, botanists, and researchers throughout the state and on published sources. The term “noxious weed” is used by government agencies for non-native plants that have been defined as pests by law or regulation.

Noxious weeds observed within the study area during the reconnaissance surveys include French broom, yellow star-thistle, and fennel. All three of these species have a high rating by the Cal-IPC (Cal-IPC 2014), an indication that these species have severe ecological impacts.

## Section 6.0 Impacts and Mitigation Measures

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The CEQA and the State CEQA Guidelines provide guidance in evaluating impacts of projects on biological resources and determining which impacts will be significant. The Act defines “significant effect on the environment” as “a substantial adverse change in the physical conditions which exist in the area affected by the proposed project.” Under State CEQA Guidelines section 15065, a project's effects on biotic resources are deemed significant where the project would:

- A. “substantially reduce the habitat of a fish or wildlife species”
- B. “cause a fish or wildlife population to drop below self-sustaining levels”
- C. “threaten to eliminate a plant or animal community”
- D. “reduce the number or restrict the range of a rare or endangered plant or animal”

In addition to the section 15065 criteria that trigger mandatory findings of significance, Appendix G of State CEQA Guidelines provides a checklist of other potential impacts to consider when analyzing the significance of project effects. The impacts listed in Appendix G may or may not be significant, depending on the level of the impact. For biological resources, these impacts include whether the project would:

- A. “have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service”
- B. “have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service”
- C. “have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act”
- D. “interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites”
- E. “conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance”
- F. “conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan”

### 6.1 Key Assumptions

The following impact analysis was made assuming complete build-out of the proposed Project (i.e., Phases 1 – 3). Thus, additional analyses of the potential impacts on biological resources as a result of the Project are

not expected to be required under CEQA unless significant changes are made to the conceptual site plan, or on-site conditions change substantially prior to the initiation of the Project.

## **6.2 Impacts Found to be Less than Significant**

### **6.2.1 Impacts on Upland Habitats and Associated Common Plant and Wildlife Species**

Construction activities related to Project buildout (i.e., construction/improvement of hiking trails, a boardwalk trail, picnic areas, staging areas, recreational facilities, event space, a multipurpose field, and habitat restoration) may impact regionally common natural habitats (i.e., riparian forest, northern coastal scrub, broadleaved upland forest, mixed native/non-native woodland, developed/disturbed, and aquatic/wetland). The disturbance of these habitats by construction will temporarily reduce their availability to plant and wildlife species, and the construction of permanent facilities (e.g., parking lots, recreational facilities) will permanently alter the extent of these habitats in the study area. However, the Master Plan contains goals and policies limiting development to existing roads/trails and previous use areas where possible; avoiding intrusion into sensitive habitat areas; and enhancing existing habitats. Further, although vegetation in these habitats provides habitat for a variety of common wildlife species, the disturbance or loss of these habitats within the study area will affect only a very small proportion of regionally available habitat for these species, and thus will displace only a very small proportion of their regional populations. Given the relative abundance of natural habitats in the Project region, disturbance to and loss of regionally common natural habitats and associated plant and animal communities as a result of Project implementation does not meet the CEQA standard of having a substantial adverse effect, and is therefore less than significant.

### **6.2.2 Impacts on Western Pond Turtles**

Suitable habitat for the western pond turtle, a California species of special concern, consists of ponds or instream pools (i.e., slack water environments) with available basking sites, nearby upland areas with clay or silty soils for nesting, and shallow aquatic habitat with emergent vegetation and invertebrate prey for juveniles (Jennings and Hayes 1994). Saratoga Creek within the study area and the on-site pond provide marginal quality basking habitat for western pond turtles due to the paucity of open water and basking sites. Therefore, there is a low probability of this species using the study area for nesting. However, pond turtles likely use the study area, especially Saratoga Creek, for dispersal.

Project buildout will result in impacts on suitable aquatic habitat (e.g., as a result of on-site pond enhancement or bridge reconstruction) and the disturbance or loss of upland habitat for the species. Implementation of the Master Plan goals, policies, and Conservation Measures would reduce the magnitude and extent of Project impacts on habitat for this species. The Master Plan contains goals and policies to avoid adverse impacts on habitat for special-status species and ensure that such resources are protected, enhanced, and restored in the future, including limiting development to existing roads/trails and previous use areas where possible; avoiding intrusion into sensitive habitat areas; controlling non-native vegetation; and enhancing existing habitats, including the on-site pond. In addition, given the extent of suitable upland habitat available in the Project region, disturbance to and loss of regionally common natural habitats as a result of

Project implementation is considered a less-than-significant impact on habitat for the western pond turtle. Although enhancement of the on-site pond would result in the temporary disturbance of suitable aquatic and breeding habitat for the western pond turtle, it would provide a net benefit to the species through the long-term improvement of the quality of the aquatic habitat (i.e., creation of a deep pool and open water habitat). Therefore, no habitat mitigation is warranted.

In the absence of Conservation Measures, Project buildout could result in injury or mortality of individual western pond turtles or their eggs during construction and operation. Permanent impacts could result from collision or crushing of turtles, eggs, or nests by construction equipment, or by any activity that compacts or disturbs soil in suitable habitat areas. Following buildout, increased human activity, including increased traffic, could result in western pond turtle mortality as a result of collisions with vehicles and increased harassment by humans and domestic animals.

Implementation of the Master Plan goals, policies, and Conservation Measures would avoid or minimize the potential impact on individual pond turtles. Implementation of CM-4 (Minimize Impacts on Special-status Amphibian and Reptile Species) would minimize the potential impact on individuals by preventing their injury or mortality and would reduce impacts on suitable habitat for this species. Implementation of CM-4 could result in western pond turtles being relocated from the work site before the onset of construction activities. Individuals that are found during pre-activity surveys and relocated to suitable habitat outside of the work site may be subjected to physiological stress and greater risk of predation, or undergo increased competition with western pond turtles already present in the area to which they were relocated. However, the benefits of such relocation, in terms of avoiding direct injury or mortality, would far outweigh any adverse effects. Implementation of CM-2 (Stormwater Pollution Prevention BMPs) would also reduce the potential for impacts on western pond turtles as a result of the spill of hazardous materials and degradation of water quality. Therefore, with implementation of the Project's Conservation Measures, impacts on western pond turtles would be less than significant.

### **6.2.3 Impacts on Nesting Special-status Birds**

Three special-status bird species that are considered California species of special concern when nesting could potentially nest in or immediately adjacent to the study area; these are the long-eared owl, olive-sided flycatcher, and yellow warbler. Based on our site observations, the areal extent of the site, and known breeding densities of these species, it is likely that no more than one pair of long-eared owls, one or two pairs of olive-sided flycatchers, and one or two pairs of yellow warblers could potentially nest within the study area.

If any of these species do nest on the Project site, Project buildout would result in the temporary disturbance of nesting habitat and may result in the removal of an active nest. In addition, increased disturbance near active nests could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. However, large portions of the site would not be disturbed during construction.

Because the number of nesting pairs that could be disturbed is very small, the Project's impacts would not substantially reduce regional populations of these species. Thus, these impacts do not meet the CEQA standard of having a substantial adverse effect. Further, implementation of CM-5 (Minimize Impacts on Nesting Birds) would reduce impacts on individual long-eared owls, olive-sided flycatchers, and yellow warblers through the identification of active nests and implementation of non-disturbance buffers around such nests. Therefore, this impact is less than significant.

#### **6.2.4 Impacts on Other Special-status Birds**

The Vaux's swift, a California species of special concern, may occur in the study area as a nonbreeding migrant or forager. The Project would have some potential to impact foraging habitat of this species. Construction activities associated with the Project may result in a temporary direct impact through the alteration of foraging patterns (e.g., avoidance of work sites because of increased noise and activity levels during maintenance activities) but would not result in the loss of individuals. Furthermore, the study area does not provide important foraging habitat used regularly or by large numbers of individuals. Thus, impacts on this species and its habitat resulting from Project buildout would be very limited. Accordingly, Project activities would not result in substantial reductions in local or regional populations, and would only affect a very low proportion of regionally available habitat, a less-than-significant impact.

#### **6.2.5 Impacts on the San Francisco Dusky-footed Woodrat**

The San Francisco dusky-footed woodrat, a California species of special concern, nests in woodland, forest, and scrub habitats throughout the study area. Project buildout within these habitats could result in the temporary disturbance of, and potentially a small permanent loss of (e.g., as a result of trail or facilities construction), potential breeding and foraging habitat for woodrats. However, given the extent of suitable habitat available in the Project region, disturbance to and loss of regionally common natural habitats as a result of Project implementation is considered a less-than-significant impact on habitat for the San Francisco dusky-footed woodrat.

In the absence of Conservation Measures, Project implementation could result in the injury or mortality of dusky-footed woodrats as a result of clearing and grading, Project vehicle traffic, equipment use, worker foot traffic, and habitat enhancement activities, particularly if disturbance occurs when woodrats are taking refuge in their stick nests. However, San Francisco dusky-footed woodrats are relatively common in suitable habitat regionally and have high reproductive capabilities. Thus, with implementation of CM-6 (Minimize Impacts on San Francisco Dusky-footed Woodrats), Project activities would not result in a significant impact on regional populations of this species.

San Francisco dusky-footed woodrat movements within individual home ranges could be temporarily affected during activities as a result of disturbance of habitat, and Project-related disturbances may cause woodrats to flee their nests, exposing them to a greater risk of predation. Additionally, displacement of woodrats into adjacent available habitats as a result of Project-related disturbance could result in indirect impacts as a result

of increased intraspecific competition (resulting from individuals in disturbed habitat moving to areas that are already occupied) and pressure on available resources. However, construction activities are not expected to substantially affect the movement of dusky-footed woodrats between onsite and offsite habitats, as this is an extremely mobile species that would readily cross or circumvent work areas. In addition, Project impacts would result in only minimal indirect disturbance of this species, as many dusky-footed woodrats are tolerant of proximate activities (especially diurnal activities) that do not directly disturb their nest structures. Therefore, with implementation of the Conservation Measures, Project buildout is not expected to result in a significant impact on the San Francisco dusky-footed woodrat.

### **6.2.6 Impacts on Bats**

Three bat species designated as California species of special concern, the Townsend's big-eared bat, western red bat, and pallid bat, may be present in the study area. The Townsend's big-eared bat is also a candidate for listing under the CESA. Male Townsend's big-eared bats may occasionally use the mine as a hibernaculum during winter months, and the species may be present on the site as an occasional migrant or forager. Western red bats may occur in the study area in low numbers as migrants and winter residents, and may roost in foliage in trees virtually anywhere in the study area. Pallid bats may be present in the study area as occasional foragers in scrub or open disturbed areas of the Project site. None of these species is expected to breed in the study area.

As described above, Project construction will temporarily reduce the availability of suitable foraging habitat for these species and the construction of permanent facilities (e.g., parking lots, recreational facilities) will permanently alter the extent of these habitats in the study area. However, the loss or conversion of these habitats within the study area will affect only a very small proportion of regionally available foraging habitat for these species. Thus, given the relative abundance of natural habitats in the Project region, disturbance to and loss of regionally common natural habitats as a result of Project implementation is considered a less-than-significant impact on foraging habitat for special-status bats.

Project buildout could result in the loss of roosting sites for western red bats due to tree removal. Further, if trees that contain individual western red bats are removed, modified, or exposed to increased disturbance, individual bats could be physically injured or killed, subjected to physiological stress as a result of being disturbed during torpor, or subjected to increased predation due to exposure during daylight hours. However, red bats are likely to flush from trees when approached by heavy equipment, before trees themselves are impacted, so that injury or mortality is unlikely. Further, western red bats are not colonial. Thus, the permanent loss of a roost site (e.g., tree) would not result in a substantial impact on local or regional populations as only individuals, not entire colonies, would be affected. Further, suitable roost sites for this species are expected to be widespread enough that the loss of a roost site resulting from Plan activities would not necessitate compensatory mitigation.

Male Townsend's big-eared bats may use the mine on-site as a hibernaculum during winter months. Thus, increased disturbance within the mine could result in individual bats being physically injured or killed,

subjected to physiological stress as a result of being disturbed during torpor, or subjected to increased predation due to exposure during daylight hours. However, no activities are proposed within the mine, and the mine will not be open for public access. Implementation of CM-7 (Lighting) would minimize potential impacts on roosting habitat resulting from increased nighttime lighting. Therefore, impacts on the Townsend's big-eared bat, western red bat, and pallid bat would be less than significant.

### **6.2.7 Introduction of Invasive Species**

Invasive weeds can occur in all habitat types and can be difficult to eradicate. One of the characteristics of some invasive species that make them successful is that they produce seeds that germinate readily following disturbance. In addition, newly disturbed areas are highly susceptible to colonization by non-native, invasive species that occur locally, or whose propagules are brought in by personnel, vehicles, and other equipment. The introduction or spread of noxious and invasive species is a special concern for native plant and animals. Noxious and invasive weeds pose a threat to the natural processes of plant community succession, fire frequency, biological diversity, and species composition. Noxious and invasive weeds can affect the persistence of some populations of special-status species by replacing the foraging base, altering habitat structure, or excluding a species by vegetative growth. Noxious weeds that could potentially invade and/or spread on the Project site include (but are not limited to) yellow star-thistle, French broom, and fennel. Thus, areas of temporary ground disturbance associated with Project activities could serve as areas promoting invasion by these non-native species, which could degrade habitat values for, and threaten special-status species and sensitive habitats.

The Master Plan contains goals and objectives that would avoid or minimize the potential impact from invasive weeds, including developing an Integrated Pest Management (IPM) program to effectively control invasive plant species. In addition, implementation of CM-9 (Invasive Species Control Measures) would minimize the potential for the introduction or spread of invasive species during construction activities. Thus, with implementation of the conservation measures, Project impacts resulting from the introduction or spread of invasive weeds would be less than significant.

### **6.2.8 Impacts on Wildlife Movement**

For many species, the landscape is a mosaic of suitable and unsuitable habitat types. Environmental corridors are segments of land that provide a link between these different habitats while also providing cover. Under the Master Plan, some development with the potential to fragment natural habitats (i.e., to break them into smaller, disjunct pieces) would occur. The impact of fragmentation on wildlife is twofold: first, as habitat patches become smaller they are unable to support as many individuals (patch size); and second, the area between habitat patches may be unsuitable for wildlife species to traverse (connectivity).

However, natural habitats in the study area are surrounded by large areas of open natural habitats to the west, northwest, and south along the Santa Cruz Mountains. As a result, the site does not provide narrow connectivity between large areas of open space on a local or regional scale. In addition, under the Master Plan

the proposed trail system would be composed of relatively narrow linear features that would not present significant barriers to wildlife movement, and Project facilities would affect relatively small areas within the study area, principally areas that are currently disturbed.

Saratoga Creek provides the most important movement pathway (for aquatic and amphibious species) through the study area, which is reflected in the Master Plan's policies, including the avoidance of development and disturbance within 100-feet of the creek top of bank where possible and the enhancement of the creek buffer to protect the sensitive riparian corridor from disturbance by park users and to improve its habitat and water quality, as well as CM-3 (Minimize Impacts on Special-status Plants and Sensitive Natural Communities including Wetlands). Further, per the Master Plan policies, no permanent impacts will occur within the low-flow channel of Saratoga Creek (i.e., bridge reconstruction over Saratoga Creek will not involve the placement of any permanent fill within the low flow channel). Therefore, the Project would have a less-than-significant impact on wildlife movement.

## **6.3 Impacts Found to be Less than Significant with Mitigation**

### **6.3.1 Loss or Disturbance of Wetlands or Other Waters**

Project buildout could result in both temporary and permanent disturbance of jurisdictional wetlands and other waters as a result of on-site pond enhancement, access needed for construction, grading (e.g., trail construction/realignment), bridge reconstruction over Saratoga Creek, degradation of water quality (e.g., increased sedimentation and turbidity), hydrological interruption (e.g., dewatering or diversion), and removal of wetland vegetation associated with the enhancement of the on-site pond. Wetland vegetation may be lost as a result of mechanical or physical clearing in the work site and damage to vegetation may occur as a result of crushing by equipment; trampling by personnel; and compaction of soil, which could result in damage to plant roots or changes in hydrology. In addition, because barren slopes are more susceptible to erosion from incident rainfall, the loss of vegetation adjacent to wetlands or other waters following construction or habitat enhancement activities may result in an increase in erosion and sedimentation. Increased erosion and sedimentation may lead to the filling in of pools and damage to wetland vegetation.

Throughout California, the quality and quantity of wetland habitats has dramatically declined due to the construction of dams, dikes, and levees as well as due to water diversions, the filling of wetland habitat for development, and the overall degradation of general water quality due to inputs of runoff from agricultural, urban, and infrastructure development and other sources. Wetlands also present unique habitat functions and values for wildlife, and provide habitat for plant species adapted to wetland hydrology. As a result, wetland habitat types are considered sensitive habitats. Design of Project trails and facilities at a level that would allow the calculation of disturbed areas due to Project buildout has not occurred. Therefore, potential impacts on jurisdictional wetlands and other waters cannot be specifically quantified, but is unlikely to exceed 0.50 acre. Although implementation of Master Plan goals and policies (e.g., construction of a bioswale around the northern perimeter of the parking area adjacent to Saratoga Creek), and Conservation Measures (e.g., CM-2 [Stormwater Pollution BMPs] and CM-3 [Minimize Impacts on Special-status Plants and Sensitive Natural

Communities]) would reduce the magnitude and extent of Project impacts on wetlands and other waters, complete avoidance may not be feasible while still meeting Project goals and objectives.

The limits of jurisdictional wetlands and other waters within the study area were not delineated prior to the preparation of this report; however, the approximate locations of these features based on reconnaissance-level site visits are depicted in Figure 2, which will be used by the Project team to avoid and minimize impacts as design progresses. Further, per CM-3, all Project construction activities will be preceded by a survey during which a qualified botanist will identify sensitive natural vegetation communities, including wetlands and other waters, within the activity area and clearly map or delineate them as needed in order to avoid and/or minimize disturbance.

Temporal loss of habitat functions and values provided by vegetated wetlands, such as sediment stabilization, sediment/toxicant retention, nutrient removal/transformation, and aquatic and terrestrial wildlife species habitat is considered potentially significant because it could result in the temporal loss of ecologically valuable habitat. In addition, permanent losses of both vegetated wetlands and unvegetated aquatic habitats, including jurisdictional wetlands and other waters, is considered significant.

Implementation of the following mitigation measures will reduce impacts to a less-than-significant level.

### **Mitigation Measure 1. Mitigation for Temporary and Permanent Impacts on the Perennial Stream, Intermittent/Ephemeral Streams, and Aquatic/Wetland Habitats.**

Potential impacts within the regulated habitats on site include both temporary and permanent effects. If impacts on the regulated wetlands or other waters cannot be avoided, mitigation for temporary and permanent impacts will be provided at a minimum ration of 1:1 (1 acre of mitigation for every 1 acre disturbed) via creation of or restoration of wetlands/other waters.

Mitigation may be achieved through one or more options, potentially including (but not limited to):

- Restoration or creation of wetlands/other waters within the study area
- Restoration/creation in close proximity to but outside of the study area
- Purchase of mitigation credits at approved mitigation banks whose service area includes the Project site

If the City elects to restore wetlands onsite or offsite, a qualified biologist selected by the City will develop a Wetland and Jurisdictional Waters Mitigation and Monitoring Plan, which will contain the following components (or as otherwise modified by regulatory agency permitting conditions):

- Summary of habitat impacts and proposed mitigation ratios
- Goal of the restoration to achieve no net loss of habitat functions and values
- Location of mitigation site(s) and description of existing site conditions
- Mitigation design:

- Existing and proposed site hydrology
- Grading plan if appropriate, including bank stabilization or other site stabilization features
- Soil amendments and other site preparation elements as appropriate
- Planting plan
- Irrigation and maintenance plan
- Remedial measures/adaptive management, etc.

Implementation of Mitigation Measure 1 will reduce impacts on wetlands and other waters to a less-than-significant level.

### **6.3.2 Impacts on Special-status Plants**

No federal or state-listed plant species are expected to occur in the study area. However, four CNPS-List 1B.2 plants may be present: Anderson's manzanita, Kings Mountain manzanita, western leatherwood, and white-flowered rein orchid. If special-status plants are present, Project activities, such as grading, structure and infrastructure placement, and equipment staging could directly affect these plants. Project buildout may affect special-status plants through direct or indirect disturbance of populations and disturbance, modification, or destruction of suitable habitat. Ground-disturbing activities may impact special-status plants through loss or degradation (e.g., alteration of hydrology through soil compaction or alteration of surface drainage patterns resulting from movement of heavy equipment or soil disturbance; and introduction of non-native species) of suitable habitat. Individual plants and populations may be lost as a result of mechanical or physical removal of vegetation in the project site (including staging and access areas), and damage to special-status plants may occur as a result of crushing by equipment; trampling; and compaction of soil, which could result in damage to plant roots. These activities could result in death, altered growth, or reduced seed set through physically breaking, crushing, wilting, or uprooting plants. In addition, construction activities often include the refueling of equipment on location. Minor fuel and oil spills may occur during refueling, with a risk of larger releases. Without rapid containment and clean up, these materials may kill or impair the health of special-status plants. Impacts could also occur on populations of special-status plants avoided by, but adjacent to, construction areas if increased erosion or sedimentation occurs. Additionally, dust generated by construction activities could coat vegetative and floral surfaces, interfering with normal gas exchange, photosynthesis, or pollination.

The Master Plan contains goals, policies, and Conservation Measures, including CM-3 (Minimize Impacts on Special-status Plants and Sensitive Natural Communities including Wetlands), intended to avoid adverse impacts on special-status plants. Although implementation of these policies and Conservation Measures would reduce the magnitude and extent of Project impacts on special-status plant species, buildout of the Project could result in the loss of individuals, as complete avoidance may not be feasible while still meeting

Project goals and objectives. The presence/absence and distribution of these four special-status plant within proposed work areas will be determined based on the survey described in CM-3 above.

Permanent impacts on special-status plants that could reduce the number or restrict the range of rare or endangered species would be considered significant. Impacts on populations of species with a CNPS rank of 1B.2, such as the four special-status plants considered to have some potential for occurrence on the site, would be considered significant and require compensatory mitigation if more than 10 percent of the overall number of a given species occurring within the Project area would be affected. In addition, the impact may be considered significant if less than 10 percent of the population within the impact area and/or known populations of the species within a 5-mi radius of the Project area (if such populations are known) would be affected but the population exhibits unusual morphology, occurs on unusual substrates for that species, or if loss related to the Project could reduce the species' range, as determined by a qualified botanist familiar with the population present in the impact area and the rare flora of the region.

Implementation of the following mitigation measures will reduce impacts to a less-than-significant level.

### **Mitigation Measure 2: Preserve Populations of CNPS-ranked Plant Species**

- To compensate for significant impacts on the Anderson's manzanita, Kings Mountain manzanita, western leatherwood, and white-flowered rein orchid, habitat occupied by the affected species shall be preserved and managed in perpetuity at a minimum 1:1 mitigation ratio (at least one plant preserved for each plant affected, and also at least one occupied acre preserved for each occupied acre affected), up to the significance threshold (e.g., for a CNPS-ranked 1B.2 species where 15 percent of the known population within the Project impact area is impacted, mitigation must be provided at 1:1 equivalent of 5 percent of the study area population).
- Areas proposed for preservation and serving as compensatory mitigation for special-status plant impacts must contain verified extant populations of the CNPS-ranked plants that would be impacted by the Project. Mitigation areas will be managed in perpetuity to encourage persistence and even expansion of the preserved target species.
- Criteria for appropriate mitigation sites are species-specific and the following factors must be considered in assessing habitat quality: (1) current land use, (2) location, (3) vegetation composition and structure, (4) slope, (5) soil composition and drainage, and (6) level of occupancy by relevant species. Any proposed compensatory mitigation populations outside the Project impact area must be protected from Project-related ground disturbance by a species- and impact-specific buffer developed by a qualified plant ecologist familiar with the Project actions and with the habitats and plant species present on the Project site. This buffer must take into account the following potential indirect impacts that could occur on the preserved populations:
  - Potential shading, or alteration of existing light regimes, by nearby infrastructure

- Potential for alteration of drainage patterns that could affect the hydrology of habitat occupied by the preserved population
  - Potential for overspray of herbicides used during site vegetation management
  - Potential for ongoing dust deposition on the preserved population, sufficient to coat foliage or reproductive structures and substantially interfere with photosynthesis or pollination
- The City will develop a Habitat Mitigation and Monitoring Plan (HMMP) describing the measures that will be taken to enhance and manage the mitigation lands and to monitor the effects of management on the focal special-status plant species. That plan will include, at a minimum, the following:
  - A summary of impacts on special-status plant populations, and the proposed mitigation
  - A description of the location and boundaries of the mitigation site and description of existing site conditions
  - A description of measures to be undertaken if necessary to enhance (e.g., through focused management) the mitigation site for special-status species
  - A description of measures to transplant individual plants or seeds from the impact area to the mitigation site, if determined by a qualified botanist to be appropriate and to have a high likelihood of success
  - Proposed management activities to maintain high-quality habitat conditions for the focal species
  - A description of species monitoring measures on the mitigation site, including specific, objective goals and objectives (including enhancement of populations of focal special-status species on the mitigation site), performance indicators and success criteria (including increasing the abundance of the focal species by at least as many individuals as were impacted), monitoring methods (including sampling for the focal species), data analysis, reporting requirements, and monitoring schedule. Determining specific performance/success criteria requires information regarding the specific mitigation site, its conditions, the biological resources present on the site, the specific plant species for which mitigation is being provided, and the specific enhancement and management measures tailored to the mitigation site and its conditions. As a result, those specific criteria will be defined in the HMMP rather than in the Initial Study. Nevertheless, the performance/success criteria described in the HMMP will guide the mitigation to manage and protect high-quality habitat for, and populations of, the impacted species. The HMMP will include monitoring for non-native plant species and remediation measures in the event that such species are detected on the site.
  - A description of the management plan's adaptive component, including potential contingency measures for mitigation elements that do not meet performance criteria

- A description of the funding mechanism for the long-term maintenance and monitoring of the mitigation lands

### **6.3.3 Impacts on Riparian Habitat**

Project buildout could result in impacts on riparian habitat as a result of bridge reconstruction, grading and clearing, dust deposition, increased soil erosion, increased human access and trampling, introduction of non-native species, and increased potential of exotic species spread due to soil disturbance. Design of Project facilities at a level that would allow the calculation of disturbed areas due to buildout has not yet occurred. Therefore, potential impacts on riparian habitat cannot be specifically quantified. Although the Master Plan goals and policies include avoiding development and disturbance within 100 feet of the Saratoga Creek top-of-bank, and implementation of the Conservation Measures, including CM-3 (Minimize Impacts on Special-status Plants and Sensitive Natural Communities) and CM-11 (Restore Temporarily Impacted Habitats), would reduce the magnitude and extent of Project impacts, complete avoidance may not be feasible while meeting other Master Plan goals (e.g., opening the Eastern Access Road and existing bridge/ access point for public access). Because riparian communities considered sensitive habitats and provide a wide range of biological functions for fish and wildlife, any impact on riparian habitat would be considered significant.

Implementation of the following mitigation measure would reduce the Project's impacts on riparian habitats to a less-than-significant level.

#### **Mitigation Measure 3: Provide Compensatory Mitigation for Impacts on Riparian Habitat**

- If permanent construction impacts on riparian habitats are unavoidable or accidentally occur during Project buildout, habitat shall be restored and enhanced in a manner that achieves no net loss in acreage or function. Mitigation for riparian habitat will be provided at a ratio of 3:1 (3 acres of mitigation for every 1 acre of disturbed) via creation or restoration of riparian habitat. Temporary impacts to riparian habitat will be mitigated through onsite restoration as described in CM-11 (Restore Temporarily Impacted Habitats), if impacts are restored within a year of the impacts. If impacted areas are not restored to pre-Project conditions within one year, the impacts shall be considered permanent, and compensatory mitigation will be provided as described above.
- Mitigation may be achieved through one or more of the following options:
  - Restoration or creation of riparian habitat within the study area
  - Restoration/creation in close proximity to but outside of the study area
  - Purchase of mitigation credits at approved mitigation banks whose service area includes the Project site.

If the City chooses to mitigate impacts on riparian habitat through the creation or restoration of habitat, it will develop an HMMP with all the elements described under Mitigation Measure 2. An open space or

conservation easement, or other similar instrument, will be recorded on property associated with the mitigation lands to protect the riparian plant and wildlife resources in perpetuity.

### **6.3.4 Encroachment into Protective Buffers for Sensitive Habitats**

Implementation of the proposed Project could result in indirect disturbance and degradation of riparian and wetland habitat due to encroachment into protective buffers around such habitats. The Santa Clara County General Plan Policy R-RC 37 (Santa Clara County 1994) requires that a protective buffer be established along streams, creeks, and freshwater marshes so that these resources are not impacted by development. The proposed Project development may encroach within the required setback for riparian habitat along Saratoga Creek and the on-site pond.

The construction and operation of park facilities within the required setbacks would impact sensitive habitats indirectly through potential disturbance of wildlife. Undisturbed areas within 100 feet of Saratoga Creek and the on-site pond provide important foraging, breeding, or dispersal habitat for a number of common and special-status wildlife species that are present or may be present in the study area. Some of the more sensitive species include the California red-legged frog, western pond turtle, San Francisco dusky-footed woodrat, olive-sided flycatcher, and yellow warbler. Proposed project development in these areas would result in impacts on wildlife species as described in Impacts 6.2.2, 6.2.3, 6.2.5, and 6.3.6. In addition, encroachment into the setback may impact aquatic habitats through deterioration of water quality, as described in Impact 6.3.1.

Due to the ecological importance of riparian and wetland habitats and their relatively limited regional extent, encroachment into the buffers around these habitats would be significant. Implementation of the following mitigation measures will reduce encroachment impacts on riparian and wetland habitats to a less-than-significant level.

#### **Mitigation Measure 4. Provide Compensatory Mitigation for Encroachment on Sensitive Habitat Buffers**

Potential impacts within the setbacks for sensitive habitats include both temporary and permanent encroachment. If encroachment into buffers for sensitive habitats cannot be avoided, mitigation for temporary and permanent impacts will be provided.

Mitigation for temporary encroachment will be achieved through restoration of the impacted habitat to pre-Project conditions. Mitigation for permanent encroachment will be achieved through one or both of the following options:

- **Habitat Enhancement.** Mitigation for encroachment into sensitive habitats will be provided at a ratio of 1:1 (1 acre of mitigation for every 1 acre of encroachment) through the enhancement of degraded riparian or wetland habitat on-site.

- **Invasive Species Control.** Mitigation for encroachment into sensitive habitats will be provided at a ratio of 1:1 (1 acre of mitigation for every 1 acre of encroachment) through the aggressive control of infestations of yellow star-thistle, French broom, and/or fennel on-site, for a period of three years. The California Invasive Plant Council describes these species as having a “high” inventory rating due to the aggressive nature with which their infestations spread and the impacts they have on natural resources (Cal-IPC 2014). The rationale for this mitigation is that the invasive species control area is in the vicinity of the Project’s riparian and wetland encroachment impacts and will reduce the threat of invasion of these habitats and also provide higher quality habitat adjacent to the riparian and wetland habitats. These invasive species represent a threat to nearby native habitats and would continue to spread without control measures. These species are also pervasive on the Project site and exclude natural recolonization by desirable native plants. Their removal will therefore reduce a threat to native habitats and allow for the establishment of additional native species.

The control of yellow star thistle, French broom, and fennel will be conducted using appropriate methodology, including hand removal, mechanical removal (mowing or weed whipping), and/or the application of herbicides. This effort will be consistent with the IPM program to be developed under the Master Plan.

### 6.3.5 Loss of Ordinance Trees

Project construction may necessitate the removal of trees protected under the City of Saratoga Tree Ordinance. The loss of a protected tree would be considered a significant impact under the CEQA because it conflicts with the City of Saratoga Municipal Code §15-50.050. Implementation of the following measures will reduce impacts to a less-than-significant level.

**Mitigation Measure 5a: Arborist Report.** An Arborist Report will be prepared prior to the removal of any protected trees.

**Mitigation Measure 5b: Tree Removal and Protection Plan (TRPP).** If any protected trees are proposed for removal, a TRPP will be prepared. The TRPP will contain all the protective measures to be implemented before, during, and, after any activity affecting one or more protected trees including provision for future maintenance, to preserve and protect all trees to be retained on the Project site.

**Mitigation Measure 5c: Tree Fund.** A tree preservation fund shall be established for the following purposes:

- To receive and hold any fines, penalty assessments, civil penalties, bonds or other remedial funds or sources of funds for violations of Article 15-50 of this Code;

- To receive and hold monetary valuations and payments for replacement trees pursuant to Section 15-50.170, as prescribed by the Community Development Director, or as a condition of development approval; and
- To pay for new or replacement trees, their planting and maintenance, as determined by the Community Development Director, on public properties, streets, easements and dedicated open spaces.

**Mitigation Measure 5d: Tree Valuation.** Lawfully removed trees to be replaced as a condition of development approval will be valued and their removal compensated for as follows: Trees replaced on or off site according to good forestry practices, will provide, in the opinion of the Community Development Director, equivalent value in terms of aesthetic and environmental quality, size, height, location, appearance, and other significant beneficial characteristics of the removed tree/s. The City Arborist will calculate the value of the removed tree/s in accordance with the ISA Tree Valuation Formula contained in the April 2000 ISA Guide for Plant Appraisal.

### **6.3.6 Impacts on California Red-legged Frogs**

The on-site pond provides suitable breeding habitat for the California red-legged frog, federally listed as threatened and a California species of special concern. In addition, perennial water in Saratoga Creek provides suitable foraging and dispersal habitat for this species, and dispersants could occur in uplands within the study area.

Project buildout will result in impacts on suitable aquatic habitat (e.g., as a result of on-site pond enhancement and bridge reconstruction) and the disturbance or loss of upland habitat for the species. Implementation of the Master Plan goals, policies, and Conservation Measures would reduce the magnitude and extent of Project impacts on habitat for this species. The Master Plan contains goals and policies to avoid adverse impacts on habitat for special-status species and ensure that such resources are protected, enhanced, and restored in the future, including limiting development to existing roads/trails and previous use areas where possible; avoiding intrusion into sensitive habitat areas; controlling non-native vegetation; and enhancing existing habitats, including the on-site pond. Although enhancement of the on-site pond would result in the temporary disturbance of suitable aquatic and breeding habitat for the red-legged frog, it would provide a net benefit to the species through the long-term improvement of the quality of the aquatic habitat through the creation of a deep pool, which is an important component of high quality breeding habitat, the creation of a shallow bench to act as a nursery for juveniles, and the creation of basking habitat. Therefore, given the extent of suitable upland habitat available in the Project region, disturbance to and loss of regionally common natural habitats as a result of Project implementation is considered a less-than-significant impact on habitat for the red-legged frog, and no habitat mitigation is warranted.

Project buildout may also result in injury or mortality of individual red-legged frogs during construction and operation. Construction activities could reduce the ability of the California red-legged frog to disperse or move across the landscape during construction, and could result in the direct injury or mortality (take) of

individual California red-legged frogs as a result of trampling or crushing by personnel or equipment. In addition, individuals may be crushed in their refugia by the passage of heavy equipment or trapped and suffocated; and petrochemicals, hydraulic fluids, and solvents that were spilled or leaked from construction vehicles or equipment might kill individuals of this species. Substrate vibrations caused by construction activities can potentially cause California red-legged frogs to move out of refugia, exposing them to a greater risk of predation or desiccation; interfere with predator detection; and result in a decrease in time spent foraging. Following buildout, increased human activity, including increased traffic, could result in California red-legged frog mortality as a result of collisions with vehicles, increased nighttime lighting, and increased harassment by humans and domestic animals.

Implementation of the Master Plan goals, policies, and Conservation Measures (e.g., CM-2 [Stormwater Pollution Prevention BMPs] and CM-4 [Minimize Impacts on Special-status Amphibian and Reptile Species]) would reduce the potential impact on individual red-legged frogs. Implementation of CM-4 could result in red-legged frogs being relocated from the work site before the onset of construction activities. Individuals that are found during pre-activity surveys and relocated to suitable habitat outside of the work site may be subjected to physiological stress and greater risk of predation, or undergo increased competition with red-legged frogs already present in the area to which they were relocated. However, the benefits of such relocation, in terms of avoiding direct injury or mortality, would far outweigh any adverse effects. Implementation of CM-2 (Stormwater Pollution Prevention BMPs) would also reduce the potential for impacts on red-legged frogs as a result of the spill of hazardous materials and degradation of water quality. Nevertheless, Project buildout could still result in the loss of individuals as implementation of CM-4 may not be sufficient to detect and relocate all adults, larvae, and eggs potentially occurring in the on-site pond prior to its enhancement, or to prevent individuals from moving into the active work area following the onset of construction. Due to the regional rarity of the California red-legged frog, the loss of individuals or eggs would be significant.

The following mitigation measures will be implemented to reduce Project impacts on the California red-legged frog to a less-than-significant level.

#### **Mitigation Measure 6a. Seasonal Work Window**

Construction activities in or immediately adjacent to potential California red-legged frog breeding habitat (i.e., the on-site pond) will occur between August and October to avoid the period when California red-legged frogs are breeding, when eggs or larvae are most likely to be present, and when overland dispersal by California red-legged frogs is highest.

#### **Mitigation Measure 6b. Exclusion Fencing**

Prior to the initiation of habitat enhancement activities for the on-site pond, exclusion fencing that prevents red-legged frogs from entering the work area will be constructed along the proposed ultimate limits of

disturbance. The exclusion fencing will be at least 3 feet tall and buried at depth of at least 6 inches below the soil surface. A qualified biologist will conduct a pre-construction survey of this area for California red-legged frogs prior to installation of the exclusion fencing. The exclusion fencing will remain in place for the duration of construction activities and will be removed after construction activities have ceased.

### **Mitigation Measure 6c. Pre-construction Surveys**

After the exclusion fence is installed and immediately prior to construction, the City will have surveys performed by a qualified biologist. Such surveys will be conducted according to the following protocols:

- If standing water is present in the on-site pond, it will be seined for California red-legged frog larvae within seven days prior to construction. The pond will be pumped (with ¼-inch screening on the pump intake to prevent entrainment of frog larvae) or drained during the seining operation if necessary (i.e., based on the professional judgment of the qualified biologist performing the seining) to ensure that the pond is completely seined for California red-legged frogs. Any California red-legged frog larvae found during seining shall be salvaged and relocated by the biologist to a designated location determined in consultation with the USFWS.
- The qualified biologist will conduct one daytime and a minimum of two nighttime daytime surveys of the construction area for California red-legged frogs within 48 hours before the onset of construction activities. If California red-legged frogs of any life stage are found on the second night of the nighttime survey, an additional nighttime survey will be conducted. This procedure will be repeated until no additional individuals are detected during the course of one complete nighttime survey.
- If California red-legged frogs of any life stage are found, they will be moved to a designated location determined in consultation with the USFWS. During construction, if a California red-legged frog is observed within the construction area, the procedure described in Mitigation Measure 6d will be implemented.

### **Mitigation Measure 6d. Relocation of Individuals**

If a California red-legged frog (or any amphibian that personnel think may be of this species) is encountered during Project activities, the following protocol will be implemented:

- a. All work that could result in direct injury, disturbance, or harassment of the individual animal will immediately cease.
- b. A dedicated Project contact (e.g., a supervisor) will be immediately notified.
- c. The dedicated Project contact will immediately notify USFWS.

- d. With approval of the USFWS, a qualified biologist approved by USFWS to handle the individual California red-legged frog will move the individual to a safe location nearby and monitor it until it is determined that it is not imperiled by predators or other dangers.

## 6.4 Cumulative Impacts

Cumulative impacts arise due to the linking of impacts from past, current, and reasonably foreseeable future projects in the region. In Santa Clara County, where the Project is located, such projects include the Conservation Center for Wildlife Care, State Route 9 Safety Project, Joe's Trail at Saratoga de Anza, Prospect Road Median Project, Village Pedestrian Enhancement Project, and Quito Road Bridges.

The projects listed above, as well as any development that occurs in the future in similar habitats in this area of Santa Clara County, will result in impacts on biological resources, and many of those projects would impact the same types of biological resources that will be impacted by construction activities for the proposed Project. The cumulative impact on biological resources resulting from Project buildout in combination with other projects in the study area and larger region would be dependent on the relative magnitude of adverse effects of these projects on biological resources compared to the relative benefit to these resources of impact avoidance and minimization efforts prescribed by planning documents, CEQA mitigation measures, and permit requirements for each project; compensatory mitigation and proactive conservation measures associated with each project; and the benefits to biological resources accruing from implementation of the Saratoga Quarry Park Master Plan. In the absence of such avoidance, minimization, compensatory mitigation, and conservation measures, cumulatively significant impacts on biological resources would occur.

However, it is expected that most current and future projects in the region, including virtually all of the projects listed above, will have to mitigate these impacts through the CEQA, Fish and Game Code 1602, or Clean Water Act Section 404/401 permitting process, as well as through the FESA Section 7 consultation process and, possibly, CESA consultation. As a result, these other projects are expected to implement mitigation for substantial impacts on biological resources as is being required of the proposed Project.

Further, implementation of the Master Plan's goals, policies, and Conservation Measures would minimize its contributions to cumulative impacts on biological resources. The Master Plan will implement a number of conservation measures and mitigation measures to reduce impacts on sensitive habitats and to special-status species, as described above. Collectively, implementation of the Project's mitigation measures would ensure that its contributions to cumulative impacts on biological resources would be less than significant.

## Section 7.0 Compliance with Additional Laws and Regulations Applicable to Biotic Resources of the Project Site

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### 7.1 Regulatory Overview for Nesting Birds

Construction disturbance during the breeding season (1 February through 31 August, for most species) could result in the incidental loss of eggs or nestlings, either directly through the destruction or disturbance of active nests or indirectly by causing the abandonment of nests. This type of impact would not be significant under CEQA for the species that could potentially nest in the study area due to the local and regional abundances of these species and/or the low magnitude of the potential impact of the Project to these species (i.e., the Project is only expected to impact one or two individual pairs of these species, which is not a significant impact to their regional populations). However, we recommend that the following measures be implemented to ensure that Project activities comply with the MBTA and California Fish and Game Code:

**Measure 1. Avoidance.** To the extent feasible, construction activities should be scheduled to avoid the nesting season. If construction activities are scheduled to take place outside the nesting season, all impacts to nesting birds protected under the MBTA and California Fish and Game Code will be avoided. The nesting season for most birds in Santa Clara County extends from 1 February through 31 August.

**Measure 2. Pre-construction/Pre-disturbance Surveys.** If it is not possible to schedule construction activities between 1 September and 31 January then pre-construction surveys for nesting birds should be conducted by a qualified ornithologist to ensure that no nests will be disturbed during Project implementation. We recommend that these surveys be conducted no more than seven days prior to the initiation of construction activities. During this survey, the ornithologist will inspect all trees and other potential nesting habitats (e.g., trees, shrubs, ruderal grasslands, buildings) in and immediately adjacent to the impact areas for nests. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist will determine the extent of a construction-free buffer zone to be established around the nest (typically 300 feet for raptors and 50–100 feet for other species), to ensure that no nests of species protected by the MBTA and California Fish and Game Code will be disturbed during Project implementation.

**Measure 3. Inhibition of Nesting.** If construction activities will not be initiated until after the start of the nesting season, we recommend that all potential nesting substrates (e.g., bushes, trees, grasses, and other vegetation) that are scheduled to be removed by the Project be removed prior to the start of the nesting season (e.g., prior to 1 February). This will preclude the initiation of nests in this vegetation, and prevent the potential delay of the Project due to the presence of active nests in these substrates.

## Section 8.0 References

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## Appendix A. Special-Status Plant Species Rejected for Occurrence at the Project Site

Scientific Name	Common Name	General Habitat Type Not Present or Too Disturbed.	Lack of Serpentine or Alkaline Soils.	Outside Elevation Range for Species	Presumed Absent or Extirpated from Santa Clara County.
<i>Acanthomintha lanceolata</i>	Santa Clara thorn-mint	X	X		
<i>Allium peninsulare</i> var. <i>franciscanum</i>	Franciscan onion	X	X		
<i>Amsinckia lunaris</i>	bent-flowered fiddleneck	X			
<i>Androsace elongata</i> ssp. <i>acuta</i>	California androsace	X			
<i>Anomobryum julaceum</i>	slender silver moss				X
<i>Arctostaphylos glutinosa</i>	Schreiber's manzanita	X			X
<i>Arctostaphylos ohloneana</i>	Ohlone manzanita	X		X	X
<i>Arctostaphylos pajaroensis</i>	Pajaro manzanita	X			X
<i>Arctostaphylos silvicola</i>	Bonny Doon manzanita	X			X
<i>Arenaria paludicola</i>	marsh sandwort	X			X
<i>Azolla microphylla</i>	Mexican mosquito fern	X		X	
<i>Calandrinia breweri</i>	Brewer's calandrinia	X			
<i>Calochortus umbellatus</i>	Oakland star-tulip		X		
<i>Calyptridium parryi</i> var. <i>hesseae</i>	Santa Cruz Mountains pussypaws	X			
<i>Calystegia collina</i> ssp. <i>venusta</i>	South Coast Range morning-glory	X	X	X	
<i>Campanula californica</i>	swamp harebell	X			X
<i>Carex comosa</i>	bristly sedge	X			X
<i>Carex saliniformis</i>	deceiving sedge	X			X
<i>Chorizanthe pungens</i> var. <i>hartwegiana</i>	Ben Lomond spineflower	X			X
<i>Chorizanthe robusta</i> var. <i>hartwegii</i>	Scotts Valley spineflower	X			X
<i>Chorizanthe robusta</i> var. <i>robusta</i>	robust spineflower	X			X
<i>Cirsium fontinale</i> var. <i>campylon</i>	Mt. Hamilton fountain thistle	X	X		

Scientific Name	Common Name	General Habitat Type Not Present or Too Disturbed.	Lack of Serpentine or Alkaline Soils.	Outside Elevation Range for Species	Presumed Absent or Extirpated from Santa Clara County.
<i>Clarkia breweri</i>	Brewer's clarkia	X	X		
<i>Clarkia concinna</i> ssp. <i>automixa</i>	Santa Clara red ribbons	X			
<i>Collinsia multicolor</i>	San Francisco collinsia	X			
<i>Cypripedium fasciculatum</i>	clustered lady's-slipper	X	X		
<i>Dacryophyllum falcifolium</i>	tear drop moss	X			X
<i>Didymodon norrisii</i>	Norris' beard moss	X		X	X
<i>Dudleya abramsii</i> ssp. <i>setchellii</i>	Santa Clara Valley dudleya	X	X		
<i>Eriogonum argillosum</i>	clay buckwheat	X	X		
<i>Eriogonum nudum</i> var. <i>decurrens</i>	Ben Lomond buckwheat	X			
<i>Eriogonum umbellatum</i> var. <i>bahiiforme</i>	bay buckwheat	X	X	X	
<i>Eriophyllum jepsonii</i>	Jepson's woolly sunflower	X	X		
<i>Eriophyllum latilobum</i>	San Mateo woolly sunflower	X	X	X	X
<i>Erysimum franciscanum</i>	San Francisco wallflower	X	X		
<i>Erysimum teretifolium</i>	Santa Cruz wallflower	X			X
<i>Fissidens pauperculus</i>	minute pocket moss	X			X
<i>Fritillaria agrestis</i>	stinkbells	X	X		
<i>Fritillaria liliacea</i>	fragrant fritillary	X			
<i>Galium andrewsii</i> ssp. <i>gatense</i>	phlox-leaf serpentine bedstraw	X	X		
<i>Grindelia hirsutula</i> var. <i>maritima</i>	San Francisco gumplant	X			X
<i>Helianthus exilis</i>	serpentine sunflower	X	X		
<i>Hesperevax sparsiflora</i> var. <i>brevifolia</i>	short-leaved evax	X			X
<i>Hesperocyparis abramsiana</i> var. <i>abramsiana</i>	Santa Cruz cypress	X			X
<i>Hesperocyparis abramsiana</i> var. <i>butanoensis</i>	Butano Ridge cypress	X		X	X
<i>Hoita strobilina</i>	Loma Prieta hoita	X	X		
<i>Holocarpha macradenia</i>	Santa Cruz tarplant	X			X
<i>Horkelia cuneata</i> var. <i>sericea</i>	Kellogg's horkelia	X			X

Scientific Name	Common Name	General Habitat Type Not Present or Too Disturbed.	Lack of Serpentine or Alkaline Soils.	Outside Elevation Range for Species	Presumed Absent or Extirpated from Santa Clara County.
<i>Horkelia marinensis</i>	Point Reyes horkelia	X			X
<i>Iris longipetala</i>	coast iris	X			
<i>Isocoma menziesii</i> var. <i>diabolica</i>	Satan's goldenbush	X			
<i>Legenere limosa</i>	legenere	X			
<i>Leptosiphon acicularis</i>	bristly leptosiphon	X			
<i>Leptosiphon ambiguus</i>	serpentine leptosiphon	X	X		
<i>Leptosiphon grandiflorus</i>	large-flowered leptosiphon	X			
<i>Lessingia hololeuca</i>	woolly-headed lessingia		X		
<i>Lessingia micradenia</i> var. <i>glabrata</i>	smooth lessingia	X	X		
<i>Lessingia tenuis</i>	spring lessingia	X			
<i>Malacothamnus aboriginum</i>	Indian Valley bush-mallow	X			
<i>Malacothamnus arcuatus</i>	arcuate bush-mallow	X			
<i>Malacothamnus davidsonii</i>	Davidson's bush-mallow	X			
<i>Malacothamnus hallii</i>	Hall's bush-mallow	X			
<i>Malacothrix phaeocarpa</i>	dusky-fruited malacothrix	X			
<i>Micropus amphibolus</i>	Mt. Diablo cottonweed	X			
<i>Microseris paludosa</i>	marsh microseris	X			X
<i>Microseris sylvatica</i>	sylvan microseris	X	X		X
<i>Mielichhoferia elongata</i>	elongate copper moss			X	X
<i>Monardella sinuata</i> ssp. <i>nigrescens</i>	northern curly-leaved monardella	X			X
<i>Monolopia gracilens</i>	woodland woolythreads	X			
<i>Navarretia cotulifolia</i>	cotula navarretia	X			
<i>Orthotrichum kellmanii</i>	Kellman's bristle moss				X
<i>Pedicularis dudleyi</i>	Dudley's lousewort				X
<i>Penstemon rattanii</i> var. <i>kleei</i>	Santa Cruz Mountains beardtongue			X	

Scientific Name	Common Name	General Habitat Type Not Present or Too Disturbed.	Lack of Serpentine or Alkaline Soils.	Outside Elevation Range for Species	Presumed Absent or Extirpated from Santa Clara County.
<i>Pentachaeta bellidiflora</i>	white-rayed pentachaeta	X	X		X
<i>Perideridia gairdneri</i> ssp. <i>gairdneri</i>	Gairdner's yampah				
<i>Pinus radiata</i>	Monterey pine				X
<i>Piperia leptopetala</i>	narrow-petaled rein orchid			X	
<i>Piperia michaelii</i>	Michael's rein orchid	X			
<i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i>	Choris' popcorn-flower	X			X
<i>Plagiobothrys chorisianus</i> var. <i>hickmanii</i>	Hickman's popcorn-flower	X			
<i>Plagiobothrys diffusus</i>	San Francisco popcorn-flower	X			X
<i>Plagiobothrys glaber</i>	hairless popcorn-flower	X	X		X
<i>Polygonum hickmanii</i>	Scotts Valley polygonum	X			X
<i>Psilocarphus brevissimus</i> var. <i>multiflorus</i>	Delta woolly-marbles	X			
<i>Rosa pinetorum</i>	pine rose	X			X
<i>Senecio aphanactis</i>	chaparral ragwort	X			
<i>Sidalcea malachroides</i>	maple-leaved checkerbloom				X
<i>Silene verecunda</i> ssp. <i>verecunda</i>	San Francisco campion	X			X
<i>Stebbinsoseris decipiens</i>	Santa Cruz microseris				X
<i>Streptanthus albidus</i> ssp. <i>albidus</i>	Metcalf Canyon jewel-flower	X	X		
<i>Streptanthus albidus</i> ssp. <i>peramoenus</i>	most beautiful jewel-flower	X	X		
<i>Trifolium buckwestiorum</i>	Santa Cruz clover				X
<i>Trifolium hydrophilum</i>	saline clover	X	X		
<i>Tropidocarpum capparideum</i>	caper-fruited tropidocarpum	X	X		X

## Appendix B. Plants Identified on the Project Site

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### List of Plant Species Observed at the Saratoga Quarry Project Site during Reconnaissance-Level Plant Field Surveys on 1 July and 13 July 2013\*

Family Name	Scientific Name	Common Name	Status (CAL-IPC Rating) **
<b>Adoxaceae</b>	<i>Sambucus nigra</i> ssp. <i>caerulea</i>	blue elderberry	Native
<b>Agavaceae</b>	<i>Chlorogalum pomeridianum</i>	soap plant	Native
<b>Anacardiaceae</b>	<i>Toxicodendron diversilobum</i>	poison oak	Native
<b>Apiaceae</b>	<i>Conium maculatum</i>	poison hemlock	Invasive (moderate)
	<i>Daucus pusillus</i>	American wild carrot	Native
	<i>Foeniculum vulgare</i>	fennel	Invasive (high)
	<i>Sanicula crassicaulis</i>	gamble weed	Native
	<i>Torilis arvensis</i>	hedge parsley	Invasive (moderate)
<b>Apocynaceae</b>	<i>Nerium oleander</i>	oleander	Non-native
<b>Apocynaceae</b>	<i>Vinca major</i>	periwinkle	Invasive (moderate)
<b>Araceae</b>	<i>Lemna minuta</i>	duckweed	Native
<b>Araliaceae</b>	<i>Hedera helix</i>	English ivy	Invasive (high)
<b>Asteraceae</b>	<i>Anaphalis margaritacea</i>	pearly everlasting	Native
	<i>Artemisia californica</i>	California sagebrush	Native
	<i>Artemisia douglasiana</i>	mugwort	Native
	<i>Baccharis pilularis</i>	coyote brush	Native
	<i>Carduus pycnocephalus</i>	Italian thistle	Invasive (moderate)
	<i>Centaurea melitensis</i>	tocalote	<i>Centaurea melitensis</i>
	<i>Centaurea solstitialis</i>	yellow star-thistle	Invasive (high)
	<i>Cirsium vulgare</i>	bull thistle	Invasive (moderate)
	<i>Dittrichia graveolens</i>	stinkwort	Invasive (moderate)
	<i>Lactuca serriola</i>	prickly lettuce	Not-native
	<i>Madia sativa</i>	coast tarweed	Native
	<i>Petasites frigidus</i>	coltsfoot	Native
	<i>Silybum marianum</i>	milk thistle	Invasive (limited)
	<i>Sonchus asper</i>	spiny sowthistle	Not-native
	<b>Betulaceae</b>	<i>Alnus rhombifolia</i>	white alder

<b>Family Name</b>	<b>Scientific Name</b>	<b>Common Name</b>	<b>Status (CAL-IPC Rating) **</b>
	<i>Corylus cornuta</i>	hazelnut	Native
<b>Blechnaceae</b>	<i>Woodwardia fimbriata</i>	chain fern	Native
<b>Boraginaceae</b>	<i>Eriodictyon californicum</i>	yerba santa	Native
	<i>Heliotropium curassavicum</i>	seaside heliotrope	Native
<b>Brassicaceae</b>	<i>Brassica nigra</i>	black mustard	Invasive (moderate)
	<i>Hirschfeldia incana</i>	short podded mustard	Invasive (moderate)
	<i>Nasturtium officinale</i>	watercress	Native
	<i>Raphanus sativus</i>	wild radish	Invasive (limited)
<b>Caprifoliaceae</b>	<i>Lonicera hispidula</i>	pink honeysuckle	Native
	<i>Lonicera interrupta</i>	chaparral honeysuckle	Native
	<i>Symphoricarpos album</i>	common snowberry	Native
<b>Caryophyllaceae</b>	<i>Cerastium globeratum</i>	mouse-ear chickweed	Non-native
<b>Cucurbitaceae</b>	<i>Marah fabacea</i>	California man-root	Native
<b>Cupressaceae</b>	<i>Calocedrus decurrens</i>	incense cedar	Native
	<i>Hesperocyparis macrocarpa</i>	Monterey cypress	Planted Native
	<i>Juniperus californica</i>	California juniper	Planted Native
	<i>Sequoia sempervirens</i>	coast redwood	Native
	<i>Sequoiadendron giganteum</i>	giant sequoia	Planted Native
<b>Cyperaceae</b>	<i>Cyperus eragrostis</i>	tall flatsedge	Native
	<i>Cyperus esculentus</i>	nut grass	Native
<b>Dryopteridaceae</b>	<i>Dryopteris expansa</i>	Common wood fern	Native
<b>Equisetaceae</b>	<i>Equisetum arvense</i>	common horsetail	Native
<b>Ericaceae</b>	<i>Arbutus menziesii</i>	madrone	Native
<b>Fabaceae</b>	<i>Acacia baileyana</i>	Bailey acacia	Non-native
	<i>Acmispon glaber</i>	deerweed	Native
	<i>Genista monspessulana</i>	French broom	Invasive (high)
	<i>Medicago polymorpha</i>	bur clover	Invasive (limited)
	<i>Melilotus albus</i>	white sweetclover	Non-native
	<i>Spartium junceum</i>	Spanish broom	Invasive (high)
	<i>Vicia sp.</i>	vetch	Unknown

<b>Family Name</b>	<b>Scientific Name</b>	<b>Common Name</b>	<b>Status (CAL-IPC Rating) **</b>
<b>Fagaceae</b>	<i>Quercus agrifolia</i>	coast live oak	Native
	<i>Quercus berberidifolia</i>	scrub oak	Native
<b>Gentianaceae</b>	<i>Zeltnera muehlenbergii</i>	Muehlenberg's centaury	Native
<b>Geraniaceae</b>	<i>Erodium cicutarium</i>	redstem stork's bill	Invasive (limited)
	<i>Geranium dissectum</i>	cutleaf geranium	Invasive (moderate)
	<i>Geranium pusillum</i>	small-flowered geranium	Non-native
<b>Hamamelidaceae</b>	<i>Liquidambar styraciflua</i>	sweetgum	Non-native
<b>Hypericaceae</b>	<i>Hypericum canariense</i>	Canary Island St. Johnswort	Invasive (moderate)
<b>Iridaceae</b>	<i>Iris</i> sp.	iris	Unknown
<b>Juglandaceae</b>	<i>Juglans hindsii</i>	black walnut	Planted Native
<b>Juncaceae</b>	<i>Juncus effusus</i>	common rush	Unknown
	<i>Juncus xiphioides</i>	iris leaved rush	Native
<b>Lamiaceae</b>	<i>Clinopodium douglasii</i>	yerba buena	Native
	<i>Rosmarinus officinalis</i>	rosemary	Non-native
	<i>Stachys ajugoides</i>	hedge nettle	Native
<b>Lauraceae</b>	<i>Umbellularia californica</i>	California bay	Native
<b>Montiaceae</b>	<i>Claytonia perfoliata</i>	miner's lettuce	Native
<b>Moraceae</b>	<i>Ficus carica</i>	common fig	Invasive (moderate)
<b>Myrsinaceae</b>	<i>Anagallis arvensis</i>	pimpernel	Non-native
<b>Myrtaceae</b>	<i>Callistemon citrinus</i>	crimson bottlebrush	Non-native
	<i>Eucalyptus globulus</i>	blue gum	Invasive (moderate)
<b>Oleaceae</b>	<i>Ligustrum</i> sp.	privet	Non-native
	<i>Olea europaea</i>	olive	Invasive (limited)
<b>Onagraceae</b>	<i>Clarkia</i> sp.	clarkia	Native
	<i>Epilobium ciliatum</i>	fringed willowherb	Native
<b>Orobanchaceae</b>	<i>Pedicularis densiflora</i>	Indian warrior	Native
<b>Papaveraceae</b>	<i>Eschscholzia californica</i>	California poppy	Native
<b>Phrymaceae</b>	<i>Mimulus aurantiacus</i>	sticky monkey flower	Native
<b>Pinaceae</b>	<i>Cedrus deodara</i>	Deodar cedar	Non-native
	<i>Pinus radiata</i>	Monterey pine	Planted Native
	<i>Pinus sabiniana</i>	California foothill pine	Native

<b>Family Name</b>	<b>Scientific Name</b>	<b>Common Name</b>	<b>Status (CAL-IPC Rating) **</b>
	<i>Pseudotsuga menziesii</i>	Douglas fir	Native
<b>Pittosporaceae</b>	<i>Pittosporum undulatum</i>	Australian cheesewood	Non-native
<b>Platanaceae</b>	<i>Platanus racemosa</i>	western sycamore	Native
<b>Poaceae</b>	<i>Aira caryophylla</i>	silver hairgrass	Non-native
	<i>Avena fatua</i>	wild oats	Invasive (moderate)
	<i>Bromus carinatus</i>	California brome	Native
	<i>Bromus diandrus</i>	ripgut brome	Invasive (moderate)
	<i>Bromus hordeaceus</i>	soft chess	Invasive (limited)
	<i>Bromus madritensis</i> ssp. <i>madritensis</i>	foxtail chess	Non-Native
	<i>Cortaderia selloana</i>	pampas grass	Invasive (high)
	<i>Cynodon dactylon</i>	Bermuda grass	Invasive (moderate)
	<i>Cynosurus echinatus</i>	annual dogtail	Invasive (moderate)
	<i>Elymus glaucus</i>	blue wildrye	Native
	<i>Festuca microstachys</i>	small fescue	Native
	<i>Festuca myuros</i>	rattail sixweeks grass	Invasive (moderate)
	<i>Festuca perennis</i>	Italian ryegrass	Invasive (moderate)
	<i>Hordeum murinum</i>	foxtail barley	Invasive (moderate)
	<i>Koeleria macrantha</i>	junegrass	Native
	<i>Melica californica</i>	California melic	Native
	<i>Phalaris aquatica</i>	Harding grass	Invasive (moderate)
	<i>Poa annua</i>	annual bluegrass	Non-native
	<i>Polypogon monspeliensis</i>	rabbitsfoot grass	Invasive (limited)
	<i>Stipa miliacea</i>	smilo grass	Invasive (limited)
<b>Polemoniaceae</b>	<i>Navarretia mellita</i>	skunk navarretia	Native
<b>Polygonaceae</b>	<i>Polygonum aviculare</i>	prostrate knotweed	Non-native
	<i>Rumex acetosella</i>	common sheep sorrel	Invasive (moderate)
<b>Polypodiaceae</b>	<i>Polypodium californicum</i>	California polypody	Native
<b>Pteridaceae</b>	<i>Adiantum jordanii</i>	California maiden hair	Native
	<i>Pentagramma triangularis</i>	goldenback fern	Native
<b>Ranunculaceae</b>	<i>Clematis lasiantha</i>	pipestem	Native

<b>Family Name</b>	<b>Scientific Name</b>	<b>Common Name</b>	<b>Status (CAL-IPC Rating) **</b>
<b>Rosaceae</b>	<i>Cotoneaster pannosus</i>	cotoneaster	Invasive (moderate)
	<i>Heteromeles arbutifolia</i>	toyon	Native
	<i>Holodiscus discolor</i>	oceanspray	Native
	<i>Potentilla</i> sp.	cinquefoil	Native
	<i>Prunus</i> sp.	cherry	Non-native
	<i>Pyracantha coccinea</i>	scarlet firethorn	Invasive (limited)
	<i>Rosa californica</i>	California wild rose	Native
	<i>Rubus armeniacus</i>	Himalayan blackberry	Invasive (high)
	<i>Rubus parviflorus</i>	thimbleberry	Native
<b>Rubiaceae</b>	<i>Rubus ursinus</i>	California blackberry	Native
	<i>Galium aparine</i>	common bedstraw	Native
<b>Ruscaceae</b>	<i>Maianthemum racemosum</i>	feathery false lily of the valley	Native
<b>Salicaceae</b>	<i>Populus fremontii</i>	Fremont cottonwood	Native
	<i>Salix laevigata</i>	red willow	Native
	<i>Salix lasiolepis</i>	arroyo willow	Native
<b>Sapindaceae</b>	<i>Acer macrophyllum</i>	big leaf maple	Native
	<i>Aesculus californica</i>	buckeye	Native
<b>Scrophulariaceae</b>	<i>Scrophularia californica</i>	California figwort	Native
<b>Simaroubaceae</b>	<i>Ailanthus altissima</i>	tree of heaven	Invasive (moderate)
<b>Solanaceae</b>	<i>Solanum americanum</i>	American black nightshade	Native
<b>Typhaceae</b>	<i>Typha</i> sp.	cattail	Unknown
<b>Urticaceae</b>	<i>Soleirolia soleirolii</i>	baby's tears	Non-native
	<i>Urtica dioica</i>	stinging nettle	Native
	<i>Urtica urens</i>	dwarf nettle	Non-native

\* This list of plant species is preliminary and does not represent a comprehensive list of all of the species occurring at the 64-acre study area.

**\*\* Status**

*Native* = Species is native to San Francisco Bay Area and/or Central Coast of California

*Non-native* = Species is not native to San Francisco Bay Area and/or Central Coast of California

*Planted Native* = Species is native to California and grows naturally in some regions of the state; however, these species are widely cultivated and the individuals found in the study area are cultivars that are genetically distinct from the native populations.

Cal-IPC Rating Categories:

*High* – These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

*Moderate* – These species have substantial and apparent—but generally not severe—ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

*Limited* – These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.