Appendix H

Biological Evaluation

LIVE OAK ASSOCIATES, INC.

an Ecological Consulting Firm

COMMUNICATIONS HILL
BIOLOGICAL EVALUATION
CITY OF SAN JOSE, CALIFORNIA

Prepared by

LIVE OAK ASSOCIATES, INC.

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June 25, 2013 File No. 1010-06

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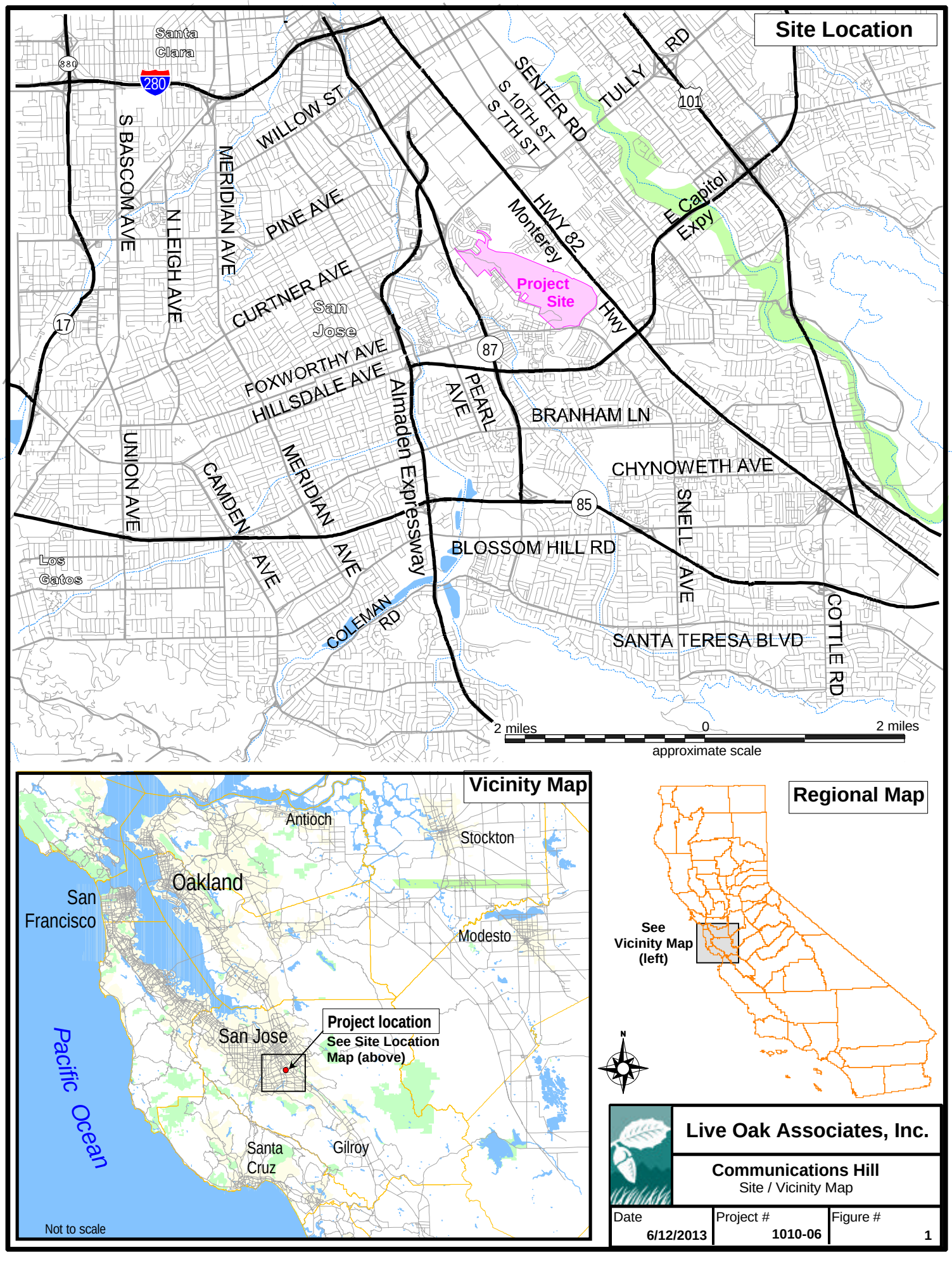
1.0 INTRODUCTION

The technical report that follows describes the biotic resources of the 312.1-acre Communications Hill project site in unincorporated Santa Clara County, California, and evaluates likely impacts to these resources resulting from build-out of a residential and commercial community. The site is approximately four miles south of the City of San Jose downtown and is generally bounded by the Caltrain/Union Pacific railroad tracks on the north, Old Hillsdale Avenue to the east, the Tuscany Hills development to the south, and the Millpond and Dairy Hill neighborhoods to the west (Figure 1). The site is located on the San Jose East U.S.G.S. 7.5' quadrangle in sections 27, 28, 33, and 34 of township 7 south, range 1 east (Figure 2).

The primary objectives of this report are as follows:

- Summarize all site-specific information related to existing biological resources;
- Make reasonable inferences about the biological resources that could occur onsite based on habitat suitability and the proximity of the site to a species' known range;
- Summarize all state and federal natural resource protection laws that may be relevant to possible future site development;
- Identify and discuss natural resource issues specific to the site that could affect future development;
- Identify avoidance and mitigation measures that could significantly reduce the magnitude of likely biological resource issues associated with site development.

Natural resource issues related to these state and federal laws have been identified in past planning studies conducted in the general site vicinity for other projects, and it is reasonable to presume that such issues could be relevant to the site. For example, a number of state and federally listed animals, as well as other special status animal species (i.e., candidate species for listing and California species of special concern), have been documented within twenty miles of the project site. These include the federally- and state-listed California tiger salamander (*Ambystoma californiense*) and the burrowing owl (*Athene cunicularia*), a California species of special concern. This report evaluates the site's suitability for these and other species.



Live Oak Associates, Inc.

Communications Hill
Site / Vicinity Map

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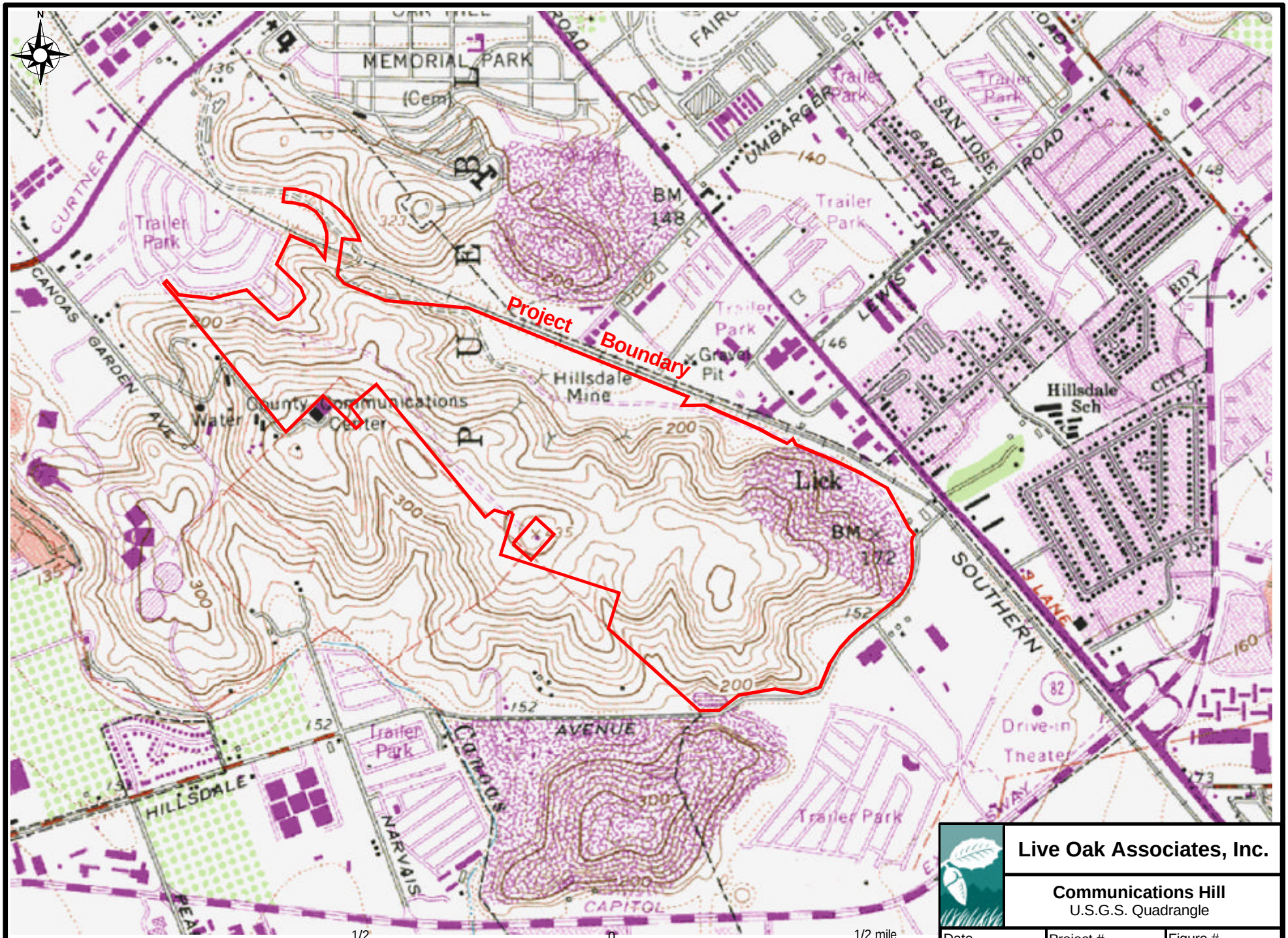

From USGS
San Jose East 7.5' Quadrangle 1980

Live Oak Associates, Inc.

Communications Hill
U.S.G.S. Quadrangle

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CEQA is also concerned with project impacts on riparian habitat, wildlife movement corridors, fish and wildlife habitat, and jurisdictional wetlands, as well as project compliance with special ordinances and state laws protecting regionally sensitive biotic resources (such as the City of San Jose's ordinances and policies), and approved habitat conservation plans (such as the Santa Clara Valley Habitat Plan). This report addresses the relevance of each of these issues to project build-out.

1.1 PROJECT LOCATION

The entire Communications Hill Specific Plan Area comprises approximately 900 acres of hilly land located approximately four miles south of downtown San Jose. The Plan Area is bounded by Curtner Avenue to the north, Monterey Road to the east, Capitol Expressway, Snell Avenue, and Hillsdale Avenue to the south, and Guadalupe Freeway (SR 87) to the west. The Oak Hill Cemetery is located adjacent to the northeastern boundary of the Plan area.

The proposed Communications Hill project site is within the Specific Plan Area near the top of the hill adjacent to the existing KB Home Tuscany Hills development. The site is generally bounded by the Caltrain/Union Pacific railroad tracks on the north, Old Hillsdale Avenue to the east, the Tuscany Hills development to the south, and the Millpond and Dairy Hill neighborhoods to the west. The gross acreage of the project site is approximately 312 acres, with a net acreage of approximately 250 acres, not including public parks dedication and public right-of-way. The proposed residential/commercial portion of the site is approximately 79 gross acres, while the proposed industrial property is approximately 55 gross acres.

1.2 PROJECT DESCRIPTION

The proposed project is the build-out of the remaining approximately 2,200 residential units allowed within the Specific Plan Area, which is anticipated to occur over a 12-15 year timeframe. It also includes construction of up to 67,500 square feet of commercial/retail uses, parks, open space, trails, streets, stormwater facilities, and other associated supporting infrastructure (Table 1). An elementary school is proposed to be centrally located on approximately 4.2 acres. The project's land use plan is included in Appendix A.

The proposed project also includes the future development of approximately 55 acres of industrial park uses in the eastern portion of the site near the base of Communications Hill adjacent to Old Hillsdale Avenue. Details for this development have not yet been determined.

Table 1. Proposed land uses on the Communications Hill site.

Land Use	Area (acres)
Residential	79.1
Mixed use commercial/village center*	3.1
Public right-of-way dedication	43
Public park	16
School	4.2
Future industrial park	55
Public/private open space/water quality facilities	111.5
Existing right-of-way	3.3
Total	312.1
*The 3.1 acres in the Village Center are included in the 79.1 acres of residential lands.	

The project proposes the development of up to 2,200 residential units consisting of townhomes/flats, detached alley townhomes, detached row townhomes, podium condominiums, and apartments in the Village Center. Four podium condominium buildings are proposed as part of the project.

Uses within the commercial/retail area would include restaurants, shops, entertainment, and small office consistent with the Specific Plan. Approximately 16 acres of parks and 112 acres of open space will be constructed as part of the proposed project.

An existing abandoned mercury mine and a former rock quarry are present within the boundary of the proposed project site. The project proposes to close these existing uses according to all local, state, and federal laws. An aggregate recycling center is currently using the quarry property, which has been identified for future industrial park uses. It is anticipated that the recycling center will continue to operate until its Use Permit expires in approximately ten years.

Infrastructure constructed as part of previous development on Communications Hill (primarily the Tuscany Hills project) was sized to accommodate the proposed project, although the facilities would need to be extended onto the site. This infrastructure includes streets, water and sewer lines, and utilities (i.e., gas, electricity, cable, and telephone). An existing PG&E distribution/transmission line runs east/west through the Specific Plan Area. Major infrastructure elements are described below:

1. The Specific Plan includes the extension of Pullman Way from Communications Hill Boulevard to Monterey Road. The extension of Pullman Way was realigned as part of the Specific Plan amendments approved in 2002. The environmental analysis will include scenarios that analyze the conditions with and without the Pullman Way extension and possible alignments/designs for this roadway.
2. A vehicle bridge over the Caltrain/UPRR tracks will be constructed as part of Communications Hill Boulevard, consistent with the Specific Plan.
3. The proposed project will require stormwater filtration/detention basins to be located on the site. One basin will be located in the northern portion, while the other would be constructed in the southwestern portion of the site near the existing basin. The existing basin may require modifications/expansion to accommodate run-off from the site. These basins would provide water quality benefits as well as detain water on-site during rain events prior to outfall to the City's stormwater system, consistent with the Specific Plan.
4. The site will be re-graded to repair the grading alterations that were done as part of the former quarry operations. The grading will be designed to more closely follow the previous pre-quarry and natural topography. This will generally result in streets and blocks with slopes similar to development on the south/southwestern facing slopes of the hill.

1.3 STUDY METHODOLOGY

The analysis of impacts, as discussed in section 3.0 of this report, was based on the known and potential biotic resources of the study area, discussed in section 2.0. Sources of information used in the preparation of this analysis included: (1) the *California Natural Diversity Data Base* (CDFW 2013); (2) the *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2013); (3) a list of the state and federally listed special status species (CDFW 2013, USFWS 2013); (4) manuals and references related to plants and animals of Santa Clara Valley; (5) the Santa Clara Valley Habitat Plan (ICF International 2012); (6) reports for the site and general Plan Area written between 1992 and 1999 by current Live Oak Associates, Inc. (LOA) staff when employed by H.T. Harvey & Associates; (7) notes and memos compiled by LOA during

more recent studies; and (8) the Initial Study for the MTA Properties-Communications Hill General Plan and Specific Plan Amendments Project (City of San Jose 2002).

Field surveys for special-status species have been conducted on the site and within the Specific Plan Area since the spring of 1992 and have continued to the present by staff ecologists from LOA. These surveys include:

H.T. Harvey and Associate Surveys (primarily conducted by current LOA staff)

- Special status species surveys (H.T. Harvey & Associates 1992).
- Bay checkerspot butterfly and Hom's micro-blind harvestman surveys and habitat assessment (H.T. Harvey & Associates 1994).
- Burrowing owl and California tiger salamander surveys (H.T. Harvey & Associates 1996).
- California tiger salamander surveys (H.T. Harvey & Associates 1997).

LOA Surveys

- Special status plant species and protocol-level burrowing owl surveys in 2001 (Pamela Peterson and Bernie Wone).
- California tiger salamander surveys on May 23 and June 2, 2006 (Dr. Mark Jennings).
- Bay checkerspot butterfly adult surveys on March 14, 20, 27, and 31 and April 9, 15, and 24, 2001 (Dr. Raymond White).
- Bay checkerspot butterfly larval and adult surveys on February 23, March 2, 18, 23, and 30, April 3, 6, and 13, 2007 (Dr. Raymond White).
- Protocol-level burrowing owl surveys on March 20-22, April 16-17, May 11 and 14, and June 13, 2007 (Melissa Denena, Neal Kramer, Davinna Ohlson, and Brian Williams).
- Special status plant species surveys on March 20-22, April 16-17, May 11 and 14, and September 6-7, 2007 (Melissa Denena and Neal Kramer).
- Waters of the United States investigation on April 16-17, 2007; on February 12, 19, 20, and 24, 2009; and on December 10, 2012, and March 12 and April 22, 2013 (Melissa Denena, Neal Kramer, Davinna Ohlson, and Katrina Krakow).
- Roosting bat survey of mines on January 26, 2009 (Dr. Rick Hopkins and Melissa Denena).
- Emergent bat surveys of main mine entrance on February 10, 12, and 19, 2009 (Melissa Denena, Davinna Ohlson, and Nathan Hale).
- Follow-up Phase I burrowing owl survey on February 12, 19, 20, and 24, 2009 (Davinna Ohlson and Nathan Hale).
- Follow-up reconnaissance survey to determine any site changes on May 9, 2012 (Nathan Hale and Katrina Krakow).

Information gathered during the background review and in the field was used to identify and map plant communities and characterize the botanical and wildlife resources occurring on the site.

2.0 EXISTING CONDITIONS

The site is located in Santa Clara Valley in an unincorporated portion of Santa Clara County within the City of San Jose. The site is surrounded by existing urban development and is generally bounded by the Caltrain/Union Pacific railroad tracks on the north, Old Hillsdale Avenue to the east, the Tuscany Hills development to the south, and the Millpond and Dairy Hill neighborhoods to the west. The site comprises the undeveloped northern and eastern slopes of Communications Hill and the inactive Azevedo Quarry. Elevations range from approximately 150 feet (45 meters) National Geodetic Vertical Datum (NGVD) to 430 feet (130 meters) NGVD.

Seven soil types from six soil series—Clear Lake, Cropley, Hangerone, Montara, Newpark, and Santerhill—were identified on the project site (Figure 3; Table 2; NRCS 2010). Of the six soil series, Clear Lake, Cropley, and Hangerone soils are considered hydric. Hydric soils are soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part. Under sufficiently wet conditions, they support the growth and regeneration of hydrophytic vegetation. The other soil types are not considered hydric, although hydric inclusions may occur. Hangerone and Montara soils are moderately alkaline, and Montara and Santerhill soils are serpentine. As such, these soils may support species adapted to such conditions. Montara and Santerhill soils underlie most of the site.

Santa Clara Valley has a Mediterranean climate with warm to hot dry summers and cool winters. Annual precipitation in the general vicinity of the site is highly variable from year to year. Average annual rainfall is approximately 15 inches, most of which falls between November and April. Stormwater runoff readily infiltrates the site's soils; when field capacity has been reached, gravitational water either drains into the aquatic features onsite as shallow groundwater or as surface sheet flow or may sheet flow off of the site. No seasonal drainage channels convey water off of the site. Thus, the site is isolated from nearby waterways (e.g., Canoas Creek and Guadalupe River).

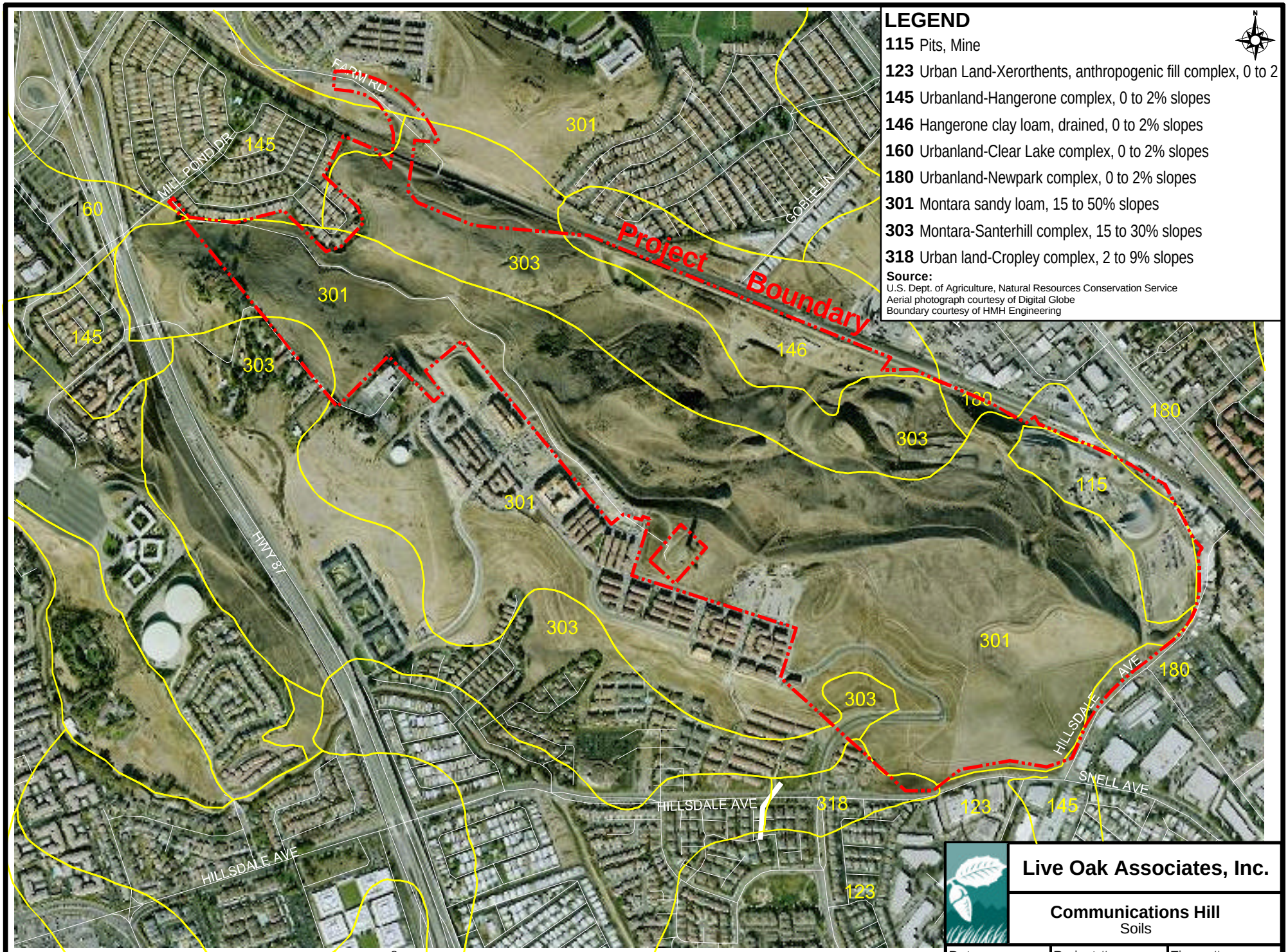
LEGEND
115 Pits, Mine
123 Urban Land-Xerorthents, anthropogenic fill complex, 0 to 2
145 Urbanland-Hangerone complex, 0 to 2% slopes
146 Hangerone clay loam, drained, 0 to 2% slopes
160 Urbanland-Clear Lake complex, 0 to 2% slopes
180 Urbanland-Newpark complex, 0 to 2% slopes
301 Montara sandy loam, 15 to 50% slopes
303 Montara-Santerhill complex, 15 to 30% slopes
318 Urban land-Cropley complex, 2 to 9% slopes
Source:
U.S. Dept. of Agriculture, Natural Resources Conservation Service
Aerial photograph courtesy of Digital Globe
Boundary courtesy of HMH Engineering
Project Boundary
FARM RD
MILL POND DR
GOBLE LN
HWY 87
HILLSDALE AVE
SNELL AVE
1/2 mile
0
1/2 mile
approximate scale
Live Oak Associates, Inc.
Communications Hill
Soils
Date
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Table 2. Soils occurring on the Communications Hill site (NRCS 2010).					
Soil Series/Soil	**Map Symbol**	**Parent Material**	**Surface Permeability**	**Hardpan/ Duripan**	**Hydric**
CLEAR LAKE SERIES Urbanland-Clear Lake complex, 0 to 2% slopes	160	Fine textured alluvium derived from sandstone and shale	Slow to very slow	No	Yes
CROPLEY SERIES Urbanland-Cropley complex, 2 to 9% slopes	318	Alluvium from mixed rock sources	Slow	No	Yes
HANGERONE SERIES Urbanland-Hangerone complex, 0 to 2% slopes, drained Hangerone clay loam, drained, 0 to 2% slopes	145 146	Alluvium from mixed rock sources	Slow	No	Yes
MONTARA SERIES Montara sandy loam, 15 to 50% slopes Montara-Santerhill complex, 15 to 30% slopes	301 303	Material weathered from serpentinitic rocks	Moderately slow	No	No
NEWPARK SERIES Urbanland-Newpark complex, 0 to 2% slopes	180	Alluvium from mixed rock sources	Moderately slow	No	No
SANTERHILL SERIES Montara-Santerhill complex, 15 to 30% slopes	303	Colluvium and residuum from ultramafic and serpentine materials	Slow	No	No

2.1 BIOTIC HABITATS

Five biotic habitats have been identified on the site, including annual grassland, coyote brush/Diablan sage scrub, mixed woodland, aquatic, and developed/ruderal (i.e., disturbed areas) (Figure 4). A list of the vascular plant species observed on the project site and the terrestrial vertebrates using, or potentially using, the site are provided in Appendices B and C, respectively.

2.1.1 Annual Grassland

The majority of the site supports annual grassland habitat (Figure 4). This habitat is present in two forms: annual grassland that has not been significantly disturbed in the past and reclaimed annual grassland, which includes previously quarried areas that have reestablished as grassland habitat since. Grasses and forbs of European origin dominate the vegetation of annual grassland

1,000' 0 1,000 feet
approximate scale

Project Boundary

LEGEND

- Non-native Grassland
- Mixed Woodland
- Coyote Brush / Diablan Sage scrub
- Reclaimed non-native grassland
- Reclaimed Coyote Brush / Diablan Sage scrub
- Developed
- Ruderal

Aquatic Habitats

- Seasonal Wetland
- Wetland Seep
- Detention Basin
- Wetland Channel
- Non-wetland Channel
- Non-wetland Man-made Drainage Ditch
- Quarry Pond

Live Oak Associates, Inc.

Communications Hill
Biotic Habitats

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Base Map courtesy of HMH Engineering,
biotic habitats courtesy of Live Oak Associates,
and reclaimed habitats courtesy of H.T. Harvey & Assoc.

habitat. Grasses common to this habitat include wild oats (*Avena* sp.), ripgut (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), and red brome (*Bromus madritensis* ssp. *rubens*). Common forbs include yellow star thistle (*Centaurea solstitialis*), vinegar weed (*Trichostemma lanceolatum*), Italian thistle (*Carduus pycnocephalus*), black mustard (*Brassica nigra*), and clover (*Trifolium* sp.).

Native spring-flowering forbs are also common to this habitat. California poppies (*Eschscholzia californica*), common fiddleneck (*Amsinckia menziesii* var. *intermedia*), red maids (*Calandrinia ciliata*), and blue dicks (*Dichelostemma capitatum*) are typical components of this flora. The spring wildflower display in any given year depends greatly on the timing and amount of winter rains, the site's fire history, and other factors. Cattle grazing has generally been absent from Communications Hill for more than a decade. However, grazing of a few head of cattle occurs annually on a limited portion of the southeastern side of the site during the spring and summer months. In addition, fires have been relatively infrequent over the last several decades, with the last fire occurring in 2007 and burning approximately 20% of the site. Vegetation in the burned areas has since recovered.

Annual grasslands provide important habitat to many terrestrial vertebrates. As many as 25 species of reptiles and amphibians, 100 species of birds, and 50 species of mammals are known to use grassland habitats of central California (Mayer et al. 1988). While the study area provides suitable habitat for many of these species, the active management of the site has reduced its wildlife value on portions of the site. For example, the flat area south of the quarry pond appeared to be graded recently. Nonetheless, some of the species that use the site are grassland residents. A number of others use a variety of other habitats as well. Some are migrants that use the grasslands of the site for only a portion of each year.

The grasslands of the study area are used by several species of reptiles and amphibians. The California tiger salamander (*Ambystoma californiense*) is known to breed in the quarry pond and aestivate in the annual grassland habitat surrounding the pond. Western fence lizards (*Sceloporus occidentalis*) were observed in this habitat during site surveys. Logs and rocky outcroppings provide microhabitats suitable for western rattlesnakes (*Crotalus viridis*) and

gopher snakes (*Pituophis melanoleucus*), which forage in grasslands and other adjacent habitats for small mammals.

Resident and migratory birds occur here, including the California horned lark (*Eremophila alpestris*), Western meadowlark (*Sturnella neglecta*), and the mourning dove (*Zeniada macroura*). Winter migrants include American pipits (*Anthus rubescens*) and savannah sparrows (*Passerculus sandwichensis*). Western kingbirds (*Tyrannus verticalis*) are commonly seen in this part of Santa Clara County foraging from fences and utility lines during the spring and summer. A variety of raptors are attracted to this habitat by the presence of invertebrates and small reptiles, birds, and mammals. Raptors observed in or adjacent to the study area include white-tailed kites (*Elanus caeruleus*), red-tailed hawks (*Buteo jamaicensis*), American kestrels (*Falco sparverius*), northern harriers (*Circus cyaneus*), and turkey vultures (*Cathartes aura*).

Botta's pocket gophers (*Thomomys bottae*) burrows were observed in the annual grassland habitat of the site. Less than two dozen California ground squirrel (*Spermophilus beecheyi*) burrows and one ground squirrel were observed in this habitat. Ground squirrel and Botta's pocket gopher burrows were absent in the developed area of the site. The California vole (*Microtus californicus*), the western harvest mouse (*Reithrodontomys megalotis*), and the ornate shrew (*Sorex ornatus*) are also likely residents, and numerous California vole holes were observed in ruderal habitat along the railroad tracks. Most mammalian predators, except for the non-native red fox (*Vulpes vulpes*), house cat (*Felis catus*), striped skunk (*Mephitis mephitis*), and raccoon (*Procyon lotor*), are absent from the site due to its isolation from other suitable grassland habitats in the region. Red foxes have been observed on the site and den in burrows and abandoned mines on the property.

2.1.2 Coyote Brush/Diablan Sage Scrub

Patches of coyote brush/Diablan sage scrub are present within the scattered portions of the site. This habitat is present in two forms: coyote brush/Diablan sage scrub that has not been significantly disturbed and reclaimed coyote brush/Diablan sage scrub, which includes previously quarried areas that have reestablished as scrub habitat. The dominant shrubs of the

habitat included coyote brush (*Baccharis pilularis*), although poison oak (*Toxicodendron diversilobum*), blue elderberry (*Sambucus mexicanus*), and California sagebrush (*Artemisia californica*) were commonly observed. The overstory layer primarily consists of California buckeye (*Aesculus californica*), coast live oak (*Quercus agrifolia*), and willow (*Salix* sp.), but trees are generally absent from this habitat. The same grasses and forbs observed in the annual grassland comprise the herbaceous understory.

Shrubs and low vegetation provide cover and nesting habitat for Anna's hummingbirds (*Calypte anna*), black phoebes (*Sayornis nigricans*), Say's phoebes (*Sayornis saya*), and California towhees (*Pipilo crissalis*), which were observed on the site, as well as for other bird species such as Nashville warblers (*Vermivora ruficapilla*) and black-headed grosbeaks (*Pheucticus melanocephalus*). California quail (*Callipepla californica*) can often be found foraging on seeds and plants under the cover of dense undergrowth. They are readily observed when startled into explosive flight. Wrentits (*Chamaea fasciata*), California thrashers (*Toxostoma redivivum*), and canyon wrens (*Catherpes mexicanus*) are also common resident birds of sage scrub in Santa Clara County.

Diablan sage scrub of the study area provides important habitat for a variety of mammals. Some species, such as the deer mouse (*Peromyscus maniculatus*) and California pocket mouse (*Perognathus californicus*), forage within the protection of the dense brush, feeding largely on grasses and forbs or insects. Red foxes were also observed seeking cover in this habitat.

2.1.3 Mixed Woodland

There are two small areas classified as mixed woodland within the site. One occurs near the northwestern corner and is contiguous with offsite mixed woodland. Species observed include California buckeyes, valley oaks (*Quercus lobata*), and coast live oaks. The second area of mixed woodland occurs around the boundaries of one of the wetland seeps in the central portion of the site. Species observed include Fremont cottonwoods (*Populus fremontii* ssp. *fremontii*), buckeyes, a pepper tree (*Schinus* sp.), a willow, and poison oak.

Many of the terrestrial vertebrates occurring in the annual grassland and coyote brush/Diablan sage scrub habitats are likely to occur in the mixed woodland habitat as well.

2.1.4 Aquatic

Aquatic habitats were identified within the site in the form of a manmade quarry pond, four freshwater seeps, a defined natural drainage channel between one of the seeps and the quarry pond, seasonal manmade drainage ditches associated with the quarry, UPRR, and ranching practices, and two detention basins constructed as part of the KB Home Tuscany Hills development. Hydrophytic vegetation was generally absent from the manmade drainage ditches and the temporary detention basin located at the terminus of Adeline Avenue. Hydrophytic vegetation observed in the remaining aquatic features included, but is not limited to, rabbitsfoot grass (*Polypogon monspeliensis*), fiddle dock (*Rumex pulchre*), common monkey flower (*Mimulus guttatus*), cattails (*Typha* sp.), and Italian rye grass (*Lolium* sp.).

Aquatic sources on the site provide drinking water for resident and migratory wildlife through most or all of the year and often support invertebrate populations upon which wildlife may forage. They provide breeding habitat for the Pacific treefrog (*Hyla regilla*) and western toad (*Bufo boreas*), which were observed in these areas. California tiger salamanders are known to breed in the quarry pond. Many of the terrestrial vertebrates occurring in the annual grassland are likely to occur here as well. Raccoons, feral cats, and striped skunks drink water from this habitat when passing through the site.

2.1.5 Developed/Ruderal

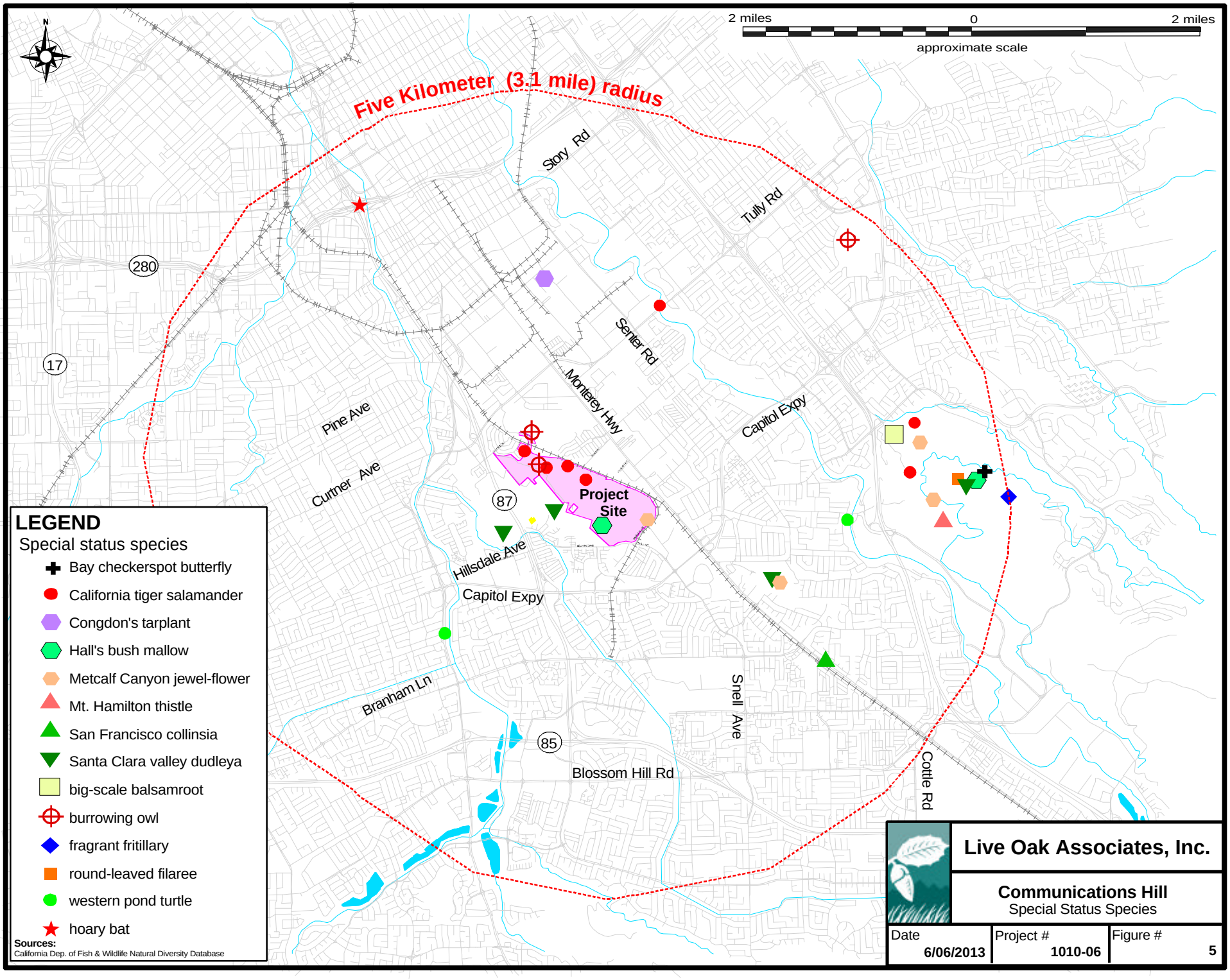
The developed/ruderal portion of the site includes the portions of the inactive Azevedo Quarry that are actively disturbed, as well as the UPRR, and areas disturbed as part of the KB Home Tuscany Hills development (i.e., water tank and pump station). While a few species, such as Russian thistle, occur in the disturbed areas, most of these areas support no plants at all; thus, use of these areas by wildlife is minimal.

2.2 SPECIAL STATUS PLANTS AND ANIMALS

Several species of plants and animals within the state of California have low populations, limited distributions, or both. Such species may be considered "rare" and are vulnerable to extirpation as the state's human population grows and the habitats these species occupy are converted to agricultural and urban uses. As described more fully in Section 3.2, state and federal laws have provided the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. A sizable number of native plants and animals have been formally designated as threatened or endangered under state and federal endangered species legislation. Others have been designated as "candidates" for such listing. Still others have been designated as "species of special concern" by the CDFW. The CDFW and California Native Plant Society (CNPS) have developed their own set of lists (i.e., California Rare Plant Ranks, or CRPR) of native plants considered rare, threatened, or endangered. Collectively, these plants and animals are referred to as "special status species."

A number of special status plants and animals occur in the vicinity of the site. These species, and their potential to occur in the site, are listed in Table 3 on the following pages. Sources of information for this table included *California's Wildlife, Volumes I, II, and III* (Zeiner et. al 1988 and 1990), *California Natural Diversity Data Base* (CDFW 2013), *Endangered and Threatened Wildlife and Plants* (USFWS 2012), *Annual Report on the Status of California State Listed Threatened and Endangered Animals and Plants* (CDFW 2012), and *The California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2013). This information was used to evaluate the potential for special status plant and animal species to occur on the site. Figures 5 and 6 depict the location of special status species reported in the California Natural Diversity Data Base (CNDDB) and special status species observed on the site by LOA ecologists. It is important to note that the CNDDB is a volunteer database; therefore, it may not contain all known or gray literature records.

A search of published accounts for all of the relevant special status plant and animal species was conducted for the San Jose East Quadrangle in which the project area occurs, and for the eight


2 miles
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2 miles
approximate scale
Five Kilometer (3.1 mile) radius
Story Rd
Tully Rd
Senter Rd
Monterey Hwy
Capitol Expy
Pine Ave
Curtner Ave
Project Site
Hillsdale Ave
Capitol Expy
Branham Ln
Snell Ave
Cottle Rd
Blossom Hill Rd
280
17
87
85
LEGEND
Special status species
Bay checkerspot butterfly
California tiger salamander
Congdon's tarplant
Hall's bush mallow
Metcalf Canyon jewel-flower
Mt. Hamilton thistle
San Francisco collinsia
Santa Clara valley dudleya
big-scale balsamroot
burrowing owl
fragrant fritillary
round-leaved filaree
western pond turtle
hoary bat
Sources:
California Dep. of Fish & Wildlife Natural Diversity Database
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Special Status Species
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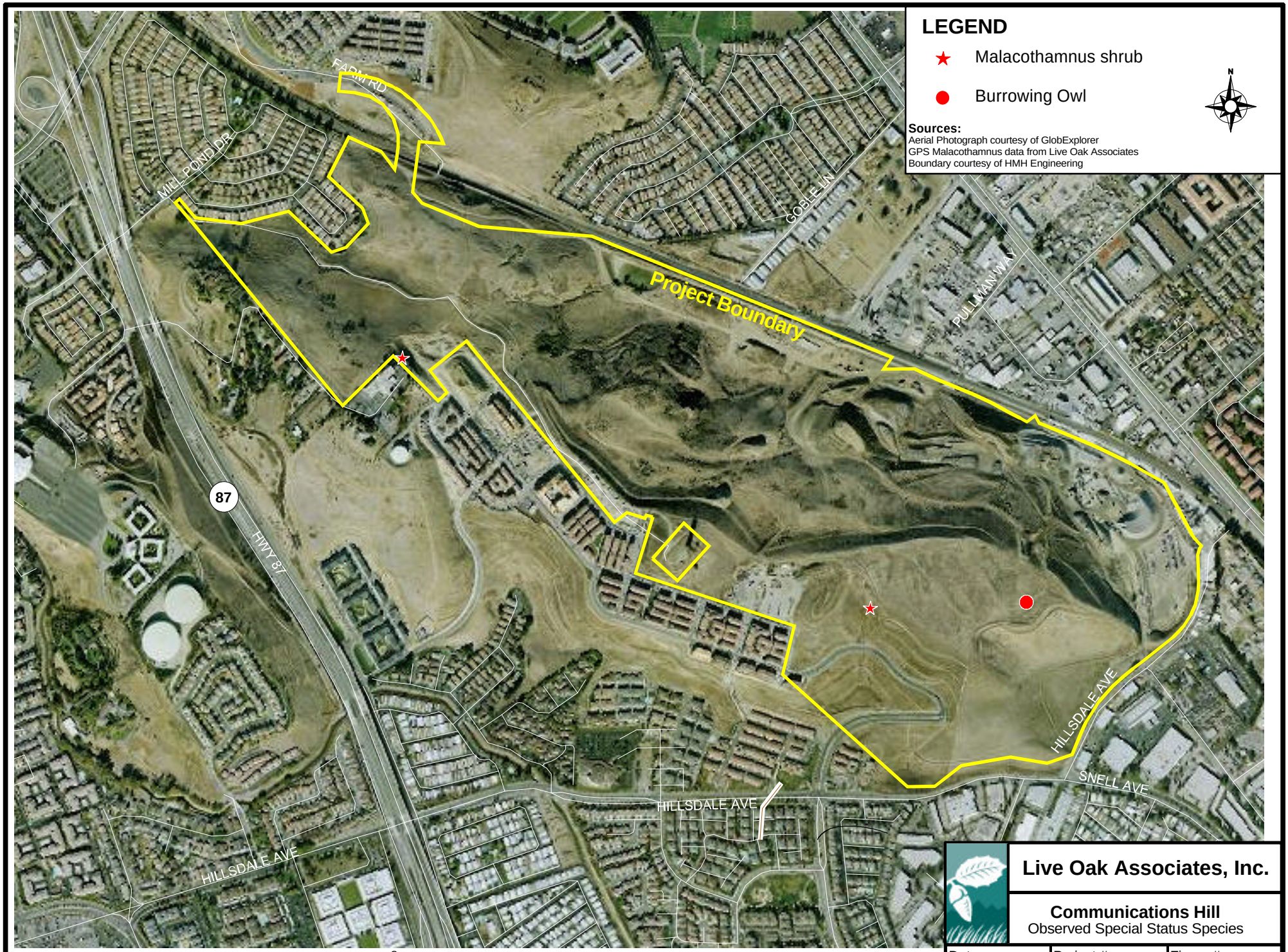

Live Oak Associates, Inc.

Communications Hill
Observed Special Status Species

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surrounding quadrangles (Milpitas, Calaveras Reservoir, Mt. Day, Lick Observatory, Morgan Hill, Santa Teresa Hills, Los Gatos, and San Jose West) using the CNDDB.

Table 3. Special status species that could occur in the project vicinity.

PLANTS (adapted from CDFW 2013 and CNPS 2013)
Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Tiburon paintbrush *Castilleja affinis* ssp. *neglecta*	FE, CT, CRPR 1B	Habitat: Valley and foothill grasslands on serpentinite. Elevation: 60-400 meters. Blooms: April-June.	**Absent.** Marginally suitable habitat is present in the portions of the site underlain by serpentine soils. However, this species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Coyote ceanothus *Ceanothus ferrisiae*	FE, CRPR 1B	Habitat: Chaparral, coastal scrub, and valley and foothill grasslands on serpentinite. Elevation: 120-460 meters. Blooms: January-May.	**Absent.** Marginally suitable habitat is present in the portions of the site underlain by serpentine soils. However, this species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Robust spineflower *Chorizanthe robusta* var. *robusta*	FE, CRPR 1B	Habitat: Maritime chaparral, openings of cismontane woodlands, coastal dunes, and coastal scrub in sandy or gravelly soils. Elevation: 3-300 meters. Blooms: April–September.	**Absent.** Suitable habitat is absent from the site. This species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Santa Clara Valley dudleya *Dudleya setchellii*	FE, CRPR 1B	Habitat: Cismontane woodland and valley and foothill grassland on rocky or serpentine soils. Elevation: 60-455 meters. Blooms: April-October.	**Absent.** Marginally suitable habitat is present in the portions of the site supporting serpentine outcrops. A population was observed in the early 1990s on the south side of Communications Hill outside of the site boundaries. However, this species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Contra Costa goldfields *Lasthenia conjugens*	FE, CRPR 1B	Habitat: Cismontane woodlands, alkaline playas, valley and foothill grasslands, and vernal pools. Occurs in mesic soils. Elevation: 0-470 meters. Blooms: March–June.	**Absent.** Suitable habitat is absent from the site. This species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.

Table 3. Special status species that could occur in the project vicinity.

PLANTS (adapted from CDFW 2013 and CNPS 2013)
Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Metcalf Canyon jewel-flower *Streptanthus albidus* ssp. *albidus*	FE, CRPR 1B	Habitat: Valley and foothill grasslands on serpentinite. Elevation: 60-455 meters. Blooms: April-July.	**Absent.** Marginally suitable habitat is present in the portions of the site underlain by serpentine soils. A population of approximately 100 individuals was observed in 1994 immediately adjacent to the quarry on Communications Hill. However, this species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007 anywhere on the site, including the location of the population documented in 1994.
California seablite *Suaeda californica*	FE, CRPR 1B	Habitat: Coastal salt marshes and swamps. Elevation: 0-15 meters. Blooms: July-October.	**Absent.** Suitable habitat is absent from the site. This species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.

Table 3. Special status species that could occur in the project vicinity. (Cont'd.)

PLANTS (adapted from CDFG 2013 and CNPS 2013)
Other special status plants listed by CNPS

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Bent-flowered fiddleneck *Amsinckia lunaris*	CRPR 1B	Habitat: Coastal bluff scrub, cismontane woodland, and valley and foothill grasslands. Elevation: 3-500 meters. Blooms: March–June.	**Absent.** Marginally suitable habitat is present in the annual grasslands of the site. However, this species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Alkali milk-vetch *Astragalus tener* var. *tener*	CRPR 1B	Habitat: Playas, valley and foothill grasslands on adobe clay, and vernal pools. Occurs in alkaline soils. Elevation: 1-60 meters. Blooms: March-June.	**Absent.** Suitable habitat is absent from the site. This species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Brittlescale *Atriplex depressa*	CRPR 1B	Habitat: Chenopod scrub, meadows and seeps, playas, valley and foothill grasslands, and vernal pools. Occurs on alkaline or clay soils. Elevation: 1-320 meters. Blooms: April-October.	**Absent.** Suitable habitat is absent from the site. This species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.

Table 3. Special status species that could occur in the project vicinity. (Cont'd.)

PLANTS (adapted from CDFG 2013 and CNPS 2013)
Other special status plants listed by CNPS

Common and scientific names	Status	General habitat description	*Occurrence in the study area
San Joaquin spearscale *Atriplex joaquiniana*	CRPR 1B	Habitat: Chenopod scrub, meadows and seeps, playas, and valley and foothill grasslands on alkaline soils. Elevation: 1-835 meters. Blooms: April-October.	**Absent.** Suitable habitat is absent from the site. This species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Lesser saltscale *Atriplex minuscula*	CRPR 1B	Habitat: Chenopod scrub, playas, and valley and foothill grasslands on alkaline and sandy soils. Elevation: 15-200 meters. Blooms: May-October.	**Absent.** Suitable habitat is absent from the site. This species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Big-scale balsamroot *Balsamorhiza macrolepis* var. *macrolepis*	CRPR 1B	Habitat: Chaparral, cismontane woodland, and valley and foothill grassland, sometimes on serpentine. Elevation: 90-1555 meters. Blooms: April–October.	**Absent.** Marginally suitable habitat is present in the annual grasslands and sage scrub of the site. However, this species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Mount Day rockcress *Boechera rubicundula*	CRPR 1B	Habitat: Chaparral on rocky slopes. Elevation: n/a Blooms: April–May.	**Absent.** Suitable habitat is absent from the site. This species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Round-leaved filaree *California macrophylla*	CRPR 1B	Habitat: Cismontane woodlands and valley and foothill grasslands on clay soils. Elevation: 15-1200 meters. Blooms: March–May.	**Absent.** Marginally suitable habitat is present in the annual grasslands of the site. However, this species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Santa Cruz Mountains pussypaws *Calyptridium parryi* ssp. *hesseae*	CRPR 1B	Habitat: Chaparral and cismontane woodland in sandy or gravelly openings. Elevation: 305-1530 meters. Blooms: May-August.	**Absent.** Suitable habitat is absent from the site. This species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Chaparral harebell *Campanula exigua*	CRPR 1B	Habitat: Chaparral on rocky soils or serpentinite. Elevation: 275-1250 meters. Blooms: May-June.	**Absent.** The site occurs at an elevation below the known range for this species. This species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Pink creamsacs *Castilleja rubicundula* ssp. *rubicundula*	CRPR 1B	Habitat: Chaparral, cismontane woodland, meadows and seeps, and valley and foothill grasslands on serpentinite. Elevation: 20-910 meters. Blooms: April-June.	**Absent.** Marginally suitable habitat is present in the portions of the site underlain by serpentine soils. However, this species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.

Table 3. Special status species that could occur in the project vicinity. (Cont'd.)

PLANTS (adapted from CDFG 2013 and CNPS 2013)
Other special status plants listed by CNPS

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Congdon's tarplant *Centromadia parryi* ssp. *congdonii*	CRPR 1B	Habitat: Valley and foothill grassland on alkaline soils. Elevation: 1-230 meters. Blooms: May-October.	**Absent.** Suitable habitat is absent from the site. One occurrence of this species is within three miles of the site; however, the sighting was from 1908. This species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Point Reyes bird's-beak *Chloropyron maritimum* ssp. *palustre*	CRPR 1B	Habitat: Coastal salt marshes and swamps. Elevation: 0-10 meters. Blooms: June-October.	**Absent.** Suitable habitat is absent from the site. This species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Mt. Hamilton fountain thistle *Cirsium fontinale* var. *campylon*	CRPR 1B	Habitat: Chaparral, cismontane woodland, and valley and foothill grassland on serpentine seeps. Elevation: 100-890 meters. Blooms: April-October.	**Absent.** Marginally suitable habitat is present in the portions of the site underlain by serpentine soils. However, this species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Santa Clara red ribbons *Clarkia concinna* ssp. *automixa*	CRPR 4	Habitat: Chaparral and cismontane woodland. Elevation: 90-1500 meters. Blooms: April–July.	**Absent.** Marginally suitable habitat is present in the sage scrub habitats of the site. However, this species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
San Francisco collinsia *Collinsia multicolor*	CRPR 1B	Habitat: Closed-cone coniferous forest and coastal scrub, sometimes on serpentinite. Elevation: 30-250 meters. Blooms: March-May.	**Absent.** Suitable habitat is absent from the site. This species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Mt. Hamilton coreopsis *Coreopsis hamiltonii*	CRPR 1B	Habitat: Cismontane woodlands on rocky soils. Elevation: 550-1300 meters. Blooms: March-May.	**Absent.** Suitable habitat is absent from the site. This species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Hoover's button-celery *Eryngium aristulatum* var. *hooveri*	CRPR 1B	Habitat: Vernal pools. Elevation: 3-45 meters. Blooms: July.	**Absent.** Suitable habitat is absent from the site. This species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.

Table 3. Special status species that could occur in the project vicinity. (Cont'd.)

PLANTS (adapted from CDFG 2013 and CNPS 2013)
Other special status plants listed by CNPS

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Fragrant fritillary *Fritillaria liliacea*	CRPR 1B	Habitat: Cismontane woodland, coastal prairie, coastal scrub, and valley and foothill grasslands. Often occurs on serpentinite. Elevation: 3-410 meters. Blooms: February–April.	**Absent.** Marginally suitable habitat is present in the portions of the site underlain by serpentine soils. However, this species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Loma Prieta hoita *Hoita strobilina*	CRPR 1B	Habitat: Chaparral, cismontane woodland, and riparian woodland. Usually occurs on serpentinitic or mesic soils. Elevation: 30-860 meters. Blooms: May–October.	**Absent.** Marginally suitable habitat is present in the portions of the site underlain by serpentine soils. However, this species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Smooth lessingia *Lessingia micradenia* var. *glabrata*	CRPR 1B	Habitat: Chaparral and cismontane woodland on serpentinite. Elevation: 120-420 meters. Blooms: July-November.	**Absent.** Marginally suitable habitat is present in the portions of the site underlain by serpentine soils. However, this species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Mt. Hamilton lomatium *Lomatium observatorium*	CRPR 1B	Habitat: Cismontane woodlands. Elevation: 1219-1330 meters. Blooms: March-May.	**Absent.** Suitable habitat is absent from the site. This species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Showy golden madia *Madia radiata*	CRPR 1B	Habitat: Cismontane woodland and valley and foothill grassland. Elevation: 25-900 meters. Blooms: March–May.	**Absent.** Marginally suitable habitat is present in the annual grasslands of the site. However, this species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Indian Valley bush-mallow *Malacothamnus aboriginum*	CRPR 1B	Habitat: Chaparral and cismontane woodland in rocky, granitic, and often burned areas. Elevation: 150-1700 meters. Blooms: April-October.	**Absent.** Marginally suitable habitat is present in the sage scrub of the site. However, this species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Arcuate bush-mallow *Malacothamnus arcuatus*	CRPR 1B	Habitat: Chaparral and cismontane woodland. Elevation: 15-355 meters. Blooms: April-September.	**Absent.** Marginally suitable habitat is present in the sage scrub of the site. However, this species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.

Table 3. Special status species that could occur in the project vicinity. (Cont'd.)

PLANTS (adapted from CDFG 2013 and CNPS 2013)
Other special status plants listed by CNPS

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Hall's bush-mallow *Malacothamnus hallii*	CRPR 1B	Habitat: Chaparral and coastal scrub. Elevation: 10-760 meters. Blooms: May-September.	**Present.** Two shrubs were documented in the southern portion of the site in 2007 and 2009 (Figure 6). Neither of these shrubs were present in 2001; however, following ground disturbance as part of the KB Home development, they have established on the project site. During the 2012 survey, both shrubs were dead, but a few young mallows were sprouting at the base of one.
Woodland woollythreads *Monolopia gracilens*	CRPR 1B	Habitat: Broadleafed upland forest, chaparral, cismontane woodland, North Coast coniferous forest, and valley and foothill grasslands on serpentinite. Elevation: 100-1200 meters. Blooms: February-July.	**Absent.** Marginally suitable habitat is present in the portions of the site underlain by serpentine soils. However, this species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Prostrate vernal pool navarretia *Navarretia prostrata*	CRPR 1B	Habitat: Coastal scrub, meadows and seeps, valley and foothill grasslands on alkaline soils, and vernal pools. Occurs in mesic areas. Elevation: 15-700 meters. Blooms: April-July.	**Absent.** Suitable habitat is absent from the site. This species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Santa Cruz Mountains beardtongue *Penstemon rattanii* var. *kleei*	CRPR 1B	Habitat: Chaparral and lower montane coniferous forest on sandy shale slopes. Elevation: 400-1100 meters. Blooms: May-June.	**Absent.** Marginally suitable habitat is present in the sage scrub of the site. However, this species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Mt. Diablo phacelia *Phacelia phacelioides*	CRPR 1B	Habitat: Chaparral and cismontane woodlands on rocky soils. Elevation: 500-1370 meters. Blooms: April-May.	**Absent.** The site occurs at an elevation well below the known range for this species. This species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Hairless popcorn-flower *Plagiobothrys glaber*	CRPR 1A	Habitat: Meadows and seeps on alkaline soils and coastal salt marshes and swamps. Elevation: 15-180 meters. Blooms: March-May.	**Absent.** Suitable habitat is absent from the site. This species has not been documented in the region since 1955. This species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.

Table 3. Special status species that could occur in the project vicinity. (Cont'd.)

PLANTS (adapted from CDFG 2013 and CNPS 2013)
Other special status plants listed by CNPS

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Rock sanicle *Sanicula saxatilis*	CR, CRPR 1B	Habitat: Broadleaved upland forest, chaparral, and valley and foothill grasslands on rocky soils. Elevation: 45-800 meters. Blooms: April-May.	**Absent.** Marginally suitable habitat is present in the annual grasslands and sage scrub of the site. However, this species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Maple-leaved checkerbloom *Sidalcea malachroides*	CRPR 4	Habitat: Broadleafed upland forest, coastal prairie, coastal scrub, North Coast coniferous forest, and riparian woodland, often in disturbed areas. Elevation: 0-730 meters. Blooms: March-August.	**Absent.** Suitable habitat is absent from the site. This species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Most beautiful jewel-flower *Streptanthus albidus* ssp. *peramoenus*	CRPR 1B	Habitat: Chaparral, cismontane woodland, and valley and foothill grassland on serpentinite. Elevation: 94-1000 meters. Blooms: April-September.	**Absent.** Marginally suitable habitat is present in the portions of the site underlain by serpentine soils. However, this species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.
Saline clover *Trifolium depauperatum* var. *hydrophilum*	CRPR 1B	Habitat: Marshes and swamps, valley and foothill grasslands on mesic or alkaline soils, and vernal pools. Elevation: 0-300 meters. Blooms: April–June.	**Absent.** Suitable habitat is absent from the site. This species was not observed during focused surveys conducted by H.T. Harvey & Associates in the 1990s or by LOA in 2001 and 2007.

Table 3. Special status species that could occur in the project vicinity.

ANIMALS (adapted from CDFW 2013 and USFWS 2013)
Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Bay checkerspot butterfly *Euphydryas editha bayensis*	FT	Native grasslands on serpentine soils. Host plant is *Plantago erecta*.	**Absent**. While serpentine soils underlie portions of the site, Communications Hill has never been known to support the Bay checkerspot butterfly. No life stages have ever been observed on the site. BCB experts have concluded that while the host plant, *Plantago erecta*, is present, it apparently senesces too early for the butterfly to breed on Communications Hill.

Table 3. Special status species that could occur in the project vicinity.

ANIMALS (adapted from CDFW 2013 and USFWS 2013)
Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Callippe silverspot butterfly *Speyeria callippe callippe*	FE	Native grasslands. Host plant is *Viola pedunculata*.	**Absent.** The host plant required for survival of this butterfly has never been observed on the site.
Vernal pool tadpole shrimp *Lepidurus packardi*	FE	Inhabits deep vernal pools of unplowed grasslands in the Central Valley containing clear to highly turbid water.	**Absent**. Suitable habitat is absent from the site.
Steelhead – Central California coast ESU *Oncorhynchus mykiss irideus*	FT	Migrate up freshwater rivers or streams and spend the remainder of their time in the ocean.	**Absent**. Suitable habitat is absent from the site.
California tiger salamander *Ambystoma californiense*	FT, CT	Breeds in vernal pools and stock ponds of central California. Adults aestivate in grassland habitats adjacent to breeding sites.	**Present.** A breeding population of CTS is present in the quarry pond, and aestivation habitat exists on the site. The remaining onsite aquatic features do not provide suitable breeding habitat due to their hydrologic regimes.
California red-legged frog *Rana draytonii*	FT, CSC	Rivers, creeks and stock ponds of the Sierra foothills and coast range, preferring pools with overhanging vegetation.	**Absent.** Marginally suitable habitat for this species is present in the aquatic habitat associated with the quarry pond (i.e., the pond, drainage channel, and seep). However, CRLF have never been observed anywhere on Communications Hill, and the site lacks connectivity to the creeks or rivers in the region that are known to support CRLF populations.
Willow flycatcher *Empidonax traillii*	CE	Breeds in the Central Valley and Sierra Nevada.	**Absent**. Suitable habitat is absent from the site.
Bald eagle *Haliaeetus leucocephalus*	CE	Nests in the upper canopy of large trees, especially conifers, near lakes, reservoirs, and rivers.	**Absent.** Suitable habitat is absent from the site. The closest known occurrences are wintering birds at Calero Reservoir several miles south of Communications Hill.

Table 3. Special status species that could occur in the project vicinity.

ANIMALS (adapted from CDFW 2013 and USFWS 2013)
California Species of Special Concern and Protected Species

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Foothill yellow-legged frog *Rana boylii*	CSC	Frequents partly shaded, shallow, swiftly-flowing streams and riffles with rocky substrate in a variety of habitats.	**Absent**. Suitable habitat is absent from the site.

Table 3. Special status species that could occur in the project vicinity.

ANIMALS (adapted from CDFW 2013 and USFWS 2013)
California Species of Special Concern and Protected Species

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Western pond turtle *Emys marmorata*	CSC	An aquatic turtle of ponds, marshes, slow-moving rivers, streams and irrigation ditches with aquatic vegetation. Needs basking sites and sandy banks or grassy open fields for egg laying.	**Absent.** Although suitable habitat exists on the site for this species, western pond turtles have never been observed anywhere on Communications Hill, and the site lacks connectivity to aquatic habitat in the region that is known to support pond turtle populations.
Coast horned lizard *Phrynosoma blainvillii*	CSC	Found primarily in lowlands along sandy washes where scattered low shrubs provide cover.	**Absent**. Suitable habitat is absent from the site.
White-tailed kite *Elanus leucurus*	CP	Open grasslands and agricultural areas throughout central California.	**Possible.** The site provides foraging habitat, as well as nesting habitat in the few onsite trees.
Northern harrier *Circus cyaneus*	CSC	Frequents meadows, grasslands, open rangelands, freshwater emergent wetlands; uncommon in wooded habitats.	**Possible.** The site provides foraging habitat but unlikely nesting habitat.
Golden eagle *Aquila chrysaetos*	CP	Typically frequents rolling foothills, mountain areas, woodland areas, sage-juniper flats, and desert habitats.	**Possible.** The site provides foraging habitat, but unlikely nesting habitat in the few large trees and adjacent AT&T structures.
Peregrine falcon *Falco peregrinus anatum*	CP	Individuals breed on cliffs in the Sierra or in coastal habitats; occurs in many habitats of the state during migration and winter.	**Unlikely.** The site provides marginal foraging habitat for transients and migrating birds. Breeding habitat is absent.
Burrowing owl *Athene cunicularia*	CSC	Open, dry grasslands, deserts and ruderal areas. Requires suitable burrows. This species is often associated with California ground squirrels.	**Present**. Historic sightings of overwintering burrowing owls or their evidence (i.e., white wash and pellets) have been observed a total of four times on or immediately adjacent to the site since 1992. All four sightings were of non-breeding owls utilizing the site as overwintering habitat or as a stopover for transient individuals on their way to another location. While the site has never been utilized for breeding in the past, suitable foraging habitat is present for owls moving through the area.
Loggerhead shrike *Lanius ludovicianus*	CSC	Nests in tall shrubs and dense trees, forages in grasslands, marshes, and ruderal habitats.	**Possible.** The site provides foraging habitat, and nesting habitat is present in the onsite trees and larger shrubs.

Table 3. Special status species that could occur in the project vicinity.

ANIMALS (adapted from CDFW 2013 and USFWS 2013)
California Species of Special Concern and Protected Species

Common and scientific names	Status	General habitat description	*Occurrence in the study area
California yellow warbler *Dendroica petechia brewsteri*	CSC	Migrants move through many habitats of Sierra and its foothills. This species breeds in riparian thickets of alder, willow and cottonwoods.	**Absent**. Suitable habitat is absent from the site.
Black swift *Cypseloides niger*	CSC	Migrants and transients found throughout many habitats of state. Breeds on steep cliffs or ocean bluffs, or in cracks and crevasses of inland deep canyons.	**Possible.** Migrants and transients may forage on the site during migration. Breeding habitat is absent.
Vaux's swift *Chaetura vauxi*	CSC	Migrants and transients move through the foothills of the western Sierra in spring and late summer. Breeds in coniferous forests.	**Possible.** Migrants and transients may forage on the site during migration. Breeding habitat is absent.
Tricolored blackbird *Agelaius tricolor*	CSC	Breeds near fresh water, primarily emergent wetlands, with tall thickets. Forages in nearby grassland and cropland habitats.	**Possible.** The site provides foraging habitat, but unlikely nesting habitat.
Pallid bat *Antrozous pallidus*	CSC	Grasslands, chaparral, woodlands, and forests of California; most common in dry rocky open areas that provide roosting opportunities.	**Possible.** Suitable foraging habitat is present on the site, but roosting habitat is currently absent. The mines that were re-opened for less than a year in 2008/2009 provided suitable roosting habitat; however, surveys of the mines themselves as well as emergent surveys outside the mouth the mines at dusk immediately prior to their re-closing did not detect any evidence of bat usage.
Townsend's big-eared bat *Corynorhinus townsendii*	CSC	Primarily a cave-dwelling bat that may also roost in buildings. Occurs in a variety of habitats of the state.	**Possible.** Suitable foraging habitat is present on the site, but roosting habitat is currently absent. The mines that were re-opened for less than a year in 2008/2009 provided suitable roosting habitat; however, surveys of the mines themselves as well as emergent surveys outside the mouth the mines at dusk immediately prior to their re-closing did not detect any evidence of bat usage.

Table 3. Special status species that could occur in the project vicinity.

ANIMALS (adapted from CDFW 2013 and USFWS 2013)
California Species of Special Concern and Protected Species

Common and scientific names	Status	General habitat description	*Occurrence in the study area
California mastiff bat *Eumops perotis californicus*	CSC	Frequents open, semi-arid to arid habitats, including conifer, and deciduous woodlands, coastal scrub, grasslands, palm oasis, chaparral and urban. Roosts in cliff faces, high buildings, trees and tunnels.	**Possible.** Suitable foraging habitat is present on the site, but roosting habitat is currently absent. The mines that were re-opened for less than a year in 2008/2009 provided suitable roosting habitat; however, surveys of the mines themselves as well as emergent surveys outside the mouth the mines at dusk immediately prior to their re-closing did not detect any evidence of bat usage.
San Francisco dusky-footed woodrat *Neotoma fuscipes annectens*	CSC	Chaparral and woodlands with a moderate canopy and a moderate to dense understory.	**Absent**. Marginally suitable habitat is present on the site. However, no woodrat nests have been observed onsite during the various surveys conducted over the years, and the site is isolated from more suitable habitat in the region, precluding the movement of individuals onto Communications Hill.
American badger *Taxidea taxus*	CSC	Drier open stages of most shrub, forest and herbaceous habitats with friable soils.	**Absent**. Marginally suitable habitat is present on the site. However, no badgers have been observed onsite during the various surveys conducted over the years, and the site is isolated from more suitable habitat in the region, precluding the movement of individuals onto Communications Hill.
Ringtail *Bassariscus astutus*	CP	Riparian and heavily wooded habitats near water.	**Absent**. Suitable habitat is absent from the site.

***Explanation of Occurrence Designations and Status Codes**

Present: Species observed on the sites at time of field surveys or during recent past.
Likely: Species not observed on the site, but it may reasonably be expected to occur there on a regular basis.
Possible: Species not observed on the sites, but it could occur there from time to time.
Unlikely: Species not observed on the sites, and would not be expected to occur there except, perhaps, as a transient.
Absent: Species not observed on the sites, and precluded from occurring there because habitat requirements not met.

STATUS CODES

FE	Federally Endangered
FT	Federally Threatened
FPE	Federally Endangered (Proposed)
FC	Federal Candidate

CE	California Endangered
CT	California Threatened
CR	California Rare
CP	California Protected
CC	California Candidate
CSC	California Species of Special Concern

CRPR	California Rare Plant Rank
1A	Plants Presumed Extinct in California
1B	Plants Rare, Threatened, or Endangered in California and elsewhere
2	Plants Rare, Threatened, or Endangered in California, but more common elsewhere
3	Plants about which we need more information – a review list
4	Plants of limited distribution – a watch list

2.3 ENDANGERED, THREATENED, OR SPECIAL STATUS PLANT AND ANIMAL SPECIES MERITING FURTHER DISCUSSION

Most of the special status plant and animal species that have been documented in the region may occur rarely or occasionally on the site (Table 3). For these species, sufficient information exists to evaluate the potential impacts that the proposed project may have on them. A few of the state- or federally-listed species require additional in-depth analysis. Special status animal species that are known to occur on the site include the California tiger salamander and burrowing owl. While absent from the site, there have been years of discussions on the status of the bay checkerspot butterfly on Communications Hill. Below are detailed discussions addressing the suitability of the site to support these three species.

2.3.1 Bay Checkerspot Butterfly (*Euphydryas editha bayensis*). Federal Listing Status: Threatened; State Listing Status: None.

The bay checkerspot butterfly (BCB) was listed as federally threatened by the USFWS on September 18, 1987. Critical habitat for the BCB was designated on April 30, 2001 (66 FR 21449 21489). The USFWS proposed a change in the critical habitat ruling for the BCB on August 22, 2007 (72 FR 48178 48218) and made a final ruling on the extent of critical habitat on August 26, 2008 (73 FR 50405 50452). The 443-acre Communications Hill Critical Habitat Unit #6 that was originally designated in 2001 was excluded as critical habitat in 2008.

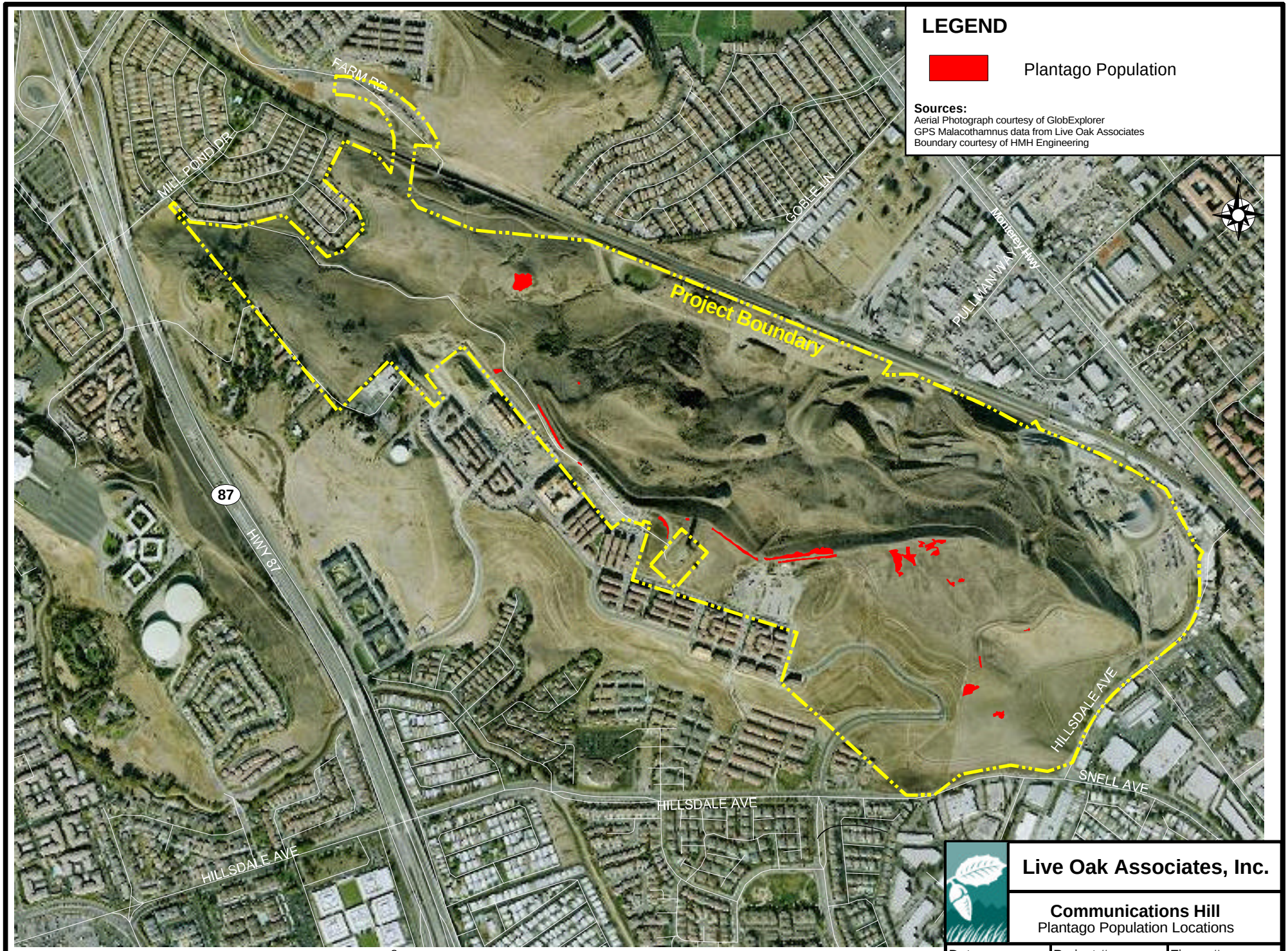
The BCB is dependent upon a variety of topographic and biotic factors. These include:

- A density of *Plantago erecta* of at least several hundred plants per square meter is required. Such densities are rarely seen except on serpentine soils because non-native grass species outcompete foothill plantain on non-serpentine soils unless controlled by grazing or other means.
- The aspect, or direction that a slope faces, and its steepness determine whether slopes are warmer or cooler. Cooler slopes act as refugia during droughts.
- The diversity of the local topography improves the viability of a population. Butterfly populations tend to persist longer on sites with diverse microtopography.
- The patch size is directly related to the potential size of the butterfly population. Sites less than four acres tend to be unoccupied, or their populations go extinct after only a few years of occupancy.

- The presence of owl's clover increases the likelihood of persistence of a butterfly population since they senesce slightly later than *Plantago erecta* and thus increase the time food is available to prediapause larvae.
- The size of *Plantago erecta* plants is important. Generally, larger plants senesce later, promoting larval survival into diapause.
- The amount of sunlight available to the *Plantago erecta* is also important. Unshaded stands of *Plantago erecta* are preferred. Shaded plants prevent larval basking and thus inhibit thermoregulation by the larvae.
- The average density of native nectar sources (such as *Lomatium* spp., *Muilla maritima*, *Allium* spp., *Lasthenia chrysostoma*, and *Layia platyglossa*) available to adult butterflies influences reproductive success.
- Butterflies tend to occupy site elevations between 500 and 1300 feet NGVD.
- In Santa Clara County, habitats generally must be grazed by cattle at appropriate intensities to remain suitable for occupancy by the Bay checkerspot butterfly.

In general, a viable and persistent population of the BCB is dependent upon a variety of abiotic (e.g., topographic) and biotic factors (e.g., larval host plants and adult nectar sources). Therefore, moderate to high quality habitat for the BCB consists primarily of relatively large (several square meter and no less than one square meter) patches of dense, unshaded *Plantago erecta*, with a good density of adult nectar sources (e.g., *Lomatium* spp., *Muilla maritima*, *Allium* spp., *Lasthenia chrysostoma*, and *Layia platglossa*) on a diversity of aspects (direction of slope; cooler slopes are usually preferred). In addition, no extant (surviving) population of BCB exists on an ungrazed site. Apparently, the grazing of cattle reduces competition between the annual grasses and *Plantago erecta* and allows for dense patches of *Plantago erecta* to form.

The presence of serpentine soil on Communications Hill and of patches of the BCB's larval host plant, dwarf plantain (*Plantago erecta*), have caused suspicion that the site might be potential butterfly habitat. Figure 7 shows the location of *Plantago erecta* populations present on the site during surveys conducted during 2007. There have been twelve separate surveys of Communications Hill since the mid-1980s for the BCB, totaling over 80 days of effort (Table 4).



Live Oak Associates, Inc.

Communications Hill
Plantago Population Locations

Date	Project #	Figure #
6/11/2013	1010-06	7

Table 4. History of Bay checkerspot butterfly surveys on Communications Hill.			
Year	**Number of Visits**	**Scientist**	**Reference**
Mid-1980s	1	White	HTH 1992a
1989 & 1990	6	Launer, Murphy	Launer & Murphy 1991
1991	6	Launer	Launer & Murphy 1991 Murphy & Launer 199
1992	7	Launer	Launer 1992
1992	12	White	HTA 1992b
1992	10	White	HTA 1992c
1993	14	White	HTA 1993
1997	1	White	Field notes
1998	1	White	HTA 1998
2000	9	Arnold	Arnold 2000
2001	7	White	LOA 2001
2007	6	White	LOA 2007
Total	**80**		

All of these surveys have been negative with a possible lone exception of a transient individual observed by Dr. White in 1992 on a parcel that has already been developed. While he is an expert on the species, he is cautious as to its identification as he observed the individual for only a few seconds and was unable to obtain confirmation (e.g., photograph, capture or handle, etc.). Nonetheless, it is not uncommon for individuals of a species to traverse marginal to unsuitable habitats. This is particularly true of volant (flying) species.

In addition to this extensive survey effort over the last 25 years, from the late 1960s to the early 1990s, several biologists from Stanford University i.e., (from which the majority of research on the butterfly has come) reviewed most private and nearly all public collections of the butterfly. One of the primary goals of this effort was to discover potentially unreported locations of the butterfly and map the historical distribution of the BCB. None of these collections possessed butterflies collected from Communications Hill.

Thus, since the 1950s, when records have become available on the species, only a single transient individual (assuming it was a BCB) has ever been recorded on Communications Hill and no evidence exists that BCB has ever reproduced (let alone successfully) on

Communications Hill. This is quite notable, as the species has frequently been detected (breeding) from all its known localities with rather low survey efforts.

The overwhelming conclusion is that Communications Hill has never functioned in any known way to further the continued existence of the species. The site lacks various characteristics (e.g., suitable north slopes with *Plantago erecta* and nectar sources) that are critical to the survival of the species. Therefore, it has been concluded that the BCB is absent from the site.

2.3.2 California Tiger Salamander (*Ambystoma californiense*). Federal Listing Status: Threatened; State Listing Status: Threatened.

The USFWS listed the California tiger salamander (CTS) as threatened on August 4, 2004. In February 1992, the U.S. Fish and Wildlife Service was petitioned to list the California tiger salamander as an endangered species under the authority of the Federal Endangered Species Act (FESA). The U.S. Fish and Wildlife Service subsequently announced a 12-month petition finding on April 18, 1994 that stated the petition was "warranted but precluded by pending listing actions on higher priority species" (Sorensen 1994). In November 2000, the USFWS emergency listed CTS within Santa Barbara County as endangered, and also emergency listed the Sonoma County population as Endangered in March 2003. On May 16, 2003, the CTS was again petitioned for listing as a threatened species. On August 4, 2004, the USFWS ruled on the listing, and on September 3, 2004, the ruling took effect to list the CTS as threatened throughout California and, at the same time, re-listed the Santa Barbara and Sonoma populations as threatened. On February 9, 2009, the CDFW announced that the CTS was formally designated a candidate for threatened or endangered listing status under the California Endangered Species Act (CESA). On March 3, 2010, the CDFG declared that listing the CTS as threatened was warranted under CESA.

CTS spend most of the year aestivating in underground burrows provided by California ground squirrels or Botta's pocket gophers, in undisturbed grasslands of the central San Joaquin Valley and lower Sierra Nevada foothills. There, they feed on earthworms, snails, insects, and even small mammals. On rainy nights from November to February, adult CTS migrate from subterranean refugia to breeding pools (e.g., vernal pools) to mate and lay eggs. Human made

ponds are only occasionally used for reproduction if predatory fish and bullfrogs are absent, and habitats with flowing water are rarely used. After breeding and laying eggs, adult CTS usually linger at breeding pools for several days, and some individuals may stay a few weeks. During a rainy night, they migrate back to underground refugia. After larvae mature, sometime in late spring or early summer, they disperse from shrinking breeding pools and migrate up to 1.24 miles to find their own aestivation sites (Trenham 2005).

Communications Hill has been surveyed for CTS since 1992. Most notably, as part of a Caltrain project, Dr. Sam McGinnis from Hayward State University began a CTS study in the fall of 1994. Dr McGinnis captured over 200 adult CTS during this trapping study in the debris piles (which have since been removed) located near the quarry pond (H.T. Harvey & Associates 1996). CTS have consistently been found breeding in the quarry pond along the northern boundary of the site.

In 1992, CTS larvae were also found in seasonal depressions on either side of the UPRR. However, these depressions were not surveyed to ascertain if breeding was successful (e.g., juveniles survived and dispersed from the depressions). In May 1998, no seasonal ponding was detected in the UPRR right-of-way despite a 200% normal rainfall year. Grading associated with UPRR right-of-way for maintenance eliminated depressions that had formerly been present and apparently used by CTS. Surveys in 2001 and 2006 failed to detect CTS activity along the UPRR. While some areas along the UPRR pool following heavy rains, these areas are not suitable to support breeding CTS due to the relative short period of time they supported water.

CTS breeding within the quarry pond likely aestivate in much of the undisturbed habitats of the site. Portions of the inactive Azevedo Quarry do not support suitable aestivation habitat due to the level of past disturbance resulting in areas being void of vegetation and burrows. Areas that have been reclaimed as natural are considered suitable for aestivation. Exclusionary silt fencing designed by herpetologist Dr. Mark Jennings was also constructed by Raisch Products (the land leased for the quarry) in 1996 or 1997 to discourage transient CTS from wandering into any portions of the quarry from the pond. However, the area immediately to the east of this fencing is not disturbed regularly and there are a number of debris piles that provide suitable aestivation

habitat for CTS. It is believed that while the fencing may have discourage CTS from aestivating within any areas of the quarry, due to the current site conditions, CTS could easily crawl around the southern terminus of the fencing into the portion of the quarry not actively disturbed. CTS would be unlikely to aestivate within the developed/ruderal areas in the southwestern portion of the site.

In summary, while breeding has occurred at times in depressions along the railroad tracks, the quarry pond is the only stable feature within the site that can provide breeding opportunities for CTS every year. CTS breeding within the quarry pond likely aestivate in much of the natural habitats of the site.

2.3.3 Burrowing Owl (*Athene cunicularia*). Federal Listing Status: None; State Listing Status: Species of Special Concern.

The burrowing owl is considered a California species of special concern. This decision was based on the fact that the burrowing owl's population levels were decreasing due to habitat destruction, roadside nesting (vulnerability to human interference) and indirectly, ground squirrel poisoning.

The burrowing owl is a small, long-legged, semi-fossarial bird that averages a height of 9.5 inches, has an average wingspan of 23 inches, and weighs an average of 5.25 ounces. Burrowing owls are unique, as they are the only owl that regularly lives and breeds in underground nests. In California, these birds typically occur in the Central and Imperial Valleys, primarily utilizing ground squirrel burrows (or the burrows of other animals, e.g., badgers, prairie dogs and kangaroo rats) found in grasslands, open shrub lands, deserts, and to a lesser extent, grazing and agricultural lands. Burrowing owls in this region are typically found in lower elevations, and have strong site fidelity. Pairs have been known to return to the same area year after year, and some pairs are known to utilize the same burrow as the previous year. The breeding season for the burrowing owl runs from February to August, with a peak between April and July.

Burrowing owls have been documented as occurring within the site or immediately adjacent on four occasions. In 1992, H.T. Harvey observed a single, non-breeding owl along the UPRR. In

1993, a burrow exhibiting signs of owl usage (i.e. pellets and whitewash) was found on the northeast facing slope of the site; an owl was not directly observed (CDFG 2009). In 2007, a single, non-breeding owl was observed immediately to the northwest of the site (CDFG 2009). This owl was found in a burrow in a grassy hillside between landscaping and the UPRR. Finally, on February 12, 2009, a single, non-breeding owl was observed on the plateau on top of Communications Hill by LOA ecologists. This owl was seeking refuge in an abandoned rubber conveyer belt that had rolled in areas creating artificial, shallow burrows (Figure 6). This location was surveyed again on February 20, 2009, at which time the owl was absent.

Based on the years of survey effort within the site, it is believed that the site provides foraging and refugia habitat for overwintering and transient burrowing owl. The burrows throughout the site, which are increasing in numbers, and rock piles in the quarry area provide suitable habitat for this species.

2.4 WILDLIFE MOVEMENT CORRIDORS

Wildlife movement corridors are areas where regional wildlife populations regularly and predictably move during dispersal or migration. Movement corridors in California are typically associated with valleys, rivers and creeks supporting riparian vegetation, and ridgelines. With increasing encroachment of humans on wildlife habitats, it has become important to establish and maintain linkages, or movement corridors, for animals to be able to access locations containing different biotic resources that are essential to maintaining their life cycles.

The importance of an area as a "movement corridor" depends on the species in question and its consistent use patterns. Animal movements generally can be divided into three major behavioral categories:

- Movements within a home range or territory;
- Movements during migration; and
- Movements during dispersal.

While no detailed study of animal movements has been conducted for the study area, knowledge of the site, its habitats, and the ecology of the species potentially occurring onsite permits

sufficient predictions about the types of movements occurring in the region and whether or not proposed development would constitute a significant impact to animal movements.

While a number of reptiles, birds, and mammals may use Communications Hill as part of their home range and dispersal movements, these movements would largely be confined to the hill itself, as it is considered an infill site and is surrounded on all sides by dense urban development. Very few animals can access and, thus, move through the property due to its lack of connectivity to more natural habitats. Thus, the site does not serve as a movement corridor and does not facilitate the movement of wildlife at a regional level.

2.5 JURISDICTIONAL WATERS

Jurisdictional waters include rivers, creeks, and drainages that have a defined bed and bank and which, at the very least, carry ephemeral flows. Jurisdictional waters also include lakes, ponds, reservoirs, and wetlands. Such waters may be subject to the regulatory authority of the U.S. Army Corps of Engineers (USACE), the California Department of Fish and Wildlife (CDFW), and the California Regional Water Quality Control Board (RWQCB). Aquatic features are typically only considered to be jurisdictional if they connect to other waters of the United States per the U.S Supreme Court decisions *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (SWANCC Decision) and *Rapanos v. United States* and *Carabell v. Army Corps of Engineers* (referred together as the Rapanos decision).

A formal wetland delineation and waters of the U.S. analysis was completed for the site (LOA 2013). At the time this report was prepared, the waters of the U.S. report has not been submitted to the USACE for verification. However, potentially jurisdictional waters are presumed to be present on the site in the form of four seeps, an intermittent drainage channel, manmade drainage ditches, a quarry pond, and two detention basins.

Based on the SWANCC decision and Rapanos guidance issued by the USACE and EPA (2007a), it is believed that the seeps, intermittent drainage channel, manmade drainage ditches, and quarry pond do not fall under the USACE's jurisdiction. All of these features are hydrologically

isolated from known waters of the U.S. and lack a significant chemical, physical, or biological nexus to such waters.

Additionally, according to the *U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook* (USACE and EPA 2007b), "ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water generally are not jurisdictional under the CWA, because they are not tributaries or they do not have a significant nexus to [traditional navigable waters]." All of the onsite drainage ditches are manmade and were constructed in and drain only uplands. Therefore, they should not fall under the USACE's jurisdiction.

The two detention basins are manmade impoundments constructed as part of the neighboring Tuscany Hills development and connect into the public stormwater system. These features do not impound waters otherwise defined as waters of the U.S. and, therefore, should also be disclaimed from the USACE's jurisdiction.

In 2000, a 1.42-acre wetland was mapped in a swale along Hillsdale Avenue and verified by the USACE (File No. 24975S). This jurisdictional determination expired on March 1, 2005. In 2007, 2009, and 2012, LOA surveyed this area and did not find positive indicators of wetlands. Therefore, it is believed that this area no longer meets the technical criteria for wetlands and should be disclaimed from the USACE's jurisdiction.

Despite our preliminary analysis of the extent of agency jurisdiction, it is important to note that these agencies are the final arbiters and could claim jurisdiction over some or all of these features. Should the USACE disclaim jurisdiction over all of the features on the site, the RWQCB will likely exert jurisdiction over the natural aquatic features, and the CDFW will likely exert jurisdiction over the natural aquatic features supporting a defined bed and bank. All three agencies would likely disclaim jurisdiction over the manmade drainage ditches and two detention basins.

3.0 IMPACTS AND MITIGATION MEASURES

As noted in Section 1.0 of this report, wetlands, special status plants and animals (i.e., threatened and endangered species, candidate species for threatened or endangered status, and species of special concern), and animal movement corridors are all biotic resource issues that may be regulated according to provisions of federal and state laws and/or local policies. These issues can affect how a property is used or developed. The discussion below addresses likely impacts to sensitive biological resources resulting from the proposed development. This discussion recognizes that not all impacts are significant and, therefore, establishes the criteria by which significance is determined. The discussion also examines state and federal laws that determine how sensitive habitats are developed.

3.1 SIGNIFICANCE CRITERIA

General plans, area plans, and specific projects are subject to the provisions of the California Environmental Quality Act (CEQA). The purpose of CEQA is to assess the impacts of proposed projects on the environment before they are carried out. For example, site development may require the removal of some or all of its existing vegetation. Animals associated with this vegetation could be destroyed or displaced. Animals adapted to humans, roads, buildings, pets, and other conditions could potentially replace those species formerly occurring on a site. Plants and animals that are state and/or federally listed as threatened or endangered may be destroyed or displaced. Sensitive habitats such as wetlands and riparian woodlands may be altered or destroyed.

Whenever possible, public agencies are required to avoid or minimize environmental impacts by implementing practical alternatives or mitigation measures. According to Section 15382 of the CEQA Guidelines, a significant effect on the environment means a "substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic interest."

Specific project impacts to biological resources may be considered "significant" if they would:

- 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 Wildlife or U.S. Fish and Wildlife Service;

- 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 Wildlife or U.S. Fish and Wildlife Service;

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

- 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;

- Reduce substantially the habitat of a fish or wildlife species, including causing a fish or wildlife population to drop below self-sustaining levels or threaten to eliminate an animal community;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Furthermore, CEQA Guidelines Section 15065(a) states that a project may trigger the requirement to make a "mandatory findings of significance" if the project has the potential to

> Substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare or threatened species, or eliminate important examples of the major periods of California history or prehistory.

3.2 RELEVANT GOALS, POLICIES, AND LAWS

3.2.1 Threatened and Endangered Species

State and federal endangered species legislation has provided the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting plant and animal species of limited distribution and/or low or

declining populations. Species listed as threatened or endangered under provisions of the state and federal endangered species acts, candidate species for such listing, state species of special concern, and some plants listed as endangered by the California Native Plant Society are collectively referred to as "species of special status." Permits may be required from both the CDFG and USFWS if activities associated with a proposed project will result in the "take" of a listed species. "Take" is defined by the state of California as "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill" (California Fish and Game Code, Section 86). "Take" is more broadly defined by the federal Endangered Species Act to include "harm" (16 USC, Section 1532(19), 50 CFR, Section 17.3). Furthermore, the CDFG and the USFWS are responding agencies under the California Environmental Quality Act (CEQA). Both agencies review CEQA documents in order to determine the adequacy of their treatment of endangered species issues and to make project-specific recommendations for their conservation.

3.2.2 Migratory Birds

State and federal laws also protect most birds. The Federal Migratory Bird Treaty Act (16 U.S.C., scc. 703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs.

Migratory birds and their nests are also protected in California under the provisions of sections 3503 and 3513 of the California Fish and Game Code. Section 3503 of the Fish and Game Code makes it "unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto." Section 3513 of the California Fish and Game Code makes it unlawful to "take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Treaty Act."

3.2.3 Birds of Prey

Birds of prey are also protected in California under provisions of the State Fish and Game Code, Section 3503.5, which 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." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by the CDFW.

3.2.4 Bats

Section 2000 and 4150 of the California Fish and Game Code states that it unlawful to take or possess a number of species, including bats, without a license or permit as required by Section 3007. Additionally, Title 14 of the California Code of Regulations states it is unlawful to harass, herd, or drive a number of species, including bats. To harass is defined as "an intentional act which disrupts an animal's normal behavior patterns, which includes, but is not limited to, breeding, feeding or sheltering."

3.2.5 Wetlands and Other Jurisdictional Waters

Natural drainage channels and adjacent wetlands may be considered "waters of the United States" (hereafter referred to as "jurisdictional waters") subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE). The extent of jurisdiction has been defined in the Code of Federal Regulations but has also been subject to interpretation of the federal courts. Jurisdictional waters generally include:

- All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- All interstate waters including interstate wetlands:
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce;
- All impoundments of waters otherwise defined as waters of the United States under the definition;
- Tributaries of waters identified in paragraphs (a)(1)-(4) (i.e., the bulleted items above);
- The territorial seas; and

- Wetlands adjacent to waters (other than waters which are themselves wetlands) identified in paragraphs (a)(1) through (6) of this section (i.e., the bulleted items above).

As recently determined by the United States Supreme Court in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (the SWANCC decision), channels and wetlands isolated from other jurisdictional waters cannot be considered jurisdictional on the basis of their use, hypothetical or observed, by migratory birds. However, the U.S Supreme Court decisions *Rapanos v. United States* and *Carabell v. U.S. Army Corps of Engineers* (referred together as the Rapanos decision) impose a "significant nexus" test for federal jurisdiction over wetlands. In June 2007, the USACE and Environmental Protection Agency (EPA) established guidelines for applying the significant nexus standard. This standard includes 1) a case-by-case analysis of the flow characteristics and functions of the tributary or wetland to determine if they significantly affect the chemical, physical, and biological integrity of downstream navigable waters; and 2) consideration of hydrologic and ecologic factors (EPA and USACE 2007).

The USACE has jurisdiction over Waters of the U.S. under the authority of Section 404 of the Clean Water Act. The extent of jurisdiction within drainage channels is defined by “ordinary high water marks” on opposing channel banks. Wetlands are habitats with soils that are intermittently or permanently saturated, or inundated. The resulting anaerobic conditions select for plant species known as hydrophytes that show a high degree of fidelity to such soils. Wetlands are identified by the presence of hydrophytic vegetation, hydric soils (soils saturated intermittently or permanently saturated by water), and wetland hydrology according to methodologies outlined in the 1987 *Corps of Engineers Wetlands Delineation Manual* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008).

All activities that involve the discharge of fill into jurisdictional waters are subject to the permit requirements of the USACE (Wetland Training Institute, Inc. 1991). Such permits are typically issued on the condition that the applicant agrees to provide mitigation that result in no net loss of wetland functions or values. No permit can be issued until the Regional Water Quality Control Board (RWQCB) issues a certification (or waiver of such certification) that the proposed activity will meet state water quality standards. The filling of isolated wetlands, over which the USACE

has disclaimed jurisdiction under the SWANCC decision, is regulated by the RWQCB. It is unlawful to fill isolated wetlands without filing a Notice of Intent with the RWQCB. The RWQCB is also responsible for enforcing National Pollution Discharge Elimination System (NPDES) permits, including the General Construction Activity Storm Water Permit. All projects requiring federal money must also comply with Executive Order 11990 (Protection of Wetlands).

The California Department of Fish and Wildlife has jurisdiction over the bed and bank of natural drainages according to provisions of Section 1601 and 1602 of the California Fish and Game Code (2003). Activities that would disturb these drainages are regulated by the CDFW via a Streambed Alteration Agreement. Such an agreement typically stipulates that certain measures will be implemented that protect the habitat values of the drainage in question.

3.2.6 Ordinance Trees

The City of San José has a tree ordinance (Chapter 13.32 of the Municipal Code) that regulates the removal of trees. The City's tree ordinance seeks to:

> Promote the health, safety, and welfare of the city by controlling the removal of trees in the city, as trees enhance the scenic beauty of the city, significantly reduce the erosion of topsoil, contribute to increased storm water quality, reduce flood hazards and risks of landslides, increase property values, reduce the cost of construction and maintenance of draining systems through the reduction of flow and the need to divert surface waters, contribute to energy efficiency and the reduction of urban temperatures, serve as windbreaks and are prime oxygen producers and air purification systems.

An "ordinance tree" is defined as any native or non-native tree with a circumference of 56 inches (diameter of 18 inches) at 24 inches above the natural grade of slope. For multi-trunk trees, the circumference is measured as the sum of the circumferences of all trunks at 24 inches above the natural grade of slope. A tree removal permit is required from the City prior to the removal of any trees covered under the ordinance. Prior to the issuance of a removal permit, the City requires that a formal tree survey be conducted that indicates the number, species, trunk circumference and location of all trees that would be removed or impacted by the project.

3.2.7 City of San José Riparian Corridor Policy

The City of San José has developed a riparian policy that addresses several issues that relate to the identification, management, and protection of riparian resources within the City's Urban Service Area (USA). The City has assumed that riparian corridors outside the USA are substantially protected by the General Plan Policy's that govern these areas. This policy has noted that areas "outside the USA and not subject to specific General Plan direction regarding riparian protection, should be subject, at a minimum, to the development guidelines in this document" (City of San José, 1999). There are no riparian corridors located on the project site.

Riparian corridors are defined as:

> Any defined stream channels including the area up to the bank full-flow line, as well as all riparian (streamside) vegetation in contiguous adjacent uplands. Characteristic wood riparian vegetation species could include (but are not limited to): willow, *Salix* sp.; alder, *Alnus* sp.; box elder, *Acer negundo*; Fremont cottonwood, *Populus fremontii*; bigleaf maple, *Acer macrophyllum*; western sycamore, *Platanus racemosa*; and oaks, *Quercus* sp. Stream channels include all perennial and intermittent streams shown as a solid or dashed blue line on USGS topographic maps, and ephemeral streams or "arroyos" with well-defined channels and some evidence of scour or deposition (City of San Jose 1999, 3).

The City's riparian policy recommends the following riparian setback dimensions:

> All buildings, other structures (with the exception of bridges and minor interpretative node structures), impervious surfaces, outdoor activity areas (except for passive or intermittent activities) and ornamental landscaped areas should be separated a minimum of 100 feet from the edge of the riparian corridor (or top of bank, whichever is greater) (City of San Jose, 1999, 31).

During the CEQA process, the City evaluates an applicant's project design to determine consistency with the riparian policy. It is usually noted at that time whether or not any exceptions noted in the riparian policy apply to the subject parcel and under what circumstances.

Established setbacks or buffers are designed to reduce anthropogenic effects on riparian systems. Usually, the resource agencies have asserted that buffers of 100 feet or more are necessary to reduce adverse affects on riparian systems. While reasonable evidence exists to support the notion that larger buffers provide significant additional benefit to riparian systems, there is a

paucity of empirical data that allows for the establishment of a precise estimate. Therefore, the 100-foot riparian buffer that is often adopted is a historically-accepted value rather than an empirically derived one. While not empirically driven, however, a buffer of 100 feet provides a useful starting point within undeveloped areas to evaluate the potential effects from a proposed project.

The Envision San Jose 2040 General Plan lays out several policies to preserve, protect, and restore riparian habitats and supports the goals of the Riparian Corridor Policy Study. These include the following:

- ER-2.1. Ensure that new public and private development adjacent to riparian corridors in San Jose are consistent with the provisions of the City's Riparian Corridor Policy Study and any adopted Santa Clara Valley Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP).
- ER-2.2. Ensure that a 100-ft setback from riparian habitat is the standard to be achieved in all but a limited number of instances, only where no significant environmental impacts would occur.
- ER-2.3. Design new development to protect adjacent riparian corridors from encroachment of lighting, exotic landscaping, noise and toxic substances into the riparian zone.
- ER-2.4. When disturbances to riparian corridors cannot be avoided, implement appropriate measures to restore, and/or mitigate damage and allow for fish passage during construction.
- ER-2.5. Restore riparian habitat through native plant restoration and removal of non-native/invasive plants along riparian corridors and adjacent areas.
- ER-2.6. Develop a City Council Policy based on the City's Riparian Corridor Policy Study and HCP/NCCP to successfully implement the riparian goals and policies of the *Envision General Plan*, which recognizes that a 100-ft setback is the standard to be achieved in all but a limited number of instances, where no significant environmental impacts would occur.
- ER-2.7. Partner with public, private, and non-profit agencies on public outreach and education on the importance of protecting our riparian corridor resources.

- ER-2.8. Develop and require the use of a criteria checklist from the Riparian Corridor Policy Study to evaluate new developments that propose to use riparian setback exceptions.

3.2.8 Santa Clara Valley Habitat Conservation Plan

The Santa Clara Valley Habitat Plan/Natural Communities Conservation Plan that covers the study area has recently been adopted and is in the process of having the Implementing Entity established. The Habitat Plan is expected to be operating by early 2014. Six local partners (the County of Santa Clara, Santa Clara Valley Transportation Authority, Santa Clara Valley Water District, and the Cities of San Jose, Gilroy, and Morgan Hill) and two wildlife agencies (the California Department of Fish and Wildlife and the U.S. Fish and Wildlife Service) prepared and adopted the multi-species habitat conservation plan. The study area of the Santa Clara Valley Habitat Plan/Natural Communities Conservation Plan primarily covers southern Santa Clara County as well as the City of San Jose with the exception of the bayland areas. The Habitat Plan addresses listed species and species that are likely to become listed during the plan's 50-year permit term. The covered species include, but are not limited to, western burrowing owl, California tiger salamander, and California red-legged frog. The Habitat Plan requires that the agencies comment on reportable interim projects and recommend mitigation measures or project alternatives that would help achieve the preliminary conservation objectives and not preclude important conservation planning options or connectivity between areas of high habitat value.

The Envision San Jose 2040 General Plan lays out several policies to supports the goals of the Habitat Plan, including the following:

- ER-1.8. Work with Local Partners…on completion of the Santa Clara Valley Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) project. Once completed and adopted, implement an HCP/NCCP that both mitigates for land and stream development impacts and provides additional conservation, restoration, and enhancement efforts.

3.3 ENVIRONMENTAL IMPACTS AND MITIGATION

As described in Section 1.2, the proposed project is the development of a residential community. The proposed project will result in permanent impacts to the natural communities currently present on Communications Hill. Below is the analysis of the significance of impacts resulting from project implementation.

Potentially Significant Impacts

3.3.1 Potential Impacts to the California Tiger Salamander

Potential Impacts. A breeding population of CTS has been documented in the quarry pond. Due to the presence of a stable breeding population in this pond, CTS are likely aestivating in much of the site's natural and reclaimed habitats in the hillsides to the west and south of the quarry pond. The quarry pond is approximately 1.53 acres, and the portion of the site providing suitable aestivation habitat is mostly above the quarry pond. This population is isolated from other CTS populations in the region, as Communications Hill is an infill site that is completely surrounded by development.

While the quarry was still in operation, the quarry operator constructed silt fencing to restrict access of CTS into much of the active quarry site. The fence was generally placed to go directly uphill and limited much of the site's upland habitat. Since the quarry operation has largely ceased in the last few years, this fence has fallen into disrepair and does not act as a barrier to CTS as they leave the pond. All 312 acres of the site, including the quarry pond and CTS aestivation habitat, are proposed to be graded. Impacts to CTS and their habitat would be considered significant.

Mitigation. CTS are a covered species in the Santa Clara Valley Habitat Plan. Development-related fees established by the Habitat Plan will be imposed on the proposed project. These per-acre fees are calculated based on the amount of permanent and temporary impacts occurring on the site. As discussed in section 9.4.1 of the Habitat Plan, these fees will fund mitigation to offset impacts to covered species and their habitat. Prior to gaining clearance for construction activities on the site, the project shall comply with the Habitat Plan to fulfill all requirements

related to avoiding take of CTS, including the submittal of relevant permit applications to the appropriate agencies and payment of required development-related fees.

The applicant must also comply with any conditions as set forth in chapter 6 of the Habitat Plan that would affect CTS. While no conditions apply explicitly to CTS, condition 12 in section 6.5 of the Habitat Plan is designed to minimize direct and indirect impacts to wetlands and ponds and requires projects to avoid and minimize impacts to such features to the maximum extent practicable. Due to constraints posed by the topography and geology of the site, avoidance of the existing quarry pond (i.e., the only CTS breeding habitat on the site) is not feasible (see section 3.3.4 for a more detailed discussion of impacts to aquatic features). Therefore, development-related fees will be required to the fullest extent to offset impacts to CTS breeding and aestivation habitat on the site.

The project sponsor and/or contractors shall submit evidence of compliance with the Habitat Plan to the City of San Jose prior to grading permits.

3.3.2 Potential Impacts to the Burrowing Owl

Potential Impacts. Extensive surveys for burrowing owls have been conducted on Communications Hill since 1992. During that time, non-breeding burrowing owls have been observed on or immediately adjacent to the site four times, the most recent sighting of which occurred in 2009. Breeding habitat is absent from the site, as no breeding burrowing owls have ever been documented on Communications Hill. The site does not occur within modeled occupied habitat as shown in Fig. 5-11 of the Habitat Plan and is very infrequently used as overwintering habitat. Impacts to infrequently used grassland habitat would be less than significant.

Although impacts to burrowing owl habitat would be considered less than significant, project build-out could harm, injure, or kill non-breeding burrowing owls occurring on the site. This would be considered a significant impact.

Mitigation. Burrowing owls are a covered species in the Santa Clara Valley Habitat Plan. Development-related fees established by the Habitat Plan will be imposed on the proposed project. These per-acre fees are calculated based on the amount of permanent and temporary impacts occurring on the site. As discussed in section 9.4.1 of the Habitat Plan, these fees will fund mitigation to offset impacts to covered species and their habitat. All Habitat Plan requirements as relates to burrowing owls shall be followed, including the submittal of relevant permit applications to the appropriate agencies and payment of required development-related fees (section 3.3.5). (It should be noted that the burrowing owl fee discussed in section 9.4.1 of the Habitat Plan would not apply to this project, as the site does not occur in modeled occupied burrowing owl nesting habitat as defined in Fig. 5-11 of the Habitat Plan.)

The applicant must also comply with section 6.6.1, condition 15 and with Fig. 6-4 ("Western Burrowing Owl Survey and Monitoring Requirements Flow Chart") of the Habitat Plan regarding avoidance and minimization measures for burrowing owls to ensure consistency with the Plan. These measures include pre-construction surveys by a qualified biologist in all areas of suitable habitat. If pre-construction surveys locate active nests or occupied burrows within or near construction zones, a 250-ft non-disturbance buffer zone shall be established around the nest or burrow and shall remain off-limits to construction until the owl(s) have moved out of the project site. Prior to gaining clearance for construction activities on the site, the project shall comply with the Habitat Plan to fulfill all requirements related to avoiding take of the burrowing owls (i.e., applicable fees, application processes, and other conditions). The project sponsor and/or contractors shall submit evidence of compliance with the Habitat Plan to the City of San Jose prior to obtaining a grading permit.

3.3.3 Potential Impacts to Migratory Birds and Birds of Prey

Potential Impacts. Impacts to any migratory bird or bird of prey would be in violation of the Migratory Bird Treaty Act and California Fish and Game Code (sections 3.2.2 and 3.2.3). The onsite trees and large shrubs provide suitable habitat for nesting avian species, including the white-tailed kite and loggerhead shrike. The loss of habitat for migratory birds and birds of prey would not be considered significant. However, construction related activities that result in harm,

injury or death of individuals, or abandonment of an active nest would constitute a significant impact.

If a raptor or other migratory bird, regardless of its federal or state status, were to nest on or adjacent to the site prior to or during proposed construction activities during the nesting season (February 1 through August 31), such activities could result in the abandonment of active nests or direct mortality to these birds. Construction activities that adversely affect the nesting success of raptors and migratory birds or result in mortality of individual birds would be considered a significant impact.

Mitigation. The Santa Clara Valley Habitat Plan does not cover any of the species discussed in this section, as they are not considered to be at risk for formal listing in the 50-year permit period of the Habitat Plan. Therefore, the following mitigation measures are warranted.

To the maximum extent practicable, trees and large shrubs planned for removal should be removed during the non-breeding season (September 1 through January 31). If it is not possible to avoid tree removal or other disturbances during the breeding season (February 1 through August 31), a qualified biologist should conduct a pre-construction survey in all trees, large shrubs, or other areas of potential nesting habitat within the construction footprint and within 250 ft. of the footprint, if such disturbance will occur during the breeding season. This survey should be conducted no more than 14 days prior to the initiation of demolition/construction activities during the early part of the breeding season (February through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August).

If nesting raptors or migratory birds are detected on the site during the survey, a suitable construction-free buffer should be established around all active nests. The precise dimension of the buffer (a minimum of 150 ft., up to a maximum of 250 ft.) would be determined at that time and may vary depending on location and species. Buffers should remain in place for the duration of the breeding season or until it has been confirmed by a qualified biologist that all chicks have fledged and are independent of their parents. Pre-construction surveys during the non-breeding

season are not necessary, as the birds are expected to abandon their roosts during construction activities. Implementation of the above measures would mitigate impacts to birds of prey and other migratory birds to a less-than-significant level.

3.3.4 Potential Impacts to Aquatic Habitat and Other Sensitive Natural Communities, Including Federally Protected Wetlands

Potential Impacts. Sensitive habitat present on the site is limited to aquatic features, including four seeps, an intermittent drainage channel, and a quarry pond. Three of the four seeps and a reach of the channel also meet the USACE's criteria for wetlands. While the quarry pond supports a breeding population of CTS, it is a manmade feature that was constructed adjacent to the railroad tracks in association with historic quarrying operations on the site. The seeps and intermittent drainage channel all developed in reclaimed parts of the site that had previously been mined. All of the aquatic features on the site are isolated from known waters of the U.S. The project will result in permanent fill of these features, including all four seeps (approximately 0.87 ac), the quarry pond (approximately 1.53 ac), and the intermittent drainage channel (approximately 0.04 ac and 612 linear feet). In total, approximately 2.4 acres of aquatic habitat, including wetlands, would be permanently impacted. While these features, from a purely aquatic standpoint, are of moderate to low quality, their fill constitutes a significant adverse impact.

Several manmade drainage ditches and two detention basins are also present on the site. The two detention basins were constructed as part of the neighboring Tuscany Hills development and connect into the public stormwater system. Impacts to the manmade drainage ditches and detention basins are not considered significant, as they do not function as natural aquatic features, do not replace the functions and values of historic features, and were created in upland habitats to function in developed and agricultural practices.

Mitigation. The project proponent should implement avoidance, minimization, and/or compensation measures to reduce impacts to aquatic habitats, including wetlands, to a less-than-significant level.

Avoidance and minimization. The preferred method of mitigation would be avoidance of all onsite waters by designing the project so that it avoids the placement of fill within potential jurisdictional waters. If avoidance is not possible, actions should be taken to minimize impacts to such features.

Chapter 6 of the Habitat Plan outlines conditions for avoidance and minimization of impacts to natural communities. Specifically, condition 11 in section 6.5 of the Habitat Plan describes stream and riparian setbacks, and condition 12 in section 6.5 of the Plan describes avoidance and minimization of direct and indirect impacts to wetlands and ponds. The intermittent stream channel on the site may be considered a "Category 2" stream under Condition 11 of the Habitat Plan and, as such, may be subject to the setback condition of 35 ft from the top of the stream bank for Category 2 streams. Avoidance and minimization of impacts to wetlands and ponds as described in condition 12 of the Habitat Plan would apply to the seeps and quarry pond. However, due to constraints posed by the site's topography and by vehicular connection requirements between the lower and upper parts of the site, the project objective cannot be achieved without extensive grading (i.e., cut and fill) over the site, including all of the aquatic habitats described above. Therefore, both avoidance and minimization of impacts to these features is not feasible.

Compensation. The proposed project will result in approximately 2.4 acres of permanent impacts to aquatic habitats occurring on the site. This includes impacts to four seeps, an intermittent stream, and the quarry pond.

As discussed in section 9.4.1 of the Habitat Plan, the applicant may choose to create, manage, and monitor their own mitigation site in lieu of paying all or part of the wetland mitigation fee (see below). This option would require approval by the Implementing Entity. The goal of this compensation effort would be to replace the lost functions and values of these features at an equal or greater value. Because the impacted features are either manmade or developed in disturbed and reclaimed parts of the site, and due to their moderate to low quality, impacts to these features should be compensated by creating or restoring aquatic and/or wetland habitat at a minimum of a 1:1 replacement-to-loss ratio.

Restored or created aquatic features must be consistent with the conservation strategy and all other requirements of the Habitat Plan. As required by the Habitat Plan, the creation or restoration effort will be consistent with chapter 5 of the Plan, will be protected by a conservation easement, and will be funded for management and monitoring into perpetuity.

These features may also need to be approved by the regulatory agencies (i.e., USACE, CDFW, and RWQCB) in order to satisfy their permitting requirements. If onsite mitigation is not feasible or cannot adequately compensate for all of the impacts, the applicant may also choose to purchase appropriate mitigation credits from a mitigation bank in the permit area that has been approved by the USFWS and CDFW and pre-approved to service the Habitat Plan.

Impacts to the wetlands, ponds, and streams on Communications Hill that are not compensated for via in-lieu mitigation will be mitigated for via payment of a wetland fee in addition to other development fees as mandated by the Habitat Plan. As described in sections 9.4.1 and chapter 5 of the Habitat Plan, the wetland fee will be applied towards acquiring, enhancing, restoring, and creating ponds and wetlands within the Reserve System. This approach not only compensates for the loss of aquatic/wetland functions and values on the site, but it also maximizes conservation for the covered species. The Habitat Plan breaks down these wetland fees by aquatic habitat type; an estimate of these fees is provided (Table 5). All Habitat Plan requirements as relates to sensitive aquatic habitats shall be followed, including the submittal of relevant permit applications to the appropriate agencies and payment of required development-related fees.

Table 5. Estimated wetland fees for the Communications Hill project as established by the Habitat Plan (2012).

Feature	Total Fee Per Unit*	Compensation Ratio	Area of Impact	Subtotal
Wetland and non-wetland seep	$374,842/acre**	2:1	0.87 ac	$326,112.54
Quarry pond	$153,321/acre	1:1	1.53 ac	$234,581.13
Intermittent stream (includes wetland and non-wetland portions)	$588/linear foot	1:1	612 linear ft.	$359,856
			Total Fees	**$920,549.67**

*Total fee per unit includes the per-unit cost, restoration fee per unit of impact, endowment component, and plan preparation

component.
**This cost factors in the 2:1 compensation ratio.

Regulatory issues. In addition to compliance with the Habitat Plan, the applicant will comply with all state and federal regulations related to disturbance to jurisdictional waters that are not covered by the Habitat Plan. Therefore, the applicant may be required to obtain a CWA section 401 water quality certification from the RWQCB for impacts to waters of the State (totaling approximately 2.4 ac) and a section 1602 streambed alteration agreement from the CDFW for impacts to natural watercourses supporting a defined bed and bank (i.e., the intermittent drainage channel, which totals approximately 0.04 ac and 612 linear ft). All of the aquatic features on the site are believed to be isolated and, therefore, not requiring a Clean Water Act section 404 permit from the USACE. However, should the USACE take jurisdiction over these features, a CWA section 404 individual permit would be necessary. As such, mitigation to satisfy the USACE would fall outside the purview of the Habitat Plan (i.e., wetland mitigation through the payment of wetland fees or in-lieu mitigation could not be completed via the Habitat Plan to satisfy any mitigation requirements by the USACE). At the time this report was prepared, the CDFW and RWQCB also do not have a mechanism to permit projects impacting jurisdictional waters in conjunction with the Habitat Plan. If they are deemed necessary, these permits must be obtained prior to initiating any ground disturbance within jurisdictional waters.

In addition to payment of wetland fees via the Habitat Plan, the applicant shall satisfy agency mitigation requirements by compensating for aquatic impacts at a 1:1 replacement-to-loss ratio either onsite or offsite. This would increase the total compensation ratio to 3:1 for wetland impacts (i.e., 2:1 compensation ratio as required by the Habitat Plan plus the additional 1:1 compensation ratio) and increase the total compensation ratio to 2:1 for impacts to the quarry pond and intermittent stream (i.e., 1:1 compensation ratio as required by the Habitat Plna plus the additional 1:1 compensation ratio).

Should the applicant choose to complete its own mitigation onsite, several areas within designated open space on the site may have the potential to accommodate such mitigation. Potential opportunities for wetland/aquatic creation or restoration include, but are not limited to,

restoration of the former wetland swale along Hillsdale Avenue, creation of a linear aquatic/wetland feature along the proposed water quality and detention basins, and creation of one or more aquatic/wetland features in the eastern part of the site designated as open space. These areas could offset some of the required wetland fee and/or may also satisfy a portion of the anticipated mitigation requirements by the CDFW and RWQCB.

An onsite mitigation and monitoring plan (MMP) would need to be developed to mitigate for impacts to these features. At a minimum, the MMP should:

- Define the location of all restoration/creation activities;
- Provide evidence of a suitable water budget to support any created aquatic and riparian habitats;
- Identify the species, amount, and location of plants to be installed in the aquatic and riparian habitats;
- Identify the time of year for planting and method for supplemental watering during the establishment period;
- Identify the monitoring period. This should be not less than 5 years for aquatic restoration.
- Define success criteria that will be required for restoration efforts to be deemed a success;
- Identify adaptive management procedures that accommodate the uncertainty that comes with restoration projects. These include, but are not limited to, measures to address colonization by invasive species, unexpected lack of water, and excessive foraging of installed plants by native wildlife;
- Define management and maintenance activities (weeding of invasive plants, providing for supplemental water, repair of water delivery systems, etc.); and
- Provide for surety in funding the monitoring and ensuring that the created aquatic and riparian habitats fall within lands to be preserved and managed into perpetuity.

Any remaining mitigation required by these two agencies to satisfy the additional 1:1 replacement-to-loss ratio would need to be obtained offsite (e.g., via the purchase of credits from an approved mitigation bank).

Less than Significant Impacts

3.3.5 Conflict with an Adopted Habitat Conservation Plan

Potential Impacts. The Santa Clara Valley Habitat Plan has been adopted, but it has not yet been implemented. The Habitat Plan area covers Communications Hill. Within the Habitat Plan, Communications Hill is shown in most maps, some figures, and is mentioned by name in Chapter 3, Existing Conditions and Chapter 4, Impact Assessment and Level of Take. In Chapter 3, Communications Hill is named as one of seven locations within the Habitat Plan area supporting important outcrops of serpentine soils and mentioned as supporting serpentine bunchgrass grassland habitat. In Chapter 4, Communications Hill is mentioned as having three occurrences of the California tiger salamander and historically supporting the Bay checkerspot butterfly.

The project location falls within the covered lands of the HCP, so if the proposed project timing is such that a grading permit is obtained after implementation of the HCP, several provisions of the plan would pertain to this project. This includes compliance with conditions on covered activities as described in chapter 6 of the Habitat Plan and discussed in sections 3.3.1, 3.3.2, and 3.3.4 above. This also includes payment of development-related fees as described in chapter 9 of the Habitat Plan.

Three development fee types would apply to this project: a land cover fee, a nitrogen deposition fee, and a wetland fee. The land cover and nitrogen deposition fees are discussed below. The wetland fee is discussed further in section 3.3.4.

Land cover fees. The Habitat Plan breaks down the land cover fees by zone; an estimate of these fees is provided (Table 6). In Chapter 9 of the Habitat Plan, Communications Hill appears to be classified primarily as Fee Zone A (Mostly natural lands), with smaller areas of Fee Zone B (Mostly agricultural and valley floor rural residential lands) and Fee Zone C (Small vacant sites). The fee amount would be calculated based on the exact acreages of resources impacted, which would be the total area that will be graded. The maximum land cover fee that would be assessed would be if all 312.1 acres of the site were graded and were considered to be within Zone A; this total would be $4,809,972.

Table 6. Land cover fees as established by the Santa Clara Valley Habitat Plan (2012).	
Zone	**Projected Initial Fee Amount Per Unit***
Zone A (Mostly natural lands)	$15,416/acre
Zone B (Mostly agricultural and valley floor rural residential lands)	$10,688/acre
Zone C (Small vacant sites)	$3,905/acre

*Total fee per unit includes the per-unit cost, endowment fee, and plan preparation cost.

Nitrogen deposition fee. A nitrogen deposition fee will be applied to the project as a fee per new daily vehicle trip over the existing condition. As described in chapter 9 of the Habitat Plan, the projected initial fee amount is $3.60 per new vehicle trip generated by the project.

Wetland fee. A wetland fee would also be applied for impacts to aquatic features. The wetland fee is discussed further in section 3.3.7. Mitigation is not warranted for any impacts to the manmade drainage ditches and detention basins.

As described above and in previous sections of this document, the project proponent will complete the project in a manner that is consistent with the Habitat Plan, including compliance with the conditions on covered activities detailed in chapter 6 of the Habitat Plan and via the payment of mandatory development impact fees as described in chapter 9 of the Habitat Plan. Therefore, the project would not be in conflict with the Habitat Plan.

Mitigation. Mitigation measures are not warranted.

3.3.6 Potential Impact to Special Status Plant Species

Potential Impacts. Of the 42 special status plant species potentially occurring in the region of the site (Table 3), only Halls' bush-mallow has been observed onsite. All other species are assumed to be absent from or unlikely to occur on the site. Protocol-level special status plant species surveys were conducted on the site in 2001 and 2007. Numerous other surveys have been conducted onsite since 1992, and no other special status plant species have been observed. Therefore, potential impacts to regional populations of the remaining 41 species listed in Table 2

from project implementation would not be significant, as none of these special status plants would be expected to occur on the site.

Two Hall's bush-mallow shrubs were identified on the site in 2007 and 2009. This species was not observed on the site in 2001. Following ground disturbance associated with the KB Home Tuscany Hills development, these two shrubs became established in ruderal areas of the site. During the 2012 survey, both shrubs had died, but a few young mallows were spouting at the base of one of the dead shrubs, so it is likely this species will reestablish onsite. The locations where the Hall's bush-mallows were documented occurs within the area of proposed ground disturbance. Therefore, the proposed project would result in the loss of any Hall's bush-mallows that reestablish on the site.

To date, fifteen occurrences of Hall's bush-mallow have been reported to the CNDDB within 15 miles of Communications Hill, and it is expected that unreported populations of Hall's bush-mallow have been found in the region as well. Several of these populations occur on Santa Clara County parklands and on other open space lands owned by the Santa Clara County Open Space Authority (CNDDB 2013). The locations of the Hall's bush-mallows on the site have been disturbed by humans and are subject to ongoing anthropogenic disturbances. Given the ruderal and disturbed character of the Hall's bush-mallow locations onsite and the existence of populations that are permanently protected on County Park and Open Space Authority lands, impacts to Hall's bush-mallow on the site would be considered less than significant.

Mitigation. Mitigation measures are not warranted.

3.3.7 Potential Impacts to Special Status Animal Species

Potential Impacts. Of the 27 special status animal species potentially occurring in the region, 14 are considered absent from the site, one is considered unlikely to occur onsite, eight may occasionally migrate or forage onsite, two may reside onsite, and two are known to occur on the site. The species considered absent or unlikely to utilize the project site would not occur or would be unlikely to occur on the site due to the absence of suitable habitat. Most of these species are absent from the site due to the project location (i.e., outside of common range for

species, site location) or lack of suitable habitat (i.e., presence of breeding habitat). The five avian species and three bat species that may occasionally migrate or forage over the site would not be impacted as a result of this project. There are no structures located on the project site that could be utilized by roosting bats and bats have not been observed roosting within the onsite mines. Following the completion of the project, these eight species would continue utilizing the project area as they do today or would migrate, as all eight species are volant, to another nearby site providing suitable habitat. Project impacts to the above 23 species would not be considered significant. The four species that may reside or are known to occur on the site are discussed in Sections 3.3.1, 3.3.2, and 3.3.3.

Mitigation. Mitigation measures are not warranted.

3.3.8 Potential Impacts to Serpentine Habitat

Potential Impacts. The Habitat Plan considers serpentine soils to be of high conservation value. Sections 3.2.4 and 3.3.5 of the Habitat Plan note that Communications Hill supports outcrops of serpentine soils and small patches of serpentine bunchgrass grassland, respectively. As stated in section 4.6.1 of the Habitat Plan, a permanent cap of 550 acres will be applied to the serpentine bunchgrass land cover type, the key habitat for the Bay checkerspot butterfly (BCB). It further states that the Habitat Plan would allow up to 300 acres of permanent impacts to BCB modeled habitat mapped as "occupied" or "potential," while impacts to modeled habitat mapped as "historic/unoccupied" would not be subject to this cap because the mapped units are "no longer occupied and have little to no chance of occupancy in the future due to habitat degradation and fragmentation…."

Section 4.6.1 of the Habitat Plan notes that development of Communications Hill 1 and 2 (230 acres and 25 acres) will not count against the BCB cap but that "these impacts will count toward the Plan's 550 acre serpentine bunchgrass grassland cap." While the project site has historically supported serpentine habitats, much of the site has been disturbed and degraded over the last several decades as a result of quarrying activities and by reclamation efforts that imported a considerable amount of clean fill that was not serpentine in nature. Any remaining areas of the site that have not been disturbed are best characterized as annual grasslands dominated by non-

native grasses and supporting a mix of native and non-native spring-flowering forbs. The Habitat Plan explicitly notes that Communication Hill is not slated for conservation for the BCB nor for serpentine bunchgrass grassland. The site does not presently support BCB or other unique species that are restricted to serpentine soils (i.e., serpentine endemics). Because the serpentine habitat of the site has been severely degraded over the years due to the extensive onsite disturbances and surrounding urbanization and because it does not support serpentine endemic species, impacts to serpentine habitat would be considered less than significant.

While the Habitat Plan requires mitigation to reduce impacts to serpentine habitat, including payment of a serpentine fee as described in section 9.4.1 of the Plan, the City of San Jose has concurred with the above analysis (Joe Horwedel, pers. comm., June 2012), and the site would not be subject to the Habitat Plan's serpentine fee.

Mitigation. Mitigation measures are not warranted. .

3.3.9 Interference with the Movement of Native Wildlife

Potential Impacts. Project implementation will have a small effect on home range and dispersal movements of native wildlife now occurring immediately on the site. However, the site is not considered to be part of a wildlife movement corridor, although some species move within and through it. While small pockets of open space lands occur immediately adjacent to the site (i.e., Dairy Hill to the north and lands southwest of the Tuscany Hills development), when considered as a whole, the site is an urban infill area that is completely surrounded by development. Therefore, the proposed project will result in a less-than-significant effect on the movements of native wildlife.

Mitigation. Mitigation measures are not warranted.

3.3.10 Impact to Habitat for Fish and Wildlife Species

Potential Impacts. No fish have ever been documented on the site; therefore, impacts to fish habitat would be considered less than significant.

The proposed project would eliminate a breeding population of CTS occurring on the site; impacts to CTS are discussed in detail in section 3.1.1. A small population of red foxes is also present on the site and would be displaced as a result of project build-out. Implementation of the project would have minimal impacts to habitat all other wildlife species potentially occurring on the site. Wildlife occurring on the site are consistent with species known to occur on urban hillsides and infill sites. While they would be displaced from Communications Hill, they will remain regionally abundant due to conservation measures of the Habitat Plan to preserve more robust populations elsewhere. This project will contribute to the preservation of lands within a reserve design via land development fees as outlined by the Habitat Plan. Therefore, impacts to habitat for wildlife would be considered less than significant.

Mitigation. Mitigation measures are not warranted.

3.3.11 Degradation of Water Quality in Seasonal Creeks, Reservoirs and Downstream Waters

Potential Impacts. Proposed construction activities will result in soils left barren in the development footprint. Additionally, extensive grading often leaves the soils of construction zones barren of vegetation and, therefore, vulnerable to sheet, rill, or gully erosion. Furthermore, runoff is often polluted with grease, oil, pesticide and herbicide residues, heavy metals, etc. These pollutants may eventually be carried to sensitive wetland habitats used by a diversity of native wildlife species. Eroded soil is generally carried as sediment in surface runoff. Implementation of the project could result in impacts to watershed health. This would be considered a significant impact.

Mitigation. The applicant has built in design elements to the project to maintain hydrologic conditions and protect water quality, including several water quality basins and biocells. The applicant will also comply with condition 3 in section 6.4.1 of the Habitat Plan and must follow the avoidance and minimization measures listed in table 6-2 of the Plan to protect water quality. The applicant is expected to comply with the provisions of a grading permit, including standard erosion control measures that employ best management practices (BMPs). Projects involving the grading of large tracts of land must also be in compliance with provisions of a General

Construction permit (a type of NPDES permit) available from the California Regional Water Quality Control Board and would need to develop a stormwater pollution prevention plan (SWPPP). Compliance with the above measures should reduce impacts to water quality to a less-than-significant level.

3.3.12 Conflict with Local Policies or Ordinances

Potential Impacts. The City of San José's tree ordinance applies to the proposed project. A formal tree survey of the site was completed by Hortscience (2009), at which time the species, location, diameter at 24 in. above grade, health and structural condition, and suitability for preservation of all trees on the site were recorded. Of the 52 trees surveyed, 51 were considered native to the San Jose area (the non-native tree was an almond tree), although approximately have of these were planted. Twenty trees met the criterion for an ordinance size tree (i.e., a trunk diameter of at least 18 inches measured at 24 inches above the natural grade of slope). Because the survey was conducted over four years ago, this data may need to be updated prior to project implementation, as some trees may have died or may have grown to ordinance size.

The removal of trees would be considered significant by the City if:

- One or more heritage tree is removed;
- 10 or more native ordinance sized trees are removed;
- 20 or more non-native ordinance sized trees (does not include orchard trees) are removed; or
- 100 or more non-ordinance trees (does not include orchard trees).

Due to the extent of grading, which is proposed over the entire site, all 52 trees present on the site are proposed for removal. This would constitute a significant adverse impact.

As previously described, the project is not located near any riparian corridor. Therefore, the project will not be affected by the Riparian Corridor Policy.

Mitigation. All trees but the almond removed as a result of the project, regardless of their size, will require mitigation at replacement-to-removal ratios set forth by the City of San Jose (2006). The City requires replacement of removed trees at the following ratios:

- The replacement of all native ordinance-size trees at a 6:1 replacement-to-removal ratio and non-native ordinance-size trees at a 4:1 replacement-to-removal ratio with 24-inch box specimens or greater.

- The replacement of all native and non-native trees having a trunk diameter between 12 and 18 inches will occur at a 3:1 replacement-to-removal ratio and 2:1 replacement-to-removal ratio, respectively, with 24-inch box specimens or greater.

- The replacement of all trees having a trunk diameter of 12 inches or less will occur at a 1:1 replacement-to-removal ratio with 15-gallon specimens.

As such, a total of 163 trees will need to be planted to mitigate for the removal of 51 native trees (Table 7). The almond is considered an orchard tree and would not require mitigation (City of San Jose 2006). The species of trees to be utilized for the mitigation will be determined based on consultation with the City Arborist and with the Director of the Department of Planning, Building and Code Enforcement.

Table 7. Tree replacement-to-removal ratios (City of San Jose 2006).

Diameter of Tree to be Removed	Replacement Ratio	Minimum Size of Replacement Trees	Native Onsite Trees (#)	Required Replacement Trees
≥ 18″	5:1	24″ box	21	105
≥ 12″ but < 18″	3:1	24″ box	14	42
< 12″	1:1	15-gallon container	16	16
		Total	**51**	**163**

x:x = tree replacement to tree loss ratio

Note: Trees greater than 18″ diameter shall not be removed unless a Tree Removal Permit, or equivalent, has been approved for the removal of such trees.

If it is determined that the site lacks sufficient areas to accommodate all of the replacement plantings, one or more of the following measures will be implemented:

- Replacement tree plantings may be accommodated at an alternative site(s). An alternative site may include local parks or schools, or an adjacent property where such plantings may be utilized for screening purposes. However, any alternatively proposed site will be pursuant to agreement with the Director of the Department of Planning, Building and Code Enforcement.

- A donation of $300 per mitigation tree may be made to the *San Jose Beautiful* or *Our City Forest* programs. A receipt for any such donation will be provided to the Planning Project Manager prior to the removal of the trees.

Should the project plans change such that any trees on the site can be retained, impacts to any retained trees during the construction and operation phases of the project can be reduced to a less-than-significant level by conforming to the following guidelines:

- The project proponent shall retain a consulting arborist prior to any ground disturbance activities. The consulting arborist will develop a tree-protection plan outlining specific procedures to ensure that retained trees are protected during the construction phase.

- Prior to any ground disturbance activities, fencing will be installed around the drip-line of all retained trees occurring within the development envelopes, and the fencing will remain in place throughout the construction phase of the project. The type of fencing to be utilized will be at the direction of the consulting arborist.

- Any limb or root pruning to be conducted on retained trees shall be approved and supervised by the consulting arborist and shall follow best management practices developed by the International Society of Arboriculture.

- Supplemental irrigation to retained trees shall be applied as determined by the consulting arborist.

- If any of the retained trees should be damaged during the construction phase, they will be evaluated at the earliest possible time by the consulting arborist so that appropriate measures can be taken.

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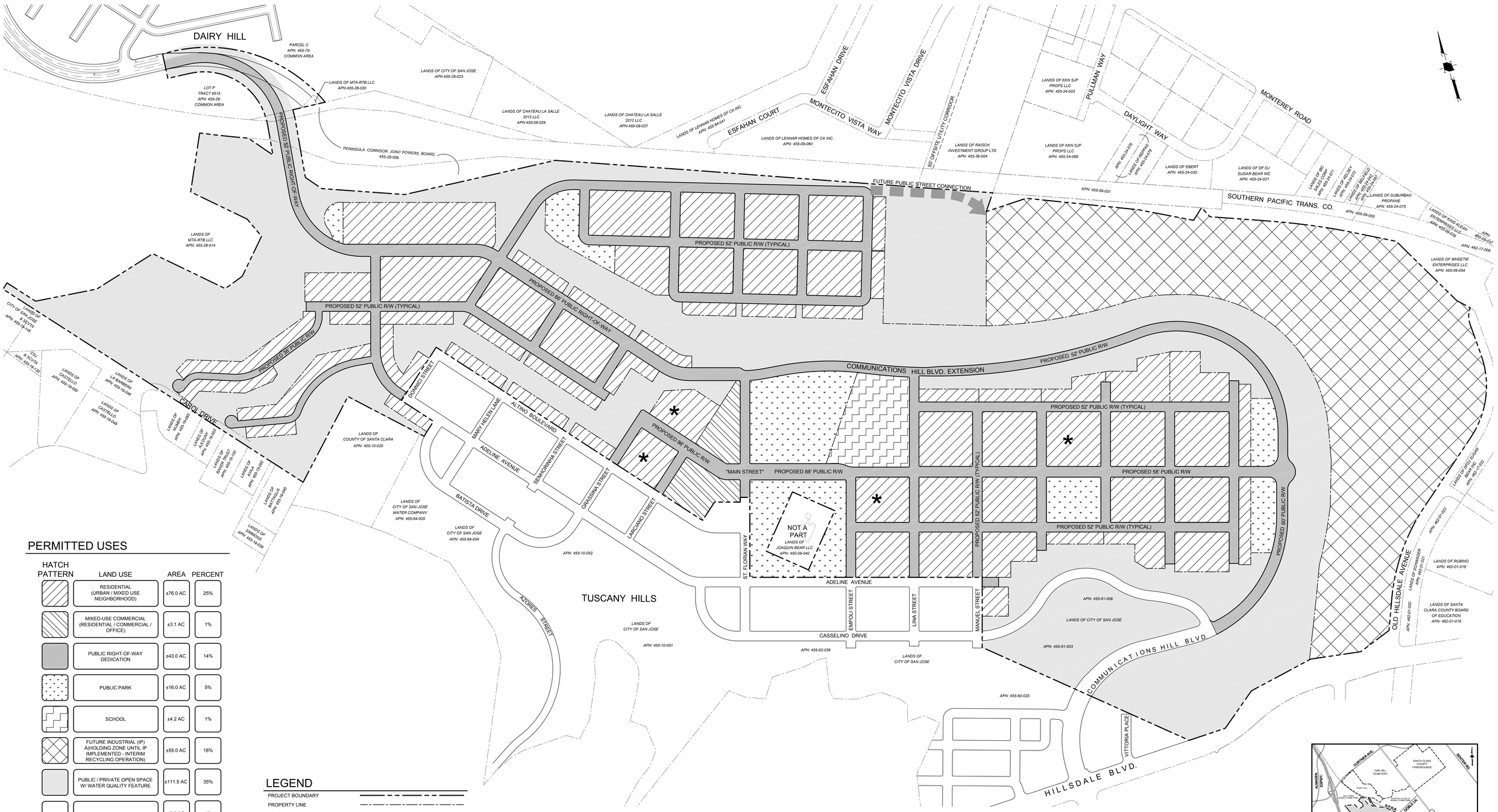
APPENDIX A: LAND USE PLAN (HMH; MARCH 2, 2013)

COMMUNICATIONS HILL
San Jose, California



PERMITTED USES

HATCH PATTERN	LAND USE	AREA	PERCENT
	RESIDENTIAL (URBAN / MIXED USE NEIGHBORHOOD)	±76.0 AC	25%
	MIXED-USE COMMERCIAL (RESIDENTIAL / COMMERCIAL / OFFICE)	±3.1 AC	1%
	PUBLIC RIGHT-OF-WAY DEDICATION	±43.0 AC	14%
	PUBLIC PARK	±16.0 AC	5%
	SCHOOL	±4.2 AC	1%
	FUTURE INDUSTRIAL (IP) A(HOLDING ZONE UNTIL IP IMPLEMENTED - INTERIM RECYCLING OPERATION)	±55.0 AC	18%
	PUBLIC / PRIVATE OPEN SPACE W/ WATER QUALITY FEATURE	±111.5 AC	35%
	EXISTING RIGHT-OF-WAY	±3.3 AC	1%
	GROSS SITE AREA:	±312.1 AC	100%

PROJECT DENSITY

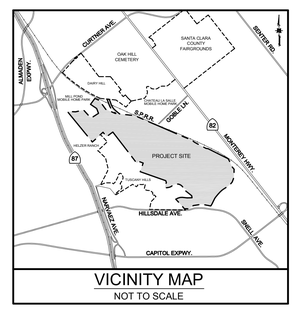
UP TO 2,200 DWELLING UNITS / ±76.0 ACRES = 28.9 DU/AC

LEGEND

- PROJECT BOUNDARY
- PROPERTY LINE
- PROPERTY LINE (EXISTING)
- RIGHT-OF-WAY
- TYPE 3 BUILDING SITE *

NOTES: RIGHT-OF-WAY LOCATION MODIFICATIONS MAY BE PERMITTED AT THE PD PERMIT STAGE.

0 100 200 400
1 INCH = 200 FEET



VICINITY MAP
NOT TO SCALE

Strangis Properties | DAHLIN group | THE GUZZARDO PARTNERSHIP INC. Landscape Architects · Land Planners | ktgy | HMH HMHca.com 408.487.2200 Land Use Entitlements, Land Planning, Landscape Architecture, Civil Engineering, Land Surveying, Stormwater Compliance | KB HOME

GENERAL DEVELOPMENT PLAN - EXHIBIT C
PDC__-___
COMMUNICATIONS HILL

NO	DATE	DESCRIPTION
△		
△		
△		
△		
△		

PROJECT NO:	3636.60
CAD DWG FILE:	363660LU
DESIGNED BY:	ML
DRAWN BY:	ML
CHECKED BY:	TA
DATE:	MARCH 2, 2013
SCALE:	1" = 200'

LAND USE PLAN 2.0

APPENDIX B: VASCULAR PLANTS OF THE PROJECT SITE

APPENDIX B

VASCULAR PLANTS OF THE SITE

The plant species listed below have been observed on the Communications Hill site during surveys conducted by Live Oak Associates, Inc. The U.S. Fish and Wildlife Service wetland indicator status of each plant has been shown following its common name. An asterisk indicates that the species is introduced or non-native to the vicinity of the site.

OBL - Obligate
FACW - Facultative Wetland
FAC - Facultative
FACU - Facultative Upland
UPL - Upland

ADOXACEAE – Muskroot family		
Sambucus nigra ssp. *caerulea*	blue elderberry	FAC
AGAVACEAE – Century Plant family		
Chlorogalum pomeridianum var.pomeridianum	soap plant, amole	UPL
ALLIACEAE – Onion or Garlic family		
Allium serra	serrated onion	UPL
AMARANTHACEAE - Amaranth family		
*Amaranthus albus**	Tumbleweed, white amaranth	FACU
ANACARDIACEAE - Sumac family		
*Schinus molle**	Peruvian pepper tree	UPL
*Schinus terebinthifolius**	Brazilian pepper tree	FAC
Toxicodendron diversilobum	Poison oak	UPL
APIACEAE - Carrot family		
*Anthriscus caucalis**	Bur-chervil	UPL
*Conium maculatum**	Poison hemlock	FACW
*Foeniculum vulgare**	sweet fennel	UPL
Lomatium utriculatum	common lomatium	UPL
Sanicula bipinnatifida	purple sanicula, shoe buttons	UPL
*Torilis arvensis**	field hedge parsley	UPL
APOCYNACEAE - Dogbane family		
Asclepias fasicularis	narrow-leaf milkweed	FAC
ASTERACEAE - Sunflower family		
Achillea millefolium	yarrow	FACU
*Anthemis cotula**	mayweed, dog-fennel, stinkweed	FACU
Artemisia californica	California sagebrush	UPL
Baccharis pilularis	coyote brush	UPL
Baccharis salicifolia	mule fat	FAC
*Calendula arvensis**	field marigold	UPL
*Carduus pycnocephalus**	Italian thistle	UPL
*Carduus tenuiflorus**	slender-flowered thistle	UPL

*Centaurea solstitialis**	yellow star thistle	UPL
*Cichorium intybus**	chicory	UPL
*Cirsium vulgare**	bull thistle	FACU
*Conyza bonariensis**	South American horseweed	UPL
Conyza canadensis	horseweed	FACU
*Cynara scolymus**	artichoke	UPL
*Dittrichia graveolens**	stinkweed	UPL
*Gazania linearis**	gazania	UPL
Gnaphalium canescens ssp. beneolens	fragrant everlasting	UPL
Gnaphalium palustre	lowland cudweed	FACW
Gnaphalium purpureum	purple cudweed	UPL
Grindelia camporum var. camporum	great valley gumplant	FACU
*Helminthotheca echioides**	bristly ox-tounge	FACU
Hemizonia congesta ssp. luzulafolia	hayfield/woodrush tarweed	UPL
Hemizonia pungens ssp. pungens	common spikeweed	FAC
Hesperevax sparsiflora	erect hesperevax	UPL
*Hypochaeris glabra**	smooth cat's ear	UPL
*Lactuca biennis**	tall blue/biennial lettuce	NI*
*Lactuca saligna**	willow lettuce	UPL
*Lactuca serriola**	prickly lettuce	FACU
Lasthenia californica	coast goldfields	FACU
Microseris douglasii ssp. douglasii	Douglas' microseris	FACU
*Senecio vulgaris**	common groundsel	FACU
*Silybum marianum**	milk thistle	UPL
*Sonchus asper ssp. asper**	prickly sow thistle	FAC
*Sonchus oleraceus**	common sow thistle	UPL
*Tragopogon porrifolius**	salsify, oyster plant	UPL
Uropappus lindleyi	silverpuffs	UPL
Xanthium spinosum	spiny cocklebur	FACU
Xanthium strumarium	cocklebur	FAC
BORAGINACEAE - Borage family		
Amsinckia menziesii var. intermedia	common fiddleneck	UPL
Cryptantha flaccida	flaccid cryptantha	UPL
Heliotropium curassavicum	seaside heliotrope	FACU
Phacelia distans	wild heliotrope, common phacelia	OBL
BRASSICACEAE - Mustard family		
*Brassica nigra**	black mustard	UPL
*Brassica rapa**	field mustard	FACU
Cardamine oligosperma	bitter cress	FAC
*Coronopus didymus**	lesser wortcress	UPL
*Hirschfeldia incana**	summer mustard	UPL
*Lepidium latifolium**	perennial pepperweed, tall white top	FAC
Lepidium nitidum var. nitidum	shining peppergrass	FAC
*Raphanus sativus**	wild radish	UPL
*Sisymbrium orientale**	oriental mustard	UPL

CARYOPHYLLACEAE - Pink family		
*Spergularia rubra**	purple sand spurry	FAC
*Cerastium glomeratum**	mouse-eared chickweed	UPL
*Stellaria media**	common chickweed	FACU
CHENOPODIACEAE - Goosefoot family		
*Atriplex semibaccata**	Australian saltbush	FAC
*Beta vulgaris**	common beet	FACU
*Chenopodium album**	lamb's quarter, white goosefoot	FACU
Chenopodium berlandieri	pitseed goosefoot	UPL
Chenopodium californicum	California goosefoot	UPL
*Chenopodium murale**	wall goosefoot	FACU
*Salsola tragus**	Russian thistle, tumbleweed	FACU
CONVOLVULACEAE - Morning-glory or bindweed family		
Calystegia subacaulis	stemless/hill morning-glory	UPL
*Convolvulus arvensis**	bindweed, orchard morningglory	UPL
CRASSULACEAE - Stonecrop family		
Crassula connata	sand pygmyweed	FAC
CUCURBITACEAE - Gourod family		
Marah fabaceus	California man-root	UPL
CYPERACEAE - Sedge family		
Cyperus eragrostis	tall cyperus	FACW
Eleocharis sp.		
Scirpus robustus	rubust/prairie/alkali bulrush	OBL
EUPHORBIACEAE - Spurge family		
*Chamaesyce prostrata**	prostrate spurge	UPL
Eremocarpus setigerus	turkey mullein, dove weed	UPL
Euphorbia spathulata	spatulateleaf/reticulate seed spurge	UPL
FABACEAE - Legume family		
Acmispon wrangelianus	California lotus	UPL
Astragalus gambelianus	Gambell's dwarf locoweed	UPL
*Genista monspessulana**	French broom	UPL
*Lotus corniculatus**	bird's foot trefoil	FAC
Lupinus succulentus	arroyo lupine	UPL
*Medicago polymorpha**	burclover	UPL
*Medicago sativa**	alfalfa	UPL
*Melilotus alba**	white sweetclover	FACU+
*Melilotus indicus**	sour clover, Indian melilot	FACU
*Spartium junceum**	Spanish broom	UPL
Trifolium bifidum var. bifidum	notch-leaved clover	UPL
Trifolium gracilentum var. gracilentum	pinpoint clover	~UPL
*Trifolium hirtum**	rose clover	UPL
Trifolium microdon	Valparaiso clover	UPL
Trifolium willdenovii	tomcat clover	UPL
*Vicia benghalensis**	purple vetch	UPL
*Vicia sativa ssp. nigra**	narrow leaved/common vetch	FACU
*Vicia villosa var. villosa**	hairy/winter vetch	UPL
FAGACEAE - Oak family		

Quercus agrifolia	coast live oak	UPL
Quercus lobata	valley oak	FACU
GERANIACEAE - Geranium family		
*Erodium cicutarium**	red-stemmed filaree	UPL
*Erodium moschatum**	white-stemed filaree	UPL
Geranium carolinianum	Carolina geranium	UPL
*Geranium dissectum**	cut-leaved geranium	UPL
HIPPOCASTANACEAE - Buckeye family		
Aesculus californica	California buckeye	UPL
IRIDACEAE - Iris Family		
*Iris pseudacorus**	yellow flag/ sword iris	OBL
JUGLANDACEAE - Walnut family		
Juglans californica	California black walnut	FAC
JUNCACEAE - Rush family		
Juncus patens	common rush	FACW
Juncus xiphioides	iris-leaved rush	OBL
LAMIACEAE - Mint family		
*Marrubium vulgare**	horehound	FACU
Stachys ajugoides var. rigida	rigid hedge nettle	OBL
Trichostema lanceolatum	vinegar weed	UPL
LILIACEAE - Lily family		
Calochortus argillosus	clay mariposa lily	UPL
LYTHRACEAE - Loosestrife Family		
*Lythrum hyssopifolia**	hyssop loosestrife	FACW
MALVACEAE - Mallow family		
Malacothamnus hallii	Hall's bush mallow	UPL
*Malva nicaeensis**	bull mallow	UPL
*Malva parviflora**	cheeseweed	UPL
Malvella leprosa	alkali mallow	FACU
MONTIACEAE – Miner's Lettuce family		
Claytonia parviflora ssp. parviflora	small-leaved claytonia	~UPL
Claytonia perfoliata spp. perfoliata	miner's lettuce	FAC
MYOPORACEAE - Myoporum Family		
*Myoporum laetum**	myoporum	UPL
MYRSINACEAE - Myrsine Family		
*Anagallis arvensis**	scarlet pimpernel	UPL
ONAGRACEAE - Evening primrose family		
Clarkia unguiculata	elegant fairyfan, woodland clarkia	UPL
Epilobium brachycarpum	panicled willowherb	UPL
Epilobium ciliatum ssp. ciliatum	California willowherb	FACW
OXALIDACEAE - Oxalis family		
*Oxalis pes-caprae**	Bermuda buttercup	UPL
PAPAVERACEAE - Poppy family		
Eschscholzia californica	California poppy	UPL
*Fumaria parviflora**	small-flowered fumitory	UPL
PHRYMACEAE – Lopseed family		
Mimulus guttatus	common monkey flower	OBL

PLANTAGINACEAE - Plantain family		
*Kickxia spuria**	round-leaved fluellin	UPL
*Plantago coronopus**	cut-leaved plantain	FACW
Plantago erecta	California plantain	UPL
*Plantago lanceolata**	English plantain	FAC
*Plantago major**	common plantain	FAC
*Veronica anagallis-aquatica**	water speedwell	OBL
POACEAE - Grass family		
*Agrostis viridis**	water bent grass	OBL
*Avena barbata**	slender wild oat	UPL
*Avena fatua**	wild oat	UPL
*Bromus diandrus**	ripgut brome	UPL
*Bromus hordeaceus**	soft chess	FACU
*Bromus madritensis**	foxtail chess	UPL
*Cortaderia selloana**	pampas grass	UPL
*Crypsis schoenoides**	swamp grass	OBL
*Cynodon dactylon**	bermuda grass	FACU
Distichlis spicata	saltgrass	FAC
Elymus glaucus ssp. glaucus	blue wildrye	FACU
Elymus glaucus ssp. virescens	Pacific rye grass	FACU
Elymus multisetus	big squirrel tail	UPL
Hordeum brachyantherum ssp. brachyantherum	meadow barley	FACW
*Hordeum marinum ssp. gussoneanum**	Mediterranean barley	FAC
*Hordeum murinum ssp. leporinum**	barnyard foxtail, foxtail barley	FACU
*Hordeum vulgare**	common barley	UPL
Leymus triticoides	beardless/ alkali ryegrass	FAC
*Lolium multiflorum**	Italian ryegrass	UPL
Melica torreyana	Torrey's melica	UPL
Nassella pulchra	purple needlegrass	UPL
*Phalaris minor**	Mediterranean canary-grass	UPL
*Phalaris paradoxa**	paradox canary grass	UPL
*Piptatherum miliaceum**	smilo grass	UPL
Poa secunda ssp. *secunda*	one-sided/pine bluegrass	UPL
*Polypogon monspeliensis**	ann beardgrass, rabbit's foot grass	FACW
*Sorghum halepense**	Johnson grass	FACU
*Vulpia bromoides**	six-week fescue	FAC
Vulpia microstachys var. pauciflora	Nuttall's/pacific fescue	UPL
POLEMONIACEAE - Phlox family		
Gilia achilleifolia ssp. multicaulis	small Calif/many-stemmed gilia	UPL
POLYGONACEAE - Buckwheat family		
Eriogonum fasciculatum	California buckwheat	UPL
Eriogonum nudum var. nudum	naked buckwheat, tibinagua	UPL
Eriogonum roseum	virgate buckwheat	UPL
Polygonum aviculare ssp. *depressum**	common knotweed	UPL
*Rumex crispus**	curly dock	FAC
*Rumex obtusifolius**	bitter dock	FAC

*Rumex pulcher**	fiddle dock	FAC
Rumex salicifolius	willow dock	FACW
POLYPODIACEAE - Polypody family		
Polypodium californicum	California polypody	UPL
PORTULACACEAE - Purslane family		
*Portulaca oleracea**	common purslane	FAC
POTAMOGETONACEAE - Pondweed family		
Potamogeton pectinatus	fennel-leaf pondweed	OBL
PRIMULACEAE - Primrose family		
Dodecatheon hendersonii	mosquito bills, Henderson's shooting star	UPL
PTERIDIACEAE - Brake family		
Pellaea andromedifolia	coffee fern	UPL
Pentagramma triangularis ssp. triangularis	gold back fern	UPL
OROBANCHACEAE – Broomrape family		
Castilleja exserta	purple owl's clover	UPL
RANUNCULACEAE - Buttercup family		
Delphinium sp.	larkspur	
Ranunculus californicus	California buttercup	FACU
RHAMNACEAE - Buckthorn family		
Rhamnus californica ssp. californica	California coffeeberry	UPL
ROSACEAE - Rose family		
Aphanes occidentalis	lady's mantle	UPL
*Prunus armeniaca**	apricot	UPL
*Prunus dulcis**	almomd	UPL
*Prunus laurocerasus**	English laurel	~UPL
*Pyracantha angustifolia**	pyracantha, firethorn	UPL
*Rubus armeniacus**	Himalayan blackberry	FACU
RUBIACEAE - Madder family		
Galium aparine	goose grass, bedstraw	FACU
SALICACEAE - Willow family		
Populus fremontii ssp. fremontii	Fremont cottonwood	FACW
*Populus nigra var. italica**	Lombardy poplar	UPL
Salix laevigata	red willow	FACW
Salix lasiolepis	arroyo willow	FACW
SCROPHULARIACEAE - Figwort family		
Scrophularia californica	California figwort	FAC
SIMAROUBACEAE - Quassia or simarouba family		
*Ailanthus altissima**	tree of heaven	FACU
SOLANACEAE - Nightshade family		
Datura wrightii	tolguacha	UPL
*Nicotiana acuminata var. multiflora**	many-flowered tobacco	UPL
*Nicotiana glauca**	tree tobacco	FAC
Solanum americanum	small flowered nightshade	FAC
Solanum douglasii	Douglas' nightshade	FAC
Solanum umbelliferum	blue witch	UPL
THEMIDACEAE – Brodiaea Family		
Dichelostemma capitatum ssp. capitatum	blue dicks	UPL

Triteleia laxa	Ithuriel's spear	UPL
TYPHACEAE - Cattail family		
Typha domingensis	southern cattail	OBL
Typha latifolia	broad-leaved cattail	OBL
URTICACEAE - Nettle family		
Urtica dioica ssp. holosericea	hoary nettle	FAC
VERBENACEAE - Vervain family		
Verbena lasiostachys var. scabrida	western verbena	FAC
ZANNICHELLIACEAE - Horned-pondweed family		
Zannichellia palustris	horned-pondweed	OBL
ZYGOPHYLLACEAE - Caltrop Family		
*Tribulus terrestris**	punture vine	UPL

APPENDIX C: TERRESTRIAL VERTEBRATE SPECIES POTENTIALLY OCCURRING ON THE SITE

APPENDIX C

TERRESTRIAL VERTEBRATE SPECIES POTENTIALLY OCCURRING ON COMMUNICATIONS HILL

The species listed below are those that may reasonably be expected to use the habitats of the Communications Hill site. The list was not intended to include birds that are vagrants or occasional transients. Its purpose was rather to include those species that may be expected to routinely and predictably use the site during some or all of the year.

CLASS: AMPHIBIA
ORDER: CAUDATA (Salamanders)
FAMILY: SALAMANDRIDAE (Newts)
California tiger salamander (*Ambystoma californiense*)
California Newt (*Taricha torosa*)
FAMILY: PLETHODONTIDAE (Lungless Salamanders)
Ensatina (*Ensatina eschscholtzii*)
Arboreal Salamander (*Aneides lugubris*)
ORDER: SALIENTIA (Frogs and Toads)
FAMILY: BUFONIDAE (True Toads)
Western Toad (*Bufo boreas*)
FAMILY: HYLIDAE (Treefrogs and Relatives)
Pacific Treefrog (*Hylla regilla*)

CLASS: REPTILIA
ORDER: SQUAMATA (Lizards and Snakes)
SUBORDER: SAURIA (Lizards)
FAMILY: IGUANIDAE (Iguanids)
Western Fence Lizard (*Sceloporus occidentalis*)
FAMILY: SCINCIDAE (Skinks)
Gilbert's Skink (*Eumeces gilberti*)
FAMILY: TEIIDAE (Whiptails and relatives)
Western Whiptail (*Cnemidophorus tigris*)
SUBORDER: SERPENTES (Snakes)
FAMILY: COLUBRIDAE (Colubrids)
Ringneck Snake (*Diadophis punctatus*)
Sharp-tailed Snake (*Contia tenuis*)
Racer (*Coluber constrictor*)
Coachwhip (*Masticophis flagellum*)
Gopher Snake (*Pituophis melanoleucus*)
Common Kingsnake (*Lampropeltis getulus*)
Long-nosed Snake (*Rhinocheilus lecontei*)
Common Garter Snake (*Thamnophis sirtalis*)
Night Snake (*Hypsiglena torquata*)
FAMILY: VIPERIDAE

Western Rattlesnake (*Crotalus viridis*)

CLASS: AVES

ORDER: CICONIIFORMES (Herons, Storks, Ibises, and relatives)

FAMILY: ARDEIDAE (Herons and Bitterns)

Great Blue Heron (*Ardea herodias*)
Great Egret (*Casmerodias albus*)
Snowy Egret (*Egretta thule*)

ORDER: FALCONIFORMES (Vultures, Hawks, and Falcons)

FAMILY: CATHARTIDAE (American Vultures)

Turkey Vulture (*Cathartes aura*)

FAMILY: ACCIPITRIDAE (Hawks, Old World Vultures, and Harriers)

White-tailed Kite (*Elanus caeruleus*)
Northern Harrier (*Circus cyaneus*)
Sharp-shinned Hawk (*Accipiter striatus*)
Cooper's Hawk (*Accipiter cooperi*)
Red-shouldered Hawk (*Buteo lineatus*)
Red-tailed Hawk (*Buteo jamaicensis*)
Ferruginous Hawk (*Buteo regalis*)
Rough-legged Hawk (*Buteo lagopus*)
Golden Eagle (*Aquila chrysaetos*)

FAMILY: FALCONIDAE (Caracaras and Falcons)

American Kestrel (*Falco sparverius*)
Merlin (*Falco columbarius*)
Peregrine Falcon (*Falco peregrinus*)
Prairie Falcon (*Falco mexicanus*)

ORDER: CHARADRIIFORMES (Shorebirds, Gulls, and relatives)

FAMILY: CHARADRIIDAE (Plovers and relatives)

Killdeer (*Charadrius vociferus*)

ORDER: COLUMBIFORMES (Pigeons and Doves)

FAMILY: COLUMBIDAE (Pigeons and Doves)

Rock Dove (*Columba livia*)
Mourning Dove (*Zenaida macroura*)

ORDER: STRIGIFORMES (Owls)

FAMILY: TYTONIDAE (Barn Owls)

Common Barn Owl (*Tyto alba*)

FAMILY: STRIGIDAE (Typical Owls)

Great Horned Owl (*Bubo virginianus*)
Short-eared Owl (*Asio flammeus*)

ORDER: CAPRIMULGIFORMES (Goatsuckers and Relatives)

FAMILY: CAPRIMULGIDAE (Goatsuckers)

Common Poorwill (*Phalaenoptilus nuttalli*)

ORDER: APODIFORMES (Swifts and Hummingbirds)

FAMILY: APODIDAE (Swifts)

Vaux's Swift (*Chaetura vauxi*)
White-throated Swift (*Aeronautes saxatalis*)

FAMILY: TROCHILIDAE (Hummingbirds)
Anna's Hummingbird (*Calypte anna*)
Rufuos Hummingbird (*Selasphorus rufus*)
Allen's Hummingbird (*Selasphorus sasin*)

ORDER: PASSERIFORMES (Perching Birds)

FAMILY: TYRANNIDAE (Tyrant Flycatchers)
Olive-sided Flycatcher (*Contopus borealis*)
Western Wood-Pewee (*Contopus sordidulus*)
Pacific-slope Flycatcher (*Empidonax difficilis*)
Black Phoebe (*Sayornis nigricans*)
Say's Phoebe (*Sayornis saya*)
Ash-throated Flycatcher (*Myiarchus cinerascens*)
Western Kingbird (*Tyrannus verticalis*)

FAMILY: LANIIDAE (Shrikes)
Loggerhead Shrike (*Lanius ludovicianus*)

FAMILY: VIREONIIDAE (Typical Vireos)
Hutton's Vireo (*Vireo huttonii*)
Warbling Vireo (*Vireo gilvus*)

FAMILY: CORVIDAE (Jays, Magpies, and Crows)
Western Scrub Jay (*Aphelocoma californica*)
American Crow (*Corvus brachyrhynchos*)
Common Raven (*Corvus corax*)

FAMILY: MONARCHIIDAE (Monarch Flycatchers)
Western Bluebird (*Sialia mexicana*)
Swainson's Thrush (*Catharus ustulatus*)
Hermit Thrush (*Caltharus guttatus*)
American Robin (*Turdus migratorius*)
Varied Thrush (*Ixoreus naevius*)

FAMILY: ALAUDIDAE (Larks)
California Horned Lark (*Eremophila alpestris actia*)

FAMILY: HIRUNDINIDAE (Swallows)
Tree Swallow (*Tachycineta bicolor*)
Violet-green Swallow (*Tachycineta thalassina*)
Northern Rough-winged Swallow (*Stelgidopteryx serripennis*)
Cliff Swallow (*Petrochelidon pyrrhonota*)
Barn Swallow (*Hirundo rustica*)

FAMILY: AEGITHALIDAE (Bushtit)
Bushtit (*Psaltriparus minimus*)

FAMILY: MIMIDAE (Mockingbirds and Thrashers)
Northern Mockingbird (*Mimus polyglottos*)
California Thrasher (*Toxostoma redivivum*)

FAMILY: STURNIDAE (Starlings)
European Starling (*Sturnus vulgaris*)

FAMILY: EMBERIZIDAE (Emberizines)
Spotted Towhee (*Pipilo maculatus*)
California Towhee (*Pipilo crissalis*)

Savannah Sparrow (*Passerculus sandwichensis*)
Fox Sparrow (*Passerella iliaca*)
Song Sparrow (*Melospiza melodia*)
Lincoln's Sparrow (*Melospiza lincolnii*)
Golden-crowned Sparrow (*Zonotrichia atricapilla*)
White-crowned Sparrow (*Zonotrichia leucophrys*)
Dark-eyed Junco (*Junco hyemalis*)

FAMILY: ICTERIDAE (Icterines)

Red-winged Blackbird, (*Agelaius phoeniceus*)
Western Meadowlark (*Sturnella neglecta*)
Brewer's Blackbird (*Euphagus cyanocephalus*)
Brown-headed Cowbird (*Molothrus ater*)
Bullock's Oriole (*Icterus bullockii*)

FAMILY: FRINGILLIDAE (Finches)

Purple Finch (*Carpodacus purpureus*)
House Finch (*Carpodacus mexicanus*)
Lesser Goldfinch (*Carduelis psaltria*)
American Goldfinch (*Carduelis tristis*)

FAMILY: PASSERIDAE (Weaver Finches)

House Sparrow, (*Passer domesticus*)

CLASS: MAMMALIA

ORDER: MARSUPIALIA (Opossums, Kangaroos, and Relatives)

FAMILY: DIDELPHIDAE (Opossums)

Virginia Opossum (*Didelphis virginiana*)

ORDER: INSECTIVORA (Shrews and Moles)

FAMILY: SORICIDAE (Shrews)

Ornate Shrew (*Sorex ornatus*)

FAMILY: TALPIDAE (Moles)

Broad-footed Mole (*Scapanus latimanus*)

ORDER: CHIROPTERA (Bats)

FAMILY: VESPERTILIONIDAE (Vespertilionid Bats)

Little Myotis (*Myotis lucifugus*)
Yuma Myotis (*Myotis yumanensis*)
California Myotis (*Myotis californicus*)
Western Pipistrelle (*Pipistrellus hesperus*)
Big Brown Bat (*Eptesicus fuscus*)
Western Red Bat (*Lasiurus blossevillii*)
Hoary Bat (*Lasiurus cinereus*)
Townsend's Big-eared Bat (*Plecotus townsendii*)
Pallid Bat (*Antrozous pallidus*)

FAMILY: MOLOSSIDAE (Free-tailed Bat)

Brazilian Free-tailed Bat (*Tadarida brasiliensis*)
Western Mastiff Bat (*Eumops perotis*)

ORDER: LAGOMORPHA (Rabbits, Hares, and Pikas)

FAMILY: LEPORIDAE (Rabbits and Hares)

Desert Cottontail (*Sylvilagus audubonii*)
Black-tailed Hare (*Lepus californicus*)

ORDER: RODENTIA (Squirrels, Rats, Mice, and Relatives)

FAMILY: SCIURIDAE (Squirrels, Chipmunks, and Marmots)

California Ground Squirrel (*Spermophilus beecheyi*)

FAMILY: GEOMYIDAE (Pocket Gophers)

Botta's Pocket Gopher (*Thomomys bottae*)

FAMILY: HETEROMYIDAE (Pocket Mice, Kangaroo Rates and their Relatives)

California Pocket Mouse (*Perognathus californicus*)

FAMILY: MURIDAE (Old World Rats and Mice)

Western Harvest Mouse (*Reithrodontomys megalotis*)
California Mouse (*Peromyscus californicus*)
Deer Mouse (*Peromyscus maniculatus*)
California Vole (*Microtus californicus*)
Black Rat (*Rattus rattus*)
House Mouse (*Mus musculus*)

ORDER: CARNIVORA (Carnivores)

FAMILY: CANIDAE (Foxes, Wolves, and Relatives)

Red Fox (*Vulpes vulpes*)

FAMILY: PROCYONIDAE (Raccoons and Relatives)

Raccoon (*Procyon lotor*)

FAMILY: MUSTELIDAE (Weasels, Badgers, and Relatives)

Long-tailed Weasel (*Mustela frenata*)
Striped Skunk (*Mephitis mephitis*)