

**Las Pilitas Rock Quarry
San Luis Obispo County, California
APN: 070-141-070, -071
Sensitive Species and Habitat Survey**

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October 2009**

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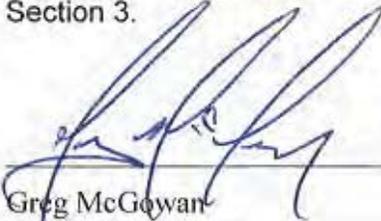
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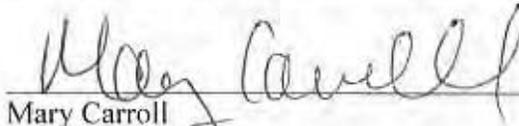
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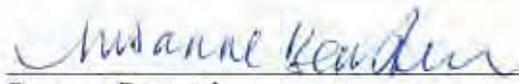
As a County-approved biologist, I hereby certify that this biological resources assessment was prepared according to the Guidelines established by the County of San Luis Obispo Department of Planning and Building and that the statements furnished in the report and associated maps are true and correct to the best of my knowledge and belief; and I further certify that I was present throughout the site visit(s) associated with this report as listed in Section 3.



Greg McGowan
Principal Biologist
LFR Director of Ecological Services



Mary Carroll
Senior Ecologist



Susanne Bernstein
Senior Project Plant Ecologist



Mitch Siemens
Project Wildlife Biologist

1.0 EXECUTIVE SUMMARY

LFR an ARCADIS Company (LFR) conducted a survey of the Las Pilitas Rock Quarry Project Site (the Site) to identify existing or potentially occurring sensitive plant and animal species, sensitive habitat, or other environmental issues of concern occurring on the Site. The approximately 114-acre (46-hectare) Site is comprised of the area to be mined, the mitigation areas for ecological impacts, and the areas required for project access and infrastructure. The Site supports largely undisturbed chaparral with smaller areas of oak woodland and Diablan sage scrub within the proposed mining and disturbance areas, all with diverse herbaceous native species associates. The proposed mitigation areas support these communities as well and also support foothill woodland vegetation. Coast live oak riparian forest and plants adapted to seasonally wet conditions are present in a mapped 'blue-line' drainage within the mining area. Three of the plant communities surveyed on the Site are sensitive. Five sensitive plants and one sensitive wildlife species were observed during LFR surveys; none are state or federally-listed threatened or endangered species. Other than dirt roads surrounding and through the Site, existing disturbance generally is limited to the areas along Highway 58 in association with residences and related structures, and other reported road and pipeline (California aqueduct) work. In addition, grading has occurred in the southern portion of the Site near the proposed entrance to the quarry. Annual grassland, supporting varying concentrations of weedy and native species in different areas, exists primarily along Highway 58 on the southern portion of the Site around the existing disturbances.

The proposed development for the Site consists of a granite rock quarry with stormwater sediment basins, truck scale, portable office, roads and scale house. Development is proposed to occur in three general phases. The current development design will result in disturbance to approximately 45 acres (18 hectares) of habitat on Site. Development will affect mixed chaparral, chamise chaparral, Diablan sage scrub, coast live oak woodland, coast live oak riparian forest, and seasonally-flooded vernal swales, all with a high diversity of native herbaceous species. Individual oak and pine trees will be removed. Annual grassland and ruderal species will also be impacted. On its western boundary, the new quarry development will occur less than half a mile away from an existing granite quarry operation. Moreno Creek is south of the Site on the opposite side of Highway 58; Moreno Creek connects to the Salinas River southwest of the Site.

The project is anticipated to result in potentially significant ecological impacts. These impacts include: 1) loss of mature coast live oak and gray pine trees primarily concentrated along an ephemeral drainage in the center of the Site and oak woodland habitat elsewhere; 2) loss of excellent quality chaparral and associated seedbank of particularly diverse native herbaceous species, including sensitive species; 3) disruption of more than 45 acres of wildlife habitat in and around the construction area; 4) and disturbance to an ephemeral drainage and associated habitat.

In accordance with California law, a reclamation plan is required and will detail the specific measures to address project impacts and restore site conditions following the mining operations. This report proposes mitigation measures that should be considered for inclusion in the reclamation plan, including mitigation of individual oaks, coast live oak woodland/riparian forest, and seasonally-flooded vernal swale habitat; protection of oaks and habitat outside the disturbance area; and careful salvage of seedbank in topsoil to preserve the diverse native herbaceous flora. As such, the project impacts may be considered temporary; however, the time between initial disturbance and completion of reclamation will likely be more than 30 years. Reclamation is required to occur in phases through the life of the project, though, because of the length of the period between disturbance and reclamation, some mitigation is recommended in advance to offset the losses of ecological services and functions.

2.0 INTRODUCTION

This report presents the findings of the Sensitive Species and Habitat Survey for the Las Pilitas Rock Quarry project (the Site; Ken Johnston, Applicant; APN 070-141-070, -071), located in Rural Las Pilitas Community, Las Pilitas Planning area of San Luis Obispo County, California. This Site comprises approximately 114 acres (46 hectares), with the southern portion directly adjacent to California State Highway 58 (also known as Calf Canyon Highway; Figure 1). The total Site acreage includes both the proposed construction quarry area as well as surrounding open space area primarily to the east of the quarry; open space also occurs west of the quarry.

The Site is located approximately 2.25 miles (3.6 kilometers) southeast of the town of Santa Margarita, and is less than one half mile east of the Salinas River in San Luis Obispo County, California. Moreno Creek is south of the Site on the opposite side of Highway 58; Moreno Creek connects to the Salinas River southwest of the Site. The Site is largely surrounded by undeveloped open space, with the exception of the large Hanson Aggregate granite quarry located less than one half mile northwest of the Site; there is also a residence and associated structures on the Site, immediately adjacent to the southwest corner of the proposed quarry area and one residence along Goldie Lane. Low density rural residential and ranch holdings are typical of the area. In general, moderately steep to steep terrain dominates the Site with slopes ranging from 15 to 75%. Maximum elevation on the Site approaches 1500 feet (457 meters) in the northeast corner of the Site, and lowest elevation occurs along Highway 58 at approximately 1000 feet (305 meters).

Other than dirt roads surrounding and through the Site, existing disturbance generally is limited to the areas along Highway 58 in association with residences and related structures, and other reported work (e.g., Caltrans road improvements, State Water Project work, pipeline relocation reported by the San Luis Obispo County Planning and Building Department). In addition, grading has occurred in the southern portion of the Site near where the proposed entrance to the quarry exists.

The proposed development for the Site consists of a granite rock quarry with sediment basin, truck scale, portable office, and scale house. Development is proposed to occur in three phases. The current development design will result in disturbance to approximately 45 acres (18 hectares).

The purpose of this analysis was to identify sensitive botanical and wildlife resources, sensitive habitats, or other environmental issues of concern occurring or potentially occurring on the Site. Direct access to the entire Site in the time budgeted was limited by very dense shrub coverage on steep slopes with very few openings. Even large mammal (deer) trails were generally absent on the slopes. Therefore, the approach taken to conduct this survey employed multiple surveys of the plant communities in multiple representative areas for each community conducted between March and September, 2009. The survey methodology is further detailed in Section 3.0 below and the primary survey routes are indicated on Figure 2. The resulting findings provide a detailed characterization of the plant communities on site, but as with all surveys, may not represent a comprehensive inventory of all biological resources on the Site.

The plant communities and sensitive resources mapped on the Site are indicated on Figures 3 and 4. These figures also indicate the proposed limits of disturbance used to calculate quantitative impacts to habitat (note, however, that because the vernal swale habitat is so small, it is not drawn to scale on Figure 4). This report also generally discusses potential impact avoidance, minimization, and mitigation measures for consideration during project design and implementation.

3.0 METHODOLOGY

LFR conducted sensitive species and habitat assessment surveys at the Site between March 2009 and September 2009. The personnel conducting the surveys consisted of LFR Principal Biologist Greg McGowan, LFR Senior Ecologist Mary Carroll, LFR Plant Ecologist Susanne Bernstein, and LFR Senior Wildlife Biologist Mitch Siemens. A summary of site visits is provided below.

Dates:	Duration:	Weather:	Staff:
3/26/09	1.5 hr/each	Clear, 62°	Bernstein, McGowan
4/20/09	6.0 hr/each	Clear, 95°	Bernstein, Carroll
5/05/09	4.0 hr/each	Clear, 80°	McGowan, Siemens
6/09/09	5.5 hr/each	Clear, 77°	Bernstein, Carroll, Siemens
7/08/09	3.5 hr	Clear, 85°	McGowan
8/05/09	1.0 hr	Clear, 80°	Bernstein
9/14/09	3.5 hr	Clear, 90°	Carroll

Total Survey Hours on Site: 47.5 hours

Prior to performing the fieldwork, LFR conducted a review of documents concerning the Site and the surrounding areas, including a search of the California Natural Diversity Database (CNDDDB; California Department of Fish and Game [CDFG], 2009) for the U.S.G.S. 7.5 minute series Santa Margarita, Santa Margarita Lake, Atascadero, Lopez Mountain, San Luis Obispo, Wilson Corner, Templeton, Creston, and Shedd Canyon topographic quadrangles. The California Native Plant Society's (CNPS) Electronic Inventory of Rare and Endangered Vascular (CNPS, 2009) was also queried for appropriate habitat within the Santa Margarita Quadrangle and adjacent quadrangles. Other resources utilized for this assessment included various state and federal regulations, review of Santa Margarita Ranch recent ecological reports, plans related to the Las Pilitas Planning Area, CalFlora database, and LFR's direct experience in the region including the adjacent Hanson Aggregates facility.

LFR botanical field surveys encompass the gathering of information on species composition, abundance, relative distribution, and community composition (including dominants, associates, and uncommon elements). The survey is intended to characterize the plant communities, record all plant species observed, and ascertain the likelihood for the occurrence of sensitive species in areas not directly searched by LFR. Physiographic features are noted and correlated with plant distributions, with special attention paid to drainages and wetlands, rocky/exposed outcrops and changes in soil type, and accessible woodland, chaparral, and grassland communities existing on the property.

The assessment of the mitigation areas in the open space portion of the Site was less detailed than the assessment of the quarry area. The assessment relied primarily on aerial and ground photography and on the detailed work done on the other portions of the Site to map and characterize habitats (Figure 5). A habitat survey was conducted in September 2009 in a proposed oak woodland and vernal swale mitigation area in the drainage to the west of the proposed quarry, along with a cursory look at a proposed chaparral mitigation area east of the quarry. This survey primarily focused on dominant woody species, evidence of disturbance or invasive weeds, and other information to determine if the areas were comparable to the impacted areas and suitable for mitigation. It is anticipated that the mitigation areas support comparable species diversity and abundance for both common and sensitive species to that surveyed in the quarry area. Plant community and species descriptions, as well as most tables and figures, within this report were updated to account for vegetation and recognizable species present in these two mitigation areas (Figure 2).

All plant species found to be in a recognizable condition during the LFR surveys were recorded and are listed in Table 1. Nomenclature follows the Jepson Online Interchange (Baldwin et al., 2009), which lists updates based on The Jepson Manual (Hickman, 1993). In addition, pertinent volumes of the Flora of North America (Flora of North America Editorial Committee, eds. 1993+) and The Vascular Plants of San Luis Obispo County (Hoover, 1970) were also utilized for plant identification. The field searches were scheduled and spaced to maximize the possibility of observing spring and early summer blooming plants. The findings of this report are considered

complete and thorough. It is important to note, however, that the list of vascular plant species on the Site presented in this report may not be all inclusive and does not represent an inventory of all plant species on the Site. Plants that bloom earlier or later may not have been in recognizable condition, and due to the limited rainfall of the 2008/2009 rainfall season, some annual and herbaceous perennial species may not have emerged successfully or in all locations.

The dense chaparral, steep slopes, and large parcel size led LFR to employ representative sampling of the more homogeneous chaparral community that covers the majority of the Site. The Site was accessed on the main perimeter road by four-wheel drive vehicle, stopping frequently to survey localized areas in detail on foot. All ridgeline clearings (fuel breaks) were also walked for better access into the chaparral and other communities. Several significant excursions were made through the undisturbed chaparral areas with no trails to evaluate the interior of the chaparral. The ephemeral drainage through the center of the Site was surveyed in its entirety as that is an area supporting a higher diversity of species and seasonal conditions. The primary survey routes are shown on Figure 2.

The LFR field surveys resulted in detailed characterization of plant communities (Figures 3 and 4) and compilation of Tables 1 and 2 for observed plant and observed/expected wildlife species, respectively. Sensitive resources reported in the Santa Margarita and surrounding USGS quadrangles are listed in Table 3. A list of non-native species observed at the Site along with their status from the Invasive Plant Inventory (California Invasive Plant Council) is provided in Table 4. One potentially occurring sensitive botanical species, Hardham's suncups (*Camissonia hardhamiae*), could not be conclusively identified during the field surveys. Hardham's suncups is an annual member of the evening-primrose family (Onagraceae). This species is very difficult to distinguish from the more common suncups on Site, *Camissonia micrantha*, since the primary distinguishing feature is the shape of the pollen grains (four to five angled in Hardham's evening primrose) and differentiation requires a review of pollen under a high-powered microscope. However, the mitigation area for chaparral is expected to support the same species and species abundance as the disturbance area and should address potential impacts to this species if present.

Volbrecht Survey staff conducted the mapping and characterization of individual oaks at least five inches in diameter at breast height (DBH) that occur within the construction boundaries. LFR did not repeat the oak census; however, LFR qualitatively reviewed the mapping based on the aerial photographs and in the field. Through this supplemental review, LFR identified a number of oaks (approximately 15) that had not previously been mapped and added them to the overall census to confirm that the survey was complete.

Sensitive wildlife species observed at the Site are discussed in Section 5.3. All wildlife species observed, heard, or assumed present from sign (e.g., tracks, burrows, scat, nests) during the surveys are listed in Table 2. Surveys were conducted at different times of day on different days between April and July 2009. Nomenclature for bird species follows the most recent taxonomy as reflected in the 1983 American

Ornithologists' Union (AOU) *Check-List of North American Birds* and published supplements through 1998. The findings of this report are considered comprehensive and complete in accordance with the professional standards for ecological assessment and characterization. However, as noted above for the botanical inventory, the list of wildlife species also may not be all inclusive and may not represent an inventory of all wildlife species occurring on the Site. In order to create a more comprehensive wildlife list, surveys would be required over an extended period to enable observation of species both during the day and at night, during different seasons, and during different weather conditions when some species are more likely to be detected.

A hydrology study conducted by Tartaglia Engineering (Appendix C) indicates that the mining activities during Phases 2A, 2B, 3A, and 3B will affect flow in the un-named ephemeral drainage running through the northern mining area and extending offsite to its confluence with the Salinas River. The volume and duration of flow during smaller storm events will be reduced and the duration of flow during larger storm events will be extended as the water is detained and subsequently meted out of the stormwater system as required by the County of San Luis Obispo. This issue is discussed in Section 5.1.

4.0 HABITAT DESCRIPTION

The Las Pilitas Rock Quarry Site occurs in an important biological transition zone between the moister communities of central and northern California and the more arid communities of southern California. North of this region, the Coast Ranges extend from San Luis Obispo to Alaska. At Point Conception to the south, the California coastline turns eastward, reflecting the east-west orientation of the Transverse Ranges, resulting in a major geologic and climatic transition zone, with cooler, windier, and moister conditions north of Point Conception, and drier and warmer conditions to the south (Ferren *et al.*, 1984).

General Site characteristics and vegetation communities are described below. Vegetation communities are mapped on Figure 3.

4.1 Site Description

The approximately 114-acre (46-hectare) Site is characterized by moderate to very steep terrain with one east-west trending canyon in the center. From the canyon bottom, the topography slopes steeply up to the northern Site boundary that follows the top of the northern ridge. To the south from the canyon bottom, the topography slopes steeply up to the top of the southern ridgeline. The southern portion of the Site is relatively flat along Highway 58 before sloping up steeply to the ridge that comprises the southern ridge of the central valley.

The Site is located in the La Panza Range, with the Salinas River and the Santa Lucia Range to the west. The Salinas River is the largest river of the Central Coast, draining

nearly 4,200 square miles (1,087,795 hectares), with headwaters in the La Panza Range south of the Site southeast of Santa Margarita Lake. The valley bottom at the southern end of the Site is formed from alluvium carried by Moreno Creek, which drains in a westerly direction to the southeast of the Site towards the Salinas River.

Vegetation at the Site is strongly influenced by water availability and soil and rock formations. Mesozoic granitic rocks predominate at the Site. The La Panza granite is a quartz monzonite that extends from the Point Reyes area in Marin County, through Big Sur and south to the Site. Soils derived from these granitic rocks include the Cieneba series, which consists of shallow, excessively drained weathered soils, with depth to weathered rock ranging from 6 to 20 inches (15-51 cm.). These soils are neutral to slightly acidic and can contain from 5 to 10% gravel and 3 to 5% cobble (Lindsey, 1983).

Temperature data are recorded at the Santa Margarita Booster station (047933) located approximately two miles from the Site. Seasons in the project area are relatively mild, with a mean annual temperature of 58.0 °F (14.4 °C). The highest monthly average maximum temperature is reached in August at 88.6 °F (31.4 °C), with a record high of 104 °F (40 °C). The average February minimum temperature is 35.7 °F (2.1 °C), with a record low of 17 °F (-8.3 °C) in December 1975. The average yearly precipitation is approximately 21 inches (53 centimeters), falling primarily between October and April (San Luis Obispo County Department of Public Works; Average Annual Rainfall; August 2006). The local weather pattern of mild, wet winters and warm, dry summers is characteristic of Mediterranean-climate regions.

Native plants tend to germinate and grow when there is sufficient moisture and when temperatures are above freezing. As a result, native and many non-native plants commence growth in the project area in fall or winter after the onset of the rainy season, with the main peak in vegetative growth in spring. A range of shrubs and riparian trees bloom in the late winter months, and are followed in spring with flowering by other shrubs, herbaceous perennials and annuals. Many native plants are dormant during the dry summer months unless they have deep roots or are confined to wetland areas. Most California native species exhibit adaptations to fire, which is an important agent in nutrient cycling in Mediterranean climates.

A total of six native and one non-native communities were mapped on the portion of the Site included in the field survey, supporting approximately 223 species of plants (Figure 3). These include five upland communities: Chaparral, Coast Live Oak Woodland/Forest, Foothill Woodland, Diablan Sage Scrub, and Annual Grassland/Ruderal. Two natural wetland habitat types were also identified: Central Coast Live Oak Riparian Forest and Seasonally-flooded Vernal Swale (both associated with the central ephemeral drainage). Approximately 198 species of native plants were observed on the Site, including a high diversity of native annuals and herbaceous perennials with 159 native species. In addition, six species of native trees, 33 species of native shrubs, and six species of native ferns were observed on Site. Thirty-three non-native species were also reported from the Site.

Photographs provided in Appendix A offer views of the communities assessed during the LFR field surveys. Appendix B provides copies of CNDDDB forms for each sensitive plant or wildlife species observed by LFR on the Site.

4.2 Upland Communities

The Site supports a mosaic of vegetation types that will be described more fully in the ensuing sections. The distribution of plant associations on the Site is determined by topography, soils and geology, hydrology, slope exposure, climate, and land use history. Four upland communities were identified on Site during the LFR surveys: Chaparral, Coast Live Oak Woodland/Forest, Foothill Woodland, Diablan Sage Scrub, and Annual Grassland/Ruderal.

The upland communities are presented in order of acreage mapped at the Site, with communities with the greatest number of acres on Site listed first.

A general overview of vegetation composition and related environmental features is provided for each upland and wetland plant community type followed by discussions of community features as they occur on the Site. The mapped acreage of each plant community is listed in Table 5 and provided at the end of each community description below; this is based on the entire 114 acre Site which includes both quarry construction area and open space area. The quantified impacts to each community is also listed at the end of each description below.

4.2.1 Chaparral

Chaparral is characterized by dense, evergreen shrub cover that forms almost impenetrable thickets over vast expanses of the La Panza Range. Chaparral vegetation ranges from 3 to 14 feet (1 to 4 meters) in height, although low-growing annuals and herbaceous perennials are scattered in sunny openings in spring and early summer. The number of native plants that comprise these shrublands in the San Luis Obispo County region is extraordinary with over 200 potentially occurring native plant species.

Chaparral is by far the dominant plant community at the Site, covering both north-facing and south-facing slopes in many places, although species associations vary with slope exposure and moisture availability. Chamise (*Adenostoma fasciculatum*) chaparral predominates on south-facing slopes, with cover of this single species ranging from 50 to 90% in the driest locations; this vegetation type is sometimes called the chamise series or chamise association. Other large native shrubs that are scattered in lower densities in the chamise chaparral include buckbrush (*Ceanothus cuneatus* var. *cuneatus*), whitebark ceanothus (*C. leucodermis*), bigberry manzanita (*Arctostaphylos glauca*), California coffeeberry (*Rhamnus californica*), woolly yerba santa (*Eriodictyon tomentosum*), and toyon (*Heteromeles arbutifolia*). Smaller shrubs appear on ridgelines and rocky openings, including bush poppy (*Dendromecon rigida* subsp. *rigida*), black sage (*Salvia mellifera*), and species of buckwheat (*Eriogonum* spp.).

Subshrubs such as deerweed (*Lotus scoparius*), sawtoothed goldenbush (*Hazardia squarrosa* subsp. *squarrosa*), prickly-phlox (*Linanthus californicus*), and golden yarrow (*Eriophyllum confertiflorum*) also form part of the shrubby cover in this community. Pauite morning-glory (*Calystegia longipes*) and wild cucumber (*Marah fabaceus*) are among the species that climb over and under the shrub canopy.

Unlike chamise chaparral, which occurs on dry south-facing slopes, mixed chaparral supporting several co-dominant shrubs occupies more mesic areas, such as north-facing slopes, higher elevations, and the bottoms of shallow drainages. Mixed chaparral on Site includes bigberry manzanita, buckbrush, whitebark ceanothus, toyon, scrub oak (*Quercus berberidifolia*), and poison-oak (*Toxicodendron diversilobum*) along with many other species. Coast live oak (*Quercus agrifolia*) is occasionally present, especially in drainage bottoms and on north-facing slopes.

A great diversity of herbaceous plants occupies sunny open areas in the chaparral on Site where the shrub density is lower. These include large patches of Indian warrior (*Pedicularis densiflora*), scattered wild hyacinth (*Dichelostemma capitatum*) and peak rush-rose (*Helianthemum scoparium*). Annuals such as yellow pincushion (*Chaenactis glabruiscula* var. *lanosa*), Turkish rugging (*Chorizanthe staticoides*), and species of suncups (*Camissonia*), *Cryptantha*, lupine (*Lupinus*), *Gilia*, and farewell-to-spring (*Clarkia*) form colorful patches in the chaparral vegetation. Along the perimeter road on the top of the northern and southern east-west trending ridges, a few annuals more typical of post-burn sites are scattered in a few places, including fire poppy (*Papaver californicum*), whispering bells (*Emmenanthe penduliflora*), and Brewer's red maids (*Calandrinia breweri*), a sensitive species.

Other sensitive species found in chaparral openings include La Panza mariposa lily (*Calochortus simulans*), shining navarretia (*Navarretia nigelliformis* subsp. *radians*), straight-awned spineflower (*Chorizanthe rectispina*), and trumpet-throated (also known as greater yellowthroat or spreading slender-flowered) *Gilia tenuiflora* subsp. *amplifauca*).

LFR was told by the property owner that the last fire on the Site was the 1989 Chispa Fire. Fire plays a significant role in maintaining chaparral community heterogeneity and in nutrient cycling, and its role has been extensively documented (Christensen and Muller, 1975; Keeley 1987; Keeley and Keeley 1988). The resinous stems and leaves of dominants such as chamise, coupled with retention of intricate branches, many of which are dead below the canopy, result in flammable vegetation. Many chaparral plants have characteristics that promote reestablishment after fires. Some, such as chamise, produce burls or lignotubers that resprout following fire. Buckbrush and bigberry manzanita are obligate seeders that reproduce only from seed following a fire. These plants typically produce quantities of seeds each year that accumulate at depth in the seed bank, and many of these seeds germinate almost exclusively after fire.

For areas where chamise is dominant, this community would be classified as Chamise Chaparral in the CNDDB community classification system (Holland, 1986), and as the Chamise Series within the CNPS Manual of California Vegetation (Sawyer and Keeler-

Wolf, 1995). Areas which support a mixture of scrub oak, manzanita, ceanothus, and chamise are called in the Mixed Scrub Oak Series in the Sawyer and Keeler-Wolf (1995) classification. Chamise chaparral has a global rank of G4 (apparently secure, but factors exist to cause some concern; i.e. there is some threat or somewhat narrow habitat) and a state rank of S4 (apparently secure, but factors exist to cause some concern; i.e., there is some threat or somewhat narrow habitat), as listed in the CNDDDB (2009). Scrub oak chaparral has a global rank of G3 (10,000-50,000 acres worldwide) and a state rank of S3.3 (10,000-50,000 acres statewide, no current threats known), as listed in the CNDDDB (2009).

The County of San Luis Obispo has no formal protection or mitigation requirement for chaparral (Trevor Keith, County Environmental Division, *pers. comm.* July 9, 2009). However, the County does consider plant communities supporting sensitive species as important for consideration during project review. Several sensitive species occur in the chaparral on the Site.

There are approximately 93.9 acres (38 hectares) of chaparral on Site (Figure 3). The current quarry construction area will impact approximately 39.6 acres (16 hectares) or 42% of chaparral on the Site (Table 5).

4.2.2 Coast Live Oak Woodland

Coast live oak woodlands at the Site are dominated primarily by a single tree: coast live oak (*Quercus agrifolia*). The coast live oak is an evergreen tree ranging from 40 to 75 feet (12 to 23 meters) in height, with a spreading crown, many massive branches and trunks, a dense canopy of thick waxy leaves, and a massive root system consisting of both deeply penetrating roots and widely spreading lateral roots (Pavlik, 1991; Hickman, 1993). Although seemingly ubiquitous in the hills surrounding Santa Margarita, coast live oaks are restricted to a fifty-mile wide swath along the coast from Mendocino County south to northern Baja California. They are completely absent in the Sierra Nevada and other interior ranges; rather, they tend to occur in the maritime belt that receives fog during the summer months. Coast live oak woodland is most well developed between sea level and 5,000 feet (1,525 meters) on north-facing slopes, in canyons, and along rolling foothills and alluvial terraces adjacent to water courses.

These trees can easily live for 300 years or more. Most healthy stands contain mixed age classes of oak trees, saplings, and seedlings. Although considered drought-tolerant due to its ability to survive the hot dry summer months without rain, coast live oak tends to occur in areas that receive at least 15 or more inches (38 or more centimeters) of rain or that have suitable microenvironments with water available to its roots at depth. Recent studies describe the water-acquiring capacity of mycorrhizae associated with the roots of coast live oak, especially in non-clay soils, greatly facilitating moisture uptake during dry summer months (Bornyasz, Graham, and Allen, 2001); mycorrhizal fungi also aid in nutrient uptake (Pavlik, 1991). Scientific studies suggest a positive correlation between oak tree density and deep soils that foster root growth and water uptake year-round (Barbour and Major, 1977; Holland and Keil, 1995).

At the Site, coast live oak woodland grows in several mesic, non-saturated environments on north-facing slopes and along the drainage bottom. Another tree occasionally found in oak woodland at the Site is gray (foothill) pine (*Pinus sabiniana*), which occurs among coast live oak trees on Site in small numbers. Please note that individual gray pines were not mapped as part of the LFR surveys. In dense undisturbed coast live oak woodlands and forests at the Site, the environment under the oak canopy is very shady. Shade-tolerant shrubs such as poison-oak (*Toxicodendron diversilobum*), California coffeeberry (*Rhamnus californica*), toyon (*Heteromeles arbutifolia*), and chaparral currant (*Ribes malvaceum*) predominate in the understory. Herbaceous perennials in the oak woodland understory include coastal wood fern (*Dryopteris arguta*), Parry's larkspur (*Delphinium parryi* subsp. *parryi*), and California saxifrage (*Saxifraga californica*). Native perennial grasses such as the pine bluegrass (*Poa secunda*), Coast Range melic (*Melica imperfecta*), and California brome (*Bromus carinatus*) occur sporadically in the understory. Annuals in the understory as well as in grassy openings include miner's lettuce (*Claytonia perfoliata*), Chinese houses (*Collinsia heterophylla*), cream cups (*Platystemon californica*), slender annual buttercup (*Ranunculus hebecarpus*), lacepod (*Thysanocarpus laciniatus*), dwarf athysanus (*Athysanus pusillus*), and bedstraw (*Galium aparine*).

Coast live oaks vary in density from continuous stands on north-facing slopes to scattered trees coastal scrub, chaparral, or grassland habitats on a variety of slope exposures, especially at the bottom of drainages. Along the main east-west trending drainage on Site, the coast live oak vegetation bordering the bottom of the drainage is often referred to as coast live oak riparian forest and is discussed further in Section 4.3.1.

This community would be classified as the Coast Live Oak Woodland Community in the CNDDDB community classification system (Holland, 1986), and as the Coast Live Oak Series within the CNPS Manual of California Vegetation (Sawyer and Keeler-Wolf, 1995). Coast Live Oak Woodland has a global rank of G4 (apparently secure, but factors exist to cause some concern; i.e. there is some threat or somewhat narrow habitat) and a state rank of S4 (apparently secure, but factors exist to cause some concern; i.e. there is some threat or somewhat narrow habitat), as listed in the CNDDDB (2009).

Native oaks and oak woodlands are considered sensitive in San Luis Obispo County and in the California Environmental Quality Act (CEQA) and protection measures are discussed in a number of local documents. The San Luis Obispo County Agriculture and Open Space Element (2007) describes oak woodland as "sensitive habitat" and lists "oak woodland natural areas" in Open Space Policy 20 as a significant biological habitat. Oak woodlands are considered important sensitive habitat in the San Luis Obispo County General Plan Conservation and Open Space Element Draft (2009). In addition, oak woodland protection is provided under CEQA following the mandate of the previous Senate Bill 1334 (Kuehl Bill) referred to as the Oak Protection Act. Impacts to oak trees/oak woodland at the Site will require mitigation according to County guidelines.

As is discussed further in Section 6.2, oak mitigation in San Luis Obispo County may employ several techniques if avoidance of impacts is not feasible. Up to 50% of the mitigation requirement can be achieved through planting of oaks. The County requires planting to be conducted on a 4:1 basis (planted:removed) or on a 2:1 basis (planted:impacted) if the oaks are impacted but not removed. Instead of planting or to meet the remaining mitigation requirement, a conservation easement may be placed over oaks or oak woodlands on a 1:1 basis relative to the impact or the applicant may contribute in lieu fees to the Oak Woodland Conservation Fund, or a county tree mitigation bank or county-approved equivalent prior to issuance of the grading or construction permit. The current in lieu fee amount is \$970/tree removed or \$485/tree impacted) and is applied on a 1:1 basis for removed trees though this amount is determined by the County and subject to change at the County's discretion.

There are approximately 9.61 acres (3.89 hectares) of coast live oak woodland on Site. The current quarry construction boundary will impact approximately 1.3 acres (0.52 hectares) or 14% of the coast live oak woodland on the Site (Table 5).

A total of 50 coast live oak trees greater than five inches diameter at breast height (DBH) were mapped on the Site within coast live oak woodland and Central Coast live oak riparian forest inside the quarry boundaries (Figure 4, Table 6). Many of these trees have multiple trunks as is common with the species. Quantification of potential mitigation options is provided in Section 6.2. Native gray pines occurring within the oak woodlands and in the foothill woodland portion of the open space area were not individually counted or mapped.

4.2.3 Foothill Woodland

Foothill woodland is confined to the interior foothills of California, bordering summer hot-winter cold interior valleys ringing the Central Valley, mostly below 3,500 feet (1,067 meters). Although blue oaks can be the only tree species present in foothill woodland in places, they are often mixed with other oak species such as coast live oak and valley oak, depending on soil type and elevation. Blue oak woodlands often occur in the foothills of interior mountain ranges, including the Sierra Nevada, where gray pine (*Pinus sabiniana*) may also be present.

Blue oak is a winter-deciduous tree that reaches about 60 feet (18 meters) in height. Unlike the widely spreading branches of coast live oak, blue oak trees are more upright, with a compact canopy of crooked branches. Trunk diameters rarely exceed two feet, or 0.9 meters (Pavlik, et. al, 2000). Valley oak is the largest oak tree in North America, and on favorable sites in northern California can reach over 100 feet (30.5 meters) in height and produce trunks that are six to nine feet (1.8 to 2.7 meters) in diameter. Valley oak grow largest and most abundantly in fertile valleys with ample moisture and deep bottomland soils where it may be the primary oak tree present. Mature trees can produce massive limbs covered with lobed leaves, which resemble those of other white oaks, so this species is sometimes referred to as white oak. Valley oaks may range up to 5,600 feet (1,707 meters) in elevation but are most common

below 2,000 feet (610 meters). Like blue oak, valley oak does not occur along the coast, but is found in valley bottoms and nearby slopes in interior valleys surrounding the Central Valley.

At the Site, foothill woodland is confined to the western margin of the main drainage in a portion of the proposed woodland mitigation area, and extends off site to the west near the Salinas River. Dominant trees in foothill woodland on Site includes blue oak, valley oak, coast live oak, and gray pine. Common shrubs include basketry bush (*Rhus aromatica*), California false-indigo (*Amorpha californica*), blue elderberry (*Sambucus nigra* subsp. *canadensis*), poison-oak, and others. Associated herbaceous species in foothill woodland at the Site are the same as for coast live oak woodland described in the preceding section.

This community would be classified as the Digger Pine Oak Woodland in the CNDDDB community classification system (Holland, 1986), and as the Blue Oak Series within the CNPS Manual of California Vegetation (Sawyer and Keeler-Wolf, 1995). Digger Pine Oak Woodland has a global rank of G4 (apparently secure, but factors exist to cause some concern; i.e. there is some threat or somewhat narrow habitat) and a state rank of S4 (apparently secure, but factors exist to cause some concern; i.e. there is some threat or somewhat narrow habitat), as listed in the CNDDDB (2009).

Native oaks and oak woodlands are considered sensitive in San Luis Obispo County and in the California Environmental Quality Act (CEQA) and protection measures are discussed in a number of local documents; foothill woodland falls under this category as an oak dominated community. The San Luis Obispo County Agriculture and Open Space Element (2007) describes oak woodland as “sensitive habitat” and lists “oak woodland natural areas” in Open Space Policy 20 as a significant biological habitat. Oak woodlands are considered important sensitive habitat in the San Luis Obispo County General Plan Conservation and Open Space Element Draft (2009). In addition, oak woodland protection is provided under CEQA following the mandate of the previous Senate Bill 1334 (Kuehl Bill) referred to as the Oak Protection Act.

There are approximately 0.67 acres (0.27 hectares) of foothill woodland on Site, in the proposed mitigation area but outside the quarry construction boundary (Figure 5). As such, inclusion of this sensitive resource in the mitigation area will ensure long-term protection of a community that is not found elsewhere on the Site.

4.2.4 Diablan Sage Scrub

Diablan sage scrub is dominated by drought-tolerant, soft-leaved shrubs from three to six feet tall (0.9 to 1.8 meters) that are often summer dormant and late-winter active, producing most of their growth in the late winter and spring months. Similar to central coastal scrub, Diablan sage scrub occurs in the drier interior Coast Ranges from Mount Diablo near the bay area south to northern San Luis Obispo County on hillsides outside

the influence of the coastal fog layer. Stands of Diablan sage scrub are often dominated by just a few shrub species, primarily California buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), and California sagebrush (*Artemisia californica*), although the diversity of annual and perennial herbs can be quite high. Coastal scrub dominants have shallower root systems than chaparral dominants, and these roots may not reach moisture at depth during the dry summer months (Holland and Keil, 1995).

At the Site, Diablan sage scrub is found on lower south-facing slopes adjacent to Highway 58. California buckwheat is the most conspicuous dominant in this area, and subshrubs such as golden yarrow (*Eriophyllum confertiflorum*) and deerweed (*Lotus scoparius*) are also common, along with a range of annuals shared with chaparral vegetation. In some areas, the sage scrub shrub density is low, possibly as a result of historic clearing activity. It is distinguished from other areas of Diablan sage scrub with the qualifier “disturbed” on Figure 3 and Table 5.

This community would be classified as the Diablan Sage Scrub in the CNDDDB community classification system (Holland, 1986). Areas where California buckwheat is dominant are best described by the California Buckwheat Series within the CNPS Manual of California Vegetation (Sawyer and Keeler-Wolf, 1995). Diablan Sage Scrub has a global rank of G3 (10,000-50,000 acres worldwide) and a state rank of S3.3 (10,000-50,000 acres statewide, no current threats known), as listed in the CNDDDB (2009).

There are approximately 1.20 acres (0.49 hectares) of Diablan sage scrub and 1.75 acres (0.71 hectares) of disturbed Diablan sage scrub at the Site (Figure 3). The current quarry construction boundary will impact approximately 0.42 acres (0.17 hectares) (35%) of Diablan sage scrub and 0.68 acres (0.27 hectares) (39%) of disturbed Diablan sage scrub on the Site (Table 5).

4.2.5 Annual Grassland

Lowland areas on Site near Highway 58 are dominated primarily by non-native annual grasses and other native and weedy annual species. The presence of annual grassland often suggests prior clearing of native perennial vegetation (e.g., native grasses such as *Nassella* and/or native shrubs and trees), which then is largely replaced by invasive non-native grasses and forbs, although some native species may persist.

Among the non-native grasses observed on Site are invasive annual Mediterranean grasses such as slender wild oats (*Avena barbata*), rip-gut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), red brome (*Bromus madritensis* subsp. *rubens*), foxtail barley (*Hordeum murinum*), and annual fescues (*Vulpia* species). Associated with these grasses are weedy species such as summer mustard (*Hirschfeldia incana*), yellow star-thistle (*Centaurea solstitialis*), tocalote (*Centaurea melitensis*), bur-clover (*Medicago polymorpha*), windmill pink (*Silene gallica*) and others.

Many native annual grassland herbs have been documented on Site, and these are included in Table 2. Although the survey was conducted following a winter with subnormal rainfall, the LFR survey identified lupine species (*Lupinus concinnus*, *L. nanus*, *L. bicolor*), red maids (*Calandrinia ciliata*), small sun-cups (*Camissonia micrantha*), pinpoint clover (*Trifolium gracilentum* var. *gracilentum*), and many other native wildflowers scattered in the annual grassland vegetation. Also present in sandy soils are native perennials such as California croton, California-aster, and others.

Ruderal vegetation is generally confined to continuously disturbed, compacted ground such as roadsides and parking areas. A sloped area near Highway 58 slated to become a detention basin supports many ruderal and weedy species, especially lamb's quarters (*Chenopodium album*), skeleton weed (*Chondrilla juncea*), common knotweed (*Polygonum aviculare*), summer mustard, yellow star-thistle, bur-clover, and others. One native colonizing species in this area is horseweed (*Conyza canadensis*), which is scattered in grassy and ruderal areas on Site. Some of the plants found in this ruderal area include wetland indicator species, which are discussed further in Section 4.3.

In general, the grassland areas would be classified as Non-Native Grasslands in the CNDDDB community classification system (Holland, 1986) and as California Annual Grassland Series within the CNPS Manual of California Vegetation (Sawyer and Keeler-Wolf, 1995). Non-native Grassland has a global rank of G4 (apparently secure, but factors exist to cause some concern; i.e. there is some threat or somewhat narrow habitat) and a state rank of S4 (apparently secure, but factors exist to cause some concern; i.e. there is some threat or somewhat narrow habitat), as listed in the CNDDDB (2009).

There are approximately 1.71 acres (0.69 hectares) of annual grassland on the Site (Figure 3). The current quarry construction boundary will impact approximately 0.59 acres (0.24 hectares) (35%) of the annual grassland on the Site (Table 5).

4.3 Wetland Communities

Areas with standing or flowing water or with seasonally or permanently saturated soils commonly support wetland communities. Freshwater wetlands are complex and variable, and their species composition and overall structure are dependent on a number of factors. Water depth, seasonal fluctuations in water levels, rate of water movement, water and sediment chemistry (including salinity, pH, and quantity of organic matter), depth and texture of bottom sediments, amount of sunlight, and water and air temperatures are among the most important variables affecting overall wetland dynamics.

Along rivers and streams, fine-grained alluvial soils settle in the bottom of the drainages, and annual inundation after rains provide a significant load of nutrients, soil, and new germination sites.

Two plant communities associated with seasonal wetland conditions were observed at the Site as part of LFR field surveys: Central Coast Live Oak Riparian Forest and Seasonally-flooded Vernal Swale. It should be noted that while Sections 4.3.1 – 4.3.2 describe two separate habitat types using accepted vegetation classification methodology, in fact these habitats intergrade over short distances and comprise the riparian corridor from the center of the channel to creek banks and up and down the drainage; thus, the separation between habitats is not always readily visible to the casual observer. However, the habitat differences are distinct when defined by their vegetative components. The habitats are considered separately herein to reflect the differences in vegetative composition and to facilitate accurate planning for activities that could impact the drainages.

4.3.1 Central Coast Live Oak Riparian Forest

The main east-west trending drainage at the Site supports Central Coast live oak riparian forest in patches toward the western end of the drainage on the Site (Figure 4). Although contiguous with coast live oak woodland on nearby slopes (see Section 4.2.2), this vegetation is characterized as central coast live oak riparian forest due to the dense cover of oaks along with a variety of herbaceous riparian associates, which are described in more detail in the next Section (4.3.2). Understory shrubs include dominants of coast live oak woodland, especially chaparral currant, basketry bush (*Rhus aromatica*), blue elderberry, poison-oak, and toyon. Basketry bush is considered a potential facultative indicator species by the USDA (2009).

In the CNDDDB community classification system (Holland, 1986), the vegetation along the margins of the main drainages at the Site is part of the Central Coast Live Oak Riparian Forest Community. The Central Coast Live Oak Riparian Forest Community would comprise the Coast Live Oak Series in the CNPS Manual of California Vegetation (Sawyer and Keeler-Wolf, 1995). Central Coast Live Oak Riparian Forest has a global rank of G3 (10,000-50,000 acres worldwide) and a state rank of S3.2 (10,000-50,000 acres statewide, threatened), as listed in the CNDDDB (2009).

There are approximately 1.56 acres (0.63 hectares) of Central Coast live oak riparian forest at the Site (Figure 3). The current quarry construction boundary will impact approximately 0.59 acres (0.24 hectares) (38%) of the Central Coast live oak riparian forest on the Site (Table 5). As noted in Section 4.2.2, a total of 50 oaks (five inch DBH and greater) are located within the proposed quarry construction boundary (including within both of the mapped oak habitats, Central Coast live oak riparian forest and coast live oak woodland) that will be removed. Quantification of potential mitigation options is provided in Section 6.2.

4.3.2 Seasonally-flooded Vernal Swale

The main drainage on Site supports a range of herbaceous wetland species and contained a few isolated pools during the March and April surveys along with surrounding saturated soil. These pools had dried up by the time the June survey was conducted.

This type of seasonally-moist habitat is characterized as seasonally-flooded vernal swale, and supports species that tolerate saturated soils during fall, winter and spring following the onset of the rainy season and dry conditions during the summer and early fall months. On the Site, the drainage is supported by a small steep watershed and likely flows for a very short period immediately after heavy rains. Native species diversity is high, and includes large colonies of big-leaved rush (*Juncus marcophyllus*), along with patches of mugwort (*Artemisia californica*), American rocket (*Barbarea orthoceras*), California oatgrass (*Danthonia californica*), and others. The small pools support water starwort (*Callitriche heterophylla* var. *heterophylla*) when full, and are bordered with patches of common monkeyflower (*Mimulus guttatus*), western yellow water cress (*Rorippa curvisiliqua*), white-tipped clover (*Trifolium variegatum*), and big-leaved rush. Death camas (*Toxicoscordion venenosum*) was confined to small moist areas surrounding the pools in the main drainage, along with western pearlwort (*Sagina decumbens* subsp. *occidentalis*). The seasonally-flooded vernal swale community is a narrow band along the main drainage with an average width of approximately three feet, although the swale widens to up to twelve feet in place in the proposed mitigation area west of the quarry site; in order to be visible on Figures 3 and 4, it has been drawn wider than to scale.

A ruderal area near to and north of Highway 58 that is slated to become a detention basin receives seasonal drainage from a nearby south-facing ravine, as is visible on aerial photographs. Although mapped as annual grassland/ruderal, this area does support a number of wetland indicator species, such as lamb's quarters, horseweed, and prickly lettuce (*Lactuca serriola*).

A total of 31 wetland indicator species are found on Site, ranging from those plants that are obligate wetland species (OBL, found in wetlands 99% or more of the time); to facultative wetland plants (FACW, found in wetlands 66 to 99% of the time); facultative plants (FAC, found in wetlands 33 to 66% of the time); and facultative upland plants (FACU, found in wetlands 1 to 33% of the time, but usually found in upland habitats), as categorized by the USFWS (1996) and USDA (2009).

Three obligate wetland plants were observed in the main drainage: water starwort, common monkeyflower, and western yellow water cress. Eight species on Site are FACW plants. These include black cottonwood (*Populus balsamifera* subsp. *trichocarpa*) and red willow (*Salix laevigata*), both of which were identified as seedlings in a south-facing drainage on Site; they occur abundantly to the south and west off Site as well. FACW species found in the main drainage include mugwort, American rocket, California oatgrass, big-leaved rush, white-tipped clover, and giant creek nettle (*Urtica dioica* subsp. *holosericea*). Eleven facultative plants (FAC) were

observed on Site, including blue elderberry, miner's lettuce, death camas, creek clover (*Trifolium obtusiflorum*), and water pearlwort along the main drainage. Other FAC species are found in moist areas within chaparral vegetation (e.g. pygmy weed, *Crassula connata*, and Indian tobacco, *Nicotiana quadrivalvis*). As mentioned, a few FAC species are found in a ruderal area near Highway 58. During the hot dry summers, most of these species may be completely absent, emerging following the onset of winter rains.

Such swales are classified as Palustrine Emergent-Persistent Seasonally-flooded Vernal-Drainage-Swale Wetland Type 50.2451 in Ferren et al. (1996). In the CNDDDB community classification system, the vernal swales on Site would be part of the Vernal Marsh Community (Holland, 1986). The vegetation does not correspond well to any of the series listed in the CNPS Manual of California Vegetation (Sawyer and Keeler-Wolf, 1995). Vernal Marsh has a global rank of G3 (10,000-50,000 acres worldwide) and a state rank of S2.1 (2,000-10,000 acres, very threatened statewide), as listed in the CNDDDB (2009).

There are approximately 0.31 acres (0.13 hectares) of seasonally-flooded vernal swale at the Site (Figure 3). The current construction footprint for all mining phases will impact approximately 0.10 acres (0.04 hectares) or 31% of the seasonally-flooded vernal swale on the Site (Table 5).

4.3.3 Potentially Jurisdictional Waters

LFR identified one potentially jurisdictional drainage features which occurs within the proposed quarry construction boundary. The main drainage within the project area is represented as a 'blue-line' drainage on topographic maps of the area and exists as a tributary of the nearby Salinas River. It runs from east to west across the Site, within oak woodland/forest and chaparral plant communities. The drainage is not lined by a typical riparian corridor that can be easily observed on an aerial photograph of the Site or clearly defined while standing in the field. In addition, the drainage provides limited indications of an ordinary high water mark (OHWM). In many instances, determining where the definable banks of a drainage begins and ends presents a challenge do to the infrequency and low volume of flow as well as the granitic conditions.

LFR conducted assessment transects along the length of the drainage on the Site from the upper slopes to the lower Site boundary evaluating each feature for bed, bank, and channel characteristics, for riparian vegetation, and for evidence of an ordinary high water mark. Transect data was recorded approximately every 350 feet, though the entire drainage was walked and surveyed on the Site. The end of the feature near the Salinas River was also inspected (see Photographs in Appendix A).

The United States Army Corps of Engineers (USACE) assumes jurisdiction over Waters of the United States defined as surface waters including navigable waters and their tributaries, interstate waters and their tributaries, natural lakes, all wetlands adjacent to other waters, and all impoundments of these waters. The linear boundary

determining jurisdiction under the federal Clean Water Act within fresh water systems is referred to as the ordinary high water mark. The OHWM is defined as “That line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.”

LFR considers the drainages on the Site to meet the definition of “Non-navigable tributaries that are not relatively permanent” as defined in the current USACE and U.S. Environmental Protection Agency (U.S.EPA) joint guidance document for Clean Water Act jurisdictional determinations (Clean Water Act Jurisdiction, June 5, 2007, U.S. EPA and USACE; "Rapanos Guidance"). The guidance document is the current standard for implementation of the Clean Water Act and was developed in response to two Supreme Court decisions (generally referred to as the Rapanos and Carabell cases). The drainage leads to the Salinas River. The USACE has mapped the first six miles inland from the Pacific Ocean as the nearest “traditional navigable water.” The end of the drainage on the Site near the Salinas River is approximately 100 miles from the confluence of the Salinas River and the Pacific Ocean.

In cases such as this, a determination of jurisdiction would require the USACE to find that a ‘significant nexus’ exists between the non-navigable tributaries and a traditional navigable water. To demonstrate that a significant nexus exists, the USACE would need to show that the drainages on the Site alone or in combination with similarly situated tributaries in the region, significantly affect (as opposed to speculatively or insubstantially effect) the chemical, physical, and biological integrity of other covered waters more readily understood as “navigable” (in this case the Pacific Ocean and the lower six miles of the Salinas River leading to the ocean approximately 100 miles from the Site).

The drainage examined within the project area by LFR was found to have a very shallow and intermittent OHWM of not more than two to three inches on either bank as a result of the relatively infrequent occurrence and low volume of surface water. Additionally, the drainage does not have a direct and defined surface connection to the Salinas River with an OHWM (or discernable banks and channel). As is shown in the photographs (Appendix A), the drainage ends in an open area where the discharge sheet flows or moves underground to the Salinas River. Lastly, project related impacts to this drainage are not expected to affect interstate or foreign commerce. While LFR has not prepared a significant nexus analysis for the drainages, it is LFR’s opinion that the drainages are not subject to USACE jurisdiction under the Clean Water Act. However, it should be noted that the determination of federal jurisdiction can only be made by USACE and confirmation of LFR’s conclusion by a USACE representative is recommended.

The California Department of Fish and Game (CDFG) assumes jurisdiction over waters of the State generally defined pursuant to the Porter Cologne Act as “any surface water or ground water, including saline waters, within the boundaries of the state.” The

linear boundary determining CDFG jurisdiction within fresh water systems can be described as from top of bank to top of bank or from the outermost edge of riparian vegetation on either side of the drainage, whichever is larger. In general, CDFG jurisdiction covers any work conducted within the annual high water mark of a wash, stream, or lake that contains or once contained fish and wildlife or that supports or once supported riparian vegetation (Dept of Water Resources website 2007). As was mentioned previously in this section, the drainage investigated by LFR shows only limited annual high water marks and in most instances does not have clearly defined riparian boundaries. Clearly defined channel beds and banks are also absent in many locations along the drainages. However, some segments of the drainage do support a narrow but clearly defined bed, bank and channel. Therefore, it is LFR's opinion that CDFG will assert jurisdiction over some or all of the ephemeral drainage discussed herein. It should be noted, however, that the determination of state jurisdiction can only be made by the CDFG and confirmation of LFR's conclusion by a CDFG representative is recommended.

4.4 Weeds

Sensitive species and habitats are subject to competition and/or displacement by aggressive non-native weeds. Several weedy species found at the Site are listed by the California Invasive Plant Council as invasive weeds (Cal-IPC, 2006) – see Table 4. The non-native weed species with the highest invasive ratings on Site are red brome and yellow star thistle. Seventeen other weedy species are given moderate or limited invasive rankings by Cal-IPC (2006), meaning that they can be invasive in given regions of the state or under certain conditions.

Because disturbance during construction can create optimal conditions for weed establishment, guidelines for monitoring and eliminating the most aggressive invasive species should be incorporated into reclamation and overall management plan for the Site.

5.0 FINDINGS

The Sections below describe the habitat and species-specific findings of the field surveys.

5.1 Sensitive Habitats

The plant communities listed below have a California state ranking of S3.2 or higher, which are considered to be “threat” ranks by the California Department of Fish and Game in the Natural Diversity Database (CDFG, 2009). Note that higher ranks are designated with lower numbers. The state ranking system addresses the estimated number of existing acres for the sensitive habitat, as well as the threat to the acreage as determined by the Department. The S number is indicative of the total acreage and the threat level is represented by the decimal extension ranging from .1 (very threatened)

to .3 (no current threats known). Sensitive habitats for this report are defined as S3.2 and above for habitats with an identified threat (.1 or .2 extensions).

S1 = Less than 2,000 acres

S1.1 = very threatened

S1.2 = threatened

S1.3 = no current threats known

S2 = 2,000-10,000 acres

S2.1 = very threatened

S2.2 = threatened

S2.3 = no current threats known

S3 = 10,000-50,000 acres

S3.1 = very threatened

S3.2 = threatened

S3.3 = no current threats known

S4 - Apparently secure within California; this rank is clearly lower than S3 but factors exist to cause some concern; i.e. there is some threat, or somewhat narrow habitat. NO THREAT RANK.

S5 - Demonstrably secure to ineradicable in California. NO THREAT RANK.

Two sensitive plant communities with state rankings of S3.2 or higher were observed as part of LFR field surveys on the Site, and are as follows:

- Central Coast Live Oak Riparian Forest -- S3.2 (10,000-50,000 acres statewide, threatened)
- Vernal Marsh -- S2.1 (2,000-10,000 acres, very threatened)*
* As detailed in the preceding sections, the vernal marsh plant community on the Site is comprised of sections of the bottom of the ephemeral drainage.

In addition to CDFG rankings for sensitive habitats, San Luis Obispo County also recognizes habitats of local concern. The San Luis Obispo County General Plan (2004, 2007) treats the following habitats as environmentally sensitive: oak woodland, riparian habitat, wetland habitat (including marshes, coastal streams, and adjacent riparian corridors), and habitats supporting rare and endangered or threatened species. The San Luis Obispo County General Plan Conservation and Open Space Element Draft (2009) also notes the importance of oak woodland (including foothill woodland), riparian habitat, and wetland habitat. In addition, Implementation Strategy BR 3.3.1 of this County document notes implementation of the Oak Woodlands Preservation Act (PRC Section 21083.4) through the review of proposed discretionary development by maintaining the integrity and diversity of oak woodlands, chaparral communities, and other significant vegetation.

Sensitive species were observed, as described in Sections 5.2 and 5.3. None of the plants or wildlife found are federally endangered or state listed rare species. All sensitive plants observed (shining navarretia, La Panza mariposa lily, straight-awned spineflower, Brewer's red maids, and trumpet-throated gilia) were found in openings of the chaparral on Site. Though LFR did not observe these annual and herbaceous perennial plant species at a high density or distribution throughout the Site, the potential exists for a more widespread distribution due to their diminutive size (easy to overlook) and variable presence depending on yearly Site/weather conditions.

The effect of the stormwater management on the offsite portion of the small ephemeral drainage in the northern mining area will increase in parallel with the project phasing as increasing areas of the watershed are mined, and the stormwater flows from these areas is directed to the stormwater management system. The detention basin must be sized to accommodate large storms, and as such, will detain higher percentages of small-storm rainfall subject to evaporation rather than direct flow through the drainage. However, according to the Tartaglia report, the volume of flow reaching the undisturbed downstream portion of the drainage may be adjusted through the use of bypass systems directing water along the mined benches around the stormwater management system. The majority of small event storm waters will be routed along undisturbed areas and around the basin during earlier phases and later phase run-off from the mined areas may be re-injected into the original creek alignment when the previously mined areas have been restored to pre-disturbance conditions. Each bypass conveyance will include engineered bioswales with periodic check weirs to entrap sediment prior to leaving the Site. These sediment containment features would be maintained annually as required to remove accumulated silts. However, due to the hard rock nature of the Site, silt accumulation and the potential for migration of suspended sediment offsite is expected to be minimal. The stormwater management is not anticipated to significantly affect the functions or quality of the drainage downstream from the mining area to the Salinas River.

5.2 Sensitive Plants

No state or federally listed threatened or endangered species were observed at the Site. A total of five sensitive plants were observed at the Site. All of these species are listed by the California Native Plant Society and are considered to be species of local concern in San Luis Obispo County (Chesnut, 2007; Dieter Wilken, *pers. comm.*). Of the five CNPS listed species, one is on List 1B.2 for plants that are rare and/or endangered in California or elsewhere, and in California, are fairly endangered; two are on List 1B.3 for plants that are rare and/or endangered in California or elsewhere although not very endangered in California; one is on List 4.2, plants of limited distributions that are fairly endangered in California; and one is on List 4.3, plants of limited distributions that are not very endangered in California. None of the sensitive herb or shrub species were found in high numbers, but most occur in openings in the chaparral; as is indicated below, it is assumed that other individuals of these species occur with similar frequency on the Site but were not observed by LFR due to the dense chaparral cover.

In accordance with the provisions of the California Environmental Quality Act (CEQA), all of these species mandate consideration in the environmental review document even though they are not afforded other statutory protection. The discussion below addresses the sensitive species observed at the Site and also includes species that were not observed but that are known from the general area.

A number of sensitive plant species are known from the general project area. Both public and private open space/reserves are located within the general area of the Site (http://www.biohere.com/natural_areas/california/San_Luis_Obispo_County). The Site is approximately twelve miles west of the private Wilson Corner Area and Shell Creek Area, both of which have grasslands supporting diverse native herbaceous plant species. The Site is also about eight miles northwest of the Rinconada Mine Botanical Area which supports *Mondardella palmeri*. The Cuesta Ridge Botanical Area is also within about ten miles, supporting *Sidalcea hickmanii* subsp. *anomala*, *Arctostaphylos obispoensis*, *Calochortus obispoensis*, *Chorizanthe breweri*, *Cirsium fontinale obispoense*, *Fritillaria viridea*, and *Mondardella palmeri*.

The CNDDDB and CNPS Electronic Inventory search, as well as a review of the nearby Santa Margarita Ranch surveys (Althouse and Meade, 2005), points to additional plant species whose presence has been reported in the Santa Margarita and adjacent quadrangles, or that may potentially occur in the habitat present at the Site but that were not observed during the 2009 surveys. All sensitive species observed at the Site or which have been reported from the area using the CNDDDB and CNPS Electronic Inventory search are included in Table 3.

5.2.1 Observed Sensitive Botanical Species

The following descriptions identify the sensitive species observed on or near the surveyed portion of the Site. Locations for those species found at the Site by LFR are shown on Figure 4 and are included in Table 3. They are listed below by rarity (the most rare first), and then alphabetically by scientific name within a given rarity category.

Shining Navarretia (*Navarretia nigelliformis* subsp. *radians*)

Shining navarretia is a diminutive annual in the Phlox Family (Polemoniaceae) with low branching stems and alternate leaves divided into pinnate lobes, each bearing a spine at the tip. Each branch produces a rounded inflorescence covered with white hairs, with divided spine-tipped bracts surrounding clusters of flowers. The five sepals are strap-shaped, hairy near the middle, and tipped with a spine. The five petals are fused into a five-lobed corolla about 3/8 inch long (9-11 millimeters), with paired purple spots at the base of each of the five lobes. Plants bloom from May to July.

Shining navarretia is found in heavy soils in grasslands, woodlands, chaparral, and vernal pools in interior portions of central California from Merced County south to San

Luis Obispo County. In San Luis Obispo County, shining navarretia occurs near the Salinas River from San Miguel to Templeton and Santa Margarita, east to Cholame.

Shining navarretia is categorized as CNPS 1B.2, a plant of limited distribution that is fairly endangered in California. It is reportedly threatened by grazing, development, and competition from non-native plants. It is endemic to interior portions of central California from Merced County south to San Luis Obispo County (Fresno, Merced, San Benito, Monterey, and San Luis Obispo Counties).

Presence on the Site: Occasional individuals of shining navarretia were observed in the northwest portion of the Site heavy soils, both in openings in the chaparral and in roadways. This species is difficult to find and may be present elsewhere on Site in the quarry and open space areas.

La Panza mariposa Lily (*Calochortus simulans*)

La Panza mariposa lily (sometimes called San Luis Obispo County mariposa lily) is a slender herbaceous perennial in the Mariposa Lily Family (Calochortaceae) that arises from bulbs each winter, reaching one-half to two feet (10 to 60 centimeters) in height by late spring or early summer. The basal leaves are about ten inches long (20 to 30 centimeters) and often are withered by the time the plant produces flowers in April and May. The flower stalks are narrow and branched from one point, bearing up to three flowers in the umbel-like inflorescence. Each flower consists of three one-inch (2 to 3 centimeters) sepals with recurved tips and three one-inch to two-inch (3 to 5 centimeters) white to yellowish petals that form a bell-shaped flower. At the base of each petal is a hairy reddish square nectary. The linear, angular fruits are about two inches or more (5 to 6 centimeters) long.

La Panza lily is endemic to central San Luis Obispo County and usually is found in granitic sands in grassland, chaparral, woodland, and lower montane coniferous forest habitats, although it has been found growing on sandstone at Indian Knob, Carpenter Canyon, Canyon Number 1 (CNDDDB, 2009), and immediately south of the Site. Its localized range extends from Tassajera Creek and the Atascadero region southwards to Trout Creek by the Huasna River, just barely making it into Santa Barbara County in the Cuyama River Canyon and Buckhorn Canyon areas.

San Luis mariposa lily is categorized as CNPS 1B.3, a plant of limited distribution in California. It is threatened by grazing, recreation, road construction, and mining. It is endemic to central San Luis Obispo County and a small portion of northern Santa Barbara County.

Presence on the Site: Isolated individuals of La Panza mariposa lily were observed by LFR in a three locations growing in openings in chaparral vegetation. This species is difficult to find and may be present elsewhere on Site.

Straight-awned Spineflower (*Chorizanthe rectispina*)

Straight-awned spineflower is a low spreading annual in the Buckwheat Family (Polygonaceae) with gray-green foliage and basal leaves about one-quarter to one-half inch (10 to 20 millimeters) in length. Flowers are arranged in dense clusters, each surrounded by six spiny bracts; of these, three are short and hooked, two are longer and hooked, and one is three times longer than the others and straight. The perianth is comprised of three larger lobes that are mostly white with a yellow base and three much smaller lobes that are fringed and yellow at the base as well.

Straight-awned spineflower occurs in openings in coastal scrub, chaparral, and woodland vegetation in southern Monterey and San Luis Obispo Counties; reports from Santa Barbara County are erroneous (Dieter Wilken, personal communication). It occurs on granite, sand, and shale substrates.

Straight-awned spineflower is categorized as CNPS 1B.3, a plant of limited distribution in California. It is threatened by grazing, development, competition with non-native species, and mining. It is endemic to southern Monterey and San Luis Obispo Counties

Presence on the Site: A few individuals of straight-awned spineflower were observed by LFR in two locations growing in openings in chaparral vegetation. This species is difficult to find and may be present elsewhere on Site.

Brewer's Red Maids (*Calandrinia breweri*)

Brewer's red maids is an annual member of the Purslane Family (Portulacaceae) with prostrate stems, and oval to spoon-shaped shiny green leaves from 2 to 8 cm in length. Flowers are pink to reddish, with two sepals, five petals, and, at maturity, a capsule that exceeds the calyx by 3 mm or more.

This uncommon relative of the more common red maids (*Calandrinia ciliata*) is found in sandy to loamy soils in coastal scrub and chaparral in disturbed areas, especially after a fire. Although it has a wide distribution in California, from Shasta County to San Diego County, most collections of this species are reportedly old and need confirmation.

This species is listed by the California Native Plant Society as List 4.2, a plant with a limited distribution that is fairly endangered in California. It is threatened by development, fire suppression, and grazing activities.

Presence on the Site: Occasional individuals of Brewer's red maids were observed by LFR along the southern ridge road that bisects the central portion of the Site. It may be present elsewhere as well; as a fire-following annual, there may be considerable seed in the seed bank throughout the Site.

Trumpet-throated Gilia (*Gilia tenuiflora* subsp. *amplifaucalis*)

Trumpet-throated gilia is an annual member of the Phlox Family (Polemoniaceae) with divided basal leaves and a leafy inflorescence bearing lavender flowers approximately one-quarter to one-half inch (13-22 millimeters) long. Unlike related subspecies, the corolla tube is stout, with a throat shorter than the corolla lobes.

Trumpet-throated gilia occurs in grasslands and woodlands in Monterey and San Luis Obispo Counties. It is listed by the California Native Plant Society as List 4.3, a plant with a limited distribution that is not very endangered in California. It is threatened by development, fire suppression, and grazing activities.

Presence on the Site: A few individuals of trumpet-throated gilia were observed by LFR in openings in chaparral vegetation on Site. This species is difficult to find and may be present elsewhere on Site.

5.2.2 Sensitive Botanical Species *Not Observed* on Site (including Potentially Present Taxa)

The following plants *were not observed* by LFR at the Site but are known to occur in the general region and are discussed here for reference. They are listed below by rarity (the most rare first), and then alphabetically by scientific name. These sensitive species and others known from the region are included on Table 3 along with commentary on habitat preference and presence at the Site.

Caper-leaved Trepidocarpum (*Trepidocarpum capparideum*)

Caper-leaved tripidocarpum is an upright annual in the Mustard Family (Brassicaceae) with distinctively lobed alternate leaves one to two inches in length (2 to 5 centimeters). The small yellow spoon-shaped petals sometimes have a purplish tinge and are less than one-quarter inch long (4 to 5 millimeters). The upright fruits are one-half to almost an inch long (1.5 to 2 centimeters) and appear on the inflorescence below the flowers.

Although Jepson (1993) reports that caper-leaved tripidocarpum was last seen in 1957, it was rediscovered on Ft. Hunter Liggett in 2000 (CNPS, 2009), and one thousand plants were observed near Lopez Mountain in San Luis Obispo County in 2005 growing in annual grassland adjacent to an ephemeral pond (CNDDDB, 2009). Historic distributions for this species range from Glenn County to San Luis Obispo County.

Caper-leaved tripidocarpum is categorized as CNPS 1B.1, a plant of limited distribution that is seriously endangered in California. It is threatened by grazing, military activities, trampling, and competition with non-native plants.

Caper-leaved tripidocarpum was reported from Santa Margarita Ranch by Althouse and Meade (2005).

Hardham's Suncups (*Camissonia hardhamiae*)

Hardham's suncups is an annual member of the Evening-primrose Family (Onagraceae) with spreading hairs on the stems and glandular hairs in the inflorescence. The inflorescence is nodding, with each flower consisting of four tiny bell-shaped petals that fade to a reddish color. This species is very difficult to distinguish from the more common suncups on Site, *Camissonia micrantha*, since the primary distinguishing feature is the shape of the pollen grains (four to five angled in Hardham's evening primrose) and requires a high-powered microscope.

Hardham's suncups is found in chaparral and woodlands in Monterey and San Luis Obispo Counties from fewer than twenty occurrences. It has been reported from Calf Canyon and Highway 58 in the Site vicinity.

Hardham's suncups is categorized as CNPS 1B.2, a plant of limited distribution that is fairly endangered in California. It is threatened by residential development, energy development, grazing, recreation, road construction, and mining. It is endemic to San Luis Obispo and Monterey Counties.

San Luis Obispo Owl's-clover (*Castilleja densiflora* subsp. *obispoensis*)

San Luis Obispo owl's-clover is a slender annual herb in the Broomrape Family (Orobanchaceae, formerly in the Scrophulariaceae) that is parasitic on other plants, especially native annual species. The narrow leaves are linear to lance-shaped, one-half to three and one-half inches long (20 to 80 millimeters) and sometimes are tipped with one to three finger-like lobes. The flowers are clustered near the stem tips in spring. Each flower is subtended by a lobed bract that is tipped in white or pale yellow, a distinction from the more widespread subspecies that produce pink- to purple-tipped bracts. The narrow tubular white flowers widen at the tips into two distinctive portions: the upper lobe (the galea, or beak) is narrowly pointed and covered with soft hairs, and the lower lobe extends into three inflated pouches that are tipped with yellow and dotted with maroon spots.

San Luis Obispo owl's-clover is found in grasslands in San Luis Obispo County, especially those dominated by purple needlegrass. It extends from the Monterey County border to the Pismo Beach area.

San Luis Obispo owl's-clover is categorized as CNPS 1B.2, a plant of limited distribution that is fairly endangered in California. It is threatened by residential development, energy development, grazing, recreation, road construction, and mining. It is a San Luis Obispo County endemic, restricted to a narrow portion of San Luis Obispo County.

San Luis Obispo owl's-clover was reported from Santa Margarita Ranch by Althouse and Meade (2005).

Cambria Morning Glory (*Calystegia subacaulis* subsp. *episcopalis*)

Cambria morning glory is a spreading rhizomatous herb in the Morning Glory Family (Convolvulaceae) with green arrow-shaped leaves covered with light appressed hairs. Leaf blades are about one inch or more in length (3 centimeters or more), with longer petioles. The white to cream funnel-shaped flowers are one to two and one-half inches long (33 to 62 millimeters) and are surrounded by two narrow pointed bractlets about the same length as the sepals (one-quarter of an inch, 12 millimeters). Plants generally bloom in April and May.

Cambria morning glory occurs in chaparral, woodlands, and grasslands, generally on clay soil (Hoover, 1970). It is known from San Luis Valley and bordering hills, upper Salinas Valley near Santa Margarita, and northward in San Luis Obispo County.

Cambria morning glory is categorized as CNPS 1B.2, a plant of limited distribution that is fairly endangered in California. It is a San Luis Obispo County endemic, restricted to specific habitats within San Luis Obispo County.

San Luis Obispo County Lupine (*Lupinus ludovicianus*)

San Luis Obispo County lupine is an herbaceous perennial in the Pea Family (Fabaceae) that forms mats of velvety white stems that arise from a woody base. The five to nine leaflets are one to two inches (3 to 5 centimeters) long on elongate petioles two to five inches in length (5 to 12 centimeters), oblanceolate, and covered with woolly white hairs. The woolly flower stalks are produced in spring and reach up to one and one-half feet (0.5 meters) or more in height. Flowers are usually arranged in dense whorls along the flower stalks. Each flower is about one-half inch (10 to 15 mm.) long and consists of deep pink to blue to purplish petals; the nectar guide on the banner (upper petal) is white to yellowish until pollination turns it purplish. Diagnostic features include the ciliate hairs on the upper keel margin, as well as characteristics described above. One-inch long (2.5 centimeters) hairy legume fruits produce three to four mottled gray seeds.

San Luis Obispo County lupine is endemic to San Luis Obispo County and has been designated as the official county flower. It has been found on sand or sandstone-derived soils of the Santa Margarita and Pismo formations in sunny openings adjacent to chaparral or oak woodland, and its distribution historically extended from the Salinas Valley to Arroyo Grande. However, many previously reported occurrences have been impacted by development and/or grazing and few extant populations are known to remain. Dr. Dieter Wilken of the Santa Barbara Botanic Garden and the Center for Plant Conservation asserts that it is one of the rarest plants in San Luis Obispo County (Dieter Wilken, *pers. comm.*).

San Luis Obispo County lupine is categorized as CNPS 1B.2, a plant of limited distribution that is fairly endangered in California. It was included by the Sacramento Fish and Wildlife Office on their list of species of concern in 2004 (they no longer maintain this list -- USFWS, 2004, 2007). It is reportedly threatened by residential

development, energy development, and mining. It is a San Luis Obispo County endemic, restricted to specific habitats within San Luis Obispo County.

San Luis Obispo County lupine was reported from Santa Margarita Ranch by Althouse and Meade (2005).

Michael's Rein Orchid (*Piperia michaelii*)

Michael's rein orchid is a perennial herb in the Orchid Family (Orchidaceae) reaching six to twenty-eight inches (10 to 70 centimeters) in height with strap-shaped basal leaves and topped by an elongate inflorescence when in bloom between April and August. The greenish flowers include a narrow spur; flowers are about one-half inch long (12 to 15 millimeters).

Michael's rein orchid is found in coastal scrub, chaparral, woodlands, and closed-cone and lower montane coniferous forest from Ventura to Humboldt Counties in California often rooting in decaying leaf litter. In San Luis Obispo County, Paso Robles navarretia occurs near Paso Robles, east to Fresno County.

Michael's rein orchid is categorized as CNPS 4.2, a plant with a limited distribution that is fairly endangered in California. It is reportedly threatened by grazing, development, and competition from non-native plants. Michael's rein orchid was reported from Santa Margarita Ranch by Althouse and Meade (2005).

Paso Robles Navarretia (*Navarretia jaredii*)

Paso Robles navarretia is an annual in the Phlox Family (Polemoniaceae) reaching one to nine inches (3 to 20 centimeters) in height with alternate leaves divided into pinnate lobes; upper leaves near the inflorescences are needle-like. Bracts surrounding the inflorescences are divided into seven to many lobes and are gland-dotted. The blue flowers are one-eighth to one-quarter inch long (7 to 12 millimeters), with a white tube and throat and small glandular hairs. Plants bloom from May to July.

Paso Robles navarretia is found in heavy to sandy soils in grasslands, vernal pools and seep areas, and woodlands, often on serpentine. In San Luis Obispo County, Paso Robles navarretia occurs near Paso Robles, east to Fresno County.

Paso Robles navarretia is categorized as CNPS 4.3, a plant with a limited distribution that is not very endangered in California. It is reportedly threatened by grazing, development, and competition from non-native plants. It is endemic to interior portions of central California from Fresno County south to Ventura County (Fresno, San Benito, Monterey, San Luis Obispo, Santa Barbara, and Ventura Counties).

Paso Robles navarretia was reported from Santa Margarita Ranch by Althouse and Meade (2005).

5.3 Sensitive Wildlife

No state or federally listed threatened or endangered species were observed during the 2009 surveys. However, the Site provides suitable habitat for several other sensitive wildlife species. Wildlife surveys were conducted at different times of day and on different days between April and July 2009. Surveys relied on direct observation, audible calls, and signs (e.g., tracks, burrows, scat, nests).

Some of the sensitive species listed in the CNDDDB for the Santa Margarita and surrounding quadrangles are not discussed or only briefly discussed below due to the lack of species-specific habitat requirements present on the Site. Species such as the steelhead trout (*Oncorhynchus mykiss irideusi*) and western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) are examples of species whose habitat requirements are not met by the existing conditions on the Site although potentially suitable habitat for both of these species is found in the nearby Salinas River.

Several raptor species may utilize the Site. These include the red-tailed hawk (*Buteo jamaicensis*), Cooper's hawk (*Accipiter Cooperii*), great horned owl (*Bubo virginianus*), and American kestrel (*Falco sparverious*). Nocturnal raptors such as the barn owl (*Tyto alba*) and western screech owl (*Otus kennicotti*) are also expected to occur on the Site on a regular basis. The white-tailed kite (*Elanus leucurus*), golden eagle (*Aquila chrysaetos*), merlin (*Falco columbarius*), red-shouldered hawk (*Buteo lineatus*), and prairie falcon (*Falco mexicanus*) may also occur on the Site but on a less frequent basis. All raptors and their active nests are protected under the California Fish and Game code (Section 3503.5) and the federal Migratory Bird Treaty Act (MBTA).

All birds included on the federal list of migratory non-game birds, and their active nests, are protected by law under the federal MBTA. This includes all of the birds observed on the Site and listed in Table 3 with the exception of the European starling (*Sturnus vulgaris*).

The Site offers suitable foraging habitat and potential roosting locations for bat species known to occur in the region. In particular, rock outcroppings on the Site may provide potential roosting locations for bats. Several sensitive bat species including the Townsend's big-eared bat (*Corynorhinus townsendii*), Yuma myotis (*Myotis yumanensis*), pallid bat (*Antrozous pallidus*) and western red bat (*Lasiurus blossevillii*) are recorded in the CNDDDB as occurring in the Santa Margarita or surrounding quadrangles. Any bat roosts or indications of concentrated bat activity on the Site should be reported to the CDFG and protected from disturbance until such time as procedures can be implemented that offer long term protection for these species.

In addition to the sensitive and rare species, it is important to consider that the Site provides foraging, breeding, and dispersal habitat for a large number of common wildlife species as well. While these species are not afforded the legal protection as those species classified as sensitive or rare, they play an integral role both as individual species and collectively in the functional value of the ecosystems. Species like the dusky-footed woodrat (*Neotoma fuscipes*), long-tailed weasel (*Mustela frenata*), striped

skunk (*Mephitis mephitis*), common gray fox (*Urocyon cinereoargenteus*), raccoon (*Procyon lotor*), mountain lion (*Felis concolor*), bobcat (*Lynx rufus*), black-tailed deer (*Odocoileus hemionus*), western and side-blotched lizards (*Uta stansburiana*), western whiptail lizard (*Cnemidophorus tigris*), gopher snake (*Pituophis melanoleucus*), Common king snake (*Lampropeltis getulus*), yellow-bellied racer (*Coluber constrictor*), ensatina salamander (*Ensatina eschscholtzii*), pacific treefrog (*Hyla regilla*), western toad (*Bufo boreas*), and numerous butterfly species and untold numbers of invertebrates are examples of common organisms that are likely to occur on the Site and upon which development may have a significant though localized impact. In addition to protecting the sensitive and listed species, efforts should be made where feasible to protect and promote the ability of the Site to continue to support the rich diversity of common wildlife species currently occurring there. Section 6.0 below includes measures to manage and protect the functional value of the Site for wildlife.

The Site boundaries encompass approximately 114 acres of predominantly natural open space with relatively low human disturbance. The Site is valuable to wildlife in the area because it is large enough to support diverse functional communities in terms of prey base, cover, foraging and breeding opportunities, and because it provides sufficient area for both physical and healthy genetic exchange within individual species, particularly in the context of the relatively undisturbed surrounding lands. Currently, the Site is un-fragmented and provides continuous habitat for wildlife with the surrounding chaparral dominated hillsides. The primary drainage through the center of the Site presumably functions as a movement corridor for wildlife species as evidenced by small game trails observed along the drainage during the wildlife surveys. The dirt roads and fuelbreaks are used by larger and smaller mammals for movement as evidenced by assorted scat observed during the surveys.

The species accounts below represent state or federally listed or otherwise sensitive wildlife species reported from the Santa Margarita Quadrangle or neighboring quadrangles that are known to occur or potentially occur on the Site. The sensitivity status of each species is provided through the use of codes, defined as the following:

United States Fish and Wildlife Service (USFWS)

FE – Federally Endangered

FT – Federally Threatened

FSC – Federal Special Concern Species

California Department of Fish and Game (CDFG)

CE – California Endangered

CT – California Threatened

CSC – California Species of Concern

5.3.1 Observed and Potentially Occurring Sensitive Wildlife Species

The following is a summary of sensitive wildlife species occurring or potentially occurring on the Site. The species are listed in order of rarity and protection status.

San Joaquin Kit Fox (*Vulpes macrotis mutica*)

The federal and state-listed endangered (FE/CT) San Joaquin kit fox is the smallest member of the canid family in North America. It is a small fox with large ears set close together, slender body, long legs, narrow snout, and bushy black tipped tail. Fur color is variable but typically includes buff, tan, and yellowish-gray colors. The backsides of the ears are dark and the tail is generally carried low and straight (Brown et. al., 1997).

San Joaquin kit fox occupy grasslands and scrublands often in association with agricultural lands, oil fields, irrigated pastures, orchards, vineyards, and grazed lands. They can also be found in Oak woodland, alkali sink scrubland, and alkali meadow communities.

The San Joaquin kit fox is generally a nocturnal species but can also be seen during the day especially in the spring and summer months. They are active year round. San Joaquin kit fox dig burrows or use abandoned burrows from badger, coyote, and ground squirrels for shelter and as pupping dens. Most dens used by kit fox have at least two entrances.

Declines of kit fox populations have been attributed to several causes including predation, starvation, flooding, and drought as well as shooting, trapping, poisoning, electrocution, and road kills. However loss, degradation, and fragmentation of habitats in the San Joaquin Valley due to agricultural, industrial, and urban development is probably the single most important reason for decline of the kit fox.

Presence on site: The CNDDDB indicates sightings of the San Joaquin kit fox in the Templeton Quadrangle and surrounding Quadrangles. However, the predominantly chaparral habitat on the Site is not suitable for this species. Kit fox dens or other potentially suitable burrows were not observed on the Site by LFR. The Kit Fox Habitat Evaluation Form for San Luis Obispo, Monterey and San Benito Counties was not required for this Site because the Site is outside of recognized kit fox habitat mitigation areas in San Luis Obispo County. The probability of San Joaquin kit fox occurring even occasionally on the Site is considered very low.

California Condor (*Gymnogyps californianus*)

The California condor (FE/SE) is our largest raptor with a wingspan of up to nine feet. It has broad wings with long, “fingered” primaries that are very noticeable in flight. Adult birds are mostly dark with a white patch following the leading edge of the ventral side of the outstretched wing. They have orange featherless heads, comparatively small eyes and short compact and powerfull beaks. Juvenile condors lack the white patches on the wings and are dark overall including the head. California condors generally lay one egg every two years when breeding and typically use a large pothole in a cliff face or a hollow in a giant sequoia tree for nesting. Young are dependent on adults for up to

six months post fledging. Condors feed on carrion typically consisting of dead red meat. Condors sometimes soar to 15,000 feet (Ehrlich et al 1988).

Presence on the Site: The California condor was not observed on or over the Site during LFR surveys. Conditions existing at the Site are considered to be only marginally suitable for this species. Potential for the condor to utilize the Site on a consistent basis is considered very low.

Steelhead Trout (*Oncorhynchus mykiss irideus*)

The south-central California Coast steelhead evolutionarily significant unit (ESU) (FT/CSC) occupies rivers from the Pajaro River, Santa Cruz County to Point Conception (Santa Barbara County) in the south. Steelheads are anadromous fish that require unpolluted, cool, unobstructed conditions in coastal rivers and streams to complete their life cycle. Unlike salmon, steelhead may make more than one trip to the ocean during their life cycle. Water diversion and regulation along with habitat alteration and destruction are the main reasons for the rapid decline of this pacific coast salmonid.

The nearby Salinas River provides potential habitat for steelhead trout. The drainage on the Site is part of the Salinas River watershed but is not conducive to steelhead trout mainly due to its ephemeral nature and a lack of sufficient surface water connectivity to the Salinas River.

Presence at the Site: The central drainage on the Site is not a documented steelhead creek and is not included as part of the designated critical habitat for the south-central California Coast steelhead (ESU). The ephemeral drainage in the location of the Site rarely conveys surface water and does not provide suitable habitat for steelhead. Suitable habitat for steelhead on the Site is considered absent.

California Red-legged Frog (*Rana aurora draytonii*)

The California red-legged frog (CRLF; FT/CSC) is a comparatively large frog, though not as big as the bullfrog, and measures up to 5.6 in. (13.1 cm) in length. The lower abdomen and underside of the hind legs are red and this frog usually has a dark mask bordered by a white jaw stripe. The legs have dark bands and the back has many small dark flecks and larger, irregular dark blotches (some individuals lack blotches and are more uniform in color). Dorsal lateral folds on this frog are prominent. The eyes are turned outward and are well covered by the lids when viewed from above. Juveniles sometimes show yellow on the underside of hind legs (Stebbins, 1985).

The red-legged frog's historical range extended from the vicinity of Point Reyes National Seashore, Marin County, California, coastally, and from the vicinity of Redding, Shasta County, California, inland, south to northwestern Baja California, Mexico (United States Fish and Wildlife Service [USFWS], 2000).

Breeding for the California red-legged frog takes place from late November to late April. Males usually show up at breeding pools two to four weeks ahead of females and commence vocalizations. Egg masses containing from 2000 to 5000 dark, reddish brown eggs are laid in pools among emergent vegetation. Eggs hatch in 6-14 days and tadpoles metamorphose in 3.5-7 months. Juvenile frogs reach maturity in 3-4 years. California red-legged frogs may live up to ten years (Storer, 1925; Jennings and Hayes, 1990).

Red-legged frogs reside in and around deep, cold, still or slow moving water of ponds, reservoirs, marshes, streams, and other typically permanent bodies of water, especially where cattails or other plants provide good cover (Stebbins, 1985). The absence of bullfrogs (*Rana catesbeiana*) and non-native predatory fish is essential in order for these microhabitats to sustain viable populations of red-legged frogs (Hayes and Jennings, 1988).

LFR investigated the main drainage through the Site on May 5, 2009. Part of the investigation was to assess the existing habitat suitability for CRLF. Two very small pools of water covering approximately one square foot and one half -inch in depth were found in the entire drainage during the survey. LFR determined that the characteristics of the drainage were insufficient to support CRLF mainly due to the lack of plunge pools and locations where surface water could collect in sufficient amounts to provide suitable depth and cover for CRLF. It should be noted that a formal USFWS protocol level survey for the California red-legged frog was not conducted by LFR.

Presence on the Site: The California red-legged frog was not observed by LFR during routine wildlife surveys. The central ephemeral drainage through the Site provides the only potential habitat in the project area but does not provide sufficient plunge pools or other areas where water could collect in sufficient amounts and durations to provide suitable habitat for CRLF. Potential for CRLF to occur on the Site is low.

California Tiger Salamander (*Ambystoma californiense*)

Information in this paragraph is adapted from the Federal Register: 65 FR 57242 (Endangered and Threatened Wildlife and Plants; final rule to List the Santa Barbara County distinct Population of the California Tiger Salamander as Endangered; Final rule) and from Western Reptiles and Amphibians (Stebbins, 1985). The California tiger salamander is a member of the family Ambystomatidae. It was formerly considered a subspecies (*Ambystoma tigrinum californiense*) of the *A. tigrinum* complex, but was recognized as a distinct species in 1991. The range of this species is limited to the Central Valley and coast of California. It is a large, stout salamander (2.9 to 6.4 in.; 7.5 to 16.2 cm) with small eyes, and a rounded snout. It lacks parotoid glands and has tubercles on the underside of both front and back feet. Color varies greatly within the species, but the California tiger salamander is basically dark with large yellow or off-white blotches.

The California tiger salamander inhabits grassland and open woodland areas, breeding in the still or slow-moving waters of vernal pools, reservoirs, and streams. Adults spend the majority of their time in burrows of ground squirrels and pocket gophers, emerging during the first significant rains of the wet season and possibly traveling as far as 1.2 miles (1.9 km) to reach breeding areas. Females lay from 400 to 1300 eggs per breeding season, which they deposit individually or in small clusters on submergent vegetation or other stationary debris. Eggs hatch in 10 to 14 days. Initially, larval salamanders feed on algae, small crustaceans, and mosquito larvae. Gradually they include larger prey items such as tadpoles and smaller salamander larvae. Tiger salamander larvae reach maturity in 60 to 94 days.

There is one record in the CNDDDB for CTS found among the nine quadrangles queried for this report. The record is from 1939 and was reported occurring one mile north of San Luis Obispo. California tiger salamander are considered extirpated from the location according to the CNDDDB. The upland habitat on the Site (predominantly chaparral) is not considered conducive to CTS and there are no known CTS breeding ponds within 1.2 miles of the Site (the distance recognized by USFWS as the maximum dispersal distance traveled by CTS away from a breeding site).

Presence on the Site: The dense dominant chaparral habitat on the Site is not conducive to CTS and there are no known CTS breeding ponds within 1.2 miles of the Site. Potential for CTS to occur on the Site is very low.

Southwestern Pond Turtle (*Actinemys marmorata* ssp. *pallida*)

The southwestern pond turtle (-/CSC) inhabits permanent or nearly permanent bodies of water in a variety of habitat types. Lakes, rivers, streams, and ponds are typical habitats where the southwestern pond turtle can be found. It requires basking sites such as rock islands, partially submerged logs, vegetation mats, or open mud banks. The southwestern pond turtle feeds primarily on insects, worms, fish, and carrion. A clutch of 3-11 eggs is laid April through August in soft, sandy soils near waterways (Stebbins, 1985).

Southwestern pond turtles are closely associated with perennial water bodies such as ponds, lakes, and streams. The main drainage through the Site is an ephemeral system that is essentially dry throughout most of the year. However, southwestern pond turtles are known to travel away from perennial water bodies to lay their eggs and to hibernate.

Presence on the Site: The ephemeral drainage on the Site provides marginal to poor habitat for the southwestern pond turtle and the species could potentially utilize the drainage for dispersal purposes though it does not connect to suitable areas and only leads from the Salinas River up into the hills. Potential for the southwestern pond turtle to occur on the Site is considered low. Outside the Site boundary, a pond has been created at the existing residence immediately adjacent to the Salinas River. The pond

may present suitable habitat though the conditions and management of the pond are unknown.

California Horned Lizard (*Phrynosoma coronatum frontale*)

The California horned lizard (-/CSC) is found in a variety of habitats including grassland, oak woodland, and maritime chaparral. The California horned lizard requires loose sandy soils, preferably in the presence of low shrubs that provide shade and cover from predators. Additional requirements are open areas used for sunning, and the presence of ants and other insect prey. Eggs are laid in sandy soils from April through June (Stebbins, 1985).

All of the aforementioned habitat requirements for this species exist at the Site.

Presence on the Site: California horned lizards adults and juveniles were observed at the Site on several occasions by LFR. The Site offers excellent habitat for this species and likely supports a large population.

Silvery Legless Lizard (*Anniella pulchra pulchra*)

The silvery legless lizard (FSC/CSC) is a pencil sized fossorial species reaching a length of approximately seven inches (18 centimeters) and spending much of its time in underground burrows. This lizard is found in loose loamy or sandy soil with patchy shrub cover, and frequents chaparral, coastal scrub, pine-oak woodland, and streamside growth of sycamores, cottonwoods, and oaks. The silvery legless lizard favors the loose litter under sycamore, oak, and cottonwood trees. The silvery legless lizard bares live young and typically one to four young are born in the fall. The diet of the silvery legless lizard consists primarily of insects and spiders (Stebbins, 1985).

Presence on the Site: The silvery legless lizard was not observed during LFR surveys. Chaparral and oak woodland habitat on the Site provides limited sandy soil in association with low shrub cover. The Site has moderate to poor habitat for the silvery legless lizard. Potential for the silvery legless lizard to occur on the Site is considered low to moderate in the more well-developed soils on the south side of the Site facing Highway 58.

Western Spadefoot Toad (*Scaphiopus hammondi*)

The western spade foot toad (CSC) prefers habitat where the soil is sandy or gravelly, and vegetation is short and open. Typically, habitat types include grasslands, pine-oak woodlands, open chaparral, and scrubland. Dry periods are spent in self-made burrows, or those of small rodents such as gophers, kangaroo rats, and ground squirrels. Spadefoot toads are active mainly at night during spring and summer rains. Breeding and egg laying occur almost exclusively in shallow, temporary pools, formed by late winter and spring rains during January through May (Stebbins, 1985).

LFR found no aquatic habitat on the Site suitable for breeding by the western spadefoot toad. Upland habitat on the Site is considered marginally suitable for this species.

Presence on the Site: The western spadefoot toad was not observed during LFR surveys. There is no suitable aquatic breeding habitat on the Site and upland habitat on the Site is considered to be only marginally suitable for this species.

Coast Range Newt (*Taricha torosa torosa*)

The coast range newt does not have federal or state listing status, but is included as a sensitive species in the CNDDDB. This coast range newt is typically 2 ¾ - 3 ½ inches in total length. It is a stocky, medium-sized lunged salamander. Terrestrial adults are yellowish-brown to dark brown above, pale yellow to orange below. The eyelids and area below the eyes is light-colored. The iris is yellowish.

The coast range newt is semi terrestrial, often seen crawling over land in the daytime, becoming aquatic when breeding. They can be seen moving in large numbers to aquatic breeding sites during or after rains during the breeding season. Terrestrial newts summer in moist habitats under woody debris, or in rock crevices and animal burrows, but can sometimes be seen wandering overland in moist habitat or conditions any time of the year. Diet consists of small invertebrates such as worms, snails, slugs, and insects along with eggs, and amphibian larvae.

The coast range newts breeds in ponds, reservoirs, and sluggish pools in streams usually beginning with the first heavy rains of December. The breeding season lasts 6 – 12 weeks. Females lay eggs in small clusters attached to submergent vegetation and debris. Eggs hatch in 14 – 52 days depending on water temperature. Larvae transform at the end of summer or in early fall (Behler and King 1979).

Presence on the Site: The coast range newt was not observed during LFR surveys. The main drainage corridor through the project site provides marginal habitat for the coast range newt.

Western Burrowing Owl (*Athene cunicularia hypugaea*)

The burrowing owl (SC/CSC) inhabits open country of grasslands, prairies, and fields. It often uses the burrows of ground squirrels and other small mammal species for shelter and nesting. It is generally a nocturnal raptor, but can often be observed roosting outside of burrow entrances during the day. The burrowing owl feeds mainly on insects, small mammals, birds and reptiles. Adult burrowing owls are heavily barred and spotted while the juveniles show more of a contiguous buffy pattern below. From six to eleven eggs are incubated by both male and female adult owls and young fledge approximately 28 days after hatching from the egg. The burrowing owls long legs are unique in comparison to other owls of its size.

Presence on the Site: The burrowing owl was not observed during LFR surveys. The often steep terrain and dense chaparral habitat on the Site is not conducive to the western burrowing owl. The Site has relatively poor habitat suitability for this species. Potential for the western burrowing owl to occur on the Site is considered low.

White-tailed Kite (*Elanus leucurus*)

The white-tailed kite (-/CSC; “Fully Protected”) depends upon relatively undisturbed oak woodland, grassland, and/or coastal sage scrub habitat for successful breeding. Small mammals are the normal prey item of this species. Three to six eggs are laid as early as mid-March and as late as the end of May. Young fledge approximately 35 to 40 days after hatching. White-tailed kite habitat often has a stretch of riparian corridor in which to nest (particularly cottonwoods, but including eucalyptus, willows, and live oaks), and adjacent open fields in which to hunt. Nests are usually well hidden in the tree canopy (Dixon et al., 1957).

White-tailed kites favor the open terrain of grassland, oak woodland, and coastal scrub. Habitat existing on the Site is considered of sub-optimal suitability to support the white-tailed kite.

Presence on the Site: The white-tailed kite was not observed on the Site during LFR surveys. Conditions existing at the Site are considered to be only marginally suitable for this species. Potential for the white-tailed kite to utilize the Site on a consistent basis is considered low.

Golden Eagle (*Aquila chrysaetos*)

The Golden eagle (-/CSC; “Fully Protected”) is a fairly common raptor preferring open country of foothills and mountainsides. Nests are typically built in tall trees as well as on cliffs and power line towers. The golden eagle generally feeds on medium sized mammals such as cottontail rabbits, ground squirrels, and jackrabbits, as well as on snakes and carrion. It is a large dark bird. Adult eagles have a brownish or tawny wash on the back of their head and neck. The tail is faintly banded on a dark background. Juveniles have no wash on the head and neck, white wing patches on the ventral side of the wing, and a white tail with a thick terminal band. Incubation of typically two eggs lasts approximately 44 days and young eaglets fledge in 66-75 days (Ehrlich et al., 1988).

Golden eagles are commonly observed in San Luis Obispo County. The Site presents suitable foraging opportunities for the golden eagle.

Presence on the Site: The Site presents suitable foraging habitat for the golden eagle; the species is not expected to nest on the Site. Potential for the golden eagle to occur at the Site on a consistent basis is considered low to moderate.

Prairie Falcon (*Falco mexicanus*)

The prairie falcon (-/CSC) is a large falcon of the open country and prairies. It hunts small birds and mammals, and typically nests on cliff ledges and potholes in sandstone rock faces. This falcon is basically solid brown on the back and light on the front with brown streaking or spots on the chest and wings. Two brown stripes (malar stripes) under and behind the eye are conspicuous. It exhibits the typical falcon characteristics of long pointed wings and somewhat short tail. Two to seven eggs are typically laid and young fledge approximately 40 days after hatching. There is suitable foraging habitat for the prairie falcon on the Site.

Presence on the Site: The prairie falcon may occur occasionally as a transient through the Site. Potential for the prairie falcon to occur at the Site on a consistent basis is considered low.

Cooper's Hawk (*Accipiter cooperii*)

The Cooper's hawk (-/CSC) is a crow-sized raptor with relatively short-rounded wings and a long tail. It feeds predominantly on small to medium sized birds, but will also take mammals such as wood rats, small rabbits, and reptiles. The breeding season for the Cooper's hawk begins in mid March to early April. Nests are typically built in the upper canopy of a dense stand of trees such as live oak or cottonwood. Nests are occasionally built atop a wood rat or squirrel nest (Meng and Rosenfield, 1988 *in* Roberson and Tenney, 1993). The Cooper's hawk is generally considered a secretive species, but commonly breeds within urban settings.

Presence on the Site: The Cooper's hawk was not observed on the Site during surveys by LFR. The Cooper's hawk is expected to utilize the Site for foraging purposes on a year-round basis but probably does not nest on the Site due to the lack of extended oak tree canopy cover. The Site offers excellent foraging habitat for the Cooper's hawk. Potential for the Cooper's hawk to occur on the Site on a consistent basis is considered moderate to high.

Tricolored Blackbird (*Agelaius tricolor*)

The tricolored blackbird (FSC/CSC) is endemic to California. Statewide the population has declined by almost 90% over the last 50 years to about 51,600 adults. Where colonies of 150,000 pairs were once reported during the 1930s, there is currently no colonies known to exist with more than 5,000 pairs (Beedy et al., 1991). The tricolored blackbird is found in freshwater marshy areas, farm and other ponds, with cattails, tules, and rushes. The species close association with freshwater ponds and marshes makes it susceptible to drought and drainage of wetlands. Tricolored blackbirds nest in colonies that usually consist of a least 50 or more pairs. Breeding takes place from April through June and may include more than one clutch of young. Fledging of young occurs 11-14 days after the two-week incubation period (Roberson and Tenney, 1993)

Presence on the Site: The tricolored blackbird was not observed during LFR surveys. There is a small pond located adjacent to the Site on the existing residence parcel (to the west) that could provide suitable habitat for the tricolored blackbird. Potential for the tricolored blackbird to occur on the Site is considered low.

Ferruginous Hawk (*Buteo regalis*)

The ferruginous hawk (FSC/CSC) is a large raptor that is often observed perched on the ground in open fields, on power poles, or in trees while it searches for prey species (usually small to medium sized mammals). It has longer, more pointed wings than the red-tailed hawk, and its wings form more of a dihedral when soaring. It is not uncommon for this species to hunt from a high soar, or to hover for brief periods when hunting. It is generally found in dry, open fields and grasslands. Adults have rufous colored feathers extending down the tarsi to the ankle, crescent shaped white wing patches on the dorsal surface of the wings, and a large gape to the mouth which extends under the eye. The tail is generally off-white or gray with a faint terminal band. Ferruginous hawks commonly over-winter in San Luis Obispo County.

Presence on the Site: The ferruginous hawk was not observed during surveys by LFR. The Site contains poor foraging habitat for the ferruginous hawk. Potential for the ferruginous hawk to occur on the Site on a consistent basis is considered low.

Purple Martin (*Progne subis*)

The purple martin (-/CSC) is our largest swallow with a wingspan of approximately 18-inches, pointed wings and narrowly forked tail. Adult males are an unmistakable bluish-purple or black overall (Sibley 2000). Females and juveniles are generally gray overall. This species nests colonially using holes in trees or man-made bird houses for nesting sites. Insects make up the sole food item for this species and are taken both in the air and occasionally on the ground. Typically, nests include 4 – 5 eggs and incubation lasts from 15 to 18 days. Young fledge in 26 to 31 days. Both sexes tend the young. The purple martin is a migratory species spending winters in South America. Forestry practice of removing standing dead trees has greatly reduced availability of natural nest sites (Ehrlich et al 1988).

Purple martins are known to nest within a few miles of the project site. The CNDDDB reports 10 plus nesting purple martins along Trout Creek west of Pozo Road on Santa Margarita Ranch property in 2003.

Presence on the Site: The Site lacks a developed riparian tree corridor and is generally considered sub-optimal for use by purple martins for nesting due to the lack of tree density and overall size compared to trees in neighboring locations. The Site could provide foraging habitat for the purple martin.

American Badger (*Taxidea taxus*)

The American badger (-/CSC) is found in open grassland, coastal scrub, chaparral, and oak woodland. Ground squirrels and other small rodents, such as the kangaroo rat, are common prey items of the badger. The American badger is generally nocturnal, but is sometimes observed active in the daytime. Burrow openings of this species are elliptical and approximately eight to twelve inches (20.3 to 30.5 centimeters) wide. Young are born in March and April (Whitaker, 1996).

Presence on the Site: No evidence of American badgers, badger activity, dens or mounds were observed during the survey by LFR. American badgers are known to occur in San Luis Obispo County and the Site has marginally suitable habitat for the American badger. Small mammals at the Site provide potential foraging opportunities for the badger. Potential for the American badger to occur on the Site is considered moderate to good.

Monarch Butterfly (*Danaus plexippus*)

The monarch butterfly does not have federal or state listing status, but is included as a sensitive species in the CNDDDB. Winter roost sites have been found from Northern Mendocino County to Baja California, Mexico with several known sites on the central coast. The listing by CDFG is based on the limited wintering roost sites within the central coast portion of the butterfly's West Coast wintering range. The monarch butterfly can be found in a variety of habitats, especially those supporting milkweed plants (*Asclepias* species), the primary food source of the caterpillars. These butterflies frequent grasslands, prairies, meadows, and wetlands, but avoid dense forests. In the winter, monarchs cluster together in large numbers in eucalyptus, cypress, and Monterey pine trees, often on the edge of open areas.

Presence on the Site: The Site lacks suitable stands of eucalyptus, Monterey pine or other appropriate trees with canopies that provide typical roost site conditions for wintering monarch butterflies. Potential for a monarch butterfly roost to occur on the Site is considered very low.

6.0 POTENTIAL IMPACT AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES

All land use plans benefit from offering a variety of measures to effectively avoid, minimize, and mitigate potential ecological impacts associated with the proposed project activities. The following measures are described for consideration during the development of subsequent design, environmental review, and project implementation documents.

6.1 Avoidance & Minimization Measures

Avoidance of impacts is always the preferred approach to decision-making during the development of any project. For practical reasons, avoidance measures are significantly more limited for hard-rock quarrying projects than for other types of projects such as residential or commercial development where project activities can more easily be adjusted to avoid and/or integrate particular ecological features by design. The resource extraction activities require complete disruption of the surface. However, state law also requires complete restoration following the resource extraction in each phase of the project. The following measures should be considered to avoid impacts.

- Limit disturbance of upland habitat – The project boundaries should be clearly defined and fenced as necessary for the life of the quarry to prevent inadvertent “creep” of disturbance outside the quarry and processing areas (fencing may not be required in areas where topography would prevent inadvertent disturbance of adjacent areas). Permanent fences should be constructed to allow dispersal of wildlife where appropriate while containing project activities. A formal fencing plan specifying the type(s) of fencing and the fencing objectives should be prepared in association with reclamation plan or project approval documents. Protection of habitat should include both sides of Highway 58 through measures to ensure that trucks do not line up, level loads, or conduct other quarry-related activities by pulling out of the traffic lanes onto the side of the highway. Moreno Creek follows the south side of Highway 58 and enters the Salinas River immediately southwest of the Site where Highway 58 crosses the Salinas. Expansion of disturbance areas along the road may contribute to the introduction of invasive weed species or introduction of silty run-off from disturbed soils to the riparian corridors. Provisions should be made to facilitate all haul related activities on the quarry property within the disturbance area.
- Any required fuel management measures (e.g., buffer areas) should be included within the quarry boundary area and should not require vegetation removal, thinning, or other associated activities outside the designated quarry construction boundary area.
- Project phasing can also be employed to limit the amount of disturbed habitat. All quarry and associated activities (including staging, stockpiling, and other activities) should be strictly limited to the phase boundaries (Figure 6) to the maximum extent feasible. This will allow the undisturbed areas (future quarrying areas) to remain biologically productive for many years prior to commencement of extraction activities. Reclamation should also occur with the phasing and reclamation activities should be initiated as soon as is feasible following quarrying. This will allow disturbed areas to return to biological productivity as quickly as possible following quarrying.
- Limit disturbance of surface water and associated habitats – It is recognized that the proposed quarry would require disturbance of the ephemeral drainage

through the northern portion of the Site as this would eventually be the bottom of the quarry. The project includes a detention basin to capture stormwater prior to discharge off-site towards the Salinas River. The detention basin should be designed, sized, and managed to ensure that water leaving the Site is high quality, even during storm events. The Salinas River supports numerous sensitive species and increase turbidity/siltation could be detrimental. In addition to the basin itself, robust erosion control and stormwater management practices should be employed throughout the life of the quarry to minimize the potential for affected surface water to migrate from the Site through the mitigation area and to the Salinas River. To the maximum extent feasible, the hydrologic regimen of the Site should be protected to avoid changes in the volume or duration of surface flows, and to maintain water quality conditions.

The volume of flow reaching the undisturbed downstream portion of the drainage may be adjusted through the mining period through the use of bypass systems directing water along the mined benches around the stormwater management system. To the maximum extent feasible, stormwater falling on undisturbed areas should be routed around the disturbed areas. Each bypass conveyance should include engineered bioswales with periodic check weirs to entrap sediment prior to leaving the Site. These sediment containment features would be maintained annually as required to remove accumulated silts.

As part of the reclamation, current creek channel should be restored to provide equivalent pre-existing surface hydrology conditions.

- Avoidance of rare plants – Portions of the Site are known to support the following rare plants: shining navarretia, La Panza mariposa lily, straight-awned spineflower, Brewer's red maids, and trumpet-throated gilia, as well as coast live oak trees and gray pines. In several cases, these species occur along the margins of the property and avoidance should be attained through fencing as described above. As is discussed in the mitigation measures below, topsoil salvaging should be conducted to maintain the seedbank for the non-tree species for use during reclamation.
- Provide dispersal corridors for wildlife – As noted at the beginning of this section, the project activities limit opportunities for wildlife corridors in that all of the surface area will be impacted for resource extraction. However, project phasing will allow for maintenance of wildlife dispersal across future and past phases as the project proceeds if implemented as described above. Additionally, there are approximately 69 acres (28 hectares) of undisturbed natural open space that will be permanently protected on the Site, including a portion that runs along the western edge of the Site facing the Salinas River, an ephemeral drainage and associated canyon-lands leading to the Salinas River, and a large upland chaparral area buffering the eastern portion of the quarry (Figure 5). The area along the river is generally more than 300 feet in width and never less than 150 feet in width except where the Site meets Highway 58. This area includes topographic and botanical features that provide high quality wildlife

value and that help buffer the quarry activities from the Salinas River corridor. Access and activities in this open space area should be restricted to the maximum extent feasible to protect the integrity of the open space and to avoid impacts to wildlife. The mitigation areas to the east support large contiguous open space for wildlife. See Figure 5 for the open space areas, as defined by the mitigation area boundary.

- Restricted lighting – In recognition of the continued long-term use of the open space areas on Site and on adjacent parcels by wildlife, restrictions should require screening of lights to prevent glare into natural open space areas. Motion sensor lights should only cover areas immediately adjacent to structures and should also be shielded from shining into open space areas. In general, lighting should be minimized to the maximum extent feasible.
- Avoid impacts to nesting birds – All initial disturbance activities in shrub and tree dominated areas should avoid the bird breeding season (typically considered March 1 to August 15). If initial construction activities are proposed during this period, pre-construction nesting bird surveys of the disturbance area and a 500-foot buffer should be conducted 2-4 weeks prior to the start of ground clearing or grading activity. Construction activities that involve disturbances within 500 feet (152 meters) of an active nest should be avoided until the chicks have fledged and stopped using the nest or until the parents have abandoned the nest if no chicks hatch.
- Pre-construction wildlife surveys – Surveys are recommended prior to initial ground clearing activities and should include the potential for active American badger dens, coast horned lizards and other wildlife species occurring or potentially occurring on the Site. Detection of active badger burrows well in advance (at least two weeks) of scheduled construction work is necessary in order to adequately exclude badgers from the Site prior to the start of work activities. Efforts should be made to relocate observed wildlife species from the disturbance area to the open space on the Site. Handling of wildlife species should be conducted by a qualified biologist with all necessary permits for the particular species. Complete avoidance of fossorial (burrowing) species is infeasible at the Site; however, relocation of observed species would be beneficial.
- Oak and pine tree protection measures - Mature native trees outside the quarry boundary should be protected through implementation of a Native Tree Construction Management Plan, in which, at a minimum, all mature trees within 25 feet of the proposed ground disturbance are temporarily fenced (alternatively, the limits of disturbance may be fenced), tree avoidance and removal is monitored in the field by a County approved biologist/botanist, and the mitigation ratio for impacting native trees outside of the proposed boundary results in a higher mitigation ratio to incentivize compliance with the protection plan.

- All disturbance areas should be clearly delineated in the field with fencing prior to any Site disturbance activities including grading, grubbing, and clearing. Sensitive habitats and resources adjacent to work areas should be clearly delineated for avoidance on grading plans and in the field.
- Construction monitoring - Wildlife monitoring by a qualified biologist should be employed during initial ground clearing activities (grubbing, grading, limbing, vegetation removal, etc.). While it is not considered feasible to find and relocate all fossorial (burrowing) species within the disturbance areas, monitoring will be useful for the relocation small mammals and reptiles (e.g., coast horned lizards, gopher snakes) during the construction activities.
- Any landscaping or screening should be restricted to locally-collected native species only.

6.2 Mitigation Measures

Based on the quantified expected impacts to habitat resources, loss of native herbaceous species diversity including sensitive plants, and potential loss of wildlife resources, LFR recommends the following mitigation measures in combination with the impact avoidance and minimization measures described above. Approval of this project will require preparation of a formal reclamation plan including detailed measurable performance criteria, implementation strategies, long-term maintenance and monitoring requirements, and contingency/adaptive management measures to restore the Site with native plant communities following the completion of each phase. The proposed mitigation areas are shown on Figure 5.

- **Permanent protection of the areas on Site outside the quarry construction boundary**

Approximately 61% of the Site is outside the quarry construction boundary (69 acres). While some of these areas offer limited functional value (e.g., the area between the proposed entry road and Highway 58), the majority of the area supports high quality native habitat including chaparral (54 acres), Central Coast live oak riparian forest (1 acre), coast live oak woodland (8.3 acres), foothill woodland (0.7 acre), Diablan sage scrub (1.9 acres), and seasonally flooded vernal swale (0.21 acres). All of these habitat types except foothill woodland also occur within the quarry construction area. See Table 5 for the approximate acreage of all plant communities mapped on the Site and Figure 5 for locations of all vegetation outside the construction boundary in the open space portion of the Site.

The County of San Luis Obispo does not have a formal mitigation requirement for impacts to chaparral habitat. However, the proposed project includes mitigation through protection of 54 acres (approximately 1.4:1

protected:impacted), as well as reclamation of the entire quarry area following mining activities.

Permanent protection of natural open space areas through easement or fee dedication can provide mitigation for impacts to natural areas. The mitigation addresses permanent protection of particular resources (e.g., sensitive species), mitigation for specific losses (e.g., mature oak trees), and more generalized protection of habitat to offset loss of other less specific habitat resources (e.g., impacts to common wildlife species). The dedication should include a management plan describing allowable and prohibited uses of the protected open space areas as well as any required activities (e.g., maintenance or monitoring). Easements must be held by a qualified third-party approved by the County. Figure 5 shows the proposed mitigation areas.

- **On-site Habitat Restoration**

The disturbed areas on the southern portion of the Site facing Highway 58 offer limited opportunity for habitat restoration. While the conditions are suitable for native habitat restoration, the level of activity associated with the quarry operations is expected to be such that even upon successful restoration to native conditions, the habitat would have limitations for wildlife functionality. The detention basin in that area also offers opportunity to create aquatic and semi-aquatic (wetland) habitat conditions though all stormwater management features are subject to periodic maintenance activities. LFR has successfully integrated permanent wetland features into stormwater management basins through benching and other measures that could be considered to increase the long term ecological value of the feature if such activities are used for mitigation (see also discussions below regarding riparian resources).

- **Mitigation for loss of mature coast live oak trees**

The County of San Luis Obispo offers several potential mitigation strategies to address unavoidable impacts to coast live oak trees. The three approaches follow the provisions of the Oak Protection Act in CEQA. Up to 50% of the mitigation requirement can be achieved through planting of oaks. The County requires planting to be conducted on a 4:1 basis (planted:removed) or on a 2:1 basis (planted:impacted). In addition to complete tree removal, the term “removed” tree also includes 1) removal of 50% or more of the canopy, and 2) disturbance of 50% or more of the ground within the original canopy dripline. An “impacted” tree is defined as one with disturbance to less than 50% of the canopy or ground below the original dripline.

Instead of planting, or to meet the remaining 50% mitigation requirement after planting, either a conservation easement or an in lieu fee may be used. The conservation easement would need to be with a willing third party (e.g., qualified land trust). The conservation easement would be placed over comparable oaks or oak woodlands on-site or off-site on a 1:1 basis relative to

the impact (number of trees or acreage of oak woodland). Off-site mitigation areas would need to be permanently controlled by a qualified third party. No less than 2,000 square feet shall be assigned for each oak individual oak. If an impacted tree covers more than 2000 square feet, the conservation area must be increased accordingly.

Regarding in-lieu fees, the applicant may contribute in lieu fees to an Oak Woodland Conservation Fund currently managed by the Wildlife Conservation Board (WCB). The current in lieu fee amount is \$970 per tree removed or \$485 per tree impacted and is applied on a 1:1 basis for removed trees though the amount is determined by the County and subject to change at the County's discretion. There are approximately 12 combined acres (5 hectares) of coast live oak woodland, foothill woodland, and Central Coast live oak riparian forest on Site (in both the quarry and protected open space portions of Site), all of which support oak trees. Within the quarry boundary, oak woodland and live oak riparian forest (those communities that support oak trees) total approximately 1.89 acres (0.76 hectares); 50 oak trees greater than five inches in diameter at breast height were mapped in these communities in the quarry footprint.

Employing the County measures described above, impacts to oak trees and oak woodland (including oak riparian areas), could be mitigated through the following:

1. Placement of a permanent conservation easement over an area supporting at least 50 coast live oak trees with comparable conditions to those in the project area that will be removed, or 1.30 acres or more of coast live oak woodland habitat and 0.59 acres of Central Coast live oak riparian forest. The terms and conditions of the easement as well as any long term management requirements would be determined in cooperation with the County and the third party holding the easement. Assuming that a qualified third party can be identified, this is the proposed mitigation for the project. Approximately 8.3 acres (3.4 hectares) of oak woodland supporting approximately 200 mature oak trees plus seedlings and saplings will be permanently protected on site. The mitigation area includes an additional 0.97 acres of Central Coast live oak riparian forest and 0.67 acre of Foothill Woodland, which also support oak tree species. All habitats within the proposed mitigation area are shown on Figure 5 (note that individual oaks are only shown within the quarry area).
2. Payment of in lieu fees of \$48,500 to the Oak Conservation Fund, a county tree mitigation bank or a county-approved equivalent. Note that the amount specified is based on removal of 50 oak trees and a per tree cost of \$970; actual costs would be determined by the County.

3. If one of the two options above were used for only 50% of the mitigation requirement, planting of up to 100 oak trees could be used for the remaining 50% (planting on a 4:1 basis to replace the 25 oak trees not mitigated through easement or in lieu fees). The planting would be accomplished pursuant to a formal habitat restoration plan that includes plant installation techniques, quantifiable performance criteria, a maintenance program, and a monitoring and reporting plan.

- **Mitigation for loss of sensitive botanical species and chaparral habitat**

Require careful collection, preservation, and eventual application of the topsoil seedbank for reclamation. The largest impacts to vegetation from the mining operation will occur within the chaparral community. Shrub species characteristic of chaparral at the Site will be used to reclaim the finished slopes likely through hydroseeding and container stock, but careful treatment of the seedbank is essential to protect herbaceous species. The top six inches of soil should be salvaged in accordance with specifications provided in the reclamation plan addressing the storage details (stockpile size, needs for cover, etc.). Because the quarry will be operated and reclaimed in phases, the collected topsoil should be placed back onto reclaimed slopes as soon as possible following completion of phase activities and contouring of slopes. If slopes are not ready for soil application and seed viability becomes questionable, consider spreading soil out in an area to 'farm' the annual seedbank under the supervision of a qualified restoration ecologist, collecting seed for professional storage and subsequent application on reclaimed slopes. Additionally, the reclaimed slopes should be restored using exclusively seed collected from the Site or surrounding Santa Margarita area.

As is discussed above, approximately 54 acres of chaparral habitat will be protected under a permanent conservation easement further mitigating the impacts of the quarry operations during the life of the quarry before reclamation is complete. This area is expected to support the same abundance and diversity of sensitive and common species as the quarry construction area.

- **Mitigation for loss of seasonally-flooded vernal swale and coast live oak riparian resources**

The quarry construction boundary area supports small areas of seasonally-flooded vernal swale (0.10 acres) and live oak riparian forest habitats (0.59 acres). Both of these habitats also occur outside the disturbance area in the open space (0.21 acre and 0.97 acre respectively) and will be permanently protected.

6.3 Residual Mitigation Credit

The proposed mitigation substantially exceeds the required mitigation for oak trees and oak woodland habitat. The project applicant seeks to enter into a formal agreement

with the County of San Luis Obispo to retain a residual mitigation credit for potential future impacts. The amount of residual mitigation credit would be quantified as the number of oaks or acreage of oak woodland exceeding the current mitigation requirement for the project and would be formally established in a Memorandum of Understanding or other mutually agreeable document. In return for allowing the mitigation credit, all of the area will be placed immediately under permanent protection, eliminating the potential for future impacts.

7.0 CONCLUSIONS

The findings of the LFR Sensitive Species and Habitat Survey for the Las Pilitas Rock Quarry indicate that at least four sensitive plant communities and six sensitive species occur at the Site. No state or federally listed threatened or endangered species were observed at the Site during the 2009 LFR surveys. Five sensitive plant species were observed at the Site; these include shining navarretia, La Panza mariposa lily, straight-awned spineflower, Brewer's red maids, and trumpet-throated gilia. Coast live oaks, blue oaks, valley oaks, and gray pines are also at the Site, and are considered locally important. One sensitive wildlife species was also observed, coast horned lizard. Each of these plant communities and species is described in detail, including associated regulatory protection, in Section 5. In addition to the coast horned lizard, the Site provides suitable habitat for a number of other sensitive wildlife species including the American badger, which is associated with oak woodland and chaparral habitat. Numerous protected raptors and passerines also utilize the Site for foraging and potentially nesting.

Specific impacts to plant communities and species associated with project activities are detailed in Sections 4, 5.3, and 6.2.

The Site supports high quality vegetation with a high diversity of native plant species. Because of the nature of the resource extraction activities, the project has limited ability to avoid resources other than to reduce the project size which may jeopardize the project viability. In accordance with California state law (Surface Mining and Reclamation Act), the entire Site will be reclaimed (restored) following quarrying activities in accordance with a formal reclamation that includes establishment of full financial assurances. The quarry will be developed in phases and each phase will be reclaimed immediately upon completion. As such, all of the impacts may be considered temporary, though it may be many years between the initial impact and the completion of reclamation. To address the interim loss of ecological resources and services, up front mitigation is proposed in addition to the over-all reclamation. Potential mitigation measures are described in Section 6 above. These include substantial habitat protection areas supporting high quality native habitat.

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9.0 PERSONS CONTACTED

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TABLE 1
OBSERVED VASCULAR PLANT SPECIES FOR LAS PILITAS ROCK QUARRY
(Compiled from LFR March-September 2009 Field Surveys)

Scientific Name	Common Name	Abundance in Community Where Found	Plant Community or Communities
TREES			
<i>Pinus sabiniana</i>	gray pine	occasional	chaparral, woodland, mostly in drainages on site
<i>Populus balsamifera</i> subsp. <i>trichocarpa</i>	black cottonwood	occasional	riparian drainage
<i>Quercus agrifolia</i>	coast live oak	common	coast live oak woodland, chaparral, coast live oak riparian forest
<i>Quercus douglasii</i>	blue oak	occasional	foothill woodland
<i>Quercus lobata</i>	valley oak	uncommon	foothill woodland
<i>Salix laevigata</i>	red willow	uncommon	riparian drainage
SHRUBS/SUBSHRUBS			
<i>Adenostoma fasciculatum</i>	chamise	common	chaparral, margins of oak woodland
<i>Amorpha californica</i> var. <i>californica</i>	California false-indigo	scattered	foothill woodland
<i>Arctostaphylos glauca</i>	bigberry manzanita	scattered	chaparral, oak woodland
<i>Artemisia californica</i>	California sagebrush	occasional	chaparral
<i>Ceanothus cuneatus</i> subsp. <i>cuneatus</i>	buckbrush	scattered	chaparral
<i>Ceanothus leucodermis</i>	whitebark ceanothus	scattered	chaparral, oak woodland
<i>Cercocarpus montanus</i> [<i>betuloides</i>] var. <i>glaber</i>	mountain-mahogany	occasional	chaparral
<i>Dendromecon rigida</i> subsp. <i>rigida</i>	bush poppy	occasional	chaparral
<i>Epilobium canum</i>	California fuchsia	occasional	coastal scrub, chaparral
<i>Eriodictyon tomentosum</i>	woolly yerba santa, mountain balm	occasional	chaparral
<i>Eriogonum fasciculatum</i> var. <i>foliolosum</i>	California buckwheat	scattered	annual grassland, chaparral
<i>Eriophyllum confertiflorum</i>	golden yarrow	occasional	chaparral
<i>Hazardia squarrosa</i> var. <i>squarrosa</i>	saw-toothed goldenbush	occasional	chaparral
<i>Helianthemum scoparium</i>	peak rush rose	scattered	chaparral
<i>Heteromeles arbutifolia</i>	toyon	scattered	chaparral, oak woodland
<i>Keckiella cordifolia</i>	climbing penstemon	occasional	chaparral, oak woodland
<i>Linanthus</i> [<i>Leptodactylon</i>] <i>californicus</i>	prickly phlox	occasional	chaparral
<i>Lonicera subspicata</i> var. <i>denudata</i>	chaparral honeysuckle	occasional	oak woodland
<i>Lotus scoparius</i>	deerweed	scattered	chaparral
<i>Mimulus aurantiacus</i>	sticky monkeyflower	common	chaparral, oak woodland

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Scientific Name	Common Name	Abundance in Community Where Found	Plant Community or Communities
<i>Prunus ilicifolia</i>	holly-leaf cherry	uncommon	chaparral
<i>Quercus berberidifolia</i>	scrub oak	occasional	chaparral
<i>Rhamnus californica</i>	coffee berry	occasional	chaparral, oak woodland
<i>Rhamnus ilicifolia</i>	holly-leaved coffeeberry	occasional	chaparral, oak woodland
<i>Rhus aromatica [trilobata]</i>	basketry bush	uncommon	oak woodland, drainages
<i>Ribes malvaceum</i>	chaparral currant	occasional	oak woodland
<i>Salvia mellifera</i>	black sage	common	chaparral
<i>Sambucus nigra</i> subsp. <i>canadensis</i> [<i>mexicana</i>]	blue elderberry	scattered	chaparral, oak woodland, riparian drainages
<i>Senecio flaccida</i>	bush groundsel	uncommon	chaparral
<i>Solanum xanti</i>	purple nightshade	uncommon	oak woodland
<i>Toxicodendron diversilobum</i>	poison-oak	common	chaparral, oak woodland, riparian drainages
<i>Trichostema lanatum</i>	woolly blue-curls	occasional	chaparral
<i>Hesperoyucca [Yucca] whipplei</i>	chaparral yucca	occasional	chaparral
HERBS (ANNUALS, BIENNIALS, HERBACEOUS PERENNIALS)			
<i>Acourtia microcephala</i>	sacapellote	occasional	chaparral, oak woodland
<i>Agrostis exarata</i> var. <i>exarata</i>	spike bentgrass	occasional	oak woodland
<i>Agrostis exarata</i> var. <i>pacifica</i>	spike bentgrass	occasional	oak woodland
<i>Aira caryophyllea</i>	silver European hairgrass	occasional	chaparral, oak woodland
<i>Amaranthus albus</i>	tumbleweed amaranth	occasional	disturbed areas
<i>Amsinckia menziesii</i> var. <i>intermedia</i>	fiddleneck	scattered	grassland, openings in coastal scrub and chaparral
<i>Amsinckia menziesii</i> var. <i>menziesii</i>	fiddleneck	scattered	grassland, openings in coastal scrub and chaparral
<i>Anthemis cotula</i>	mayweed	uncommon	grassland, especially disturbed annual grassland
<i>Anthriscus caucalis</i>	bur chervil	common	oak woodland
<i>Saiocarpus multiflorus [Antirrhinum multiflorum]</i>	chaparral snapdragon	uncommon	chaparral
<i>Aphanes occidentalis</i>	western lady's mantle	uncommon	native grassland
<i>Apiastrum angustifolium</i>	wild celery	occasional	chaparral
<i>Artemisia douglasiana</i>	mugwort	scattered	oak woodland, riparian drainage
<i>Artemisia dracunculus</i>	tarragon	occasional	grassland, coastal scrub, chaparral

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Scientific Name	Common Name	Abundance in Community Where Found	Plant Community or Communities
<i>Asclepias eriocarpa</i>	Indian milkweed	occasional	grassland, coastal scrub
<i>Asclepias fascicularis</i>	narrow-leaved milkweed	uncommon	chaparral, oak woodland
<i>Astragalus douglasii</i> var. <i>douglasii</i>	Jacumba milkvetch	uncommon	chaparral
<i>Athysanus pusillus</i>	dwarf athysanus	uncommon	oak woodland
<i>Avena barbata</i>	slender wild oat	common	grassland, especially disturbed annual grassland
<i>Avena fatua</i>	wild oats	scattered	grassland, especially disturbed annual grassland
<i>Barbarea orthoceras</i>	American rocket	occasional	coast live oak woodland
<i>Bloomeria crocea</i>	golden stars	occasional	openings in chaparral, oak woodland
<i>Bowlesia incana</i>	hoary bowlesia	occasional	oak woodland
<i>Bromus carinatus</i>	California brome	occasional	chaparral, oak woodland, margins of grassland
<i>Bromus diandrus</i>	rippgut brome	common	grassland, especially disturbed grasslands, central coastal scrub, oak woodland
<i>Bromus hordeaceus</i>	soft chess brome	common	grassland, especially disturbed grasslands, central coastal scrub, oak woodland
<i>Bromus pseudolaevipes</i>	woodland brome, Coast Range brome	scattered	oak woodland
<i>Bromus rubens</i> [<i>madritensis</i> subsp. <i>rubens</i>]	red brome	occasional	grassland, especially disturbed grasslands, central coastal scrub, oak woodland
<i>Calandrinia breweri</i>	Brewer's red maids	occasional	openings in chaparral
<i>Calandrinia ciliata</i>	red maids	occasional	grassland, openings in central coastal scrub and chaparral
<i>Callitriche heterophylla</i> var. <i>heterophylla</i>	water starwort	uncommon	freshwater marsh
<i>Calochortus simulans</i>	La Panza mariposa lily, San	uncommon	oak woodland
<i>Calyptridium monandrum</i>	pussy paws	occasional	openings in chaparral
<i>Calystegia longipes</i>	Pauite morning glory	uncommon	chaparral
<i>Camissonia californica</i>	California sun cups	occasional	openings in chaparral
<i>Camissonia micrantha</i>	small-flowered sun cups	occasional	openings in central coastal scrub and chaparral

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Scientific Name	Common Name	Abundance in Community Where Found	Plant Community or Communities
<i>Camissonia strigulosa</i>	sandysoil sun cups	occasional	openings in central coastal scrub and chaparral
<i>Castilleja attenuata</i>	narrow-leaved owl's clover,	uncommon	openings in chaparral
<i>Castilleja exserta</i> subsp. <i>exserta</i>	owl's clover	occasional	grassland, openings in chaparral
<i>Centaurea melitensis</i>	tocalote	occasional	grassland, disturbed areas
<i>Centaurea solstitialis</i>	yellow star thistle	occasional	disturbed areas
<i>Cerastium glomeratum</i>	mouse-eared chickweed	scattered	oak woodland
<i>Chaenactis glabruiscula</i> var. <i>lanosa</i>	yellow pincushion	occasional	openings in central coastal scrub and chaparral
<i>Chamaesyce ocellata</i> subsp. <i>ocellata</i>	sandmat, Contura Creek spurge	uncommon	openings in coastal scrub
<i>Chenopodium album</i>	lamb's quarters	occasional	grassland, especially disturbed annual grassland
<i>Chenopodium berlandieri</i>	pitseed goosefoot	occasional	chaparral, disturbed openings in chaparral
<i>Chenopodium murale</i>	nettle-leaved goosefoot	occasional	grassland, especially disturbed annual grassland
<i>Chlorogalum pomeridianum</i> subsp. <i>pomeridianum</i>	soap plant	occasional	chaparral
<i>Chondrilla juncea</i>	skeleton weed	common	ruderal, disturbed areas
<i>Chorizanthe rectispina</i>	straight-awned spineflower	uncommon	openings in chaparral
<i>Chorizanthe staticoides</i>	Turkish rugging	occasional	openings in central coastal scrub and chaparral
<i>Cirsium occidentale</i>	cobweb thistle	occasional	oak woodland
<i>Clarkia affinis</i>	chaparral clarkia	occasional	chaparral, oak woodland
<i>Clarkia cylindrica</i> subsp. <i>cylindrica</i>	speckled clarkia	occasional	openings in chaparral
<i>Clarkia purpurea</i> subsp. <i>quadrinvulnera</i>	winecup clarkia		openings in chaparral
<i>Clarkia speciosa</i> var. <i>speciosa</i>	red spotted clarkia	occasional	openings in chaparral, oak woodland
<i>Clarkia unguiculata</i>	elegant clarkia	scattered	openings in chaparral, oak woodland
<i>Claytonia parviflora</i> subsp. <i>parviflora</i>	narrow-leaved miner's lettuce	common	chaparral, oak woodland
<i>Claytonia perfoliata</i> subsp. <i>perfoliata</i>	miner's lettuce	scattered	central coastal scrub, chaparral, oak woodland
<i>Clematis lasiantha</i>	chaparral clematis	occasional	chaparral

TABLE 1
OBSERVED VASCULAR PLANT SPECIES FOR LAS PILITAS ROCK QUARRY
(Compiled from LFR March-September 2009 Field Surveys)

Scientific Name	Common Name	Abundance in Community Where Found	Plant Community or Communities
<i>Collinsia heterophylla</i>	Chinese houses	occasional	chaparral, oak woodland
<i>Conyza canadensis</i>	horseweed	occasional	ruderal, grassland, coastal scrub
<i>Cordylanthus rigidus</i> subsp. <i>rigidus</i>	bird's beak	occasional	openings in coastal scrub, chaparral
<i>Crassula connata</i>	pygmy weed	occasional	openings in coastal scrub, chaparral
<i>Croton setigerus</i>	doveweed	occasional	grassland, disturbed areas
<i>Crypantha muricata</i>	prickly cryptantha	scattered	openings in coastal scrub, chaparral
<i>Cryptantha intermedia</i>	common cryptantha	scattered	openings in coastal scrub, chaparral
<i>Cryptantha micrantha</i>	purple-rooted forget-me-not	occasional	openings in coastal scrub, chaparral
<i>Cryptantha microstachys</i>	Tejon cryptantha	occasional	openings in coastal scrub, chaparral
<i>Danthonia californica</i>	California oatgrass	scattered	openings in chaparral, oak woodland
<i>Datura wrightii</i>	western jimson weed	uncommon	openings in chaparral, oak woodland
<i>Daucus pusillus</i>	rattlesnake weed	occasional	openings in chaparral, oak woodland
<i>Deinandra fasciculata</i>	fascicled tarweed	uncommon	grassland, disturbed areas
<i>Deinandra kelloggii</i>	Kellogg's tarweed	uncommon	openings in chaparral
<i>Delphinium parryi</i> subsp. <i>parryi</i>	Parry's larkspur	uncommon	grassland, oak woodland
<i>Dichelostemma capitatum</i>	wild hyacinth, blue dicks	scattered	openings in chaparral, oak woodland
<i>Dudleya pulverulenta</i>	chalk dudleya	uncommon	openings in chaparral
<i>Elymus glaucus</i>	western rye	uncommon	oak woodland
<i>Emmenanthe penduliflora</i>	whispering bells	occasional	openings in chaparral
<i>Eriastrum densifolium</i> subsp. <i>elongatum</i>	perennial woollystar	uncommon	openings in coastal scrub, chaparral
<i>Erigeron foliosus</i> var. <i>foliosus</i>	leafy fleabane	occasional	chaparral, oak woodland
<i>Eriogonum elongatum</i>	long-stemmed buckwheat	uncommon	openings in chaparral
<i>Eriogonum gracile</i> var. <i>gracile</i>	slender buckwheat	uncommon	openings in central coastal scrub, chaparral, oak woodland
<i>Erodium cicutarium</i>	red-stemmed filaree	occasional	grassland, disturbed areas
<i>Eschscholzia californica</i>	California poppy	occasional	grassland
<i>Eucrypta chrysanthemifolia</i> subsp. <i>chrysanthemifolia</i>	common eucrypta	occasional	openings in central coastal scrub, chaparral, oak woodland
<i>Filago californica</i>	California filago	occasional	openings in chaparral
<i>Filago gallica</i>	narrow-leaved filago	occasional	grassland, openings in central coastal scrub, chaparral, oak woodland
<i>Galium andrewsii</i>	pinemat	occasional	oak woodland
<i>Galium angustifolium</i> subsp. <i>angustifolium</i>	narrow-leaved bedstraw	occasional	chaparral

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(Compiled from LFR March-September 2009 Field Surveys)

Scientific Name	Common Name	Abundance in Community Where Found	Plant Community or Communities
<i>Galium aparine</i>	cleavers	scattered	oak woodland
<i>Galium californicum</i> subsp. <i>flaccidum</i>	California bedstraw	occasional	chaparral, oak woodland
<i>Galium porrigens</i> subsp. <i>porrigens</i>	climbing bedstraw	occasional	central coastal scrub, chaparral, oak woodland
<i>Gamochaeta [Gnaphalium] purpurea</i>	purple everlasting	occasional	grassland, margins of wetlands
<i>Gastridium ventricosum</i>	nit grass	occasional	grassland
<i>Gilia achilleifolia</i> subsp. <i>achilleifolia</i>	California gilia	uncommon	openings in coastal scrub, chaparral
<i>Gilia austro-occidentalis</i>	southwestern gilia	occasional	openings in coastal scrub, chaparral
<i>Gilia clivorum</i>	many-stemmed gilia	occasional	openings in coastal scrub, chaparral
<i>Gilia tenuiflora</i> subsp. <i>amplifauca</i>	trumpet-throated gilia, greater yellowthroat gilia, spreading slender-flowered gilia	occasional	openings in coastal scrub, chaparral
<i>Guillenia lasiophylla</i>	California mustard	occasional	openings in coastal scrub, chaparral
<i>Guitierrezia californica</i>	California matchweed	uncommon	openings in coastal scrub, chaparral
<i>Helianthemum scoparium</i>	peak rush-rose	occasional	chaparral
<i>Heterotheca grandiflora</i>	telegraph weed	occasional	grassland, openings in coastal scrub, chaparral
<i>Heterotheca sessiliflora</i> subsp. <i>echioides</i>	bristly goldenaster	occasional	grassland, central coastal scrub, chaparral
<i>Hirschfeldia incana</i>	summer mustard	scattered	grassland, disturbed areas
<i>Hordeum murinum</i> subsp. <i>leporinum</i>	foxtail barley	scattered	grassland, especially disturbed annual grassland
<i>Hypochaeris glabra</i>	smooth cat's ear	occasional	grassland, disturbed areas
<i>Hypochaeris radicata</i>	hairy cat's ear	occasional	grassland, disturbed areas
<i>Juncus macrophyllus</i>	big-leaved rush	occasional	riparian drainage
<i>Lactuca serriola</i>	prickly lettuce	occasional	grassland, disturbed areas
<i>Lagophylla ramosissima</i>	branched lagophylla	occasional	openings in chaparral
<i>Lathyrus vestitus</i>	wild sweetpea	occasional	foothill woodland, oak woodland
<i>Layia glandulosa</i>	white tidy-tips	occasional	grassland, openings in coastal scrub, chaparral
<i>Layia hieracioides</i>	tall layia	occasional	grassland, openings in coastal scrub, chaparral
<i>Lepidium nitidum</i> var. <i>nitidum</i>	pepper-grass	occasional	openings in chaparral

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Scientific Name	Common Name	Abundance in Community Where Found	Plant Community or Communities
<i>Leptosiphon [Linanthus] ciliatus</i>	whisker-brush	occasional	openings in central coastal scrub, chaparral
<i>Leptosiphon [Linanthus] liniflorus</i>	narrowflower flaxflower	uncommon	chaparral
<i>Lessingia glandulifera</i> var. <i>glandulifera</i>	valley lessingia	occasional	openings in chaparral
<i>Lithophragma cymbalaria</i>	woodland star	occasional	oak woodland
<i>Lolium multiflorum</i>	Italian ryegrass	occasional	grassland
<i>Lotus purshianus</i>	Spanish clover	occasional	grassland, disturbed areas
<i>Lotus strigosus</i>	Bishop lotus	occasional	grassland, openings in coastal scrub and chaparral
<i>Lotus wrangelianus</i>	Chilean lotus	occasional	grassland, openings in coastal scrub and chaparral
<i>Lupinus bicolor</i>	miniature lupine	scattered	grassland, openings in coastal scrub, chaparral, oak woodland
<i>Lupinus concinnus</i>	elegant lupine	occasional	openings in coastal scrub, chaparral
<i>Lupinus hirsutissimus</i>	stinging lupine	occasional	openings in coastal scrub, chaparral
<i>Lupinus nanus</i>	sky lupine	scattered	grassland, openings in coastal scrub, chaparral, oak woodland
<i>Madia gracile</i>	slender tarweed	occasional	grassland, openings in coastal scrub, chaparral, oak woodland
<i>Madia sativa</i>	common tarweed	uncommon	chaparral, oak woodland
<i>Marah fabaceus</i>	wild cucumber	occasional	central coastal scrub, chaparral, oak woodland
<i>Medicago polymorpha</i>	California burclover	scattered	grassland, disturbed areas
<i>Melica imperfecta</i>	Coast Range melic	occasional	central coastal scrub, chaparral, oak woodland
<i>Mentzelia dispersa</i>	blazing star	uncommon	openings in chaparral
<i>Bombycilaena californica [Micropus californicus]</i>	cotton tip, Q tips	occasional	openings in chaparral
<i>Microseris douglasii</i> subsp. <i>douglasii</i>	Douglas' silver puffs	occasional	openings in coastal scrub, chaparral
<i>Mimulus fremontii</i>	Fremont's monkeyflower	uncommon	opening in chaparral
<i>Mimulus guttatus</i>	seep monkeyflower, common monkeyflower	occasional	riparian drainage
<i>Mucronea perfoliata</i>	perfoliate spineflower	uncommon	central coastal scrub, chaparral

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Scientific Name	Common Name	Abundance in Community Where Found	Plant Community or Communities
<i>Nassella cernua</i>	nodding needlegrass	uncommon	grassland, openings in coastal scrub, chaparral, oak woodland
<i>Nassella pulchra</i>	purple needlegrass	occasional	grassland, openings in coastal scrub, chaparral, oak woodland
<i>Navarretia atractyloides</i>	navarretia	occasional	openings in central coastal scrub, chaparral, oak woodland
<i>Navarretia nigelliformis</i> subsp. <i>radians</i>	shining navarretia	uncommon	openings in chaparral
<i>Nicotiana quadrivalvis</i>	Indian tobacco	uncommon	openings in chaparral
<i>Paeonia californica</i>	California peony	occasional	openings in central coastal scrub, chaparral, oak woodland
<i>Papaver californicum</i>	fire poppy	occasional	openings in chaparral
<i>Pectocarya penicillata</i>	winged comb-seed	occasional	openings in chaparral
<i>Pedicularis densiflora</i>	Indian warrior	scattered	chaparral, especially near manzanitas and chamise
<i>Penstemon centranthifolius</i>	scarlet bugler	uncommon	openings in chaparral
<i>Phacelia brachyloba</i>	short-lobed phacelia	occasional	openings in chaparral
<i>Phacelia ciliata</i>	Great Valley phacelia	occasional	openings in chaparral
<i>Phacelia distans</i>	common phacelia	occasional	openings in chaparral, oak woodland
<i>Phacelia imbricata</i> subsp. <i>imbricata</i>	imbricate phacelia	uncommon	openings in chaparral
<i>Plantago erecta</i>	plantain	scattered	openings in central coastal scrub, chaparral, oak woodland
<i>Platystemon californica</i>	cream cups	occasional	grassland, margin of oak woodland
<i>Plectritis macrocera</i>	plectritis	uncommon	oak woodland
<i>Poa secunda</i>	pine bluegrass	occasional	chaparral, oak woodland
<i>Potentilla glandulosa</i> subsp. <i>glandulosa</i>	sticky cinquefoil	occasional	oak woodland
<i>Pseudognaphalium</i> [<i>Gnaphalium</i>] <i>californicum</i>	California everlasting	occasional	openings in chaparral, oak woodland
<i>Pseudognaphalium beneolens</i> [<i>Gnaphalium canescens</i> subsp. <i>beneolens</i>]	fragrant everlasting	occasional	openings in central coastal scrub, chaparral
<i>Pterostegia drymarioides</i>	fairymist	scattered	coastal scrub, chaparral, oak woodland
<i>Ranunculus hebecarpus</i>	slender annual buttercup	occasional	oak woodland

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Scientific Name	Common Name	Abundance in Community Where Found	Plant Community or Communities
<i>Rorippa curvisiliqua</i>	western yellow cress	uncommon	freshwater marsh
<i>Sagina decumbens</i> subsp. <i>occidentalis</i>	western pearlwort	uncommon	freshwater marsh
<i>Salvia columbariae</i>	chia sage	occasional	openings in woodland, chaparral
<i>Sanicula crassicaulis</i>	Pacific sanicle	occasional	oak woodland, central coastal scrub, chaparral
<i>Saxifraga californica</i>	California saxifrage	occasional	oak woodland
<i>Schismus arabicus</i>	Mediterranean grass	uncommon	grassland, coastal scrub
<i>Scutellaria tuberosa</i>	skull-cap	occasional	openings in chaparral, oak woodland
<i>Senecio vulgaris</i>	common groundsel	uncommon	openings in chaparral, woodland
<i>Silene gallica</i>	windmill pink	scattered	grassland, openings in central coastal scrub, oak woodland
<i>Silybum marianum</i>	milk thistle	occasional	grassland, disturbed areas
<i>Stellaria media</i>	common chickweed	occasional	oak woodland
<i>Stephanomeria exigua</i> subsp. <i>coronaria</i>	whiteplum wire-lettuce	occasional	openings in chaparral
<i>Stephanomeria virgata</i>	wire-lettuce	occasional	grassland, openings in central coastal scrub, chaparral, oak woodland
<i>Stylocline gnaphalioides</i>	everlasting nest straw	uncommon	openings in chaparral
<i>Tauschia hartwegii</i>	Hartweg's tauschia	occasional	oak woodland
<i>Thysanocarpus laciniatus</i>	lacepod	occasional	oak woodland
<i>Torilis arvensis</i>	hedge-parsley	occasional	grassland, disturbed openings in central coastal scrub, oak woodland
<i>Toxicoscordion [Zigadenus] venenosum</i>	death camas	uncommon	moist meadow along riparian drainage
<i>Trichostemma lanceolatum</i>	vinegar weed	uncommon	disturbed areas
<i>Trifolium gracilentum</i> var. <i>gracilentum</i>	pinpoint clover	occasional	grassland, openings in chaparral, oak woodland
<i>Trifolium hirtum</i>	rose clover	occasional	grassland
<i>Trifolium obtusiflorum</i>	creek clover	occasional	riparian drainage
<i>Trifolium oliganthum</i>	few-flowered clover	occasional	oak woodland
<i>Trifolium variegatum</i>	white-tipped clover	occasional	riparian drainage
<i>Trifolium willdenovii</i>	tomcat clover	occasional	grassland, openings in coastal scrub, chaparral, oak woodland

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Scientific Name	Common Name	Abundance in Community Where Found	Plant Community or Communities
<i>Uropappus lindleyi</i>	silver puffs	occasional	openings in chaparral, oak woodland
<i>Urtica dioica</i> subsp. <i>holosericea</i>	giant creek nettle	occasional	riparian drainage
<i>Verbena lasiostachys</i>	western verbena	uncommon	riparian drainage
<i>Vicia benghalensis</i>	purple vetch	occasional	grassland, especially disturbed annual grassland
<i>Viola pedunculata</i>	Johnny-jump-up	occasional	oak woodland
<i>Vulpia microstachys</i>	small fescue	occasional	coastal scrub
<i>Vulpia myuros</i>	rattail fescue	scattered	grassland, openings in central coastal scrub, chaparral, oak woodland
<i>Vulpia octoflora</i>	six-weeks fescue	occasional	openings in central coastal scrub, chaparral
<i>Yabea microcarpa</i>	California hedge-parsely	occasional	grassland, openings in coastal scrub, chaparral, oak woodland
FERNS AND FERN ALLIES			
<i>Adiantum jordanii</i>	California maidenhair fern	occasional	oak woodland
<i>Aspidotis californica</i>	California lace fern	occasional	chaparral and oak woodland among rocks
<i>Dryopteris arguta</i>	coastal wood fern	scattered	oak woodland
<i>Pellaea andromedifolia</i>	coffee fern	occasional	chaparral, oak woodland
<i>Pellaea mucronata</i>	bird's foot fern	occasional	chaparral
<i>Pentagramma triangularis</i>	gold-back fern	occasional	coastal scrub, chaparral, oak woodland

Notes:

Native species are in **bold** print

Uncommon = rarely observed on Site, not found in high numbers in given community; Occasional = occasionally found in given community on Site, but not consistently distributed; Scattered = found in varying numbers in many but not all areas within in given community; Common = consistently or often present in given community on Site.

TABLE 1
OBSERVED VASCULAR PLANT SPECIES FOR LAS PILITAS ROCK QUARRY
(Compiled from LFR March-September 2009 Field Surveys)

Scientific Name	Common Name	Abundance in Community Where Found	Plant Community or Communities
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TABLE 2
OBSERVED OR EXPECTED WILDLIFE SPECIES AT THE LAS PILITAS ROCK QUARRY
(Compiled from the LFR June 2009 Field Survey)

Scientific Name	Common Name
MAMMALS	
<i>Canis latrans</i>	Coyote
<i>Felis concolor</i>	Mountain lion
<i>Mephitis mephitis</i>	Striped skunk
<i>Microtis californicus</i>	California vole
<i>Mustela frenata</i>	Long-tailed weasel
<i>Neotoma fuscipes</i>	Dusky-footed woodrat
<i>Odocoileus hemionus</i>	Black-tailed deer
<i>Peromyscus maniculatus</i>	Deer mouse
<i>Procyon lotor</i>	Raccoon
<i>Urocyon cinereoargenteus</i>	Common gray fox
<i>Scapanus latimanus</i>	Broad-footed mole
<i>Sus scrofa</i>	Feral pig
<i>Sylvilagus bachmani</i>	Brush rabbit
<i>Taxidea taxus</i>	American badger
<i>Thomomys bottae</i>	Botta's pocket gopher
REPTILES AND AMPHIBIANS	
<i>Bufo boreas</i>	Western toad
<i>Crotalus viridis</i>	Western rattlesnake
<i>Eumeces skiltonianus</i>	Western skink
<i>Gerrhonotus coeruleus</i>	Northern alligator lizard
<i>Pseudacris regilla</i>	Pacific treefrog
<i>Lampropeltis getulus</i>	Common kingsnake
<i>Masticophis lateralis</i>	California whipsnake
<i>Phrynosoma coronatum</i>	Coast horned lizard
<i>Pituophis melanoleucus</i>	Gopher snake
<i>Uta stansburiana</i>	Side-blotched lizard
<i>Sceloporus occidentalis</i>	Western fence lizard
BIRDS	
<i>Accipiter cooperii</i>	Cooper's hawk
<i>Aeronautes saxatalis</i>	White-throated swift
<i>Amphispiza belli</i>	Bell's sage sparrow
<i>Aphelocoma californica</i>	Western scrub jay
<i>Aquila chrysaetos</i>	Golden eagle
<i>Baeolophus inornatus</i>	Oak titmouse
<i>Bubo virginianus</i>	Great horned owl
<i>Buteo lineatus</i>	Red-shouldered hawk
<i>Buteo Jamaicensis</i>	Red-tailed hawk
<i>Callipepla californica</i>	California quail
<i>Calypte anna</i>	Anna's hummingbird
<i>Carduelis lawrencei</i>	Lawrence's goldfinch
<i>Carduelis psaltria</i>	Lesser goldfinch
<i>Carpodacus mexicanus</i>	House finch
<i>Cathartes aura</i>	Turkey vulture
<i>Chamaea fasciata</i>	Wrentit
<i>Chondestes grammacus</i>	Lark sparrow
<i>Colaptes auratus</i>	Northern flicker

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(Compiled from the LFR June 2009 Field Survey)

Scientific Name	Common Name
<i>Columba fasciata</i>	Band-tailed pigeon
<i>Corvus brachyrhynchos</i>	American crow
<i>Corvus corax</i>	Common raven
<i>Falco sparverius</i>	American kestrel
<i>Junco hyemalis</i>	Dark-eyed junco
<i>Meleagris gallopavo</i>	Wild turkey
<i>Myiarchus cinerascens</i>	Ash-throated flycatcher
<i>Passerina amoena</i>	Lazuli bunting
<i>Petrochelidon pyrrhonota</i>	Cliff swallow
<i>Phainopepla nitens</i>	Phainopepla
<i>Pheucticus melanocephalus</i>	Black-headed grosbeak
<i>Pipilo crissalis</i>	California towhee
<i>Pipilo maculatus</i>	Spotted towhee
<i>Polioptila caerulea</i>	Blue-gray gnatcatcher
<i>Psaltriparus minimus</i>	Bushtit
<i>Sturnus vulgaris</i>	European starling
<i>Thryomanes bewickii</i>	Bewick's wren
<i>Troglodytes aedon</i>	House wren
<i>Vermivora celata</i>	Orange-crowned warbler
<i>Zenaida macroura</i>	Mourning dove
Note: Species in bold print were observed during LFR June survey	

TABLE 3
PRESENT OR CNDDDB RECORDED SENSITIVE ELEMENTS OF BIOLOGICAL DIVERSITY
FOR THE LAS PILITAS QUARRY AND SURROUNDING AREA

Based on CNPS Inventory of Rare and Endangered Plants (online edition, v7-09b; 2008) and CNDDDB (2009) search results for the Santa Margarita, Atascadero, Creston, Lopez Mountain, Santa Margarita Lake, San Luis Obispo, Shedd Canyon, Templeton, and Wilson Corner quadrangles.				
Name	Common Name	Status	Habitat/Bloom Period	Occurrence of Element on Project Site
Natural Communities		CDFG		
	Central Coast Live Oak Riparian Forest	Very Threatened		Present
	Northern Interior Cypress Forest	Threatened		Not observed
	Serpentine Bunchgrass	Threatened		Not observed
	Vernal Marsh	Very Threatened		Present
Amphibians		USFWS / CDFG		
<i>Ambystoma californiense</i>	California tiger salamander	FE / CSC		No suitable breeding pools present and upland habitat poor for this species / species not likely to occur on site
<i>Rana aurora draytonii</i>	California red-legged frog	FT / CSC		No suitable aquatic habitat and upland habitat poor for this species / species not likely to occur on site
<i>Spea hammondi</i>	Western spadefoot toad	- / CSC		No suitable breeding pools present and upland habitat poor for this species / species not likely to occur on site
<i>Taricha torosa torosa</i>	Coast Range newt	FSC / CSC		Tributaries of the Salinas River through the site may provide potential habitat for this species
Birds		USFWS / CDFG		
<i>Accipiter cooperii</i>	Cooper's hawk	- / CSC		Likely to occur on the Site / Oak woodland habitat may provide nesting opportunities for this species
<i>Aquila chrysaetos</i>	Golden eagle	- / CSC (Fully Protected)		Species likely to occur intermittently on the site while foraging / not likely to nest on the site
<i>Agelaius tricolor</i> (nesting colony)	Tricolored blackbird	(FSC) MNBMC / CSC		No suitable marsh or other aquatic habitat on site for this species
<i>Ammodramus savannarum</i>	Grasshopper sparrow	- / CSC		Limited grassland habitat present for this species
<i>Athene cunicularia</i>	Western burrowing owl	(FSC) MNBMC / CSC		limited suitable grassland habitat present
<i>Buteo regalis</i>	Ferruginous hawk	(FSC) MNBMC / CSC		limited suitable grassland habitat present / this is a migratory raptor that generally occurs on the west coast during the winter months
<i>Coccyzus americanus occidentalis</i>	Western yellow-billed cuckoo	Candidate / CE		Potential willow riparian habitat occurs near the site along the Salinas River. Species not expected to occur on the Site
<i>Elanus leucurus</i>	White-tailed kite	MNBMC / CSC (Fully Protected)		Habitat present on the site may provide suitable foraging and nesting opportunities for this species
<i>Eremophila alpestris</i>	California horned lark	- / CSC		Marginally suitable grassland habitat present on the site

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FOR THE LAS PILITAS QUARRY AND SURROUNDING AREA

Based on CNPS Inventory of Rare and Endangered Plants (online edition, v7-09b; 2008) and CNDDDB (2009) search results for the Santa Margarita, Atascadero, Creston, Lopez Mountain, Santa Margarita Lake, San Luis Obispo, Shedd Canyon, Templeton, and Wilson Corner quadrangles.				
Name	Common Name	Status	Habitat/Bloom Period	Occurrence of Element on Project Site
<i>Falco columbarius</i>	Merlin	- / -		Migratory species that may occur as a transient through the site
<i>Falco mexicanus</i>	Prairie falcon	FSC / CSC		Species may occur intermittently on the Site while foraging but is not likely to nest on the Site
<i>Gymnogyps californianus</i>	California condor	FE / CE		Suitable foraging habitat present on the site for this species
<i>Progne subis</i>	Purple martin	- / CSC		This migratory species may occur intermittently on the Site while foraging / nests in tree hollows which are likely to occur on site
Fish		USFWS / CDFG		
<i>Oncorhynchus mykiss irideus</i>	Steelhead trout	FT / CSC		No tributaries to the Salinas River occur on the site that are suitable for this species
Invertebrates		USFWS / CDFG		
<i>Branchinecta lynchi</i>	vernal pool fairy shrimp	FT / CSC		Unlikely to occur on the Site / No suitable vernal pool habitat present
<i>Danaus plexippus</i>	Monarch butterfly	- / -		Species may occur intermittently on the Site / no winter roost locations known to occur on the Site
<i>Lindneriella occidentalis</i>	California fairy shrimp	- / -		Unlikely to occur on the Site / No suitable vernal pool habitat present
<i>Polyphylla nubila</i>	Atascadero June beetle	- / -		Not likely to occur on the Site / No suitable dune habitat present
<i>Trimerotropis occulens</i>	Lompoc grasshopper	- / -		Status and habitat requirement information limited for this species
Mammals				
<i>Antroxous pallidus</i>	Pallid bat	- / CSC		Suitable habitat present
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	- / CSC		Suitable habitat present
<i>Eumops perotis californicus</i>	Western mastiff bat	- / CSC		Suitable habitat present
<i>Lasiurus blossevillii</i>	Western red bat	- / CSC		Suitable habitat present
<i>Myotis yumanensis</i>	Yuma myotis	- / -		Suitable habitat present
<i>Perognathus inornatus inornatus</i>	San Joaquin pocket mouse	- / -		limited grassland habitat on the site for this species / species requires friable soils for survival
<i>Taxidea taxus</i>	American badger	- / CSC		Suitable chaparral and oak woodland habitat present for this species
<i>Vulpes macrotis mutica</i>	San Joaquin kit fox	FE / CT		limited grassland habitat on the site for this species
Reptiles		USFWS / CDFG		
<i>Anniella pulchra</i>	Silvery legless lizard	FSC / CSC		No suitable coastal scrub or other habitat containing loose sandy soils present for this species
<i>Clemmys marmorata pallida</i>	Southwestern pond turtle	FSC / CSC		Marginally suitable upland habitat present / no perennial aquatic habitat present for this species

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Name	Common Name	Status	Habitat/Bloom Period	Occurrence of Element on Project Site
<i>Phrynosoma coronatum</i>	Coast horned lizard	FSC / CSC		Present. Suitable chaparral and oak woodland habitat present for this species
Plants		USFWS / CDFG / CNPS		
<i>Acanthomintha obovata</i> subsp. <i>cordata</i>	heart-leaved thorn-mint	- / - / 4.2	Chaparral, woodlands, grassland; bloom Apr-July	Not observed, suitable habitat present.
<i>Acanthomintha obovata</i> subsp. <i>obovata</i>	San Benito thorn-mint	- / - / 4.2	Chaparral, grassland; often on serpentine; bloom Apr-July	Not observed, suitable habitat present, but no serpentine soils present.
<i>Agrostis hooveri</i>	Hoover's bent grass	- / - / 1B.2	Central maritime chaparral, woodlands, grasslands; bloom April-July	Not observed. Suitable woodlands and grasslands present. Endemic to Central Coast (Santa Barbara and San Luis Obispo Counties).
<i>Amsinckia douglasiana</i>	Douglas' fiddleneck	- / - / 4.2	Grassland, woodland; bloom Mar-May	Not observed, suitable habitat present.
<i>Androsace elongata</i> subsp. <i>acuta</i>	California androsace	- / - / 4.2	Coastal scrub, chaparral, woodlands; bloom Mar-June	Not observed, suitable habitat present.
<i>Arctostaphylos cruzensis</i>	Arroyo de la Cruz manzanita	- / - / 1B.1	Chaparral, coastal scrub, grassland, closed cone conifer forests, woodlands and forests; bloom Dec-Mar	Not observed; suitable chaparral, coastal scrub, or woodland habitat with sandy soils present, however, this species generally grows closer to coast north of Los Osos. Endemic to the Central Coast (San Luis Obispo and Monterey Counties).
<i>A. hooveri</i>	Hoover's manzanita	- / - / 4.3	Chaparral, woodlands, closed-cone coniferous forests; bloom Apr-July	Not observed; suitable chaparral habitat present, but found primarily in Santa Lucia Range west of Salinas River. Endemic to Monterey and San Luis Obispo County.
<i>A. luciana</i>	Santa Lucia manzanita	- / - / 1B.2	Chaparral, woodlands; bloom Feb-Mar	Not observed; suitable habitat present; usually observed closer to Cuesta Grade, Lopez Canyon. Endemic to San Luis Obispo County. Observed at Santa Margarita Ranch.
<i>A. morroensis</i>	Morro manzanita	- / - / 1B.2	Central maritime chaparral, scrub, woodlands with sandy soils; bloom Dec-Mar	Not observed; suitable chaparral, coastal scrub, or woodland habitat with sandy soils present, however, this species generally grows near Morro Bay. Endemic to San Luis Obispo County.
<i>A. obispoensis</i>	San Luis Obispo manzanita	- / - / 4.3	Chaparral, woodlands, closed-cone coniferous forests; bloom Feb-June	Not observed; suitable chaparral habitat present, but found primarily in Santa Lucia Range west of Salinas River. Endemic to Monterey and San Luis Obispo County.

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Name	Common Name	Status	Habitat/Bloom Period	Occurrence of Element on Project Site
<i>A. pechoensis</i>	Pecho manzanita	- / - / 1B.2	Chaparral, coastal scrub, closed cone conifer forests; bloom Nov-Mar	Not observed; suitable chaparral, coastal scrub, or woodland habitat present; known only from Pecho Hills area. Endemic to San Luis Obispo County.
<i>A. pilosula</i>	Santa Margarita manzanita	- / - / 1B.2	Chaparral, closed cone conifer forests, woodlands and forests; bloom Dec-Mar	Not observed; suitable chaparral, coastal scrub, or woodland habitat present; known from La Panza Range. Endemic to the Central Coast (San Luis Obispo and Monterey Counties).
<i>Astragalus didymocarpus</i> var. <i>milesianus</i>	Mile's milk-vetch	- / - / 1B.2	Coastal scrub, often on serpentine clay soils; bloom Dec-June	Not observed; suitable coastal scrub habitat with clay soils present. Endemic to Ventura, Santa Barbara, and San Luis Obispo Counties.
<i>Calandrinia breweri</i>	Brewer's red maids	- / - / 4.2	Coastal scrub and chaparral, often after fires and in openings	Present in openings in chaparral.
<i>California [Erodium] macrophylla</i>	Round-leaved filaree	- / - / 1B.1	Cismontane woodland, grassland in clay soils; bloom Mar-May	Not observed; suitable woodlands and grasslands present.
<i>Calochortus catalinae</i>	Catalina mariposa lily	- / - / 4.2	Chaparral, cismontane woodland, coastal scrub, grassland; bloom Feb-May	Not observed; suitable chaparral, coastal scrub, woodlands, and grasslands present. Reported from Santa Margarita Ranch.
<i>Calochortus obispoensis</i>	San Luis mariposa lily	- / - / 1B.2	Chaparral, coastal scrub, grasslands, often on serpentine soils; bloom May-July	Not observed; suitable chaparral, coastal scrub, and grasslands present. Known from southern Santa Lucia Range, San Luis Range, and Indian Knob. Endemic to San Luis Obispo County.
<i>Calochortus palmeri</i> subsp. <i>palmeri</i>	Palmer's mariposa lily	- / - / 1B.2	Chaparral, forests, meadows, seeps; bloom May-July	Not observed; suitable chaparral, meadows, and seeps present. Known from La Panza Range. Endemic to central California (San Luis Obispo, Santa Barbara, Kern, Ventura, Los Angeles, San Bernardino, and Riverside Counties).
<i>Calochortus simulans</i>	La Panza mariposa lily, San Luis Obispo mariposa lily	- / - / 1B.3	Chaparral, coastal scrub, woodlands, lower montane coniferous forests, often on granitic soils, sometimes serpentine soils; bloom Apr-May	Present in openings in chaparral.
<i>Calycadenia villosa</i>	Dwarf calycadenia	- / - / 1B.1	Chaparral, cismontane woodlands, meadows and seeps, grassland in rocky, fine soils; bloom May-Oct	Not observed; suitable chaparral, woodland, and grassland habitat present. Reported from La Panza Range. Endemic to Central Coast (Santa Barbara, San Luis Obispo, and Monterey Counties).

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Name	Common Name	Status	Habitat/Bloom Period	Occurrence of Element on Project Site
<i>Calystegia subacaulis</i> subsp. <i>episcopalis</i>	Cambria morning-glory	- / - / 1B.2	Chaparral, woodlands; bloom Apr-May	Not observed; suitable chaparral and woodland habitat present. Reported from Santa Margarita Ranch. Endemic to San Luis Obispo County.
<i>Camissonia hardhamiae</i>	Hardham's evening-primrose	- / - / 1B.2	Chaparral, cismontane woodland in sandy, decomposed carbonate soil, disturbed or burned areas; bloom Apr-May	Not observed; suitable chaparral and woodland habitat present. Reported from Calf Canyon and Highway 58. Endemic to Central Coast (Santa Barbara and San Luis Obispo Counties).
<i>Carex obispoensis</i>	San Luis Obispo sedge	- / - / 1B.2	Chaparral, coastal scrub, closed cone conifer forests, coastal prairie and grasslands; bloom Apr-June	Not observed; suitable scrub, chaparral, and woodland habitat present, but no serpentine soils observed. Endemic to San Luis Obispo and Monterey Counties.
<i>Castilleja densiflora</i> subsp. <i>obispoensis</i>	San Luis Obispo owl's-clover	- / - / 1B.2	Grassland, meadows, and seeps; bloom April	Not observed; suitable grassland habitat present. Reported from Santa Margarita Ranch. Endemic to San Luis Obispo County.
<i>Caulanthus coulteri</i> var. <i>lemmonii</i>	Lemmon's jewelflower	- / - / 1B.2	Pinyon and juniper woodland, grassland; bloom Mar-May	Not observed; suitable grassland habitat present.
<i>Centromadia parryi</i> subsp. <i>congdonii</i>	Congdon's tarplant	- / - / 1B.2	Grasslands and wetland fringes, often in alkaline soils; bloom June-Nov	Not observed; potential grassland and wetland fringe habitat present; known primarily in low areas west of San Luis Obispo.
<i>Chlorogalum pomeridianum</i> var. <i>minus</i>	dwarf soaproot	- / - / 1B.2	Chaparral in serpentine soils; bloom May-Aug	Not observed; often found on serpentine; suitable habitat present although serpentine soils are absent. Known only west of Salinas River.
<i>Chorizanthe breweri</i>	Brewer's spineflower	- / - / 1B.3	Chaparral, coastal scrub, grassland, closed cone conifer forests, woodlands in serpentine soils ; bloom May-Aug	Not observed; often found on serpentine; suitable habitat present although serpentine soils are absent. Known only west of Salinas River.
<i>Chorizanthe rectispina</i>	Straight-awned spineflower	- / - / 1B.3	Chaparral, coastal scrub, woodlands; bloom May-July	Present in openings in chaparral.
<i>Cirsium fontinale</i> var. <i>obispoense</i>	San Luis Obispo fountain [Chorro Creek bog] thistle	FE / CE / 1B.2	Chaparral, coastal scrub, woodlands, grasslands in serpentine seeps and drainages; bloom Feb-July	Not observed; suitable serpentine substrate absent. Endemic to San Luis Obispo County.

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Name	Common Name	Status	Habitat/Bloom Period	Occurrence of Element on Project Site
<i>Cirsium loncholepis</i>	La Graciosa thistle	FE / CT / 1B.1	Cismontane woodland, coastal dunes, coastal scrub, marshes and swamps, grassland in mesic, sandy soils; bloom May-Aug	Not observed; suitable wet areas in coastal habitats absent. Endemic to San Luis Obispo and Santa Barbara Counties.
<i>Deinandra increscens</i> subsp. <i>foliosa</i>	leafy tarplant	- / - / 1B.2	Grassland; bloom June-Sept;	Not found; suitable grassland habitat present. Endemic to Central Coast (Santa Barbara and San Luis Obispo Counties).
<i>Delphinium parryi</i> subsp. <i>blochmaniae</i>	dune larkspur	- / - / 1B.2	Coastal dunes, coastal scrub, central maritime chaparral; bloom Apr-May	Not found; sandy soils in coastal scrub and coastal dunes absent; central maritime chaparral absent. Endemic to Ventura, Santa Barbara, and San Luis Obispo Counties.
<i>Dudleya abramsii</i> subsp. <i>bettinae</i>	San Luis Obispo serpentine dudleya	- / - / 1B.2	Chaparral, coastal scrub, grasslands, often on serpentine soils in bare rocky places; bloom May-July	Not observed; suitable habitat present although serpentine soils absent. Found primarily near coast and known only west of Salinas River. Endemic to San Luis Obispo County.
<i>D. abramsii</i> subsp. <i>murina</i>	San Luis Obispo dudleya	- / - / 1B.3	Chaparral, woodlands, rocky places; bloom Apr-June	Not observed; suitable chaparral or woodland habitat present, serpentine substrate absent. Known only west of Salinas River. Endemic to San Luis Obispo County.
<i>D. blochmaniae</i> subsp. <i>blochmaniae</i>	Blochman's dudleya	- / - / 1B.1	Chaparral, coastal scrub, grasslands, often on clay or serpentine soils in bare rocky places; bloom Apr-June	Not observed; suitable habitat present. Known only west of Salinas River.
<i>Eriastrum luteum</i>	yellow flowered eriastrum	- / - / 1B.2	Broadleaf upland forest, chaparral, cismontane woodland in sandy or gravelly soil; bloom May-June	Not observed; suitable habitat present.
<i>Eriogonum nudum</i> var. <i>indictum</i>	protruding buckwheat	- / - / 4.2	Scrub, chaparral, woodlands; bloom May-Dec	Not observed; suitable habitat present.
<i>Eryngium aristulatum</i> var. <i>hooveri</i>	Hoover's button celery	- / - / 1B.1	Vernal pools; bloom July	Not observed. Known from Laguna Lake near San Luis Obispo.
<i>Fritillaria agrestis</i>	stinkbells	- / - / 4.2	Grasslands, coastal scrub, chaparral, woodlands, wetlands; bloom Mar-June	Not observed; suitable habitat present.

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Name	Common Name	Status	Habitat/Bloom Period	Occurrence of Element on Project Site
<i>Fritillaria ojaiensis</i>	Ojai fritillary	- / - / 1B.2	Broadleaf upland forest in mesic soils, chaparral, lower montane coniferous forest in rocky soil; bloom Mar-May	Not observed; suitable habitat present.
<i>Fritillaria viridea</i>	San Benito fritillary	- / - / 1B.2	Chaparral, serpentine soils; bloom Mar-May	Not observed; chaparral habitat with serpentine substrate absent. Endemic to Central Coast (San Luis Obispo, Monterey, Fresno, San Benito Counties).
<i>Gilia tenuiflora</i> subsp. <i>amplifaucalis</i>	trumpet-throated gilia, greater yellowthroat gilia, spreading slender-flowered gilia	- / - / 4.3	Grasslands, coastal scrub, chaparral, woodlands; bloom Mar-Apr	Present in openings in chaparral.
<i>Grindelia hirsutula</i> var. <i>maritima</i>	San Francisco gumplant	- / - / 1B.2	Coastal bluff scrub, coastal scrub, grassland in sandy or serpentine soils; bloom Aug-Sept	Not observed; suitable habitat present, serpentine soils absent, known from near coast.
<i>Horkelia cuneata</i> subsp. <i>puberula</i>	mesa horkelia	- / - / 1B.1	Chaparral, coastal scrub, and woodlands, especially in sandy or gravelly soils; bloom Feb-Sept	Not observed; suitable coastal scrub, maritime chaparral, and woodland habitat present
<i>Layia heterotricha</i>	Pale-yellow layia	- / - / 1B.1	Cismontane woodland, coastal scrub, pinyon and juniper woodland, grassland in alkaline or clay soils; bloom Mar-June	Not observed; suitable habitat present.
<i>Layia jonesii</i>	Jones' layia	- / - / 1B.2	Chaparral, grasslands in clay or serpentine soils; bloom Mar-May	Not observed; suitable clay soils present, known only west of Salinas River.
<i>Lupinus ludovicianus</i>	San Luis Obispo County lupine	SOC / - / 1B.2	Chaparral, woodlands, grasslands in sandy or sandstone-derived soils; bloom Apr-July	Not observed; suitable habitat present. Reported from Santa Margarita Ranch. Endemic to San Luis Obispo County.
<i>Malacothamnus niveus</i>	San Luis Obispo County bush-mallow	- / - / 4.3	Chaparral, coastal scrub, and woodlands, especially in sandy or rocky soils; bloom May-July	Not observed; suitable habitat present.
<i>Malacothamnus palmeri</i> var. <i>involucratus</i>	Carmel Valley bush-mallow	- / - / 1B.2	Chaparral, cismontane woodland, coastal scrub; bloom May-Oct	Not observed; suitable habitat present. Reported from Cuesta Pass area. Endemic to San Luis Obispo and Monterey Counties.

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<i>Malacothamnus palmeri</i> var. <i>palmeri</i>	Palmer's bush-mallow	- / - / 1B.2	Chaparral in rocky soils; bloom May-July	Not observed; suitable habitat present. Known only from Santa Lucia Mountains and west of Salinas River. Endemic to San Luis Obispo and Monterey Counties.
<i>Monardella palmeri</i>	Palmer's monardella	- / - / 1B.2	Chaparral, woodlands in serpentine soils; bloom May-Sept	Not observed; suitable chaparral or woodland habitat present, serpentine substrate absent. Endemic to Central Coast (San Luis Obispo and Monterey Counties.)
<i>Navarretia fossalis</i>	Moran's navarretia	FT / - / 1B.1	Chenopod scrub, marsh and swamps, shallow freshwater, playas, vernal pools; bloom Apr-June	Not observed; suitable habitat mostly absent, although wet areas are present. Not listed for San Luis Obispo County in CNDDDB.
<i>Navarretia jaredii</i>	Paso Robles navarretia	- / - / 4.3	Cismontane woodlands, meadow and seeps, grassland, vernal pools in clay or serpentine soil; bloom Apr-July	Not observed; suitable habitat present. Reported from Santa Margarita Ranch. Endemic to San Luis Obispo County.
<i>Navarretia nigelliformis</i> subsp. <i>radians</i>	shining navarretia	- / - / 1B.2	Cismontane woodlands, grassland, vernal pools; bloom May-July	Present in openings in chaparral.
<i>Piperia michaelii</i>	Michael's rein orchid	- / - / 4.2	Coastal bluff scrub, closed cone coniferous forest, chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest; bloom Apr-Aug	Not observed; suitable habitat present. Reported from Santa Margarita Ranch. Endemic to San Luis Obispo County.
<i>Plagiobothrys uncinatus</i>	Hooked popcorn-flower	- / - / 1B.2	Chaparral in sandy soils, cismontane woodland, grassland; bloom Apr-May	Not observed; suitable habitat present.
<i>Pseudognaphalium</i> [<i>Gnaphalium</i>] <i>leucocephalum</i>	White rabbit-tobacco	- / - / 2.2	Chaparral, cismontane woodlands, coastal scrub, riparian woodland with sandy/gravelly soils; bloom (July)Aug-Nov(Dec)	Not observed; suitable habitat present.
<i>Sanicula maritima</i>	Adobe sanicle	- / CR / 1B.1	Chaparral, coastal prairie, grasslands, seeps in clay and serpentine soils; bloom Feb-May	Not observed; potential chaparral and wetland/seep habitat present on site, but serpentine soils absent. Known only west of Salinas River.
<i>Senecio aphanactis</i>	Rayless ragwort	- / - / 2.2	Coastal scrub, chaparral, woodlands; bloom July-Apr	Not observed; potential suitable habitat present.

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Name	Common Name	Status	Habitat/Bloom Period	Occurrence of Element on Project Site
<i>Sidalcea hickmanii</i> subsp. <i>anomala</i>	Cuesta Pass checkerbloom	- / CR / 1B.2	Chaparral, closed cone conifer forests in serpentine soils; bloom May-June	Not observed; suitable habitat of chaparral present, but closed-cone coniferous forest on serpentine substrate absent. Known only from Cuesta Pass area. Endemic to San Luis Obispo County.
<i>Streptanthus albidus</i> subsp. <i>peramoenus</i>	Most beautiful jewel-flower	- / - / 1B.2	Chaparral, woodlands, grasslands in serpentine soils; bloom Apr-June	Not observed; suitable serpentine substrate absent
<i>Symphotrichum defoliatum</i>	San Bernardino aster	- / - / 1B.2	Cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, vernal mesic grassland near ditches/streams/springs; bloom July-Nov	Not observed; suitable habitat present.
<i>Trifolium depauperatum</i> var. <i>hydrophilum</i>	Saline clover	- / - / 1B.2	Marshes, vernal pools, moist grasslands, often in alkaline soil; bloom Apr-June	Not observed; suitable habitat present.
<i>Tropidocarpum capparideum</i>	Caper-fruited tropidocarpum	- / - / 1B.1	Grasslands, often in alkaline soils; bloom Mar-Apr	Not observed; suitable grassland habitat present. Reported from Santa Margarita Ranch.

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Name	Common Name	Status	Habitat/Bloom Period	Occurrence of Element on Project Site
Status Codes				
United States Fish and Wildlife Service (USFWS)		California Department of Fish and Game (CDFG)		
FE Federal Endangered		CE California Endangered		
FT Federal Threatened		CT California Threatened		
SOC Species of Concern as listed by Sacramento Office (USFWS 2004)		CR California Rare		
MNBMC Migratory nongame bird of management concern		CSC California Species of Concern		
FSC Federal special concern species				
BCC Birds of Conservation Concern				
California Native Plant Society (CNPS)				
Lists				
List 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere				
List 2: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere				
List 3: Plants About Which We Need More Information - A Review List				
List 4: Plants with limited distribution (Watch List)				
Extensions to List Categories				
.1 - Seriously endangered in California (over 80% of				
.2 – Fairly endangered in California (20-80% occurrences				
.3 – Not very endangered in California (<20% of occurrences				

TABLE 4
NON-NATIVE SPECIES CURRENTLY FOUND AT THE LAS PILITAS RESOURCES SITE
AND THEIR STATUS IN THE INVASIVE PLANT INVENTORY (CALIFORNIA INVASIVE PLANT COUNCIL)

Scientific Name	Common Name	CAL-IPC Status			
		Rating	Impacts	Invasiveness	Distribution
<i>Aira caryophylla</i>	silver European hairgrass	no listing			
<i>Amaranthus albus</i>	tumbleweed amaranth	no listing			
<i>Anthemis cotula</i>	mayweed	no listing			
<i>Avena barbata</i>	slender wild oat	moderate	B	B	A
<i>Avena fatua</i>	wild oat	moderate	B	B	A
<i>Bromus diandrus</i>	ripgut brome	moderate	B	B	A
<i>Bromus hordeaceus</i>	soft chess brome	limited	B	C	A
<i>Bromus rubens</i> [madritensis subsp. <i>rubens</i>]	red brome	high	A	B	A
<i>Centaurea melitensis</i>	tocalote	moderate	B	B	B
<i>Centaurea solstitialis</i>	yellow star thistle	high	A	B	A
<i>Cerastium glomeratum</i>	mouse-eared chickweed	no listing			
<i>Chenopodium album</i>	lamb's quarters	no listing			
<i>Chenopodium murale</i>	nettle-leaved goosefoot	no listing			
<i>Gastridium ventricosum</i>	nit grass	no listing			
<i>Hirschfeldia incana</i>	Mediterranean mustard, summer mustard	moderate	B	B	A
<i>Hordeum murinum</i> subsp. <i>leporinum</i>	foxtail barley	moderate	B	B	A
<i>Hordeum vulgare</i>	cultivated barley	no listing			
<i>Hypochoeris glabra</i>	smooth cat's ear	limited	C	B	B
<i>Hypochoeris radicata</i>	hairy cat's ear	moderate	C	B	A
<i>Lactuca serriola</i>	prickly lettuce	no listing			
<i>Lolium multiflorum</i>	Mediterranean rye	moderate	B	B	A
<i>Lolium perenne</i>	perennial rye	moderate	B	B	A
<i>Medicago polymorpha</i>	burclover	limited	C	C	A
<i>Schismus arabicus</i>	Mediterranean grass	limited	B	C	A
<i>Senecio vulgaris</i>	common groundsel	no listing			
<i>Silene gallica</i>	windmill pink	no listing			
<i>Silybum marianum</i>	milk thistle	limited	C	C	A
<i>Stellaria media</i>	common chickweed	no listing			
<i>Torilis arvensis</i>	hedge-parsley	moderate	C	B	A
<i>Trifolium hirtum</i>	rose clover	moderate	C	B	B
<i>Vicia benghalensis</i>	purple vetch	no listing			
<i>Vulpia</i> [<i>Festuca</i>] <i>myuros</i>	rattail fescue	moderate	B	B	A

Cal-IPC ratings:

Rating

- high – severe ecological impacts, high rates of dispersal and establishment.
- moderate – substantial and apparent ecological impacts , moderate to high rates of dispersal, establishment dependent upon disturbance.
- limited – invasive but impacts not widespread statewide, low to moderate rates of dispersal, may be locally persistent and problematic.

Scores for Impacts, Invasiveness, and

Distribution:

- A - severe
- B - moderate
- C - limited
- D - none
- U - unknown

TABLE 5
 APPROXIMATE ACREAGE OF HABITAT IMPACTS
 AT THE LAS PILITAS QUARRY

HABITAT TYPES	IMPACT AREA (acres)	PERCENT OF TOTAL (%)	OPEN SPACE AREA (acres)	PERCENT OF TOTAL (%)	TOTAL EXISTING (acres)
Sensitive Habitats					
Coast Live Oak Woodland	1.30	13.58	8.30	86.42	9.61
Foothill Woodland	0.00	0.00	0.67	100.00	0.67
Central Coast Live Oak Riparian Forest	0.59	37.78	0.97	62.22	1.56
Seasonally Flooded Vernal Swale	0.10	31.22	0.21	68.78	0.31
Non-Sensitive Habitats					
Chaparral	39.58	42.17	54.28	57.83	93.86
Diablan Sage Scrub	0.42	35.11	0.78	64.89	1.20
Diablan Sage Scrub (Disturbed Condition)	0.68	39.11	1.07	60.89	1.75
Annual Grassland	0.59	34.71	1.12	65.29	1.71
Roads and Cleared Vegetation	1.38	49.14	1.43	50.86	2.81
Disturbed (paved road, residence)	0.00	6.47	0.05	93.53	0.06
Sensitive Habitats	1.99	16.38	10.16	83.62	12.15
Non-Sensitive Habitats	42.67	42.08	58.72	57.92	101.39
TOTAL	44.66	39.33	68.88	60.67	113.54

Note: Other than in the total at the bottom of the table, the percentages shown represent the amount of each habitat type impacted or protected relative to the total amount of that habitat, not relative to the total site acreage.

TABLE 6
 OAKS IMPACTED BY LAS PILITAS QUARRY, ALL PHASES
 (Compiled from Volbrecht Surveys and LFR fieldwork data)

Tree Tag #	Number of Trunks	DBH (inches)	Summary by Tree Size	
			Tree Size	Individual Oak Quantity
1	3	30	30" Trees	1
2	1	18	24" Trees	2
3	1	24	20" Trees	1
4	5	18	18" Trees	7
5	5	18	16" Trees	3
6	4	12	14" Trees	2
7	4	12	13" Trees	1
8	5	12	12" Trees	11
9	3	18	10" Trees	6
10	1	24	8" Trees	11
11	1	13	6" Trees	5
12	1	18	Total	50
13	1	18		
14	6	6		
15	1	8		
16	2	16		
17	1	8		
18	1	6		
19	3	8		
20	1	16		
21	1	18		
22	3	12		
23	3	10		
24	2	10		
25	3	10		
26	3	10		
27	2	10		
28	1	12		
29	1	14		
30	1	16		
31	1	8		
32	1	12		
33	1	20		
34	2	12		
35	1	8		
36	1	8		
37	1	8		
38	1	6		
39	1	8		
40	1	8		
41	1	12		
42	3	14		
43	2	12		
44	3	12		
45	1	6		
46	3	6		
47	1	8		
48	1	10		
49	1	12		
50	1	8		

Total Oaks in Quarry Construction Area (>5-inch dbh): 50