LOPEZ RESIDENCE PROJECT

2420 PARADISE LANE, LOS OSOS
SAN LUIS OBISPO COUNTY, CALIFORNIA
(APN 067-171-049)

BIOLOGICAL RESOURCES ASSESSMENT

Prepared for:

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June 2020

AUTHENTICITY AND SIGNATURE PAGE

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 visits associated with this report.

_____ 6/4/2020

Kevin Merk
Principal Biologist

Date

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EXECUTIVE SUMMARY

Kevin Merk Associates, LLC (KMA) conducted this biological resources assessment (BRA) for proposed single-family residence on an approximately 11.83-acre property at 2420 Paradise Lane, in the unincorporated community of Los Osos, San Luis Obispo County, California (Assessor's Parcel Number 067-171-049). The property is located off of Los Osos Valley Road, east of the unincorporated town of Los Osos, and is within the Coastal Zone. The proposed project involves the construction of a primary residence, accessory dwelling unit, barn, concrete driveway to provide access from Paradise Lane, parking area, pool, water tanks, and concrete aprons around the structures and other infrastructure. The project plans incorporate erosion control measures to be implemented during construction, concrete waste management plan, and Best Management Practices (BMPs). The plans include a minimum 100-foot setback from riparian and wetland habitats. No oak trees are planned to be removed, and trees within 20 feet of grading or trenching will be surrounded by protective fencing.

The purpose of this assessment was to characterize existing conditions of the site and evaluate the potential for the project site to support special-status biological resources. The investigation evaluated whether these resources could be adversely affected by the project. Surveys were conducted in the winter, spring and summer of 2019 to determine the presence of special status plants and animals, and an additional follow-up survey occurred in spring 2020. The property is located in an area that remains largely in agriculture and dispersed rural residences. Seven plant communities or land use types were identified within the study area, and include: 1) Agriculture; 2) Annual Grassland; 3) Coastal Scrub; 4) Eucalyptus; 5) Riparian; 6) Riverine; and 7) Wetland. The site has had no past development except for a bermed reservoir that is filled by shallow groundwater and precipitation, and indicates the site may have formerly been used for agriculture. Historic aerial photography shows that the grassland onsite has been mowed seasonally for at least 10 years. There is an unnamed tributary of Warden Creek onsite that runs from west to east through the southern portion of the study area, which joins a branch that comes in from south of the site and runs along the southeastern boundary. These drainages are shown as ephemeral streams on the U.S. Geological Survey topographic map. A small amount of flowing water was observed in the drainage during the spring surveys. There is no hydrologic connection visible between the reservoir and this unnamed tributary.

Riparian habitat occurred along the eastern end of the unnamed drainage, and Riverine habitat was present in the western portion of the ephemeral drainage, just downstream from the culvert crossing at Paradise Lane. The reservoir supported emergent Wetland vegetation, and dries up various times depending on weather conditions. There was a small area of wetland vegetation along a ditch at Los Osos Valley Road that likely has grown from moisture related to road and surface drainage focused into the area. The Coastal and Valley Freshwater Marsh community within the reservoir and along the roadside ditch occur in manmade features, and the reservoir is isolated and does not have a hydrological surface connection to any natural drainages or wetlands. Therefore, the reservoir is not expected to be regulated under the Clean Water Act. Because the project elements are setback a minimum of 100 feet from the wetland habitat and surface runoff would not drain into the reservoir due to the perimeter berm, no project effects to wetland habitat are expected. The ditch along Los Osos Valley Road would also not be affected by the project.

The Riparian habitat in the study area would be considered to be a sensitive natural community and is protected under the federal Clean Water Act, state Porter-Cologne Water Quality Act, California Fish and Game Code, and California Coastal Act. The riparian and wetland habitats mapped onsite would also be considered Environmentally Sensitive Habitat under the Coastal Act. As such, the Riparian and

Wetland habitats in the study area were identified as a special-status biological resource. The plant community within the Riverine habitat outside of the Riparian zone is predominantly Annual Grassland; thus, it is not a sensitive natural community per se, but the drainage feature was identified as potentially falling under the jurisdiction of U.S. Army Corps of Engineers, California Department of Fish and Wildlife, and/or Regional Water Quality Control Board due to having defined bed and bank structure resulting from periodic flowing water and hydrologic connectivity to the Morro Bay and Pacific Ocean. No permitting would be needed from these agencies because the work would remain outside of potential jurisdictional areas, and the project impact zone is setback a minimum of 100 feet from wetland edge and the outer limits of riparian or the top of bank of the drainage, whichever was farther. Additionally, the project site plans have incorporated erosion and sediment control measures, and further Best Management Practices are required as detailed herein for mitigation of potential indirect effects on these habitat areas.

During the focused rare plant surveys, one special-status plant species was found onsite, Cambria morning-glory (*Calystegia subacaulis* ssp. *episcopalis*), which has a rarity ranking of CRPR 4.2. It was present in small patches and two large occurrences, and the project would affect five small, low-density occurrences. The larger patches supported medium-density occurrences and will be avoided by the project. Based on the results of the surveys, this species is common within the onsite grassland, and the project will not jeopardize its continued existence onsite. No additional special-status plant species were identified to have potential to occur onsite, and no further plant surveys are recommended. To reduce impacts to Cambria morning glory from project development, mitigation is recommended in the form of seed collection and/or plant or topsoil salvage from impacted occurrences, and distributing seed/topsoil and relocating plants to ensure no net loss of the population onsite. Monitoring of the planted areas is recommended during the following growing season to ensure that mitigation goals have been met.

Numerous special-status animal species that are known to occur in the site vicinity were determined to have potential to occur in the study area. Many of these species with potential to occur onsite are mobile species that would only use the site periodically while foraging or moving through the site, without using the area for breeding or other key life history traits. Individuals of these mobile species that could use the site for foraging or on a transitory basis are expected to move away from any temporary disturbance during construction activities, and would not be directly affected. Individuals of less mobile species (amphibians, reptiles) and particular site uses (roost sites, burrows, nesting) could potentially be affected by construction activities if the work period coincided with the time of year that these species may be in impact areas. No trees are proposed to be removed during the project, as it is planned to be located entirely within Annual Grassland and will have a minimum 100-foot setback from Riparian and Wetland habitats. The setback from Eucalyptus is at least 30 feet.

There would be no measurable negative effect on wildlife habitat as a result of construction of the residence because a minimal amount of a common habitat type (Annual Grassland) would be lost. Several species of birds and raptors could nest or roost in the nearby Eucalyptus and/or Riparian habitat; however, no habitat for colonially roosting monarch butterflies or avian species (e.g., black-crowned night heron, great blue heron, great egret, snowy egret) is present on the property. Tricolored blackbirds could nest in the emergent Wetland habitat within the onsite reservoir, but this habitat is relatively small and will not be affected by the project and has a setback of at least 100 feet. While no trees or shrubs that could be used for nesting would be impacted, bird and raptor species protected under the Migratory Bird Treaty Act and/or California Fish and Game Code, could nest in adjacent areas and depending on the species and their sensitivity to disturbance,

may be affected by construction activities. A nesting bird survey and avoidance of active nests is prescribed as mitigation.

Because the California red-legged frog is a federally Threatened species and known to occur in the area, avoidance measures are proposed to ensure project activities do not result in adverse effects to this species. By restricting initial ground disturbance to the dry season (May 1 through October 31), project activities are not expected to impact California red-legged frogs that may be dispersing through the Annual Grassland habitat onsite. The same avoidance measures would also protect other species such as the southwestern pond turtles and burrowing owl that may be moving through the site on a seasonal basis. Other minimization or species protection measures described herein involve preconstruction surveys and avoidance of special-status wildlife species (including nesting birds and badger dens); protection measures for open excavations and trenches; and, implementing a Worker Environmental Awareness Program.

In summary, potential negative impacts on biological resources resulting from implementation of the project would mostly likely be limited to construction activities that may directly affect a CRPR 4.2 plant species and individuals of special-status wildlife species, if present in impact areas. There would be no negative impacts on habitat quality, wildlife corridors, or other long-term impacts of the project. There would be no conflicts with the Coastal Zone Land Use Ordinance, and the project would not affect Environmentally Sensitive Habitats or Sensitive Resource Areas. Mitigation measures developed to avoid and minimize the potential for the project to affect these resources are described herein, and would bring project effects below a level of significance as defined under CEQA.

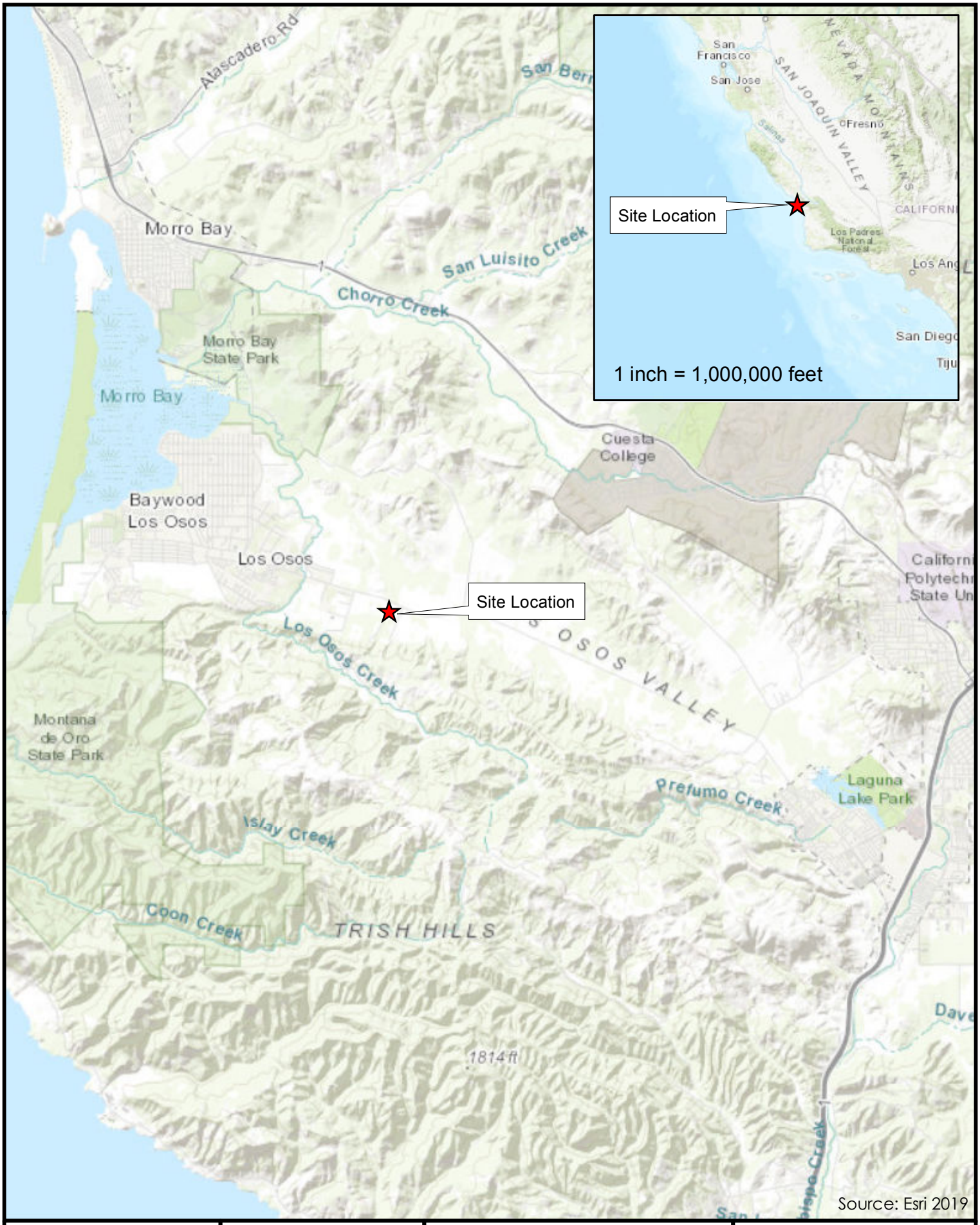
1.0 INTRODUCTION

Kevin Merk Associates, LLC (KMA) conducted this biological resources assessment (BRA) for a proposed single-family residence on an approximately 11.83-acre property at 2420 Paradise Lane, in the unincorporated community of Los Osos, San Luis Obispo County, California. It is identified as Assessor's Parcel Number (APN) 067-171-049. The property is located off of Los Osos Valley Road, approximately two (2) miles to the east of South Bay Boulevard in Los Osos and approximately six (6) miles west of the City of San Luis Obispo (Figures 1 and 2). It is approximately 4.75 miles east of the Pacific Ocean, and is within the coastal zone established by the California Coastal Act. It is located on the U. S. Geological Survey (USGS) Morro Bay South 7.5-minute topographic quadrangle (T 30 S, R 11 E; 35.299841° N, -120.793152° W). The property is within an agricultural area of equestrian facilities, livestock grazing lands, plant nurseries, irrigated row crops, dry farmed grain fields, and rural residential development (Figure 2).

The purpose of this assessment was to assist Mr. Christopher Lopez with technical biological resources information to support the County of San Luis Obispo's (County) environmental review process for the proposed construction of a single-family residence. This report evaluates the potential for the project site to support special-status biological resources (plants, animals, sensitive natural communities, and designated critical habitat) for the California Environmental Quality Act (CEQA) review and Coastal Act consistency that will be conducted by the County for the project. This BRA evaluated the site's existing natural conditions to determine whether special-status biological resources may be present onsite and could be adversely affected by the proposed project. As stated above, the project site is located within the coastal zone, and this BRA also assesses the potential presence of Environmentally Sensitive Habitat Areas (ESHA) as defined in the California Coastal Act of 1976.

1.1 Project Description

As shown on the site plans prepared by Engineering Design Professionals, Inc. (March 7, 2020), the proposed project involves the construction of a primary residence, accessory dwelling unit, and barn (see Site Plans in Appendix A). As we understand, there will be a pervious rock driveway to provide access from Paradise Lane, and a similar pervious surface for parking area. Other components include a pool, water tanks, and concrete aprons in locations around the structures. An existing water well would be used. Drainage from the impervious surfaces would be directed into a cobble swale, lined with permeable geotextile filter fabric keyed into native soil and surfaced with 6-inch cobble, and discharge into an existing gentle swale in an upland area. An onsite sewage disposal system is planned, consisting of a minimum capacity 1,500-gallon septic tank and 750-foot leach trench system, which would serve the residential development and the barn. A propane tank would be installed, and power and telecommunications lines would be from existing lines along Paradise Lane and run underground. The project plans incorporate erosion control measures to be implemented during construction, a concrete waste management plan, and other Best Management Practices (BMPs). The plans also include a minimum 100-foot setback from riparian and wetland habitats. No trees are planned to be removed or adversely affected by development activities, and protection measures are in place for any work that may occur near a tree.



KEVIN MERK ASSOCIATES

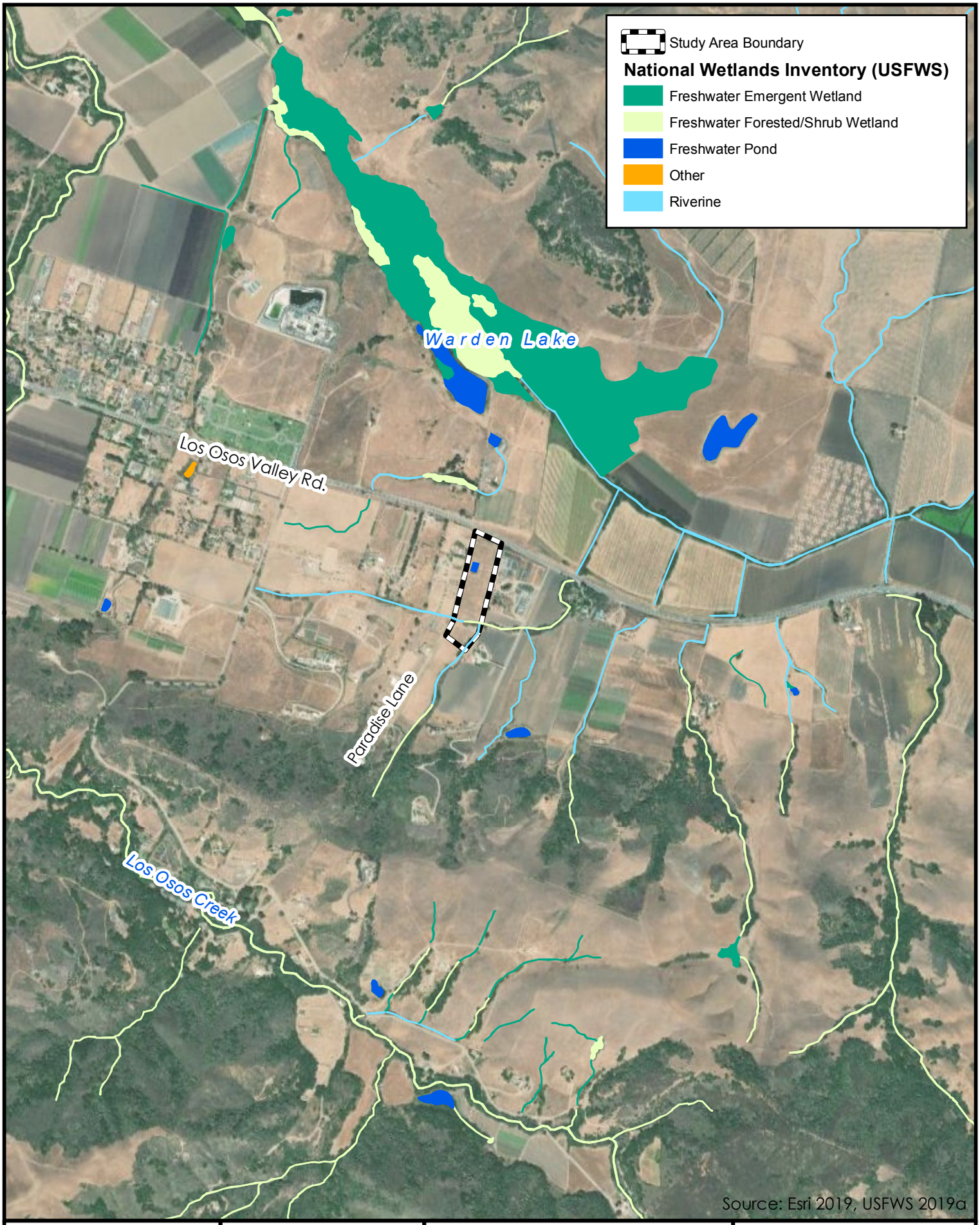
1 inch = 10,000 feet

2420 Paradise Lane, Los Osos

Christopher Lopez

Figure 1

Site Location Map



KEVIN MERK ASSOCIATES

N W E S

1 inch = 1,500 feet

2420 Paradise Lane, Los Osos

Christopher Lopez

Figure 2

Aerial Overview

1.2 Regulatory Overview

For the purpose of this report, special-status species are those plants and animals listed, or Candidates for listing, as Threatened or Endangered by the U.S. Fish and Wildlife Service (USFWS) under the federal Endangered Species Act (FESA); those listed as Threatened or Endangered under the California Endangered Species Act (CESA); animals designated as "Species of Special Concern," "Fully Protected," or "Watch List" by the California Department of Fish and Wildlife (CDFW; 2018a); and animals considered sensitive that do not have a specific listing status but which are recorded in the California Natural Diversity Database (CNDDB; CDFW 2019a).

FESA provisions protect federally listed species and their habitats from unlawful take, which is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any of the specifically enumerated conduct." Under these regulations, "harm" may include significant habitat modification or degradation that kills or injures wildlife. Candidate species are not afforded legal protection under FESA; however, Candidate species typically receive special attention during the CEQA environmental review process. CESA provides for the protection and preservation of native species of plants and animals that are experiencing a significant decline which if not halted would lead to a threatened or endangered designation. Habitat degradation or modification is not expressly included in the definition of take under CESA.

CDFW maintains a list of Species of Special Concern for those species in which declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. The goal of designating species as special concern is to halt or reverse their decline early enough to secure their long-term viability. Species of Special Concern may receive special attention during environmental review, but do not have statutory protection. FESA and CESA emphasize early consultation to avoid impacts on Threatened and Endangered species. As part of the consultation process, project proponents are directed to develop appropriate mitigation plans to offset project effects on listed species and their habitats.

Sensitive natural communities are those native plant communities listed in the CNDDB (CDFW 2019a) as rare or of limited distribution. They are evaluated using NatureServe's Heritage Methodology to assign global and state ranks based on rarity and threat, and these ranks are reviewed and adopted by CDFW's (2019b) Vegetation Classification and Mapping Program (VegCAMP). Evaluation with the state (S) level results in ranks ranging from 1 (very rare or threatened) to 5 (demonstrably secure). Those with ranks of S1 to S3 are to be addressed in the environmental review process under CEQA (CDFW 2019b).

Critical habitat is designated for species listed under FESA, and are areas that contain the physical or biological features which are essential to the conservation of those species and may need special management or protection. Critical habitat designations affect only federal agency actions or federally funded or permitted activities. Activities by private landowners are not affected if there is no federal nexus.

Rare plants are those defined as occurring on California Rare Plant Rank (CRPR) 1, 2, 3 and 4 developed by the CDFW working in concert with the California Native Plant Society (CNPS; CDFW 2018a). Rank 4 species are a watch list, and typically do not meet CEQA's rarity definition (Section 15380), but are included here because they may be of local concern. The CRPR definitions are as follows:

- *Rank 1A = Presumed extirpated in California and either rare or extinct elsewhere;*

- *Rank 1B.1 = Rare or endangered in California and elsewhere; seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat);*
- *Rank 1B.2 = Rare or endangered in California and elsewhere; moderately threatened in California (20-80% occurrences threatened);*
- *Rank 1B.3 = Rare or endangered in California and elsewhere, not very threatened in California (<20% of occurrences threatened or no current threats known);*
- *Rank 2A = Presumed extirpated in California, but more common elsewhere;*
- *Rank 2B = Rare or endangered in California, but more common elsewhere;*
- *Rank 3 = Plants needing more information (most are species that are taxonomically unresolved; some species on this list meet the definitions of rarity under CNPS and CESA);*
- *Rank 4.2 = Plants of limited distribution (watch list), fairly threatened in California (20-80% occurrences threatened); and*
- *Rank 4.3= Plants of limited distribution (watch list), not very threatened in California.*

Raptors (e.g., eagles, hawks, and owls) and their nests are protected under both federal and state regulations. Birds of prey are protected in California under the California Fish and Game (2001) Code Section 3503.5. Disturbance that causes nest abandonment or loss of reproductive effort is considered take by CDFW. Eagles are protected under the Bald and Golden Eagle Protection Act. The federal Migratory Bird Treaty Act (MBTA) applies to many bird species, including common species, and prohibits killing, possessing, or trading in migratory birds, including whole birds, parts of birds, bird nests, and eggs. The act restricts construction disturbance during the nesting season that could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment.

Environmentally Sensitive Habitat Areas (ESHA) are designated pursuant to the California Coastal Act. A variety of plant communities within the Coastal Zone meet the definition of ESHA (Coastal Act Section 30107.5), including riparian areas, wetlands, maritime chaparral and special-status species habitat. The California Coastal Commission (CCC), with technical assistance from the CDFW, is responsible for protecting ESHA within the Coastal Zone, and have required local agencies such as the County of San Luis Obispo to develop policies aimed at protecting and preserving these areas.

CEQA defines a *significant effect on the environment* as "a substantial, or potentially substantial, adverse change in the environment." Projects that may have significant effects are required to be analyzed in an Environmental Impact Report (EIR). Under CEQA, a project's effects on biotic resources are deemed significant where the project would do any of the following:

- Potentially substantially degrade the quality of the environment;
- Substantially reduce the habitat of a fish or wildlife species;
- Cause a fish or wildlife population to drop below self-sustaining levels;
- Threaten to eliminate a plant or animal community;
- Substantially reduce the number or restrict the range of an endangered, threatened, or rare species; or,
- Have possible environmental effects that are individually limited but cumulatively considerable.

In addition to the criteria above that trigger mandatory findings of significance, Appendix G of the CEQA Guidelines includes six additional impacts to consider when analyzing the significance of project effects, which may or may not be significant, depending on the level of impact. A project's effects on biological resources could be deemed significant if the project would do the following:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS.
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS.
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

If the project proponent agrees to mitigation measures or project modifications that would avoid all significant effects or would mitigate the significant effect(s) to a point below the level of significance, an EIR would not be required. The project proponent would be bound to implement the mitigation measures to reduce the project effects to below a level of significance. Mitigation is not required for effects that are less than significant.

2.0 METHODS

This investigation followed the County's (2016) *Guidelines for Biological Resources Assessments*. Google Earth aerial imagery was employed in coordination with field surveys to define the current extent of onsite plant communities and assist in identifying potential habitat for special-status species. KMA's Principal Biologist Kevin Merk conducted all field surveys that covered the entire property, which was considered to be the study area for this investigation. The site was accessed from Paradise Lane, and the surveys were conducted by walking and visually inspecting all portions of the study area. On February 18, 2019, an initial reconnaissance survey was conducted to identify biological constraints associated with development of the proposed project. Because this survey was conducted early in the growing season and not all rare plants would have been in identifiable condition, two additional seasonally timed botanical surveys were conducted on April 19, 2019 and May 24, 2019. The first rare plant survey focused on searches for San Luis Obispo owl's-clover (*Castilleja densiflora* ssp. *obispoensis*), which is a CRPR 1B.2 species known to occur near the site. Cambria morning-glory occurrences were mapped using a Trimble GeoXH6000 handheld Global Positioning System. The second rare plant survey was geared to identify species that bloom later in the season. All plant species observed in the study area were identified to a sufficient level to determine rarity. During the surveys, which were conducted between 0800 and 1600 hours, weather conditions were sunny, with northwest winds ranging from approximately 0-10 miles per hour, and air temperatures were from 58° to 65°F. Additionally, follow-up surveys were conducted on August 22, 2019 and April 6, 2020 to assess the condition of the onsite grassland, wetland and stream habitats.

Dominant species in each plant community were determined, and all plant and animal species observed during the surveys were recorded (Appendix B). Plant taxonomy followed the Jepson Flora Project (2019), and nomenclature for animals is reported as it appears in the CNDDB (CDFW 2019a) or as updates are available (California Herps 2019). Plant communities and habitat features were mapped on ESRI (2019) aerial imagery. Classification of the onsite plant communities was based on the CDFW's (2019b) *Vegetation Classification and Mapping Program*, which generally follows Sawyer et al.'s (2009) *Manual of California Vegetation*. Holland's (1986) *Preliminary Descriptions of the Terrestrial Natural Communities of California* was also referenced as the naming system in the CNDDB for sensitive natural communities follows the Holland community names. *A Guide to Wildlife Habitats in California*, which is updated through the California Wildlife Habitat Relations System (CDFW 2019c), was also cross-referenced. Representative photographs of each of the habitat and land use types within the study area are provided in a photo plate (Appendix C).

The *Web Soil Survey* was used to identify the soil mapping units present within the study area (Natural Resources Conservation Service [NRCS] 2019). The *National Wetlands Inventory* (NWI) was examined to evaluate the extent of identified wetlands on the site and in the vicinity (USFWS 2019a). USGS topographic maps were also reviewed for information on hydrologic and topographic features. Designated critical habitat for species listed under FESA was identified according to information provided in *Environmental Conservation Online System* (USFWS 2019b).

The CNDDB (CDFW 2019a) was queried for special-status plant and animal species occurrences and sensitive natural communities within the following seven USGS 7.5-minute quadrangles: Cayucos, Atascadero, Morro Bay South, San Luis Obispo, Port San Luis, and Pismo Beach. The records occurring within a five-mile buffer of the study areas were mapped. For each of the special-status species in the seven-quadrangle CNDDB search, local distribution and ecological information was obtained from a variety of online and published sources (Hoover 1970, Jennings and Hayes 1994, Bolster 1998, Moyle et al. 2015, Audubon 2019, Calflora 2019, California Native Plant Society 2019, California Herps 2019, The Cornell Lab of Ornithology 2019a, 2019b; CDFW 2019c). Those species that occur within the Los Osos and Clark valleys, coastal areas excluding beaches surrounding Morro Bay, the Irish Hills, as well as each species recorded in the CNDDB within five miles, were considered to be within the project vicinity (Appendix D). Other species from the nine-quadrangle search that have limited distributions restricted to beaches and the Santa Lucia Range, were considered to be outside of the project vicinity. Based upon our knowledge of the local area and other sources of species occurrence records, we included additional special-status biological resources that have been documented in the project vicinity.

Within the list of all special-status species known from the project vicinity, an evaluation of those species with potential to occur onsite was performed based upon the suitability of habitat conditions on the property, and the local distribution (geographical and elevational ranges) and specific requirements (plant communities and soils) of the species considered. Definitive surveys for the presence or absence of special-status animal species were not conducted. We relied on existing information and known occurrence records in the region coupled with our observations from other locations in the Los Osos Valley and surrounding area to make determinations for the probability of occurrence of special-status species in the study area. Any special-status species that were observed during the site surveys are listed as "Present" in Appendix D. Those species listed as "Potential" met the following requirements: records on the site or in the vicinity, appropriate plant community and/or soil associations onsite, and within the elevational range of the species. If any one of these elements was not met or considered to be marginal for the site, but the other elements were present, that species was considered "Unlikely". Additionally, plant species that are known to occur in the area in similar habitats, but that were not observed during the two seasonally timed

focused rare plant surveys, are also considered "Unlikely". If onsite environmental conditions were clearly inappropriate, or the species has a limited distribution that does not overlap the site, those species were considered "Not Expected". For animals, if any lifestage or particular life history use (i.e., foraging) fit the requirements of the onsite conditions, even while other aspects were inappropriate for certain functions (i.e., breeding), these species were still considered to have potential to occur onsite, but the likelihood of occurring onsite along with a description of site suitability are provided in the Special-status Biological Resources Summary (Appendix D), as well as a more in-depth analysis in the text.

We determined whether special-status plant and animal species, sensitive natural communities, and designated critical habitat could occur on or near the site. We then evaluated the potential impacts of the proposed project on each of these biological resource issues, including the six additional impacts in CEQA Appendix G. An evaluation of significance as defined under CEQA is provided for each potential impact, and mitigation is proposed to reduce impacts to a level below the significance threshold.

3.0 RESULTS

A list of plants and animals observed during the survey is included as Appendix B. Appendix C is a plate of photographs taken during the site visits to characterize the onsite conditions. Appendix D includes a list of all special-status species, sensitive plant communities, and designated critical habitat recorded within the site vicinity, and an evaluation as to their potential presence onsite. Figure 1 is a site location map, Figure 2 shows the wetland habitats recorded in the NWI in the site vicinity, and Figure 3 is a habitat map showing the plant communities and habitat features in the study area. Figures 4 and 5 show the locations of special-status plants and animals, respectively, recorded in the CNDDB within five miles of the study area. Sensitive natural communities and designated critical habitat within five miles of the site are shown on Figure 6. A project impact map with the site plan overlaid onto the habitat map is provided as Figure 7.

3.1 Existing Conditions

The study area occurs along the southern edge of the Los Osos Valley, about 0.5 mile south of Warden Lake, in a low-lying area along Warden Creek (Figure 2). The Nine (formerly called Seven) Sisters volcanic range forms the northern boundary and the Irish Hills forms the southern boundary of Los Osos Valley. Los Osos Valley Road runs along the southern edge of the floodplain, and is lined on either side with agriculture. Urban development in San Luis Obispo extends to the northwest to Valle Vista Road, and development from the community of Los Osos extends eastward to ranchettes near Clark Valley Road. Thus, the study area is located in an area that remains largely in agriculture and dispersed rural residences.

The site is bordered to the west by an equestrian property and Paradise Lane, and to the east by a plant nursery. Los Osos Valley Road forms its northern border, and agricultural/grazing lands are to the south. The site was apparently farmed in the past, and a bermed reservoir is present in the north-central part of the site. While the reservoir is no longer actively maintained, it is filled on a seasonal basis by shallow groundwater and precipitation. Historic aerial photography available on Google Earth shows that over the last 10 plus years the grassland onsite has been mowed seasonally. A blue gum eucalyptus (*Eucalyptus globulus*) windrow is present offsite on the property to the east, and a portion of the canopy overhangs the property. The site is a relatively flat terrace with a gentle rolling hill, with the highest elevations near the center of the site near the reservoir. The northern part of the site slopes northwest to the junction of Paradise Land and Los Osos Valley

Road, and the central and southern part of the site slopes to the south toward an ephemeral drainage that runs from west to east through the southern end of the property. Onsite elevations range from 58 to 91 feet (17 to 28 meters) above mean sea level.

3.2 Hydrologic Features, Riparian Habitat and Wetlands

The study area lies within the watershed of the Morro Bay Estuary, and a subarea of the Los Osos Valley, which drains towards Warden Creek and Los Osos Creek. The drainage features within the watershed have riparian and freshwater emergent wetland habitat (Figure 2). Los Osos Creek flows through Clark Valley and then to the west of the property, ultimately connecting to Morro Bay (Figure 2). Warden Lake, to the north of the site, is associated with a tributary to Los Osos Creek. On the study area, an unnamed tributary of Warden Creek is present that runs from west to east through the southern portion of the site. It is shown as an ephemeral drainage on the USGS topographic map, and only contains flowing water during and shortly after winter storm events. This drainage originates to the west of the property on gently sloping agricultural lands, and flows through a culvert under Paradise Lane. Seasonal water was observed in February but was dry by the spring surveys in 2019. Some flowing water was also observed during the survey conducted in April 2020. The defined bed and bank onsite ranged from five to 10 feet wide. Arroyo willows (*Salix lasiolepis*) are also present along the channel.

Another unnamed drainage feature that drains low hills to the south of the study area runs along the southeastern boundary of the property and joins the west-east drainage at the property's eastern edge (Figure 2). It then flows to the east under Jacaranda Lane and then turns north to flow under Los Osos Valley Road. On the north side of Los Osos Valley Road, the drainage runs in an artificially straightened channel, joining Warden Creek just upstream from Warden Lake. Based upon a review of aerial photography, it appears that the drainage in Los Osos Valley upstream from this confluence has been channelized and constrained to create additional lands for agriculture.

The onsite reservoir is shown as being present dating back to the 1965 topographic quadrangle, and can also be seen on a 1976 aerial photograph. There is no hydrologic connection visible between the reservoir and the unnamed tributary, as indicated by observations in the field, review of topographic maps, and historic and current aerial photography. Due to the berm surrounding the feature, it does not appear to collect surface water runoff from the site. The only sources of water appear to be a shallow groundwater table and precipitation that falls directly into the basin. A review of historic aerial photography shows standing water only in the winter through early summer of wet years. It did not contain water in the spring months during the drought from 2013 to 2016, but standing water ranging from four to 12 inches deep was observed in the winter and spring of 2019, as well as in April 2020.

The NWI classifies the unnamed ephemeral drainages within the study area as having reaches with Riverine and Freshwater Forested/Shrub wetland types (Figure 2). The Freshwater Forested/Shrub wetland area corresponds with the Riparian habitat mapped in Figure 3 and described in Section 3.4.5 below. The NWI also shows the reservoir as a Freshwater Pond (Figure 2), and was classified as Wetland habitat in this evaluation (Figure 3). The NWI does not show a hydrologic connection between the pond and the drainages, and observations in the field indicate that the reservoir was constructed in an upland area.

3.3 Soils

Within the study area, there are only two soil types: Conception loam, 5 to 9 percent slopes occurs on the majority of the site, and Cropley clay, 2 to 9 percent slopes occurs in the southern portion of the site along the unnamed tributary (NRCS 2019). Conception loams occur on terraces and are alluvium derived from sedimentary rock. Cropley clay occurs on alluvial fans and terraces, and is alluvium derived from calcareous shale. Its upper profiles are clay. Neither of these two soil types are classified as hydric soils (NRCS 2019).

3.4 Habitat Types

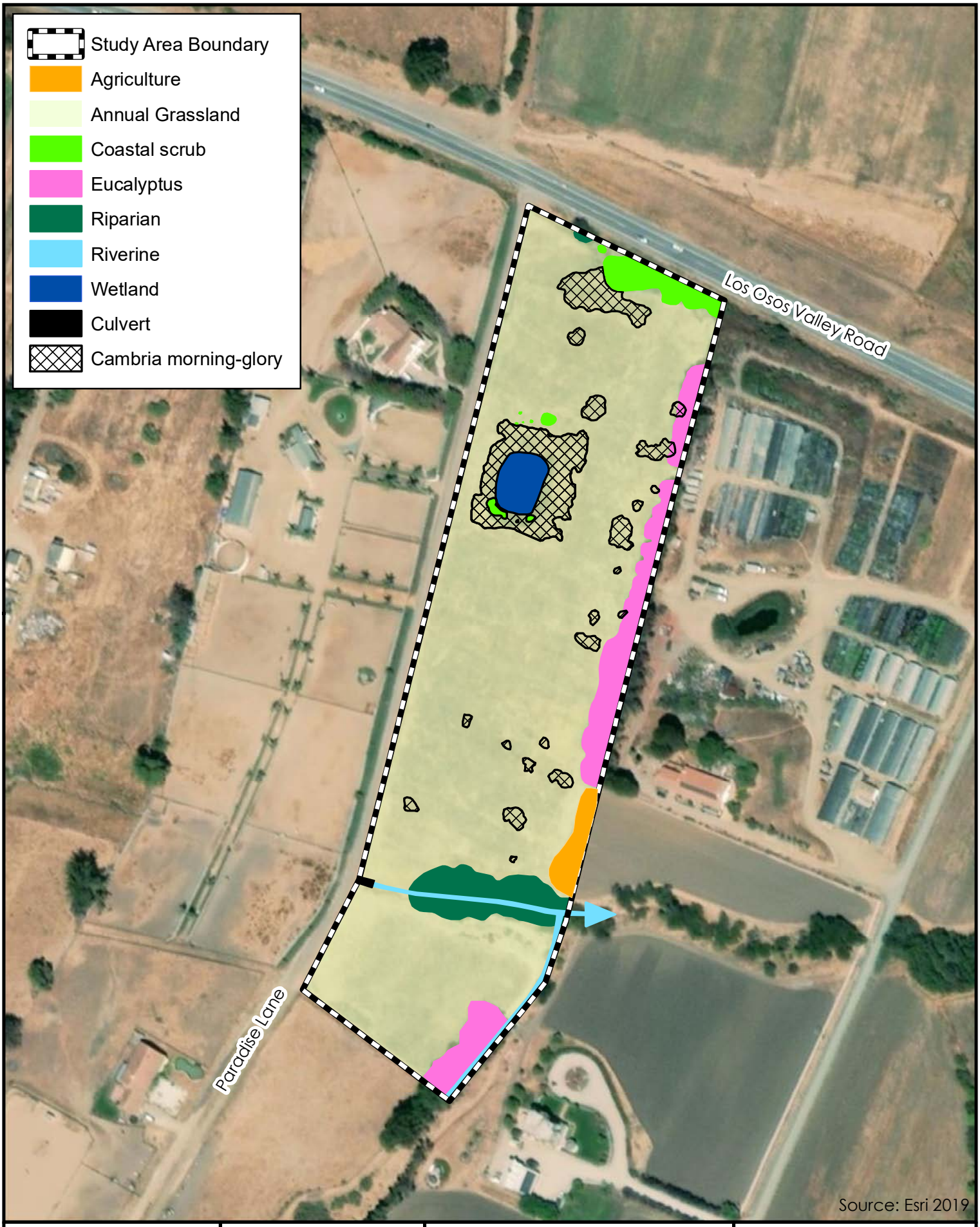
Seven plant communities or land use types were identified within the study area, and include: 1) Agriculture; 2) Annual Grassland; 3) Coastal Scrub; 4) Eucalyptus; 5) Riparian; 6) Riverine; and 7) Wetland. A description of these habitat types is provided below and the areas occupied by these habitat types onsite is shown on Figure 3. Representative photographs of each of these habitat types are included in Appendix C.

3.4.1 Agriculture

Within the study area, a portion of the agricultural field to the east extended onto the property. (Figure 3). No crop was present at the time of the surveys and the field consisted of disked bare soils that were recolonized by grasses and agricultural weeds. It appears that the area was part of a dry farmed grain field from the neighboring property that was not consistently utilized.

3.4.2 Annual Grassland

Annual Grassland is the primary habitat type in the study area (Figure 3). It is dominated by non-native grasses and herbs such as slender wild oat (*Avena barbata*) and various bromes (*Bromus diandrus* and *Bromus hordeaceus*). Harding grass (*Phalaris aquatica*), Italian rye grass (*Festuca perennis*), fennel (*Foeniculum vulgare*), rose clover (*Trifolium hirtum*), hairy vetch (*Vicia villosa*), and English plantain (*Plantago lanceolata*) were also present in various parts of the grassland onsite. Given the farming and grazing activities in the area, it is possible that the property has been used for agriculture in the past. As seen on Google Earth, the site has been mowed in the summer for about the past decade. The history of disturbance appears to have resulted in the species composition being dominated by non-native, weedy plants with very few native species. However, several native grassland species were present in some areas, including California oatgrass (*Danthonia californica*), purple needlegrass (*Stipa pulchra*) and Cambria morning glory (*Calystegia subacaulis* ssp. *episcopalis*). The native grasses were very patchy on the site and did not form sufficient cover to warrant characterization as a native grassland. While the Cambria morning glory is on a watch list (with a CRPR 4.2), it is very common the project area and can withstand seasonal mowing and disking depending on the time of year the disturbance occurs, as many fallow agricultural fields in the area support this species (K. Merk, personal observation). The Cambria morning glory occurrences onsite are discussed further in Section 3.5.1. Species found along the Paradise Lane road edge included a higher abundance of species adapted to disturbance associated with the road such as more intensive mowing, and included purple false brome (*Brachypodium distachyon*), big heron bill (*Erodium botrys*), and California burclover (*Medicago polymorpha*). The grassland habitat along Los Osos Valley Road intermixed with the Coastal Scrub habitat described below. The Annual Grassland onsite corresponds to the Non-native Grassland community described by Holland (1986) and the Wild Oats Grasslands or Wild Oats and Annual Brome Grasslands association, which is a semi-natural alliance (CDFW 2019b).



KEVIN MERK ASSOCIATES

N W E S

1 inch = 200 feet

2420 Paradise Lane, Los Osos

Christopher Lopez

Figure 3

Habitat Map

3.4.3 Coastal Scrub

The Coastal Scrub habitat in the study area occurred on the slope on the side of Los Osos Valley Road and the berm around the reservoir where mowing is not conducted (Figure 3). It was composed of coyote brush (*Baccharis pilularis*) shrubs, which are known to colonize grasslands in the coastal area once farming or grazing activities cease. The Coastal Scrub habitat had intermixed non-native species such as fennel, spiny sowthistle (*Sonchus asper*), black mustard (*Brassica nigra*), and bristly ox-tongue (*Helminthotheca echioides*), which are all indicative of past disturbance regimes onsite. It also included other non-native invasive species, such as jubata grass (*Cortaderia jubata*) and an ornamental escapee, Calla lily (*Zantedeschia aethiopica*). Some scattered, small coyote brush shrubs were interspersed in the Annual Grassland habitat near the reservoir, as wind-dispersed seeds travel and the species readily colonizes open soils. This habitat type corresponds to the Central (Lucian) Coastal Scrub community described by Holland (1986) and the Coyote Brush Scrub association described by Sawyer et al. (1992).

3.4.4 Eucalyptus

A row of mature blue gum (*Eucalyptus globulus*) trees is present to the east of the study area, and the tree canopy overhangs the edge of the subject property (Figure 3). Eucalyptus trees were also along the channel of the ephemeral drainage that runs along the southeastern boundary of the property (Figure 3). The ground under the canopy was composed of leaf litter and scattered non-native grasses and forbs from the neighboring annual grassland habitat. In several areas, Cambria morning glory occurrences extended into the canopy dripline as shown on Figure 3. The *Eucalyptus* spp. alliance is a semi-natural alliance that is not considered sensitive (CDFW 2019b).

3.4.5 Riparian

A band of Riparian habitat dominated by arroyo willow (*Salix lasiolepis*) shrubs to medium-sized trees was present along the eastern end of the ephemeral drainage that crosses the property in a west-east direction (Figure 3). Some coyote brush shrubs and young coast live oak trees (*Quercus agrifolia*) were intermixed, and the edge of this habitat had dense cover of non-native poison hemlock (*Conium maculatum*). There was also an isolated arroyo willow shrub in a ditch along Los Osos Valley Road, and while this isolated individual did not represent riparian habitat, it was mapped to show its location (Figure 3). This habitat type corresponds to the Central Coast Riparian Scrub community described by Holland (1986) and the Arroyo Willow Thickets association described by Sawyer et al. (1992).

3.4.6 Riverine

Riverine habitat was present upstream from (west of) the Riparian habitat in the west-east ephemeral drainage and downstream from the Culvert under Paradise Lane. The extent of the Riverine habitat corresponded to the low-flow stream channel, and was bounded by the grass-lined channel banks. This habitat type was not dominated by trees, shrubs or wetland vegetation but instead was vegetated by herbaceous weedy species characteristic of the surrounding Annual Grassland habitat. The bed of the channel was clay soils generally devoid of vegetation. The riverine habitat onsite is intermittent, in that flow is not present year-long, and the channel has an unconsolidated bottom (Cowardin et al. 1992).

3.4.7 Wetland

The onsite reservoir contained seasonal standing water that was sufficient to support emergent Wetland vegetation (Figure 3). These species included hardstem bulrush (*Schoenoplectus acutus*), spike rush (*Eleocharis macrostachya*) and rabbits foot grass (*Polypogon monspeliensis*). During the February 2019 survey, the emergent vegetation was dead and there was open water, and by the May 2019 survey, the basin was almost completely covered by a dense cover of wetland plants. The April 2020 survey confirmed conditions remained unchanged with seasonal open water and emergent vegetation occurring throughout the bed of the reservoir. This habitat type corresponds to the Coastal and Valley Freshwater Marsh community described by Holland (1986) and the Hardstem and California Bulrush Marshes and/or the Pale Spike Rush Marshes associations described by Sawyer et al. (1992).

Some wetland vegetation was also observed in the ditch along the cut slope of Los Osos Valley Road. It had brown-headed rush (*Juncus phaeocephalus*) and a small patch of cattails (*Typha* sp.) near a single arroyo willow shrub. This patch of wetland vegetation was just outside of the study area.

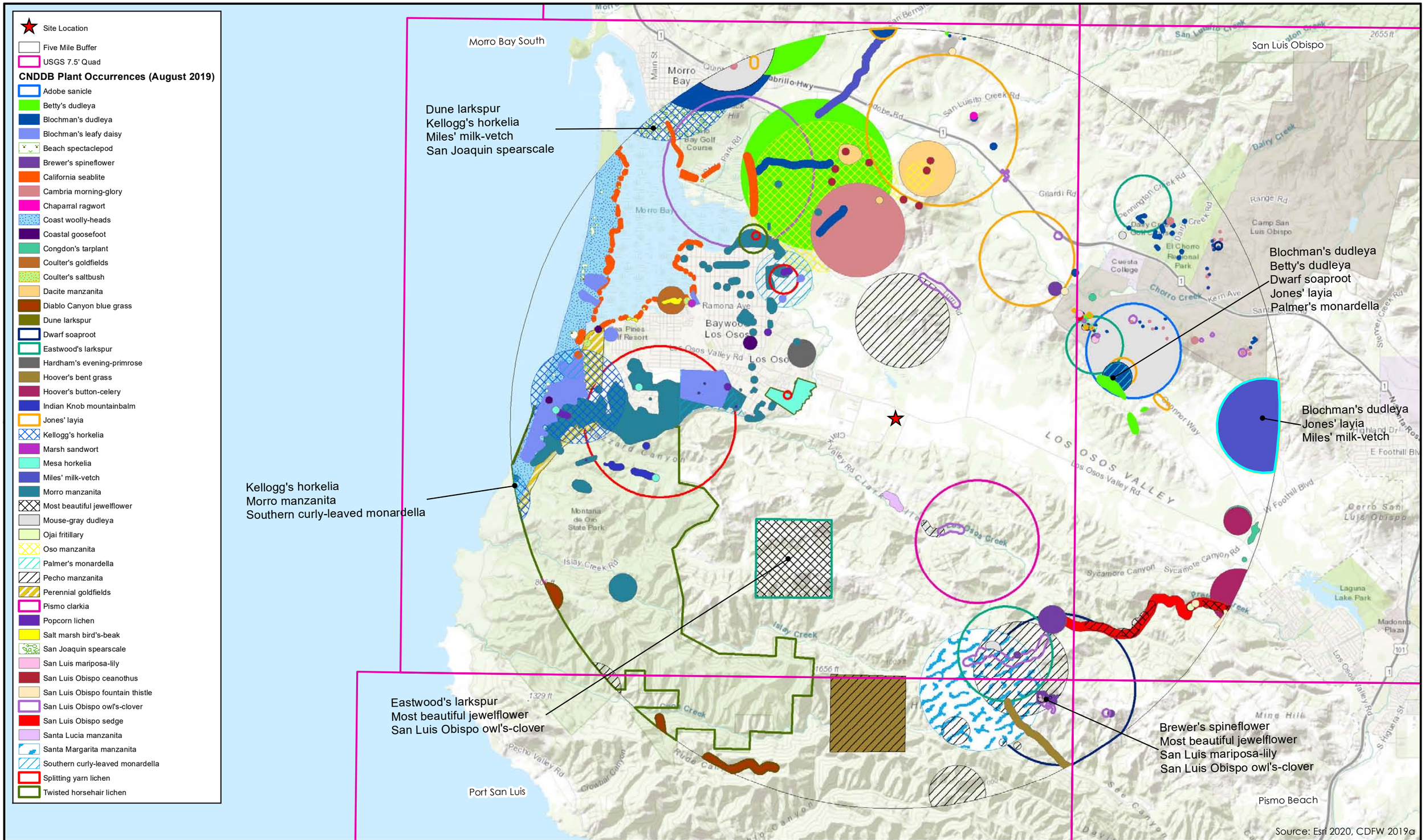
3.5 Special-status Biological Resources

The background review revealed a large number of special-status biological resources that have been documented within the project vicinity. The subject property has several natural habitats, is currently undeveloped, and is surrounded by agricultural and rural residential lands. The resources that have potential to occur in the study area or that were identified onsite are described in further detail below. Note that while some species could occur on the property, a portion of these may be restricted to areas outside of project impacts. The likelihood that the project could affect special-status biological resources is discussed in Section 4.0 Impact Analysis and Recommended Mitigation.

3.5.1 Special-status Plants

The entire property was surveyed for rare plants during the late winter, spring and summer of 2019 during the bloom periods of the rare plant species known to occur in the vicinity. An additional site visit occurred in the spring 2020 to ensure site conditions were consistent with observations made in 2019. During spring surveys, one special-status plant species was found onsite, **Cambria morning-glory** (*Calystegia subacaulis* ssp. *episcopalis*), which is considered a CRPR 4.2 species. This is a watch list species and is common in grassland habitats throughout the San Luis Obispo County area. The distribution of this plant species on the property as observed during the May 24, 2019 survey is shown on Figure 3. While the small occurrences were low density (1-5 plants/square meter), the larger patches surrounding the reservoir and on the slope south of Los Osos Valley Road were characterized as medium density (6-10 plants/square meter).

The CNDDB documented numerous occurrences of other special-status plant species within five miles of the site (Figure 4), which were cross-checked with observations recorded by Calflora (2019). Based upon our analysis of these occurrence records, review of species' ecological requirements, environmental conditions on the property, and seasonally timed focused rare plant surveys of the site, there are no additional special-status plant species considered to have potential to occur on the property (refer to Appendix D). The survey period occurred during years with at least average rainfall, and the 2019 focused surveys occurred prior to site mowing. Therefore, if any other rare plant species had been present, they would have been detected during the surveys.



KEVIN MERK ASSOCIATES

1 in = 6,000 ft

0 0.5 1 2 Miles

2420 Paradise Lane, Los Osos

Christopher Lopez

Figure 4

CNDDB Plant Occurrences Map

Considering that all areas of the site were thoroughly surveyed during appropriate conditions, no further plant surveys are recommended.

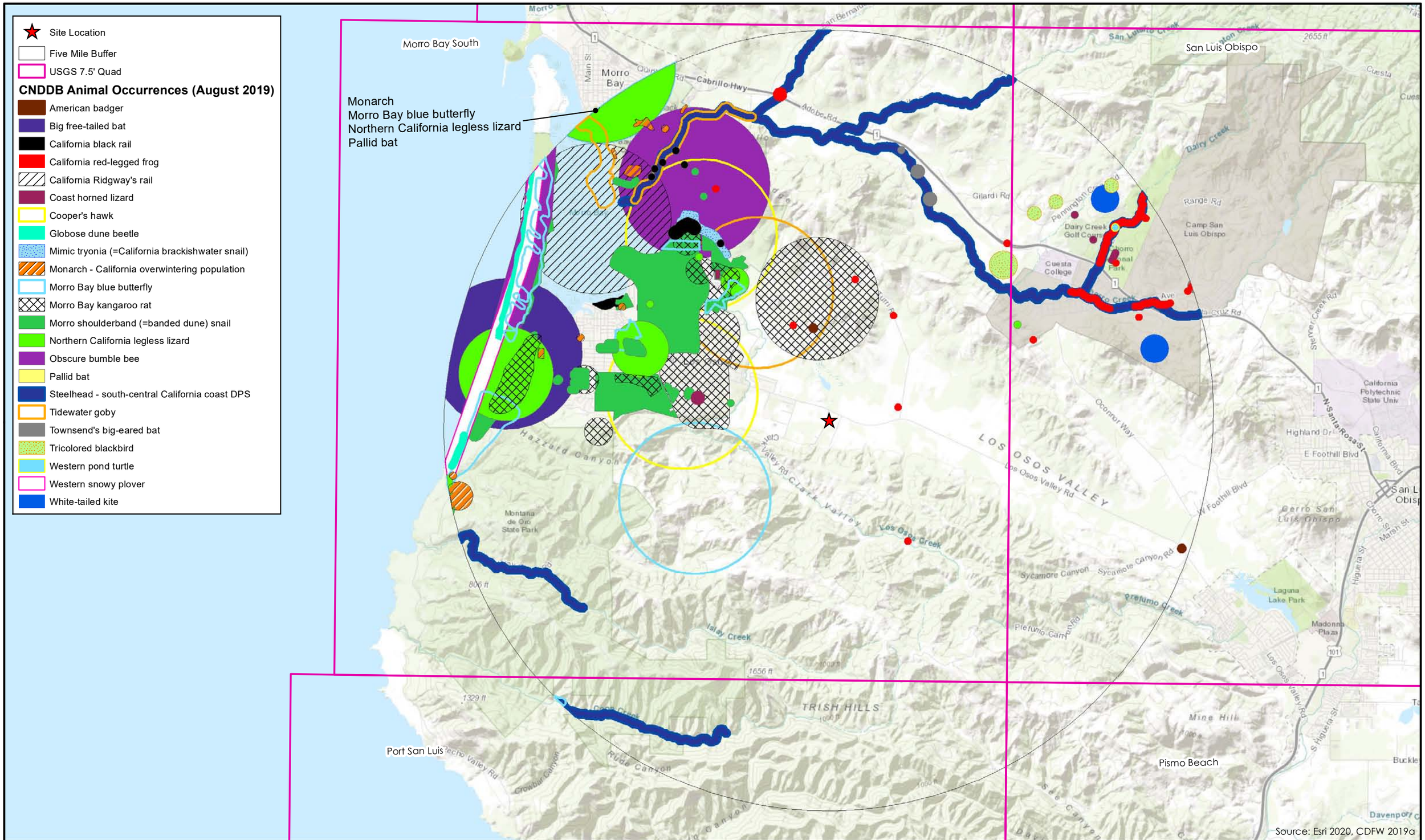
3.5.2 Special-status Animals

Based upon our background review of special-status species records, two invertebrate, four amphibian and reptile, eighteen bird, and three mammal species were considered to have potential to occur on the property. No special-status fish species could occur due to the lack of sufficient water in the unnamed tributary onsite. Additionally, the reservoir is only seasonally wet and is not connected to any creeks. While the listing status, habitat associations and evaluation of occurrence are summarized in Appendix D, the species with higher potential to occur onsite are also described in further detail below. Also see Figure 5 for a map of CNDDB wildlife records within the vicinity of the property.

The **monarch butterfly** (*Danaus plexippus,* population 1) is considered sensitive by CDFW for overwintering colonies. This species roosts colonially during the winter in wind-protected groves of eucalyptus, Monterey pine and cypress. These colonial roost sites are occupied by large numbers of butterflies throughout the winter and the individual sites are generally reused each year. "Autumnal sites" are temporary sites used for roosting that do not persist through the winter and may not be used every year. Adults nectar on a variety of blooming plants, and could potentially occur onsite periodically while foraging or migrating. Milkweed is required as a host plant for caterpillars, and no milkweed was observed onsite. The Eucalyptus windrow along the eastern edge of the property forms a linear feature instead of a cluster or grove of trees that would offer protection from the wind. As such, it is unlikely that colonial roosts (autumnal aggregation or overwintering sites) would form in this area. No clusters were observed during the February 2019 survey. Additionally, known overwintering sites in the region are closer to the ocean where individuals are protected from freezing temperatures (CDFW 2019a). In the Los Osos and Morro Bay area these sites are all within one (1) mile of the Morro Bay estuary or the Pacific Ocean. The study area is just over three (3) miles from Morro Bay, and this is another factor that reduces the likelihood that monarchs would use the windrow as an autumnal congregation or overwintering site. The Riparian habitat does not contain the appropriate tree structure or species composition to provide suitable habitat as an overwintering site. Individuals could occur at the study site periodically at other times of year while foraging or migrating.

The **obscure bumble bee** (*Bombus caliginosus*) does not have a specific listing status, but is considered sensitive in the CNDDB. It is found along the California coast from Santa Barbara County northward. The host plants for this species include a variety of shrubs and herbs that occur in coastal scrub, riparian, and grassland habitats. Queens emerge from hibernation in late-January, workers appear in early-March, and males emerge in April. Colonies dissolve in late-October, with only the new queens surviving. Little is known about this species in San Luis Obispo County. Most CNDDB records are from collections made from the 1940s through the mid-1970s, and the locality information from these collections are generally imprecise. There are several collections from the vicinity of the study area, but the most recent is from 1987 (CDFW 2019a). Potentially suitable host plants are present in each of the habitats on the property. This species could potentially occur onsite.

Blainville's (=coast) horned lizard (*Phrynosoma blainvillii*) is a CDFW Species of Special Concern that occurs in a variety of habitat types, as long as those areas have open areas for basking in the sun, and shrubs or other objects for cover. They are surface active primarily in the spring and summer during periods of warm weather, and retreat underground during periods of low



KEVIN MERK ASSOCIATES

1 in = 6,000 ft

0 0.5 1 2 Miles

2420 Paradise Lane, Los Osos

Christopher Lopez

Figure 5

CNDDB Animal Occurrences Map

temperatures or extreme heat (California Herps 2019). While they can "swim" into loose sandy soil for burial, they area also found in areas with sandy gravel or loamy substrates where they use small mammal burrows (Jennings and Hayes 1994). This species is negatively correlated with the presence of the invasive and non-native Argentine ants (*Linepithema humile*), which proliferate in developed areas and displace native ant species that are the food source of horned lizards (Fisher et al. 2002). There are several records from the Los Osos area, and they are known to occur at various locations in the vicinity (Christopher 2006, CDFW 2019a). Although the potential to occur is low due to the clay based soils and dense grass cover, they could occur in the Coastal Scrub habitat mapped along Los Osos Valley Road and at the reservoir.

The **California red-legged frog** (*Rana draytonii*) is a federally Threatened species and a CDFW Species of Special Concern. This species requires aquatic habitats for reproduction and inhabits aquatic sites most of the year. The types of aquatic habitats they use include seasonal and permanent ponds, intermittent and perennial streams, springs, well boxes, artificial impoundments (i.e., stock ponds, reservoirs), marshes, dune ponds and lagoons. Preferred aquatic habitat is characterized by dense shoreline or emergent vegetation, such as willows, cattails, and bulrushes, with still or slow-moving water at least 2.3 feet deep (Hayes and Jennings 1989). However, they also occupy ponds or pools with little or no emergent vegetation. Other features in stream habitats that appear to be important for refuge are undercut banks and willow rootballs (USFWS 2010).

Ephemeral sites must retain water at least into July/August in order for the tadpoles to reach metamorphosis. Sites that dry completely every few years may have higher quality habitat value because desiccation eliminates their predators, such as non-native fish (Centrarchids and Ictalurids), American bullfrogs (*Lithobates catesbeianus*) and crayfish (*Procambarus* sp.), and maintains higher quality breeding habitat by limiting dense growth of emergent vegetation along the margins (Scott and Rathbun 2010, Doubledee et al. 2003). Adult frogs also use a variety of upland habitats and can be far from water during the winter; when aquatic sites dry down in the late summer or fall; and, as post-metamorphic juveniles. In mesic habitats along the coast, they have been found to move through upland habitats up to a total distance of two (2) miles (3,200 meters) in one season, with the greatest segment without encountering a water source being 0.74 miles (1,200 meters) (Bulger et al. 2003). However, in other situations with xeric to moderately mesic local climates, such as in the project area, California red-legged frogs generally remained within 200 feet (60 meters) of water (Rathbun et al. 1993, Christopher 2000, Tatarian 2008). While undergoing terrestrial movements, they move through grassland, forest, scrub, agricultural fields, and grazed pastures, including areas with substantial slopes or elevational changes (Bulger et al. 2003). While occupying upland habitats, the frogs use dense leaf litter and shrubby vegetation, such as willows, blackberry thickets, German ivy, nettles, and downed trees as cover and are not found out in the open during the daytime (Rathbun et al. 1993).

This species has been recorded at several locations in lower Los Osos Valley and in Clark Valley, as well as numerous other sites in the vicinity of the property (CDFW 2019a). The closest of these locations to the study area is from Warden Creek at Turri Road, a distance of 0.9 mile away, which is well within the dispersal distance of the species. Warden Creek runs to the north of the site just 0.3 miles (1584 feet) away, and Los Osos Valley Road would not be a barrier to their nocturnal movements. Using Google Earth imagery, a pond is visible on the property immediately to the east, which although is surrounded by an active plant nursery, appears to have suitable habitat for this species, as indicated by a band of perimeter emergent vegetation, a stand of willow and long-lasting water. The reservoir on the subject property also has seasonal aquatic habitat that could be used temporarily by California red-legged frogs moving through the area. It appears that the reservoir dries up annually and may not support a sufficient hydroperiod for breeding, but an aerial

photograph from June 2017 shows the reservoir with water present, and likely would have lasted long enough that year for tadpoles to complete metamorphosis if they were present. However, in 2019 it was completely dry by August. In years when the pond dries early or in drought years when the pond remains dry year-round, the frogs, if present, could occupy other nearby sites where water persists, and then recolonize the pond when it fills. Aquatic sites do not necessarily need to hold water through the larval period to be occupied by adults, especially when there are other more permanent sources of water nearby, because this species is highly mobile and moves around between aquatic habitats. Therefore, they could move through upland areas of the site while undergoing migrations or dispersal from neighboring areas, and use the reservoir as a stop-over site. Adults could be in upland habitats in the winter and would be less likely to occur in the upland grassland in summer after ponds dry, since it is a generally arid habitat. If breeding were occurring nearby, juveniles could be present in the late-summer or fall during dispersal from breeding sites. They could take cover in the Riparian or Coastal Scrub habitats or under coyote brush shrubs that are dispersed within the Grassland habitat. They could also move through the Riverine areas within the unnamed tributary and occupy those areas when there is water in the channel following winter rains. They are unlikely to remain in Annual Grassland habitats during the daytime in the summer and/or after the site has been mowed (which is typically in June of each year) due to lack of cover and moisture.

The **northern California legless lizard** (*Anniella pulchra*) is a CDFW Species of Special Concern that has been recorded at several locations in the site vicinity (Christopher 2006, CDFW 2019a). This species is fossorial and buries into loose sandy soils, leaf litter, or is associated with cover objects that provide moisture. They forage just beneath the surface of loose soil or in leaf litter during the morning or evening, and may be active above the surface at dusk or at night (California Herps 2019). Their peak activity near the surface is from February through May (Yasuda 2012). The clay soils are unlikely to support this species, but areas with more loamy soils on the property may be suitable for this species, such as in the Riparian or Coastal Scrub habitats that may contain sufficient leaf litter and other cover. They are unlikely to occur in open Annual Grassland away from the edge of woodland or scrub habitats.

The **southwestern (=western) pond turtle** (*Actinemys pallida*) is a CDFW Species of Special Concern. They occupy streams, rivers, lagoons, as well as created ponds and irrigation reservoirs, especially those with areas of open water and some perimeter vegetation such as bulrushes, cattails and willows (Bury et al. 2012). Southwestern pond turtles move away from aquatic sites in late-summer or fall when water levels decline, to begin a period of dormancy over the winter (Rathbun et al. 1993). At sites with permanent water, they remain buried in the substrate of the aquatic habitat during the winter (Bury et al. 2012). They have been found to undergo movements of up to 3,596 feet (1,096 meters) within upland habitats in one season, and they occupy woodland, scrub and chaparral vegetation within 1,640 feet (500 meters) from their aquatic sites for up to 30 weeks (Reese and Welsh 1997, Rathbun et al. 2002, Pilliod et al. 2013). During dormant periods, turtles remain buried under dense cover such as willow/blackberry thickets, patches of coyote brush, or Monterey pine stands (Rathbun et al. 1993). Nesting, which occurs in summer, is in upland areas 98 to 558 feet (30 to 170 meters) from aquatic habitats, in well-compacted soils of sunny open areas within sparse grassland (Rathbun et al. 1992, 1993, 2002; Scott et al. 2008). Hatchlings may leave the nest in the fall or overwinter in the nest and move to water the following spring. This species is primarily diurnal, and they make overland movements during the day. Suitable aquatic habitat is present in the reservoir on the property, but the unnamed tributary is too ephemeral to support this species. They could move through the study area while traveling between other suitable aquatic sites nearby. They potentially could take refuge at the base of shrubs or trees within the Coastal Scrub and Riparian habitats. While it is possible that they could nest in the

Annual Grassland habitat adjacent to the drainage feature, the lack of pools and prolonged aquatic habitat reduce the potential that the site is used for more than dispersal. There are no locations recorded in the CNDDB nearby, but they have been documented at various locations within the California State Parks lands near the site (Christopher 2006), and it possible that pond turtles could occur at Warden Lake and aquatic habitats north of Los Osos Valley Road.

The **bald eagle** (*Haliaeetus leucocephalus*) is a state Endangered species for nesting and wintering habitats and is a CDFW Fully Protected species. There are numerous observations from along Los Osos Valley Road and surrounding Morro Bay (The Cornell Lab of Ornithology 2019a). Their primary prey is fish, but they also feed on small mammals and could forage in the open Annual Grassland habitat onsite on a periodic basis. They have been documented nesting along Morro Bay, and could potentially perch on the Eucalyptus trees while moving through the area. This species is unlikely to forage or nest onsite due to human disturbance on the neighboring properties and insufficient structure for nest placement.

The **burrowing owl** (*Athene cunicularia*) is designated as a CDFW Species of Special Concern for burrow sites and some wintering sites. It forages in grasslands and nests in burrows constructed by other species (typically ground squirrel) within grassland habitat. This species prefers areas with low vegetation and small hills that provide a vantage point of the surrounding area. The coastal populations in San Luis Obispo County are considered to no longer breed in this area (Wilkerson and Siegel 2010). Additionally, no ground squirrels or burrow complexes that are required by burrowing owls were seen during the site surveys. There are numerous observations of this species in Los Osos Valley and surrounding Morro Bay in the winter months (The Cornell Lab of Ornithology 2019a). This species could potentially occur onsite periodically while moving through the area because suitable Annual Grassland habitat is present, but they likely would not remain long due to lack of sufficient prey and small mammal burrows.

The **California horned lark** (*Eremophila alpestris actia*) is on the CDFW Watch List. It occurs in open habitats such as agricultural areas and grassland, and prefers areas with sparse vegetation or patches of bare ground. Nests are placed on the ground in open areas, sparse vegetation, or next to a grass clump or other object (Audubon 2019). There are several records of this species from close proximity to the site, including Turri Road and Morro Bay (The Cornell Lab of Ornithology 2019a). This species could occur in the Annual Grassland habitat onsite on a regular or transitory basis, and potentially could nest onsite. If present, they are likely to prefer the edge habitat along Paradise Lane where the vegetation is less dense, and may benefit from regular mowing that reduces grassland vegetation.

Cooper's hawk (*Accipiter cooperii*) is on the CDFW Watch List for nesting. This is a woodland species that prefers dense stands of coast live oak, riparian forest, and mixed coniferous forests near a source of water. They have been documented in the vicinity of Morro Bay (CDFW 2019a), and at numerous locations in Baywood, Los Osos, and along Los Osos Valley Road (The Cornell Lab of Ornithology 2019a). The Riparian habitat in the study area is very limited in extent and structure, and is likely to be unsuitable for nesting. They could roost or perch on the Eucalyptus, but the windrow has unsuitable structure for nesting. However, since they are known to occur in close proximity to the property, they could use the habitats in the study area for foraging or roosting on a periodic basis.

The **ferruginous hawk** (*Buteo regalis*) is on the CDFW Watch List for wintering sites, and it occurs in this area during the winter. There are several observations from the Los Osos Valley and surrounding Morro Bay (The Cornell Lab of Ornithology 2019a). This species forages in open areas

such as the Annual Grassland habitat onsite; however, there did not appear to be an abundance of prey on the site. Could occur periodically while foraging, but does not nest in this region.

The **golden eagle** (*Aquila chrysaetos*) is considered a Fully Protected species by CDFW and is on the Watch List for nesting and wintering. Nesting is on cliffs, large trees or other structures such as electrical towers. They have been reported at numerous locations in Los Osos and Clark valleys, in close proximity to the property (The Cornell Lab of Ornithology 2019a). This species forages over a variety of open habitats, and could potentially forage at the study area. While the species could perch on Eucalyptus trees and possibly stopover at the site while moving through the area, no suitable nesting habitat is present due to the regular human presence in the area.

The **grasshopper sparrow** (*Ammodramus savannarum*) is a CDFW Species of Special Concern that occurs almost exclusively in grassland habitats. Other types of open habitats with patches of bare ground and little shrub cover, such as pastures and agricultural fields, may also be used. They nest on the ground at the base of clumps of grass. This species has been recorded at Turri Road and other locations in the vicinity (The Cornell Lab of Ornithology 2019a). This species could forage in any of the habitats onsite, and could potentially nest within the Annual Grassland onsite, but historic seasonal mowing may be a deterrent.

The **great blue heron** (*Ardea herodias*) does not have a specific listing status but is considered a sensitive species by CDFW for nesting colonies, which are located in forests near bodies of water. Appropriate aquatic habitat for nesting colonies is not present in or adjacent to the study area. Individuals occasionally forage in grasslands or fields, and there are several sightings from near the study area, including Clark Valley and Turri Road (The Cornell Lab of Ornithology 2019a). They are abundant in Morro Bay. Individuals could occur onsite in the Annual Grassland or reservoir as transients while foraging, but nesting would not occur.

The **great egret** (*Ardea alba*), **snowy egret** (*Egretta thula*), and **black-crowned night-heron** (*Nycticorax nycticorax*) are considered sensitive species for nesting colonies in the CNDDB but have no specific listing status. Each of these species is highly associated with wetland habitats, but individuals can occasionally be found foraging in wet fields or along streams. Each of these species occurs in Morro Bay, and is occasionally seen in upland areas in the site vicinity (The Cornell Lab of Ornithology 2019a). The great egret and snowy egret only occur in this area during the non-breeding season, and nest near large bodies of water, and therefore would not nest onsite. The black-crowned night-heron nests in dense tree groves or emergent vegetation adjacent to substantial areas of water, and therefore also would not nest onsite. There is potentially suitable foraging habitat for each of these species in the reservoir onsite, and the egrets may also forage periodically in the Annual Grassland habitat. If they forage onsite, individuals could perch or roost in the Eucalyptus on a temporary basis.

The **loggerhead shrike** (*Lanius ludovicianus*) is a CDFW Species of Special Concern for nesting. This species occurs in variety of relatively open habitats, including grasslands, and prefers areas where there are objects to perch on such as fences, trees or shrubs (Audubon 2019). Nests are placed in dense and sometimes thorny trees or shrubs (Audubon 2019). There are numerous observations from near the property, including one from a neighboring parcel (The Cornell Lab of Ornithology 2019a). Individuals could forage onsite in any of the habitat types, and potentially could nest in the Riparian, Coastal Scrub or Eucalyptus.

The **northern harrier** (*Circus cyaneus*) is a CDFW Species of Special Concern for nesting. This species prefers wide open country with wetlands, but they also occur in rolling grasslands or desert

shrubland. Nests are placed on the ground usually in marshes, but occasionally they nest in dry open fields (Audubon 2019). There are numerous observations of this species in close proximity to the study area, including records of nesting along the coast (The Cornell Lab of Ornithology 2019a). They could occur onsite occasionally while foraging, but unlikely to nest in the study area due to human disturbance surrounding the site, as well as historic seasonal mowing.

The **prairie falcon** (*Falco mexicanus*) is on the CDFW Watch List for nesting. This species forages in open grasslands, and potential foraging habitat is present on the site. Nesting habitat is generally rock formations and large trees, and there is a slight chance they could potentially forage onsite, but unlikely to nest in the row of Eucalyptus due to regular human presence at the neighboring nursery and rural residential development. There are records of this species from around Morro Bay, along Turri Road, and at Laguna Lake and the species is known to nest on Morro Rock (The Cornell Lab of Ornithology 2019a).

The **sharp-shinned hawk** (*Accipiter striatus*) is on the CDFW Watch List for nesting. This species generally occurs in densely forested coniferous forests, mixed woodlands and riparian habitats, and dense forest is required for nesting. During migration, it uses coastlines, lake shores and mountain ridges (Audubon 2019). It does not breed in San Luis Obispo County. There are numerous sightings from around Morro Bay and various locations inland, and these are mainly from the migratory period (The Cornell Lab of Ornithology 2019a). There is a chance they could occur onsite periodically while migrating, but dense forest habitat is lacking.

The **tricolored blackbird** (*Agelaius tricolor*) is a state Threatened species and a CDFW Species of Special Concern for nesting colonies. This species nests and roosts colonially in freshwater marshes with dense tules, cattails, or blackberry thickets. They forage in areas with low-growing vegetation such as agricultural fields, grasslands and feedlots. Wintering tricolored blackbirds congregate in large multispecies flocks, often containing red-winged blackbirds (The Tricolored Blackbird Working Group 2007). There are records of tricolored blackbirds in close proximity to the site, including Clark Valley and Los Osos Valley (The Cornell Lab of Ornithology 2019a). They could potentially roost, forage or nest in the bulrushes in the reservoir onsite, as the stand observed appeared to be dense enough to support this species and there is low disturbance at the site. No tricolored or red-winged blackbirds were observed during the surveys. The reservoir may be too small to support a nesting colony, especially considering the Warden Lake area is nearby with high quality habitat. Although nesting appears unlikely, the species could forage in the Annual Grassland or Coastal Scrub habitats, and use any of the habitats onsite periodically while moving between other sites in the area.

The **white-tailed kite** (*Elanus leucurus*) is a CDFW Fully Protected species for nesting sites. This species prefers open areas for foraging, including grasslands, river valleys, oak savanna, agricultural areas, deserts, and marshes (Audubon 2019). They nest in large isolated trees, and occasionally in riparian habitats (CDFW 2019c). During the non-breeding season, they roost communally in trees or tall shrubs at the edges of grasslands (The Cornell Lab of Ornithology 2018b). This species has been recorded at numerous locations in close proximity to the property along Los Osos Valley Road (The Cornell Lab of Ornithology 2019a). They could forage in any of the habitats onsite and use the Eucalyptus for nesting or communal roosting.

The **yellow warbler** (*Setophaga petechia*) is a CDFW Species of Special Concern for nesting. In California, this species breeds along coastal areas from Del Norte County south to Ventura County, where it prefers medium-density riparian woodlands (CDFW 2019c). This is a migratory species that occurs in this area only during the breeding season. This species is closely tied to riparian

habitat for foraging and nesting. The Riparian habitat onsite is of relatively low density and size, and may not be of sufficient structure for breeding by this species. However, this species has been recorded on a neighboring property and at other locations nearby. They could use the Riparian and Coastal Scrub habitats onsite for foraging or during migration.

The **American badger** (*Taxidea taxus*) is a CDFW Species of Special Concern. This species occurs in a variety of open habitats, and prefers grassland, oak savannah and edges of shrubland. They are associated with friable soils in which they dig burrows. Young are born in maternity dens in March and April (CDFW 2019c). Suitable habitat is present in all of the habitats onsite, including the Ruderal areas because they tolerate some degree of human disturbance (CDFW 2019c). No ground squirrels were observed in the study area that could provide a food source, but may nevertheless be present in low numbers. No potential dens were observed during the survey, but they may dig a new den each night, especially in summer (CDFW 2019c). Badgers are highly mobile and could move through the study area. The open and undeveloped nature of the surrounding area increases the chance that they could occur in the vicinity, and the CNDDB contained numerous records from several locations in the Los Osos Valley (CDFW 2019a).

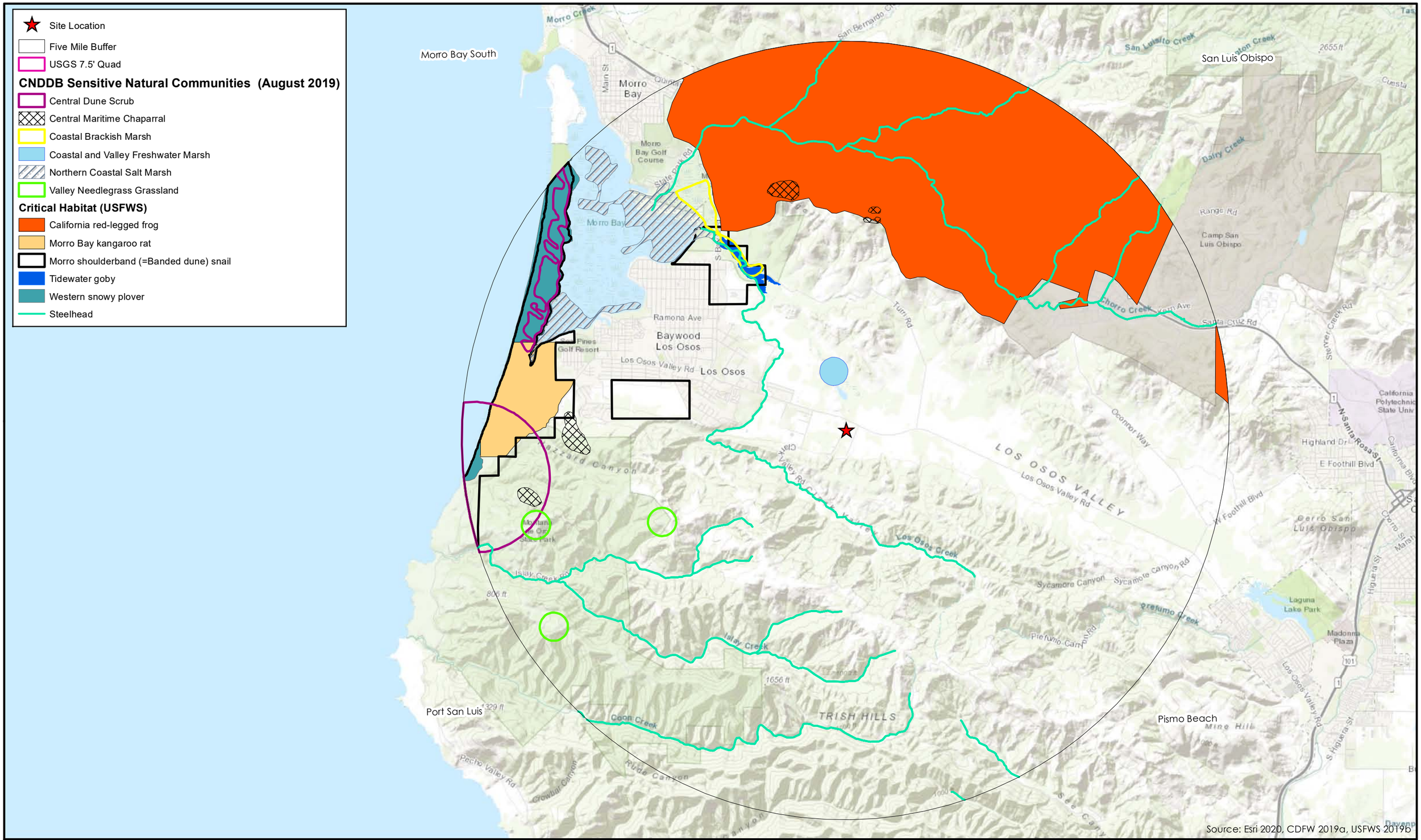
The **pallid bat** (*Antrozous pallidus*) is a CDFW Species of Special Concern. This species forages in a variety of dry, open habitats such as grassland, deserts, woodland, shrubland and coniferous forest. Maternity and winter roosting sites are cavities or caves in rock features, large trees or buildings, and these structures must substantially moderate temperature. Day roosts are in caves, crevasses, mines and occasionally hollow trees or buildings. Night roosts are in more open areas such as porches or agricultural buildings. They forage on beetles, moths, spiders, scorpions and Jerusalem crickets (CDFW 2019c). There are several records of the species from the vicinity (CDFW 2019a). Suitable foraging habitat is present onsite, but there is no roosting habitat.

Townsend's big-eared bat (*Corynorhinus townsendii*) is a CDFW Species of Special Concern. This species occurs in a variety of habitats, including dry upland areas, semidesert, coniferous forest, and riparian woodland. They prefer foraging along the edges of riparian vegetation and they drink water from ponds. They roost in caves, mines, abandoned buildings and under bridges (Gruver and Keinath 2006). There are several records in the vicinity; primarily along Highway 1 between Morro Bay and San Luis Obispo, which include a documented colonial roost site in an abandoned building (CDFW 2019a). The Annual Grassland and Riparian habitats onsite would be suitable for foraging, and they could drink from the reservoir when water was present. No suitable roosting habitat is present onsite.

3.5.3 Sensitive Natural Communities

The Annual Grassland habitat onsite, also called the Wild Oats Grasslands or the Wild Oats and Annual Brome Grasslands semi-natural alliance, is comprised predominantly of non-native species and is not a CDFW-designated sensitive natural community. The Coastal Scrub habitat, corresponding to the Coyote Brush Scrub association, has a State Rarity Rank of S5, which is not considered under CEQA (CDFW 2019c). The sensitive natural communities within the vicinity of the subject property that are recorded in the CNDDB are shown in Figure 6 and summarized in Appendix D, and those that were determined to occur on the property are described below.

The Coastal and Valley Freshwater Marsh community within the reservoir corresponds to Hardstem and California Bulrush Marshes association, which has a State Rarity Rank of S3, and/or the Pale Spike Rush Marshes association, which has a State Rarity Rank of S4. Although the plant community may be considered to be sensitive, it occurs in a manmade feature that is not



KEVIN MERK ASSOCIATES

1 in = 6,000 ft

0 0.5 1 2 Miles

2420 Paradise Lane, Los Osos

Christopher Lopez

Figure 6

Sensitive Natural Communities and Critical Habitat Map

hydrologically connected to any natural drainages or wetlands, which would reduce its value from a regulatory context and would not fall under the USACE's or RWQCB's Clean Water Act jurisdiction. However, this feature would be considered a waters of the state pursuant to the Porter-Cologne Water Quality Act and also is an ESHA as described in the Coastal Act and Estero Area Plan (County 2009).

The ditch along Los Osos Valley Road has a small area of wetland vegetation corresponding to Coastal and Valley Freshwater Marsh described by Holland (1986), which has a State Rarity Rank of S3.2. The ditch is an anthropogenic feature along the road that is periodically maintained. The small wetland area is intermixed with Coastal Scrub and non-native plant species and would be considered to be of low ecological value, but would still meet the wetland definition pursuant to the Coastal Act since the area contained a predominance (i.e., greater than 50% areal cover) of seasonal wetland plants.

The Riparian habitat in the study area aligns with Central Coast Riparian Scrub, which is considered to be a sensitive natural community by CDFW and has a State Rarity Rank of S3. Riparian habitats are also protected under the federal Clean Water Act, state Porter-Cologne Water Quality Act, California Fish and Game Code, and the California Coastal Act. As such, the Riparian habitat in the study area was identified as a special-status biological resource. The plant community within the Riverine habitat outside of the Riparian zone is predominantly Annual Grassland; thus, it is not a sensitive natural community, but the drainage feature was identified as potentially falling under the jurisdiction of USACE, CDFW, and/or RWQCB due to having defined bed and bank structure resulting from periodic flowing water. Therefore, it also is a special status biological resource on the study area and would be considered to be an ESHA by the Coastal Act.

3.5.4 Designated Critical Habitat

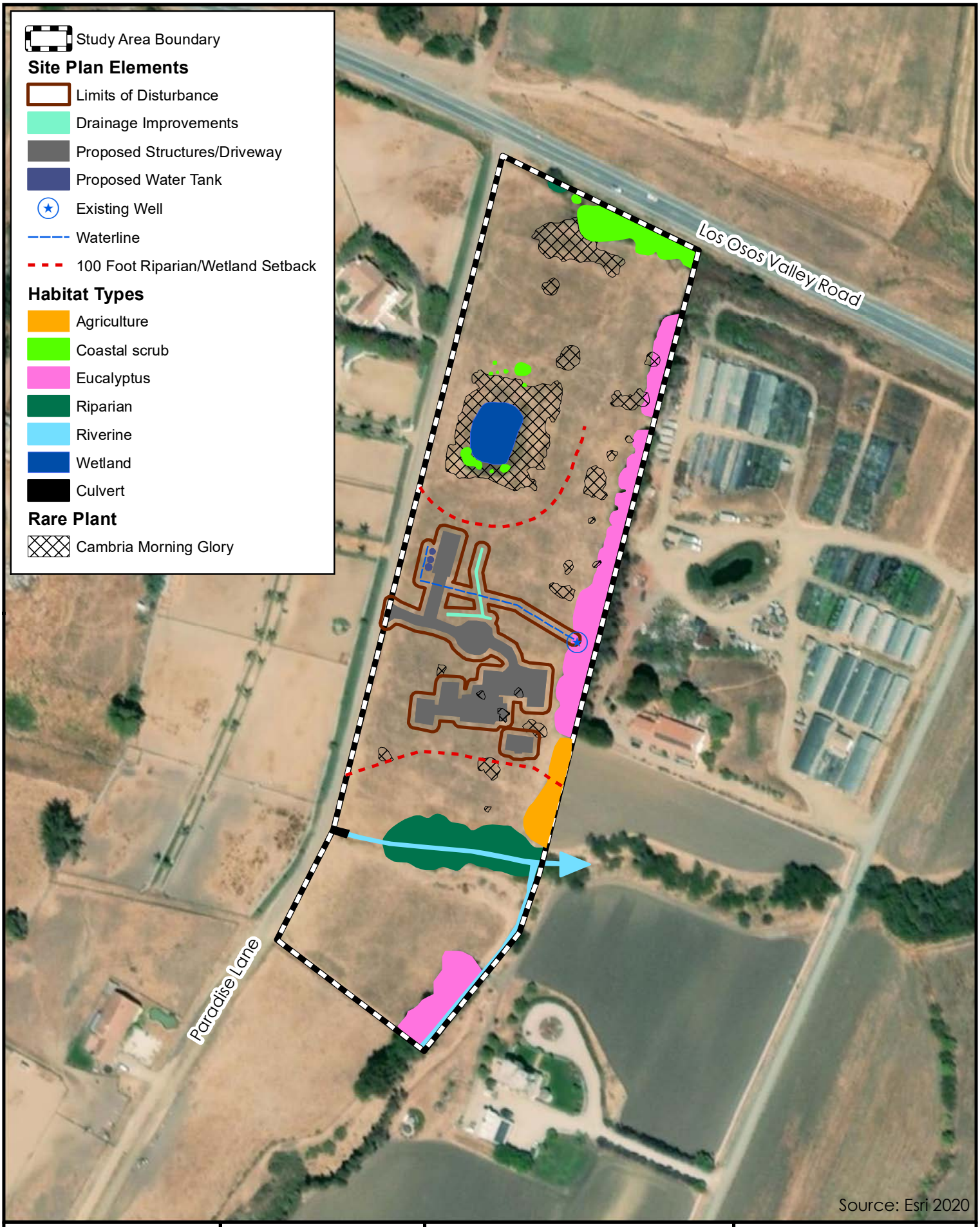
No designated critical habitat for federally listed species occurs at the subject property or adjacent to it (Figure 6; USFWS 2019b). A summary of each of the species for which there is critical habitat in the project vicinity is provided in Appendix D.

3.5.5 Migratory Birds and Raptors

There are numerous bird species with potential to occur in the vicinity that build nests in trees and shrubs or in grassland and emergent wetland habitats, and could nest on the property. In addition to the special-status bird species described above, avian species that could nest onsite also include raptors protected under California Fish and Game Code and common species that are protected under the MBTA. Nesting birds would be expected to use Riparian, Coastal Scrub, Annual Grassland, Coastal and Valley Freshwater Marsh and Eucalyptus habitats onsite.

4.0 IMPACT ANALYSIS AND RECOMMENDED MITIGATION

The following impact analysis and recommended mitigation measures are intended to help guide project planning efforts and support the CEQA review process to be completed by the County. The impact discussion addresses the range of impacts that could result from implementation of the proposed project, which is the construction of a single-family residence, an accessory dwelling unit, a barn and associated infrastructure in annual grassland habitat dominated by non-native species. Elements of the site plan (Appendix A) were overlaid on the habitat and rare plant occurrences map to guide this analysis (refer to Figure 7). Direct effects (or impacts), as defined under CEQA, are caused by a project and occur at the same time and place. Indirect effects are caused by a project,



KEVIN MERK ASSOCIATES

N W E S

1 inch = 200 feet

2420 Paradise Lane, Los Osos

Christopher Lopez

Figure 7

Impact Map

but occur at a different time or place. Cumulative effects are those that result from when the effects of the subject project combine with effects from other unrelated projects to compound environmental harm. The site plan has incorporated a 100-foot setback from the edge of wetland and riparian habitats, as well as the onsite drainage features. While several small occurrences of Cambria morning glory will be impacted by the project, this species is common throughout the grassland habitat onsite and in the greater area surrounding the site. Our understanding of the extent of proposed development footprint, along with the observations of onsite conditions from the site visits and desktop evaluation of special-status biological resources in the project vicinity, provided the basis for this analysis. Impact statements defining potential impacts on biological resources and proposed mitigation measures to reduce project-related impacts are described below.

4.1 Direct and Indirect Effects

4.1.1 Adverse Effects on Candidate, Sensitive or Special-status Species

A suite of special-status plant and animal species that are known to occur in the site vicinity were evaluated to determine their potential to occur in the study area. Focused rare plant surveys and supplemental site surveys were conducted to determine presence or absence of rare plants, and one species was found and mapped. Five relatively small occurrences of Cambria morning-glory, that were present at low density within the grassland habitat, were documented in areas that are within the proposed disturbance footprint (Figure 7). No additional rare plant species are considered to have potential to occur on the site due to comprehensive surveys conducted at an appropriate year and season for their detection. Cambria morning-glory is a CRPR 4.2 plant species, which even though it is common in the region are to be evaluated under CEQA, and the level of significance of effects is to be based on:

- The type locality of a California Rare Plant Rank 4 plant;
- Populations at the periphery of a species' range;
- Areas where the taxon is especially uncommon;
- Areas where the taxon has sustained heavy losses; or
- Populations exhibiting unusual morphology or occurring on unusual substrates (CNPS 2019b).

None of these conditions apply to this particular species within this localized area. There were 19 records of the species in the CNDDB search, and the site is located within the center of the species' local distribution (Calflora 2019). This species is only found in the Central Coast region, but it is a common associate of coastal grasslands from San Luis Obispo to San Simeon. Furthermore, larger occurrences of Cambria morning glory were identified and mapped on the site, and the proposed project will not jeopardize the continued existence of this species onsite or in the region. Should the County determine that mitigation for impacts on the five occurrences be required, a conceptual compensatory mitigation plan for Cambria morning-glory is described below.

Many of the special-status animal species with potential to occur onsite are mobile species that would only use the site periodically while foraging or moving through the site, without using the area for breeding or other key life history traits. Species considered to be mobile include flying invertebrates, and foraging birds/raptors and bats. Individuals of these mobile species that use the site for foraging or on a transitory basis are expected to move away from any temporary disturbance during construction activities, and would not be directly affected. Individuals of less mobile species (amphibians and reptiles) and particular site uses (roost sites, burrows, nesting)

could potentially be affected by construction activities if the work period coincided with the time of year that these species may be in impact areas. No trees are proposed to be removed during the project, as it is planned to be located entirely within Annual Grassland and having a minimum 100-foot setback from Riparian and Wetland habitats. The setback from Eucalyptus is at least 30 feet; therefore, no impacts from construction activities are expected on trees within the study area. Potential shrub habitat of the obscure bumble bee and any other shrub-associated wildlife will also be avoided; therefore, no effects on these species are expected even if they occur on the site.

No habitat for roosting bats is present in the disturbance area, and foraging habitat would not be significantly altered. Bats would continue to forage over the site after the project and may continue to drink water from the reservoir as well as the proposed pool. Because there would be no significant effects on bat species, no mitigation is required.

No measurable negative effect on wildlife habitat would occur as a result of construction of the project because a minimal amount of a common habitat type would be lost. The project will avoid Coastal Scrub, Riparian, Wetland and Eucalyptus habitats. Because Eucalyptus habitat would be avoided, no effects would occur on roosting or nesting habitat for birds in the long-term. Several species of birds and raptors could nest or roost in the Eucalyptus and/or Riparian habitat, but would not be adversely affected by development of a single-family residence. Moreover, no habitat for colonial roosting avian species (e.g., black-crowned night heron, great blue heron, great egret, snowy egret) is present on the property. Tricolored blackbirds have not been observed onsite to date, and although they could nest in the emergent Wetland habitat within the onsite reservoir, this habitat will not be affected by the project with a setback of at least 100 feet. Given the expansive tule thickets in Warden Lake, it is less likely that the reservoir would support a colonial nest site. While no trees or shrubs that could be used for nesting would be impacted, bird and raptor species could nest in adjacent areas and depending on the species and their sensitivity to disturbance, may be affected by construction activities. Project effects on nesting birds and raptors as well as other species that may occur in project impact areas, and mitigation for those effects, are described below.

Impact Bio-1. Construction of the project would impact five occurrences of the Cambria morning-glory population on the site. This is a potentially significant but mitigable impact.

The proposed disturbance footprint would be located in an area supporting five small occurrences of Cambria morning-glory (Figure 7). Because this is a CRPR 4.2 species, which is a watch list, and the project will not adversely affect or jeopardize the continued existence of this species onsite, a rigorous mitigation program is not warranted. To ensure impacts on special-status plants remain below the significance threshold under CEQA, the following mitigation measure is recommended to reduce project impacts on Cambria morning glory to a level below significance.

Mitigation Measure BIO-1: Collect Cambria morning-glory seed within the project footprint, and apply seed outside of the construction footprint and future use areas, to ensure no net loss of the population. Because the project as designed would not avoid all documented occurrences of Cambria morning-glory on the site, establishing the plant within suitable habitat areas outside of the impact footprint would be sufficient to reduce project impacts on the species. Seed should be collected by a qualified botanist during the appropriate season prior to grading activities. Seed should be cleaned and hand-broadcasted into areas of suitable habitat outside of the development area. Seed may also be incorporated into the native erosion control seed mix described in Table 1 under Mitigation Measure BIO-4 and applied to the site as part of the erosion control effort. In addition, topsoil from

within the documented occurrences can be salvaged and used to top-dress temporarily disturbed areas of the site. The qualified botanist may also potentially salvage plants from the disturbance area and transplant them to similar habitat as close to the collection site as possible, but outside of future disturbance areas associated with use of the property. The total establishment area should be of greater size than the occupied area lost to ensure no net loss of the species onsite.

Monitoring by a qualified botanist should occur during the following growing season (March through May) to ensure successful establishment of planted propagules. Once established, the new occurrences should be mapped to evaluate the goal of no net loss of the species onsite. The measurable objective should be to have at least five new occurrences of Cambria morning glory that are of similar size (1,490 square feet) and density in comparison to the impacted occurrences. Appropriate vegetation sampling techniques should be used to assess the status of the established occurrences. If the goal is not reached the following season for the restoration area(s), remedial actions such as collecting more seed and distributing it in suitable areas should be employed, with a corresponding additional year of monitoring. Other activities to increase the success of the effort could include non-native plant species removal within the Cambria morning glory occurrences. The qualified botanist would prepare a report for Mr. Lopez detailing the methods and results of the salvage effort and population monitoring. Mr. Lopez would be responsible for submitting the report to the County.

Impact Bio-2. Project construction activities could potentially impact special-status animal species. This is a potentially significant but mitigable impact.

Individuals of special-status animal species could potentially occur in the study area and be directly impacted by construction activities, and the seasonal timing of risk varies among species. While it is unlikely that Blainville's horned lizards occur onsite based on marginal habitat present, they could occur along the periphery of Coastal Scrub and in the more open areas of Annual Grassland habitat that contain less thatch buildup. They could also be present in disturbed edges of grassland, such as along Paradise Lane. Horned lizards could be killed by vehicles during construction or operation of the project while basking on the surface, or by ground excavation activities while in burrows. Additionally, they could fall into trenches or excavations while they are surface active in the summer. The California red-legged frog could occur in the Annual Grassland habitat during the winter following substantial rain events when the ground conditions are wet. They could be directly affected by construction equipment and activities during the winter months. Additionally, they could fall into and become entrapped in any steep-walled excavations. Because the California red-legged frog is a federally Threatened species, strict avoidance of individuals is required. Southwestern pond turtles could move through the Annual Grassland habitats during the daytime beginning in the late-spring or summer when the drainages and the reservoir dry, and in the winter when they use upland habitats. Adults would not remain long in open grassland areas when there is insufficient cover, such as before annual plant growth or after mowing. However, they could fall into excavations made during construction. Additionally, they could nest in the Annual Grassland habitat onsite, moving into this habitat in summer to lay eggs, with hatchlings remaining there until the following spring.

Burrowing owls could be present during the winter while migrating through the area, and could utilize ground squirrel burrows on the property, but only during the winter. They no longer nest in this area. Mitigation Measure BIO-2a described below that is specifically designed for avoidance of the time period that California red-legged frogs and southwestern pond turtles could be affected by construction activities will also eliminate the potential for project effects on burrowing owls. With the implementation of this measure, there would be no effects on burrowing owls.

American badgers are highly mobile and could move through the area in search of prey. They could also have dens in the project vicinity in which they raise their young or utilize for refuge. Maternal or natal dens may be occupied in the spring and summer. Adults that are not raising young may be present in dens during the daytime at any time of year. Badgers within dens onsite could be affected by initial construction activities.

Construction equipment or activities could injure or kill individuals of these species in work areas. Timing the initiation of construction activities to minimize the chance of effects is problematic because there is no one season when all of the species described above would be restricted to areas away from the project impact zone. Minimization measures involving preconstruction surveys by a qualified biologist prior to initial ground disturbance are required because avoidance by timing the construction period cannot cover each of these species with potential to occur. These surveys shall involve a visual search for amphibians, reptiles, small mammal burrows and American badger dens within and adjacent to project impact areas. Preconstruction surveys for nesting birds is described under Impact Bio-3. Measures to reduce impacts on special-status wildlife species as a result of open trenches or excavations is also described below. To reduce potential project impacts on special-status wildlife species to a level below significance, the following Mitigation Measures BIO-2a through 2f are required.

Mitigation Measure BIO-2a: Schedule initial phases of construction during the dry season (May 1 through October 31) when California red-legged frogs and southwestern pond turtles are not expected to be in the impact area. Since the project will be located in Annual Grassland, it is unlikely that California red-legged frogs and southwestern pond turtles would be in the project impact area during the dry season, which is typically May 1st through October 31st. The start of vegetation removal, grubbing and initial site grading shall be scheduled to commence within this time period.

Mitigation Measure BIO-2b: Conduct a preconstruction wildlife survey and avoid construction in any areas with special-status wildlife species. Within seven (7) days prior to the start of vegetation removal or grading, a qualified biologist shall survey impact areas and the reservoir for special-status wildlife species, using techniques appropriate for the species detailed above. Construction activities can begin once it has been determined that there are no special-status wildlife species within impact areas. If any special-status wildlife species are found within the impact area or would otherwise be at risk during construction, work activities shall be delayed in that particular area and the animal allowed to leave the work zone on its own volition. The biologist shall monitor the area to determine when individuals of special-status species have left and work can commence. If any California red-legged frogs or other rare species are found, the County and appropriate regulatory agency shall be contacted and work delayed until authorization to proceed is given.

Mitigation Measure BIO-2c: Conduct a preconstruction den survey and establish no-work buffers around potential dens. Within seven (7) days prior to the start of ground-disturbing activities, a qualified biologist shall survey the project impact area plus a 100-foot buffer for dens occupied by the American badger. Any potential dens found shall be marked in the field with flagging, and a 50-foot no-work buffer shall be flagged. If the potential burrow/den cannot be avoided with at least a 50-foot buffer, the following mitigation measure would also be required.

Mitigation Measure BIO-2d: If any potential American badger dens are found, employ wildlife trail cameras and/or track plates to determine whether they are active, and excavate non-active dens to prevent re-occupation. A qualified biologist shall install wildlife trail cameras and/or tracking medium outside any potential burrows or dens that are found during the preconstruction survey,

and monitor those sites daily for at least three days to determine whether the den(s) are currently occupied. Any unoccupied dens shall be excavated to prevent badgers from re-entering. If the work takes place in the late-spring or summer, additional measures shall be employed to determine whether dens are occupied by badger young. No dens with young shall be disturbed, and no work shall be conducted within 50 feet of maternal dens, until they have left the den. Any occupied burrows or dens that are being used by a single adult with no young that cannot be avoided shall be blocked incrementally by placing sticks and debris over the entrance for three to five days, to discourage the badger from using the den. Only after the badger has left the den, as determined by wildlife cameras and/or tracking medium, can the den be excavated and work proceed.

Mitigation Measure BIO-2e: Protection measures shall be employed for open excavations and trenches. During the period in which there are open trenches or excavations, such as during the excavation for the foundation, septic or utility lines, escape ramps shall be installed so that special-status animal species that have become entrapped in the excavations have the possibility to escape. Escape ramps are to consist of a 2:1 sloped soil area leading from the bottom to ground level. If this is not possible, a qualified biologist shall inspect open trenches each day prior to the start of work for entrapped animals. A third option is that trenches/excavations shall be completely covered with plywood or similar material during overnight periods. If any special-status animal species are found, appropriate authorizations shall be obtained from CDFW and/or USFWS to remove the animal(s) from the project site and relocate to suitable habitat away from project activities. For common wildlife, the biologist shall capture and relocate the individual out of harm's way. Work shall be halted until the entrapped animal has been relocated.

Mitigation Measure BIO-2f: Prepare and present a Worker Environmental Awareness Program. A qualified biologist shall prepare and present a Worker Environmental Awareness Program to all project personnel. This program shall detail measures to avoid and minimize impacts on biological resources. It shall include a description of special-status species potentially occurring on the project site and their natural history; the status of the species and their protection under environmental laws and regulations; and, the penalties for take. Recommendations shall be given as to actions to avoid take should a special-status species be found on the project site.

Impact Bio-3. Construction activities could potentially directly impact nesting of special-status avian species as well as bird species protected under the Migratory Bird Treaty Act and/or California Fish and Game Code. This is a potentially significant but mitigable impact.

If construction activities are initiated during the nesting season (February 1 to August 31), impacts on protected nesting birds and raptors could occur. Due to mitigation required for the California red-legged frog under Mitigation Measure BIO-1 above, the initial phases of work would coincide with the bird nesting season. Some bird species could potentially nest in the Annual Grassland habitat within the impact area and be directly affected during initial vegetation removal and site grading. Birds and raptors may also nest in Eucalyptus, Coastal Scrub, or Riparian habitats near the work area, and if in close enough proximity to the work, their behavior may be disrupted and construction disturbance could cause adults to abandon nests containing eggs or young. To reduce potential project impacts to a level below significance, Mitigation Measure BIO-3 is required.

Mitigation Measure BIO-3: Conduct a preconstruction nesting bird survey and avoid active nests. If it is not possible to schedule the initiation of construction between September 1 and January 31, such as due to the limitations in the construction window as detailed under Mitigation Measure BIO-1, a qualified biologist shall conduct a preconstruction survey for nesting birds within a 250 feet buffer

of project impact areas. The preconstruction survey shall be conducted within seven days before the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential nest substrates in the impact and buffer areas, and any nests identified will be monitored to determine if they are active. If no active nests are found, construction may proceed. If an active nest is found within 50 feet (250 feet for raptors) of the construction area, the biologist, in consultation with CDFW and the County, shall determine the extent of a buffer to be established around the nest. The buffer will be delineated with flagging or staking, and no work shall take place within the buffer area until the young have left the nest, as determined by the qualified biologist.

Impact Bio 4. Construction of the project will take place in potential foraging habitat of special-status wildlife species. Approximately five acres of Annual Grassland would be lost. This is considered a less than significant impact.

Insects including the obscure bumble bee, as well as various birds and mammals could forage onsite. No populations or breeding colonies of these species are expected to occur and none would be affected. Special-status bat species could potentially forage onsite, but foraging behavior is not expected to be impacted because they forage at night and construction activities would occur during the day. Bat species would continue to forage over the site during and after construction, and could potentially use the pool as a water source. No potential bat roosting habitat will be lost or temporarily affected by the project. The loss of approximately five acres of Annual Grassland habitat in a region of extensive grassland, shrubland and woodland habitats would be considered to have no effect on populations of common and special-status wildlife because grassland is a common plant community in this area and that amount of habitat loss is considered to be of no consequence. The remainder (roughly 7 acres) of the approximately 12-acre property will remain undeveloped and will continue to provide foraging opportunities for wildlife species. Because there would be no significant effects of habitat loss on special-status invertebrates, or foraging birds or mammals, no mitigation is needed.

4.1.2 Adverse Effects on Riparian Habitat or Sensitive Natural Communities

No riparian habitat or sensitive natural communities occur within the proposed project impact area. The Riparian (Central Coast Arroyo Willow Scrub) habitat, State Rarity Rank S3, is located outside of project impact areas, and project impacts will be setback at least 100 feet from this habitat (Appendix A). Therefore, no direct impacts resulting from the project would occur to Riparian habitat. Indirect effects that could occur as a result of stormwater runoff from the site are discussed in Section 4.1.3 below.

Coastal and Valley Freshwater Marsh habitat within the reservoir, which corresponds to the Hardstem and California Bulrush Marshes association (State Rarity Rank S3) and/or the Pale Spike Rush Marshes (State Rarity Rank S4) will not be impacted during construction, and will be setback from the limits of disturbance by 100 feet. No indirect effects, such as runoff of sediment or pollutants, are expected because the reservoir is surrounded by a berm. The ditch along Los Osos Valley Road is at least 450 feet from project impact areas. No indirect effects would occur to this small patch of wetland habitat due to its position outside the impact area. The Annual Grassland semi-natural community within the project impact areas is not considered to be sensitive. Therefore, impacts on riparian habitat or sensitive natural communities are not expected to occur as a result of the project, and no mitigation is required.

4.1.3 Federally Protected Wetlands

As shown on the project plans (see Appendix A), site development of the project will avoid the onsite ephemeral drainages, and the impact area will be setback at least 100 feet from the Riverine habitat or other potentially jurisdictional areas. The wetland habitat within the onsite reservoir is not likely to be subject to Clean Water Act requirements because it is hydrologically separated from any potentially jurisdictional drainage areas because the reservoir was created in an upland habitat, and the wetland is persisting from shallow groundwater and seasonal rainwater. Additionally, project impacts will be setback at least 100 feet from this habitat, and no indirect effects would occur due to the berm around it and other sediment and erosion control protection measures. The small ditch along Los Osos Valley Road will not be affected by the project. As currently proposed, no permitting would be needed from USACE, RWQCB or CDFW because the work will remain outside of potentially jurisdictional wetland areas.

However, wetland habitat in the drainage could be indirectly affected by pollutants and/or sediment by surface runoff from the project site. Measures are required under CEQA to reduce potential indirect effects of construction activities on wetland habitat to a level below significance.

Impact Bio-5. Stormwater runoff from the project site could potentially result in pollutants and/or sediment entering federally protected wetland habitat in the onsite unnamed tributary. This is a potentially significant but mitigable impact.

The onsite unnamed tributary, which likely is under the jurisdiction of USACE as well as RWQCB and CDFW, lies downslope from the proposed project site. Construction of the residence will involve vegetation removal and grading, and disturbed soils could erode into the stream system if they are not stabilized prior to significant rainfall. Sedimentation is considered to be a type of pollutant in aquatic systems because it decreases water quality through increased turbidity, fills in pools or causes lateral spread of channels, and covers instream vegetation and other aquatic life. In addition, toxic substances from construction equipment such as oil, gas, diesel, and hydraulic fluid could leak or be spilled and be carried in stormwater runoff into the creek. The project plans have incorporated erosion and sedimentation controls and BMPs (Appendix A) to manage stormwater runoff and avoid impacts to drainages and offsite resources. To bring the chance of indirect effects on protected wetland habitats to a level below significance, the project plans identify numerous BMPs that will be implemented during the course of construction. To bolster the proposed BMPs the following measures are recommended in addition to the measures specified in the site plans.

Mitigation Measure Bio-5: Install appropriate erosion and sediment controls and revegetate temporarily disturbed areas with native plants. The following erosion and sedimentation control methods are required to be implemented, in addition to or in coordination with the measures specified in the site plans:

1. If possible, the potential for erosion and sedimentation shall be minimized by scheduling construction to occur outside of the rainy season, which is typically defined from October 15 through April 15.
2. To minimize site disturbance, all construction related equipment shall be restricted to established roads, construction areas, and other designated staging areas.
3. A Sediment and Erosion Control Plan may be required by the County. The use of silt fence, straw wattles and other appropriate techniques should be employed to protect the drainage features on and off the property. All sediment and erosion control measures shall be

installed per the engineer's requirements.

4. Spill kits shall be maintained on the site, and a Spill Response Plan shall be in place.
5. No vehicles or equipment shall be refueled within 100 feet of wetland areas and/or drainage features unless a bermed and lined refueling area is constructed. No vehicles or construction equipment shall be stored overnight within 100 feet of these areas unless drip pans or ground covers are used. All equipment and vehicles should be checked and maintained on a daily basis to ensure proper operation and to avoid potential leaks or spills. Construction staging areas should attain zero discharge of stormwater runoff into these habitats.
6. No concrete washout shall be conducted on the site outside of an appropriate containment system. Washing of equipment, tools, etc. should not be allowed in any location where the tainted water could enter onsite drainages.
7. The use of chemicals, fuels, lubricants, or biocides shall be in compliance with all local, state, and federal regulations. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other state and federal legislation.
8. All project-related spills of hazardous materials within or adjacent to the project site should be cleaned up immediately.
9. All areas with soil disturbance shall have appropriate erosion controls and other stormwater protection BMPs installed to prevent erosion potential. Silt fencing, erosion control blankets, straw bales, sandbags, fiber rolls and/or other types of materials prescribed on the plan shall be implemented to prevent erosion and sedimentation. Biotechnical approaches using native vegetation shall be used as feasible.
10. Areas with disturbed soils shall be restored under the direction of the project engineer in consultation with a qualified restoration ecologist as needed. Methods may include recontouring graded areas to blend in with existing natural contours, covering the areas with salvaged topsoil containing native seedbank from the site, or applying the native seed mix in Table 1. For areas that will remain outside of future use areas associated with occupation of the residences, Cambria morning-glory seed may also be incorporated into the seed mix. Native seed mix shall be applied to the graded areas through either direct hand seeding or hydroseeding methods, and conducted on all disturbed soil areas prior to the onset of the rainy season (by October 15).

Table 1. Native Erosion Control Seed Mix

Species	Application Rate (lbs./acre)
Bromus carinatus (California brome)	10
Stipa pulchra (purple needlegrass)	5
Trifolium wildenovii (tomcat clover)	5
Vulpia microstachys (six weeks fescue)	5
Total	**25**

4.1.4 Interference with Movement of Native Fish or Wildlife, Wildlife Corridors, and Wildlife Nursery Sites

The proposed project would not affect the movement of native fish because all work will be conducted in upland grassland habitat, outside of stream channels. In addition, the unnamed

tributary on the property is too ephemeral to support fish. No equipment or materials will enter or be placed in the channel that could affect fish downstream.

The project site is located in an area surrounded by agriculture and rural residential development, and is not expected to represent a significant wildlife corridor. While many species of wildlife can move through agricultural areas, the Irish Hills, Nine Sisters, and riparian areas along Los Osos Creek and Los Osos Valley are more likely to be used by wildlife species as movement corridors. The proposed project does not include any fencing or other structures that would be a barrier to movement of wildlife, aside from the actual structure of the residence. The remaining grassland habitat surrounding the building will remain as open grassland habitat that can be used for wildlife movement. Therefore, there would be no negative impacts of the project on wildlife corridors or movement.

The frequently mowed grassland habitat in the project impact area is not expected to be a wildlife nursery site for any species. Wildlife species that could breed in the area are limited to ground-nesting birds, small mammals such as rodents, and invertebrates. These species would be dispersed throughout the abundant grassland habitat in the general area, and not focused in the study areas for reproduction or other key life history stages. Therefore, there would be no impact of the project on wildlife nursery sites.

Because there would be no project impacts on the movement of native fish or wildlife, wildlife corridors or wildlife nursery sites, no mitigation is required.

4.1.5 Conflicts with Local Policies or Ordinances, Such as Tree Preservation

The project does not involve the removal of any oak trees, and furthermore, oak trees in the study area were limited to one small tree seen in the Riparian habitat. The property falls within the Estero Area Planning Area, and lies outside of the Los Osos Urban Reserve Area. The area is within the Coastal Zone, and thus is subject to the Coastal Zone Land Use Ordinance, Title 23 of the County Code. The Land Use Category for which the property is located is Agriculture. The property has Coastal Zone Creek combining designation. The Coastal Zone Creek combining designation, which falls under the Environmentally Sensitive Habitats identified under Sensitive Resource Areas, are areas with special environmental qualities, containing unique or endangered vegetation or habitat resources. The purpose of the combining designation standards is to require that proposed uses be designed to protect these sensitive resources to satisfy the requirements of the California Coastal Act (County 2018). As described above under Sections 4.1.2 and 4.1.3, stream resources on the property will not be directly affected by the project. The Estero Area Plan states that all development shall be setback at least 100 feet from Environmentally Sensitive Habitats and riparian habitat (County 2017). The project proposes a setback of at least 100 feet from the Riverine (unvegetated stream channel) and Riparian habitats onsite. Additionally, mitigation prescribed herein will reduce any potential indirect effects of sedimentation and/or pollution during construction activities. The Estero Area Plan (County 2017) identifies several Sensitive Resource Areas in the vicinity of the site, including:

- Morro Bay kangaroo rat habitat;
- Los Osos Oaks State Reserve;
- Los Osos Creek; and
- Eto and Warden Lakes.

The property is located outside of each of these Sensitive Resource Areas, and would not indirectly affect any of these areas.

Because there would be no conflicts with local policies or ordinances related to biological resources, no mitigation is required.

4.1.6 Conflicts with Local, Regional or State Conservation Plans

No local, regional or state conservation plans have been prepared for the area in which the project is located; therefore, there would be no conflicts with these plans and no mitigation is required.

4.2 Cumulative Effects

The project is sited in a rural agricultural area of San Luis Obispo County. Annual Grassland habitat within the study areas is not considered to be a sensitive natural community, and is widespread in the local area surrounding the project site. The loss of a small area of grassland would not be significant from a biological perspective. The land surrounding the project site within the subject property will remain undeveloped and will provide habitat for grassland species. With mitigation incorporated as described herein, no significant effects on biological resources are expected to occur as a result of project implementation. Because there would be no effects of the project in the context of the site's importance in the overall area, the project would not contribute to cumulative effects of other non-federal projects planned in the area.

5.0 CONCLUSIONS

The project involves the construction of a single-family residence with additional structures on an undeveloped approximately 12-acre property. The property has an artificial bermed reservoir that is fed by groundwater and precipitation, and contains wetland vegetation. An ephemeral tributary with riparian habitat is also present onsite. Consistent with Estero Area Plan requirements, each of the project elements will be setback a minimum of 100 feet from these features. Seasonally timed, focused rare plant surveys determined that one watch list species (CRPR 4.2) occurs in scattered patches within grassland habitat in the project impact area. This species, the Cambria morning-glory, occurs throughout grasslands from San Luis Obispo to San Simeon and is not rare within the vicinity of the site. As such, impacts are likely not significant under CEQA. However, a conceptual compensatory mitigation plan is described herein, should it be required by the County, and would be adequate to reduce project-related impacts to a less than significant level pursuant to CEQA. The impact area is entirely within annual grassland habitat that is regularly mowed and does not represent significant value for wildlife habitat. Mitigation for special-status wildlife species has been described to avoid or minimize effects on these species. The analysis provided above determined that none of the criteria under CEQA which trigger a mandatory finding of significance were met by this project. Additionally, only one of the six additional impacts analyzed have potential to occur as a result of the project (e.g., effects on individual special-status wildlife species), and these impacts can be mitigated to a level below significance.

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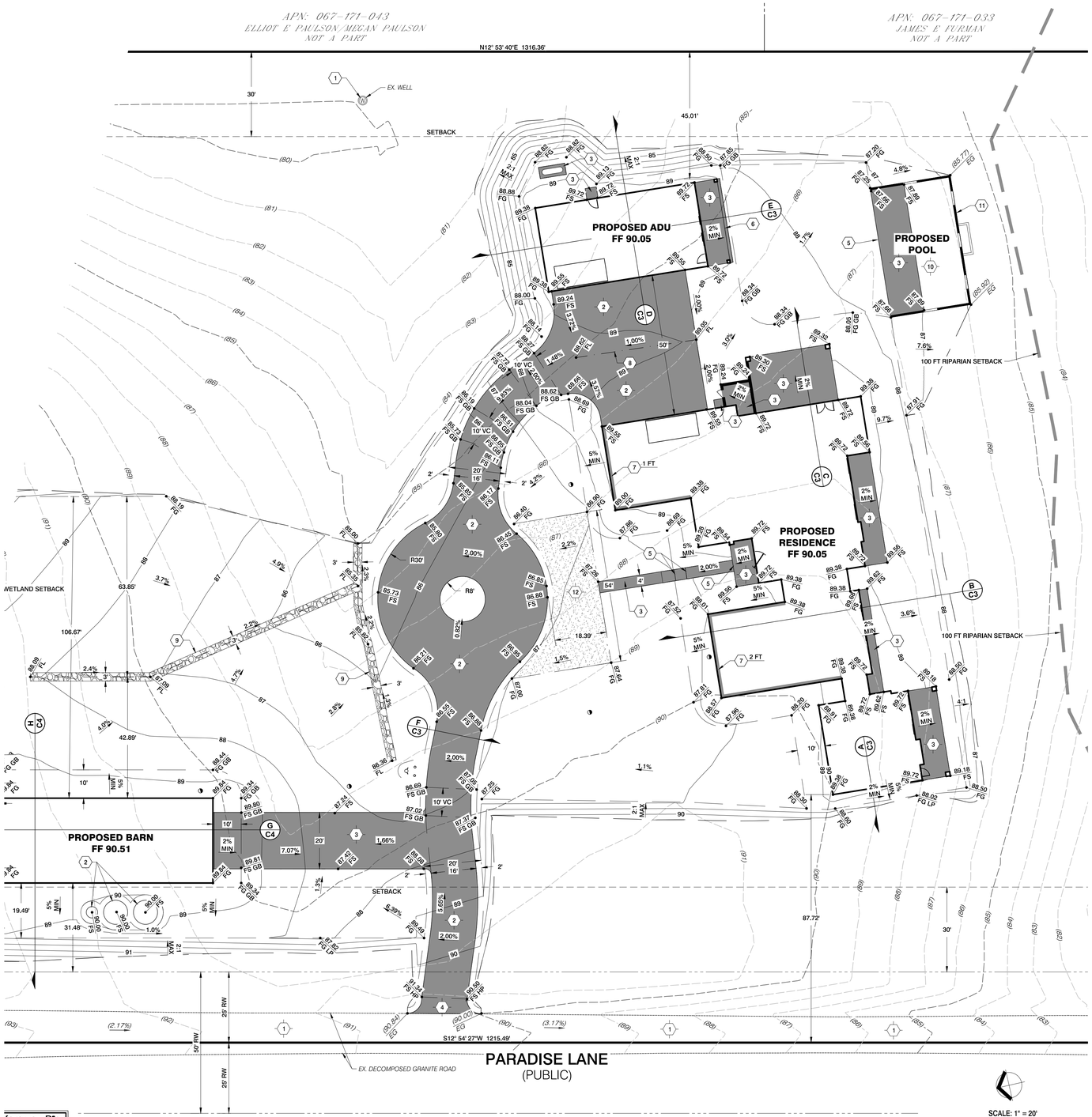
APPENDIX A

Site Plans

KMA



LEGEND

- PROPERTY BOUNDARY
- RIGHT OF WAY
- PROPERTY LINE
- SECTION LINE
- CENTER LINE
- EASEMENT
- EXISTING BACK OF CURB
- EXISTING FACE OF CURB
- EXISTING LIP OF CURB
- (100) EXISTING MAJOR CONTOUR LINE
- (101) EXISTING MINOR CONTOUR LINE
- X — X — X EXISTING FENCE
- EXISTING EDGE OF SIDEWALK
- BUILDINGS
- CONCRETE
- BACK OF CURB
- FACE OF CURB
- CURB LIP
- FLOW LINE
- GRADE BREAK
- SAWCUT
- SIDEWALK
- SETBACK

LEGEND

EXISTING		PROPOSED	
(00.00) EG	EXISTING GROUND	00.00 FG	FINISH GRADE
(00.00) EP	EDGE OF PAVEMENT	00.00 FL	FLOW LINE
(00.00) FL	FLOW LINE	00.00 HP	HIGH POINT
(00.00) AC	ASPHALT CONCRETE	00.00 GB	GRADE BREAK

CONSTRUCTION NOTES

1. PROTECT IN PLACE.
2. CONSTRUCT 6" CONCRETE OVER 6" TYPE II AGGREGATE BASE, OVER 12" OF NATIVE SOIL 95% RELATIVE COMPACTION REINFORCED WITH NO. 4 BARS PLACED AT 12 IN O.C. BOTH WAYS PER GEOTECHNICAL REPORT.
3. CONSTRUCT 4" CONCRETE OVER 6" TYPE II AGGREGATE BASE, OVER 12" OF NATIVE SOIL 95% RELATIVE COMPACTION REINFORCED WITH NO. 3 BARS PLACED AT 18 IN O.C. BOTH WAYS PER GEOTECHNICAL REPORT.
4. CONSTRUCT DRIVEWAY RAMP PER SLO COUNTY RURAL RESIDENTIAL DRIVEWAY STANDARD B-1a AND GEOTECHNICAL RECOMMENDATIONS (SEPARATE ENCROACHMENT PERMIT REQUIRED).
5. 6" RISER PER CBC REQUIREMENTS.
6. CONSTRUCT STAIRS PER CBC REQUIREMENTS.
7. DEEPENED FOOTING MIN. DEPTH PER PLAN (SEE STRUCTURAL PLANS FOR DETAILS)
8. CONSTRUCT FLOWLINE AS SHOWN.
9. CONSTRUCT COBBLE SWALE PER DETAIL 1, THIS SHEET.
10. POOL BY OTHERS
11. RETAINING WALL. COORDINATE WITH POOL DESIGNER FOR DETAILS.
12. CONSTRUCT 6" AGG. BASE OVER 12" OF NATIVE SOIL 95% RELATIVE COMPACTION.

SCALE: 1" = 20'

20 10 0 20

SITE DATA

APN No.	ACREAGE:	ZONING
067-171-049	11.83	AG

GEOTECHNICAL REPORT

PROJECT No. SL11323-1
DATED: OCTOBER 8, 2019
AS PREPARED BY: GEOSOLUTIONS, INC.

EARTHWORKS

CUT = 2,460 CY
FILL = 2,362 CY
NET = 138 CY CUT

TOPOGRAPHIC SURVEY

PROJECT No. #19-157
DATED: SEPTEMBER 6, 2019
AS PREPARED BY: MBS LAND SURVEYS, INC.

efore you Dig
ting underground
nes. It's costly.
Call
811
OR
0-642-2444

BENCHMARK

THE BENCH MARK FOR THIS PROJECT IS A FOUND BENCH MARK FOR THE CONSTRUCTION PHASE OF THE LOS OSOS WASTEWATER COLLECTION SYSTEM PROJECT NUMBER 149 AS SHOWN ON 110 LS 69. BEING A FOUND 2" BRASS CAP "STAMPED "LS 5702"" IN THEW NORTHERLY CURB OF LOS OSOS VALLEY ROAD, 6.7 FEET NORTHWESTERLY OF THE CENTER OF CURB FACE CATCH BASIN, 113 FEET NORTHWESTERLY OF THE BRIDGE OVER LOS OSOS CREEK, 540 FEET SOUTHWESTERLY FROM THE CENTERLINE OF PALOMINO DRIVE.

ELEVATION=94.82' NAVD 88

BASIS OF BEARINGS

THE BASIS OF BEARINGS FOR THIS PROJECT IS BASED ON GPS OBSERVATION OF GEODETIC NORTH AT FOUND 4" CAST IRON MONUMENT "COUNTY SURVEYOR" AT THE NORTHWESTERLY CORNER OF PARCEL "B".

REV	DATE	DESCRIPTION
A	3/7/2020	BUILDING PERMIT - 1ST SUBMITTAL

ENGINEERING
DESIGN
PROFESSIONALS, INC.
LOS OSOS CA
805.602.6167 I EDPINCORPORATED.COM

GRADING PLAN

LOPEZ RESIDENCE
2420 PARADISE LANE
LOS OSOS, CA
APN# 067-171-049

DATE:	3/7/2020
DRAFTER:	DS
CHECKED:	DS
SCALE:	1"=20'

REGISTERED PROFESSIONAL ENGINEER
DANIEL A. SOTELO
NO. 81227
EXP. 9/30/21
CIVIL
STATE OF CALIFORNIA
3/7/2020

SHEET
C2
SHEET 2 OF 6 SHEETS

PMT-TBD

APPENDIX B

List of Plants and Animals Observed Onsite During the Survey

KMA

Appendix B. List of Plants and Animals Observed Onsite During the Site Visits

Scientific Name	Common Name
Plants	
*Anthemis cotula**	Dog fennel
*Avena barbata**	Slender wild oat
Baccharis pilularis	Coyote brush
*Bellardia trixago**	Mediterranean lineseed
*Brachypodium distachyon**	Purple false brome
*Brassica nigra**	Black mustard
*Briza minor**	Little rattlesnake grass
*Bromus diandrus**	Ripgut brome
*Bromus hordeaceus**	Soft chess
Calystegia subacaulis* ssp. *episcopalis	**Cambria morning-glory (CRPR 4.2)**
*Carduus pycnocephalus**	Italian thistle
*Carpobrotus chiloensis**	Ice plant
*Conium maculatum**	Poison hemlock
*Convolvulus arvensis**	Field bindweed
*Cortaderia jubata**	Jubata grass
Danthonia californica	California oatgrass
Eleocharis macrostachya	Spike rush
Epilobium brachycarpum	Willow herb
*Erodium botrys**	Big heron bill
*Erodium cicutarium**	Red stemmed filaree
Eucalyptus globulus#*	Blue gum
*Festuca myuros**	Rattail sixweeks grass
*Festuca perennis**	Italian rye grass
*Foeniculum vulgare**	Fennel
Frangula californica	California coffeeberry
*Helminthotheca echioides**	Bristly ox-tongue
Hemizonia congesta ssp. *luzulifolia*	Hayfield tarweed
Heteromeles arbutifolia	Toyon
Hordeum marinum ssp. *gussoneanum**	Mediterranean barley
Juncus phaeocephalus	Brown-headed rush
*Logfia gallica**	Narrowleaf cottonrose
Lupinus nanus	Sky lupine
*Lythrum hyssopifolia**	Hyssop loosestrife
*Medicago polymorpha**	California burclover
*Phalaris aquatica**	Harding grass
*Plantago lanceolata**	English plantain
*Polypogon monspeliensis**	Rabbits foot grass
Quercus agrifolia	Coast live oak
*Rumex crispus**	Curly dock
Salix lasiolepis	Arroyo willow
Sanicula crassicaulis	Pacific sanicle
Schoenoplectus acutus	Hardstem bulrush
*Silybum marianum**	Milk thistle
*Sonchus asper**	Spiny sowthistle
Stipa pulchra	Purple needle grass
Trifolium depauperatum var. *amplectens*	Pale sack clover
*Trifolium hirtum**	Rose clover

Scientific Name	Common Name
Typha sp.	Cattail
*Vicia sativa**	Spring vetch
*Vicia villosa**	Hairy vetch
*Zantedeschia aethiopica**	Callalily
Zeltnera davyi	Davy's centaury
Animals	
Aphelocoma coerulescens	Scrub jay
Baeolophus inornatus	Oak titmouse
Buteo jamaicensis	Red-tailed hawk
Calypte anna	Anna's hummingbird
Canis latrans	Coyote (scat)
Cathartes aura	Turkey vulture
Chamaea fasciata	Wrentit
Corvus brachyrhynchos	American crow
Haemorhous mexicanus	House finch
Melospiza melodia	Song sparrow
Melozone crissalis	California towhee
Odocoileus hemionus	Black-tailed deer
Procyon lotor	Raccoon (tracks)
Sayornis nigricans	Black phoebe
Sceloporus occidentalis	Western fence lizard
Spinus psaltria	Lesser goldfinch
Spinus tristis	American goldfinch
Sturnella neglecta	Western meadowlark
Tyrannus tyrannus	King bird
Zenaida macroura	Mourning dove

Bold indicates special-status species
*Non-native species
#Planted on neighboring property

APPENDIX C

Photo Plate

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Appendix C. Photo Plate

Photo 1. Annual Grassland, which was the primary habitat type onsite, was dominated by wild oats (*Avena barbata*). View is from the northern portion of the property looking south, with Paradise Lane seen on the right. Photo taken in May 2019.

Photo 2. Grassland habitat in the southern part of the study area, with a higher proportion of Harding grass (*Phalaris aquatica*) and fennel (*Foeniculum vulgare*). View is to the northeast. Photo taken in May 2019.

Photo 3. Annual Grassland habitat in the northwestern portion of the property, where there is an occurrence of Cambria morning glory (*Calystegia subacaulis* ssp. *episcopalis*). View is toward the intersection of Los Osos Valley Road and Paradise Lane.

Photo 4. Northeasterly view of disturbed Annual Grassland habitat on the property from the southwest corner. Riparian habitat can be seen along the drainage feature to the lower right and the Eucalyptus windrow planted on the eastern property line is visible in the background.

Photo 5. Invasive jubata grass (*Cortaderia jubata*) and callalily (*Zantedeschia aethiopica*), which mixes with Coastal Scrub along the slope at Los Osos Valley Road.

Photo 6. Wetland habitat in the old reservoir in the north-central part of the site was dominated by hardstem bulrush (*Schoenoplectus acutus*) and spike rush (*Eleocharis macrostachya*). This habitat type corresponds to the Coastal and Valley Freshwater Marsh sensitive natural community, but occurs in a manmade feature that is not connected to any natural drainage feature. Photo taken in May 2019.

Photo 7. Southeasterly view of old reservoir and associated wetland habitat in August 2019 after the reservoir had dried. The grassland onsite has been regularly mowed for many years.

Photo 8. Wetland habitat is present along the roadcut and ditch at Los Osos Valley Road. Brown-headed rush (*Juncus phaeocephalus*) and cattails (*Typha* sp.) were intermixed with jubata grass, fennel and coyote brush (*Baccharis pilularis*) near a lone arroyo willow shrub.

Photo 9. Coastal Scrub habitat along the berm for the onsite reservoir (left), looking east toward the row of Eucalyptus along the eastern property boundary. Photo taken in May 2019.

Photo 10. Overview of the Riparian habitat along the ephemeral drainage that runs west to east across the site, taken from near the western boundary of the site, looking southeast. Photo taken in February 2019. Note the low height of new growth in the Annual Grassland.

Photo 11. Northerly view of grassland habitat in the southern part of the site. Riparian habitat and poison hemlock can be seen growing along the drainage feature in the center of photo.

Photo 12. Easterly view of the proposed project footprint in April 2020, which will be located in Annual Grassland habitat. The row of Eucalyptus is in the background along the eastern property line.

Photo 13. Easterly view from Paradise Lane of the west-east trending drainage feature. Shown is the culvert end that runs under Paradise Lane, and Riverine habitat in the western end of the channel with Riparian habitat further downstream.

Photo 14. View of the same area as above in April 2020 showing a small amount of water present in the channel that is lined by grasses and weeds near the culvert and arroyo willows further downstream.

APPENDIX D

Special-status Biological Resources Summary

KMA

Appendix D. Special-status Biological Resources Summary

Common Name	Scientific Name	Fed	CA	CRPR	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
PLANTS						
Adobe sanicle	*Sanicula maritima*	—	R	1B.1	Perennial herb; chaparral, coastal prairie, meadows and seeps, valley and foothill grassland on clay and serpentine soils; 30-240 meters in elevation; blooms February to May.	**Not expected.** The site is slightly outside the species' elevational range and no suitable serpentine soils. This perennial species would have been observed during surveys if present.
Beach spectaclepod	*Dithyrea maritima*	—	—	1B.1	Rhizomatous, perennial herb; occurs in coastal dunes and coastal scrub habitats in sandy soils, usually near shore; 3-50 meters in elevation; blooms March to May.	**Not expected.** Site is located inland away from coastline and no suitable habitat is present.
Betty's dudleya	*Dudleya abramsii* ssp. *bettinae*	—	—	1B.2	Perennial herb; chaparral, coastal scrub and valley and foothill grassland on rocky, serpentine soils; 20-180 meters in elevation; blooms May to July.	**Not expected.** No suitable soils or rocky serpentine areas are present onsite.
Blochman's dudleya	*Dudleya blochmaniae* ssp. *blochmaniae*	—	—	1B.1	Perennial herb; coastal bluff scrub, chaparral, coastal scrub, and valley and foothill grassland on rocky, often clay or serpentine soils and sandstone rock outcrops; 5 - 450 meters in elevation; blooms April to June.	**Not expected.** No suitable soils or rocky serpentine or sandstone areas are present onsite. Not observed during surveys.
Blochman's leafy daisy	*Erigeron blochmaniae*	—	—	1B.2	Perennial rhizomatous herb; stabilized coastal dunes and coastal scrub; 3-45 meters in elevation; blooms June to August.	**Not expected.** No suitable dune habitat is present and species is restricted to sandy soil areas on the immediate coast.
Brewer's spineflower	*Chorizanthe breweri*	—	—	1B.3	Annual herb; coniferous forest, chaparral, cismontane woodland and coastal scrub on serpentinite or gravelly soils; 45-800 meters in elevation; blooms April to August.	**Not expected.** No suitable serpentine soils are present and this species was not observed during surveys.
California seablight	*Suaeda californica*	E	—	1B.1	Perennial evergreen shrub; coastal salt marshes and swamps; 0-15 meters in elevation; blooms July to October.	**Not expected.** The site is outside of the elevational range of the species, no suitable habitat is present, and the species is restricted to salt marshes along the immediate coast.

Common Name	Scientific Name	Fed	CA	CRPR	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Cambria morning-glory	*Calystegia subacaulis* ssp. *episcopalis*	—	—	4.2	Perennial rhizomatous herb; chaparral, cismontane woodland, coastal prairie, and valley and foothill grassland usually on clay soils; 30-500 meters in elevation; blooms March to July.	**Present.** Suitable grassland habitat and soils are present, and all observed occurrences were recorded onsite during botanical surveys.
Chaparral ragwort	*Senecio aphanactis*	—	—	2B.2	Annual herb; chaparral, cismontane woodland, coastal scrub in drying alkaline flats; 15-800 meters in elevation; blooms January to April.	**Not expected.** No suitable habitat is present, but there are records in the vicinity that are not on alkaline flats. Not observed during surveys conducted during its bloom period.
Coast woolly-heads	*Nemacaulis denudata* var. *denudata*	—	—	1B.2	Annual herb; coastal dunes; 0-100 meters in elevation; blooms April to September.	**Not expected.** Site is located further inland and no suitable soils or habitat are present. Not observed during surveys.
Coastal goosefoot	*Chenopodium littoreum*	—	—	1B.2	Annual herb; coastal dunes; 10-30 meters in elevation; blooms April to August.	**Not expected.** Site is located inland and no suitable habitat is present.
Congdon's tarplant	*Centromadia parryi* ssp. *congdonii*	—	—	1B.1	Annual herb; valley and foothill grassland on alkaline soils; 0-230 meters in elevation; blooms May to November.	**Not expected.** Not observed during surveys and the site is west and outside the species' local distribution.
Coulter's goldfields	*Lasthenia glabrata* ssp. *coulteri*	—	—	1B.1	Annual herb; coastal salt marshes and swamps, playas and vernal pools; 1-1220 meters in elevation; blooms February to June.	**Not expected.** No suitable habitat is present and the site is outside the species' local distribution. Not observed during surveys.
Coulter's saltbush	*Atriplex coulteri*	—	—	1B.2	Perennial herb; coastal bluff scrub, coastal dunes, coastal scrub and valley and foothill grassland on alkaline or clay soils; 3-460 meters in elevation; blooms March to October.	**Not expected.** Species is restricted to areas along the immediate coast; no suitable habitat is present, and not observed during surveys.
Dacite manzanita	*Arctostaphylos tomentosa* ssp. *daciticola*	—	—	1B.1	Perennial evergreen shrub; chaparral and cismontane woodland on dacite porphyry buttes; 100-300 meters in elevation; blooms March to May.	**Not expected.** No suitable habitat is present and perennial shrub would have been seen during the surveys.
Diablo Canyon blue grass	*Poa diaboli*	—	—	1B.2	Perennial rhizomatous herb; coniferous forest, chaparral, cismontane woodland and coastal scrub sometimes in burned and/or mesic areas; 120-400 meters in elevation; blooms March to April.	**Not expected.** Site is outside the elevational range and local distribution of the species. Not observed during surveys.

Common Name	Scientific Name	Fed	CA	CRPR	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Dune larkspur	*Delphinium parryi* ssp. *blochmaniae*	—	—	1B.2	Perennial herb; maritime chaparral and coastal dunes; 0-200 meters in elevation; blooms April to June.	**Not expected.** No suitable habitat is present, and would have been seen during surveys conducted during the species' blooming period.
Dwarf soaproot	*Chlorogalum pomeridianum* var. *minus*	—	—	1B.2	Perennial bulbiferous herb; chaparral on serpentine soils; 305-1000 meters in elevation; blooms May to August.	**Not expected.** No suitable habitat or soils are present, and the site is greatly outside of the species' elevational range.
Eastwood's larkspur	*Delphinium parryi* ssp. *eastwoodiae*	—	—	1B.2	Perennial herb; chaparral and valley and foothill grassland generally in serpentine soils; 75-500 meters in elevation; blooms February to March.	**Not expected.** No suitable soils are present and the site is outside of the species' elevational range. Several records in foothills surrounding the site.
Hardham's evening-primrose	*Camissoniopsis hardhamiae*	—	—	1B.2	Annual herb; occurs in disturbed or burned areas, chaparral and cismontane woodland on sandy soils or decomposed carbonate; ranges from 140 to 945 meters in elevation; blooms March to May.	**Not expected.** No suitable habitat or soils are present, and the site is outside of the species' elevational range.
Hoover's bent grass	*Agrostis hooveri*	—	—	1B.2	Stoloniferous perennial herb; chaparral, cismontane woodland, and valley and foothill grassland habitats in sandy soils; 60-600 meters in elevation; blooms April to July.	**Not expected.** No suitable soils are present and the site is outside of the species' elevational range. Not observed during surveys.
Hoover's button-celery	*Eryngium aristulatum* var. *hooveri*	—	—	1B.1	Herb that can occur as either an annual or a perennial; vernal pools, seasonally wet grasslands, and roadside ditches; 3-45 meters in elevation; blooms June to August.	**Not expected.** Known to occur in the upper Los Osos Valley to the east of the site, but wetland areas were searched during surveys and species was not observed.
Indian Knob mountainbalm	*Eriodictyon altissimum*	E	E	1B.1	Perennial evergreen shrub; maritime chaparral, cismontane woodland, and coastal scrub in sandstone soils; 80-270 meters in elevation; blooms March to June.	**Not expected.** No suitable soils are present and the site is outside of the species' elevational range. Perennial shrub would have been in identifiable condition during surveys.
Jones' layia	*Layia jonesii*	—	—	1B.2	Annual herb; chaparral and valley and foothill grassland on clay or serpentine; 5-400 meters in elevation; blooms March to May.	**Not expected.** No suitable serpentine based soils are present. Species is known to occur in the region along the serpentine ridges. Would have been seen during surveys conducted during the species' blooming period.

Common Name	Scientific Name	Fed	CA	CRPR	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Kellogg's horkelia	*Horkelia cuneata* var. *sericea*	—	—	1B.1	Perennial herb; openings in coniferous forest, maritime chaparral, coastal dunes and coastal scrub on sandy or gravelly soils; 10-200 meters in elevation; blooms April to September.	**Not expected.** No suitable soils are present and species is restricted to immediate coast. Not observed during surveys.
Marsh sandwort	*Arenaria paludicola*	E	E	1B.1	Stoloniferous, perennial herb; freshwater marshes and swamps, bogs and fens, and coastal scrub; 3-170 meters in elevation; blooms May to August.	**Not expected.** The only record in the vicinity is a planted population at Sweet Spring Nature Preserve; wetland areas searched and would have been seen during the surveys.
Mesa horkelia	*Horkelia cuneata* var. *puberula*	—	—	1B.1	Perennial herb; chaparral, cismontane woodland, coastal scrub; sandy or gravelly soils; 70- 810 meters elevation; blooms February to September.	**Not expected.** No suitable soils are present, the site is outside of the species' elevational range, and not observed during surveys.
Miles' milk-vetch	*Astragalus didymocarpus* var. *milesianus*	—	—	1B.2	Annual herb; coastal scrub habitats with clay soils; 20-90 meters in elevation; blooms March to June.	**Not expected.** Coastal scrub and grassland areas were searched during surveys and species was not observed during its known flowering period.
Morro manzanita	*Arctostaphylos morroensis*	T	—	1B.1	Perennial evergreen shrub; maritime chaparral, cismontane woodland, pre-Flandrian coastal dunes and coastal scrub on Baywood fine sand; 5-205 meters in elevation; blooms December to March.	**Not expected.** No suitable habitat or soils are found onsite. Species occurs further west of site. No manzanita species were seen during the surveys.
Most beautiful jewelflower	*Streptanthus albidus* ssp. *peramoenus*	—	—	1B.2	Annual herb; chaparral, cismontane woodland, and valley and foothill grassland on serpentine soils; 94-1000 meters in elevation; blooms March to October.	**Not expected.** No suitable serpentine soils are present and the site is outside of the species' elevational range. Not observed during surveys.
Mouse-gray dudleya	*Dudleya abramsii* ssp. *murina*	—	—	1B.3	Perennial leaf succulent; chaparral, cismontane woodland and valley and foothill grassland on serpentine soils; 50-525 meters in elevation; blooms May to June.	**Not expected.** No suitable serpentine soils are present and the site is outside of the species' elevational range. Not observed during surveys.
Ojai fritillary	*Fritillaria ojaiensis*	—	—	1B.2	Perennial bulbiferous herb; broadleaved upland forest, chaparral, cismontane woodland, and lower montane coniferous forest on rocky soils; 225-998 meters in elevation; blooms February to May.	**Not expected.** No suitable habitat or soils are present and the site is greatly outside of the elevational range of this species.

Common Name	Scientific Name	Fed	CA	CRPR	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Oso manzanita	*Arctostaphylos osoensis*	—	—	1B.2	Perennial evergreen shrub; chaparral and cismontane woodland on dacite porphyry buttes; 95-500 meters in elevation; blooms February to March.	**Not expected.** No suitable habitat or soils are present, the site is outside of the elevational range of this species, and no manzanita shrubs were seen during the surveys.
Palmer's mondardella	*Monardella palmeri*	—	—	1B.2	Perennial herb; chaparral and cismontane woodland on serpentine soils; 200-800 meters in elevation; blooms June to August.	**Not expected.** No suitable habitat or soils are present and the site is greatly outside of the elevational range of this species.
Pecho manzanita	*Arctostaphylos pechoensis*	—	—	1B.2	Perennial evergreen shrub; coniferous forest, chaparral and coastal scrub on siliceous shale soils; 125-850 meters in elevation; blooms November to March.	**Not expected.** No suitable soils are present, the site is outside of the species' elevational range, and no manzanita shrubs were seen during the surveys.
Perennial goldfields	*Lasthenia californica* ssp. *macrantha*	—	—	1B.2	Perennial herb; coastal bluff scrub, coastal dunes and coastal scrub; 5-520 meters in elevation; blooms January to November.	**Not expected.** Site is inland from where this species occurs and does not fall within the species' local distribution; no suitable coastal bluff scrub or dune habitat present. Not observed during surveys.
Pismo clarkia	*Clarkia speciosa* ssp. *immaculata*	E	R	1B.1	Annual herb; margins and openings of chaparral, cismontane woodland, and valley and foothill grassland in sandy soils; 25-185 meters in elevation; blooms May to July.	**Not expected.** Site is outside of the restricted distribution of this species. The only record nearby has an imprecise location and is from 1995. Onsite soils are unsuitable.
Popcorn lichen	*Cladonia firma*	—	—	2B.1	Squamulose terricolous lichen; stabilized coastal dunes and coastal scrub on soil, detritus or moss; 30-75 meters in elevation.	**Not expected.** Site is inland from the zone of stabilized coastal dunes where this species is restricted; no suitable habitat present and not observed during surveys.
Salt marsh birds-beak	*Cordylanthus maritimus* ssp. *maritimus*	E	E	1B.2	Hemiparasitic annual herb; coastal dunes and coastal salt marshes and swamps; 0-30 meters in elevation; blooms May to November.	**Not expected.** Site is inland and no suitable coastal salt marsh habitat is present.
San Joaquin spearscale	*Extriplex joaquinana*	—	—	1B.2	Annual herb; chenopod scrub, meadows and seeps, playas and valley and foothill grassland on alkaline soils; 1-835 meters in elevation; blooms April to October.	**Not expected.** The only record in the vicinity is from 1899 with an imprecise locality. Not observed during surveys.

Common Name	Scientific Name	Fed	CA	CRPR	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
San Luis mariposa-lily	*Calochortus obispoensis*	—	—	1B.2	Bulbiferous, perennial herb; chaparral, coastal scrub and valley and foothill grassland on sandstone, serpentine and/or sandy soils; 75-730 meters in elevation; blooms May to July.	**Not expected.** Suitable soils are not present and the site is outside of the species' elevational range. Not observed during surveys.
San Luis Obispo ceanothus	*Ceanothus thyrsiflorus* var. *obispoensis*	—	—	1B.1	Perennial shrub; chaparral and cismontane woodland on dacite soils; 140-225 meters in elevation; blooms in June.	**Not expected.** Suitable habitat and soils are not present and the site is outside of the species' elevational range. Perennial shrub would have been in identifiable condition if encountered during surveys.
San Luis Obispo fountain thistle	*Cirsium fontinale* var. *obispoense*	E	E	1B.2	Perennial herb; chaparral, cismontane woodland, coastal scrub, valley and foothill grassland in seeps and drainages with serpentine; 35-385 meters in elevation; blooms February to September.	**Not expected.** No suitable soils or serpentine seep habitat are present and the site is slightly outside of the species' elevational range.
San Luis Obispo owl's-clover	*Castilleja densiflora* var. *obispoensis*	—	—	1B.2	Annual herb; meadows, seeps, and valley and foothill grassland sometimes on serpentine; 10-400 meters in elevation; blooms March to May.	**Not expected.** Grassland habitat was searched during species bloom period and it was not found on the site. Reference population was located at a nearby site to confirm it was in bloom and identifiable condition at the time the surveys occurred.
San Luis Obispo sedge	*Carex obispoensis*	—	—	1B.2	Perennial herb; coniferous forest, chaparral, coastal prairie, coastal scrub, valley and foothill grassland, often on serpentine and clay soils in seeps; 10-820 meters in elevation; blooms April to June.	**Not expected.** No suitable serpentine seep habitat is present onsite. Numerous records from locations east of the site, but all extant populations are at higher elevations along the Santa Lucia, Irish Hills or other foothill locations where serpentine seeps are present. Was not found during focused surveys conducted during the species blooming period.
Santa Lucia manzanita	*Arctostaphylos luciana*	—	—	1B.2	Perennial evergreen shrub; chaparral and cismontane woodland on shale soils; 350-850 meters in elevation; blooms December to March.	**Not expected.** No suitable habitat or soils are present, the site is greatly outside of the species' elevational range, and no manzanitas were found during botanical surveys.

Common Name	Scientific Name	Fed	CA	CRPR	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Santa Margarita manzanita	*Arctostaphylos pilosula* (=*A. wellsii*)	—	—	1B.2	Evergreen perennial shrub; occurs in coniferous or broadleafed upland forest, cismontane woodland, and chaparral on shale, decomposed granite or sandstone; ranges from 170 to 1100 meters in elevation; blooms December to May.	**Not expected.** No suitable habitat or soils are present, the site is greatly outside of the species' elevational range, and no manzanitas were found during botanical surveys.
Southern curly-leaved monardella	*Monardella sinuata* ssp. *sinuata*	—	—	1B.2	Annual herb; chaparral, cismontane woodland, coastal dunes, and openings in coastal scrub on sandy soils; elevations below 300 meters; blooms May to September.	**Not expected.** Site is inland and this species is restricted to sandy soil areas closer to the coast; not observed during surveys.
Splitting yarn lichen	*Sulcaria isidiifera*	—	—	1B.1	Epiphytic fruticose lichen; old growth coastal scrub, maritime chaparral and cismontane woodland, on branches of oaks and shrubs; 20-30 meters in elevation.	**Not expected.** No suitable habitat is present and species has a restricted distribution in stabilized dunes around Morro Bay. Not observed during surveys.
Twisted horsehair lichen	*Bryoria spiralifera*	—	—	1B.1	Epiphytic fruticose lichen; coniferous forest immediately along coast, usually on conifers; 0-30 meters in elevation.	**Not expected.** No suitable habitat is present and the only two records in the vicinity are from the 1980s and need fieldwork.

**E = Endangered; T = Threatened; R = Rare; '—' = no status; CRPR: Rank 1B – Rare or endangered in California and elsewhere; Rank 2A – Presumed extirpated in California, but more common elsewhere; Rank 2B – Rare or endangered in California, but more common elsewhere; Rank 4 – Limited distribution (Watch List). Sources CNDDB (California Department of Fish and Wildlife 2019a); Special Vascular Plants, Bryophytes, and Lichens List (California Department of Fish and Wildlife 2019a); Inventory of Rare and Endangered Plants of California (California Native Plant Society 2019); Information on Wild California Plants for Conservation, Education, and Appreciation (Calflora 2020).*

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
INVERTEBRATES						
Globose dune beetle	*Coelus globosus*	—	—	—	Coastal sand dunes on foredunes and sand hummocks; burrows under the sand and is usually beneath dune vegetation.	**Not expected.** Site is not located on the coast and does not have sand dunes.
Mimic tryonia (=California brackishwater snail)	*Tryonia imitator*	—	—	—	Coastal lagoons, estuaries and salt marshes in permanently submerged areas.	**Not expected.** Site is inland and not located on Morro Bay. No suitable habitat.

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Monarch butterfly	*Danaus plexippus* pop. 1	—	—	— (overwinter-ing population)	Adults feed on the nectar of various blooming plants. During breeding can be found in fields, pastures, residential areas, grassland and scrub. Eggs are laid on and caterpillars feed on milkweed. Overwinters in wind-protected tree groves of eucalyptus, Monterey pine and cypress along the coast.	**Unlikely.** Eucalyptus windrow does not provide the suitable structure and microhabitat to be used as a colonial roost or autumnal site. Individuals could occur periodically while foraging but not expected to overwinter onsite.
Morro Bay blue butterfly	*Plebejus icariodides moroensis*	—	—	—	Stabilized sand dunes. Adults nectar on and larvae feed on dune lupine (*Lupinus chamissonis*). Restricted to Morro Bay and Los Osos.	**Not expected.** No sand dunes or dune lupine are present onsite. The CNDDB record in the Irish Hills is an inaccurate location from 1976.
Morro shoulderband snail	*Helminthoglypta walkeriana*	E	—	—	Coastal scrub and dune scrub plant communities in the coastal strand area in and near Morro Bay and Los Osos. Occurs in duff under goldenbush, sage, dudleya, and iceplant.	**Not expected.** The site is just outside of the species' distribution, as it is restricted to the coastal strand area immediately surrounding Morro Bay, and suitable plant species are lacking.
Obscure bumble bee	*Bombus caliginosus*	—	—	—	Found on ceanothus, coyote brush, thistles, sweet peas, lupines, willows, clover and blackberry. Queens emerge from hibernation in late-January, workers appear in early-March, and males emerge in April. Colonies dissolve in late-October, with only the new queens surviving.	**Potential.** Potential host plants are in the study area and there are records from the vicinity, but little is known about this species and the most recent record is from 1987.
FISH						
South-central California coast DPS steelhead	*Oncorhynchus mykiss irideus* pop. 9	T	—	—	Adults spawn in freshwater streams with clear, well-oxygenated, cool water and clean gravel substrate. Also require instream cover (branches, logs) and streamside vegetation. Juveniles rear in freshwater reaches or lagoons before going to the ocean to mature, and then return to freshwater to reproduce.	**Not expected.** No suitable habitat is present in the study area. The reach of the unnamed drainage onsite is much too ephemeral to be used by this species, and CNDDB does not consider this species to occupy Los Osos Valley.

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Tidewater goby	*Eucyclogobius newberryi*	E	—	SSC	Small, euryhaline, benthic fish that inhabits coastal lagoons, estuaries, stream mouths, and backwater marshes, rarely in open ocean. Usually in brackish lower reaches but can occur up to 7 miles upstream from the ocean. Requires shallow water with little to no flow and fine substrate.	**Not expected.** No suitable habitat is present in the study area. The reach of the unnamed drainage is too ephemeral to be used by this species.
AMPHIBIANS/REPTILES						
Blainville's (=coast) horned lizard	*Phrynosoma blainvillii*	—	—	SSC	Grasslands, sandy washes, coastal scrub, chaparral, coniferous forest and woodlands with patches of open areas for sunning and bushes for cover. Often with loose sandy soils for burial, but also uses small mammal burrows. Preys on native species of ants and other small invertebrates.	**Unlikely.** While species could potentially occur in Coastal Scrub and edges of the Annual Grassland habitat onsite, dense clay and clay loam soils appear to be unsuitable. Has been recorded nearby so cannot be ruled out, but habitat is marginal for this species.
California red-legged frog	*Rana draytonii*	T	—	SSC	Forages and breeds in streams with deep slow-moving pools, stock ponds, reservoirs, springs, lagoons, and marshes; usually with emergent or riparian vegetation but also found at sites lacking vegetation. Uses riparian and various upland habitats in winter and for dispersal.	**Potential.** Has been recorded in Clark and Los Osos valleys, and potential habitat exists at the old reservoir on the property. No frogs observed onsite during surveys, but could move through the study area while migrating between aquatic sites and use the unnamed tributary and Riparian habitat for dispersal.
Coast Range newt	*Taricha torosa*	—	—	SSC	Primarily terrestrial in forests, oak woodlands, chaparral, and rolling grassland. Breeds in ponds, reservoirs and pools of clear streams with rocky substrates and cascades.	**Not expected.** Site is outside of the local distribution of the species - not found in coastal reaches of streams in central SLO County. Onsite stream does not have appropriate rocky habitat with pools and cascades.
Foothill yellow-legged frog	*Rana boylii*	—	CT	SSC	Rocky streams and rivers with open sunny banks, surrounded by forests, chaparral and woodlands. Sometimes found in isolated pools, backwaters, and spring-fed pools. Reproduction is exclusively in streams and rivers. Usually found near water and diurnal.	**Not expected.** This species has been extirpated from this area since 1975-1978, and the closest extant populations are from Rocky Point northward.

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Northern California legless lizard	*Anniella pulchra*	—	—	SSC	Beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, oak woodland, and stream terraces with riparian vegetation. Fossorial species requires moist, loose sandy soils or leaf litter with plant cover or surface objects (rocks, boards, logs, etc.). Can occur in residential areas.	**Unlikely.** Marginal habitat is present onsite in Coastal Scrub and Riparian habitats since heavy clay and clay loam soils are present. Has been recorded at several locations in the site vicinity, but onsite coastal scrub is dominated by coyote brush which has colonized the site post-grazing or farming.
Southwestern pond turtle (=western pond turtle)	*Actinemys pallida* (=*Emys marmorata*)	—	—	SSC	Ponds, lakes, rivers, streams, marshes, brackish lagoons, and irrigation ditches with a mosaic of vegetation and open areas for basking. Uses upland areas for nesting and in winter, including woodland, forest, grassland, chaparral, and grasslands.	**Potential.** Suitable habitat is present in the onsite Reservoir, and could use upland areas on the site for movement and nesting. While, there are no records in Los Osos Valley or Clark Valley, species could move along drainage feature to areas of suitable habitat in the Los Osos Creek and Warden Lake area.
BIRDS						
Bald eagle	*Haliaeetus leucocephalus*	—	E	FP	Open areas near water where they mainly feed on fish, and may also eat birds, amphibians, reptiles, small mammals, and crabs; nests in large mature trees such as ponderosa pine or occasionally on cliffs or the ground, within 1 mile of a large water source; occurs year-round in this area.	**Potential.** Numerous observations in eBird are from near the study area, and the site is open enough and surrounded by open country for flying over even though the area has a high human presence. May perch on Eucalyptus but unlikely to forage or nest due to human disturbance and insufficient structure for nest placement.
Black-crowned night-heron	*Nycticorax nycticorax*	—	—	— (nesting colony)	Salt and freshwater marshes, swamps, streams, rivers, lakes, ponds, lagoons, tidal mudflats, canals, reservoirs, and wet fields where they feed on terrestrial and aquatic animals. Colonial nesting, can have >10 nests per tree, and lasting >50 years at the same location. Nests are on islands or over water. Occurs in this area year-round.	**Potential.** This species is common surrounding Morro Bay and at Laguna Lake. Could forage at the reservoir onsite but no nesting habitat is present. Slight chance to roost in Eucalyptus but given the high quality habitat along Morro Bay estuary, its unlikely to roost onsite.

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Burrowing owl	*Athene cunicularia*	—	—	SSC (burrow sites & some wintering sites)	Open treeless areas with low sparse vegetation such as grasslands, deserts, pastures, agricultural fields, airports, and artificial embankments where they prey on small vertebrates and various invertebrates. Nests in burrows created by other animals with nearby lookouts such as fence posts or shrubs. Formerly occurred year-round in this area, but now restricted to winter.	**Unlikely.** Suitable grassland habitat is present onsite, but no extensive ground squirrel burrows or evidence of a small mammal prey base. Species could move through the site during winter when grass height was low, but unlikely to forage onsite. Not expected to nest in coastal SLO County. Has been observed in the region and recorded in eBird at several locations near the site in the past few years, but high human presence in the area and lack of small mammal burrows make it unlikely for this species to occur onsite. Would not be expected to nest onsite.
California black rail	*Laterallus jamaicensis coturniculus*	—	T	FP	Upper ends of salt/brackish marshes where they intergrade with freshwater marshes and wet meadows where it prefers areas with shallow water and dense vegetation such as pickleweed, bulrushes, cattails and saltgrass. Nests are in dense vegetation at the upper limit of tidal flooding. Occurs in this area year-round.	**Unlikely.** Only occurs in freshwater wetlands when they are adjacent to brackish or saltwater habitats in this area. Recorded to occur near Baywood. Onsite reservoir is unsuitable, and low probability to stopover during movements due to high site fidelity.
California horned lark	*Eremophila alpestris actia*	—	—	WL	Areas with sparse vegetation or bare ground in prairies, deserts, tundra, beaches, dunes, airports, plowed fields and heavily grazed pastures where they eat seeds and insects. Nesting is on bare ground. Occurs year-round in this area.	**Potential.** Could occur along Paradise Lane on the edge of the grassland habitat. Grasslands onsite are composed of dense tall grasses and forbs that are mowed on a seasonal basis reducing the potential for this species to nest onsite. Has been recorded in eBird at many locations near the site.
California Ridgway's rail	*Rallus obsoletus obsoletus*	E	E	FP	Saltwater and brackish marshes and tidal sloughs with pickleweed. Feeds on invertebrates on open mud. Restricted to San Francisco Bay, LA and San Diego Counties, Salton Sea and Colorado River.	**Not expected.** Site is located inland from the Morro Bay estuary and does not have suitable habitat. Species does not occur in this area; the only record was a rare transient from 1939.

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Cooper's hawk	*Accipiter cooperii*	—	—	WL (nesting)	Mature and open woodlands including oak forest, conifers and riparian; may also be found in suburban areas with tall trees. Feeds on birds, small mammals, reptiles and amphibians. Nesting is in dense woodlands. Occurs in this area year-round.	**Potential.** Could occur onsite as a transient, but unlikely to nest onsite due to the Riparian habitat being small and not dense. They have been recorded at numerous locations close to the site.
Ferruginous hawk	*Buteo regalis*	—	—	WL (wintering)	Open country such as grasslands, sagebrush, saltbush shrubland, and edges of pinyon-juniper forest where they prey on small mammals. Nests on lone trees, cliffs, utility poles, and shrubs from ground-level to 65-feet high. Occurs in this area during winter.	**Potential.** Has been recorded at several locations in Los Osos Valley and surrounding Morro Bay. Could forage in Annual Grassland onsite, but does not nest in this region.
Golden eagle	*Aquila chrysaetos*	—	—	FP, WL (nesting & wintering)	Uncommon resident of mountainous and valley-foothill areas. Foraging typically occurs in open terrain where they prey on small mammals. Nesting usually occurs on cliff ledges, and less commonly in large trees or on structures such as electrical towers.	**Potential.** Has been recorded at numerous locations in Los Osos and Clark Valleys in close proximity to the site. Could forage in Annual Grassland onsite, but given high human presence and expansive grasslands in the area, it is less likely. Could potentially roost in the Eucalyptus, but not expected to nest on or near the site due to regular human presence.
Grasshopper sparrow	*Ammodramus savannarum*	—	—	SSC	Grasslands, prairies, hayfields, and open pastures with little scrub cover and some bare ground where they prey on grasshoppers and other invertebrates. Nests on the ground at the base of clumps of grass within a large patch of tall grass. Occurs in this area during breeding season.	**Potential.** Has been recorded along Turri Road and other locations in the vicinity in eBird. Potential grassland habitat is present onsite for foraging and nesting.

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Great blue heron	*Ardea herodias*	—	—	— (nesting colony)	Freshwater and saltwater marshes, also foraging in grasslands and agricultural fields. Nesting colonies are near lakes, ponds and wetlands bordered by forests. Nests are placed mainly in trees, but may also nest on the ground, in bushes or artificial structures. Occurs year-round in this area.	**Potential.** Individuals could forage periodically in the Annual Grassland or Reservoir, but would not nest onsite due to small size and insufficient structure of Wetland habitat. There are numerous records in eBird from near the site.
Great egret	*Ardea alba*	—	—	— (nesting colony)	Forages in marshes, swamps, streams, rivers, ponds, lakes, lagoons, tidal flats, canals, ditches, flooded fields, and sometimes in upland where they prey on fish, amphibians, reptiles, crustaceans, and invertebrates. Nesting colonies are on lakes, ponds, marshes, and estuaries. Nests are placed up to 100' above ground usually over water. Occurs in this area during non-breeding season.	**Potential.** Species forages in upland areas away from water, and there are numerous observations along Los Osos Valley in eBird. Could forage onsite in Annual Grassland or at the Reservoir. Does not nest in this area.
Loggerhead shrike	*Lanius ludovicianus*	—	—	SSC (nesting)	Open country with low vegetation and well-spaced shrubs or trees such as coastal scrub, grasslands, agricultural fields, pastures, riparian areas, desert scrub, savannas, prairies, golf courses, and along roadsides where they prey on insects, amphibians, reptiles and small mammals. Nests in trees, shrubs, or brush piles. Occurs in this area year-round.	**Potential.** Suitable Annual Grassland and Coastal Scrub habitat is present onsite for foraging. Could potentially nest in coastal scrub areas. There are numerous observations in eBird from near the study area.
Northern harrier	*Circus cyaneus*	—	—	SSC (nesting)	Large areas of wetlands and grasslands with low vegetation where they prey on small mammals, amphibians, reptiles and birds. Nesting is in marshes, grazed meadows, and desert shrubland where they nest on the ground in a dense clump of vegetation such as willows, grasses, sedge, bulrushes or cattails. Occurs year-round in this area.	**Potential.** There are numerous records in close proximity to the site in eBird, including documented breeding along the coast. Suitable foraging and nesting habitats are present onsite, but nesting is unlikely due to human disturbance onsite and surrounding the property.

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Prairie falcon	*Falco mexicanus*	—	—	WL (nesting)	Grasslands, desert shrubland, tundra, coastal scrub, feedlots, and agricultural fields where they feed on small mammals, insects and birds. Nests on high cliff ledges, steep bluffs, trees, or on buildings or utility poles. Occurs year-round in this area.	**Potential.** This species has been recorded around Morro Bay, on Turri Road and at Laguna Lake. Could forage in Annual Grassland onsite, and potentially could use the Eucalyptus to perch while hunting in the area. High human presence makes it unlikely that species would nest in Eucalyptus onsite.
Sharp-shinned hawk	*Accipiter striatus*	—	—	WL (nesting)	Forages along the edges of dense mixed woodlands and forests where they prey on birds. Nests are in dense forests with closed canopies in conifer trees. Occurs in winter in this area.	**Potential.** Has been recorded at numerous locations surrounding the site during migration in eBird. Could occur as a transient while migrating, but dense forest is lacking. Does not nest in this area.
Snowy egret	*Egretta thula*	—	—	— (nesting colony)	Lagoons, freshwater wetlands, ponds, temporary pools, and wet fields where they prey on aquatic animals and insects. Nesting colonies are in dense vegetation of islands and marshes. Occurs in this area outside of the breeding season.	**Potential.** Species forages in upland areas away from water, and there are numerous observations along Los Osos Valley in eBird. Could forage onsite in Annual Grassland or at the Reservoir. Does not nest in this area.
Tricolored blackbird	*Agelaius tricolor*	—	T	SSC (nesting colony)	Forages in a variety of habitats including pastures, agricultural fields, rice fields, and feedlots. Nests colonially in freshwater marshes with tules or cattails, or in other dense thickets of willow, thistle, blackberry, or wild rose in close proximity to open water. Occurs year-round in this area.	**Potential.** Suitable foraging habitat is present in the onsite Reservoir and the surrounding Annual Grassland. Could potentially nest in the bulrushes, but its relatively small and no tricolored or red-winged blackbirds were observed onsite during surveys. Has been recorded at many locations nearby and likely nests in the Warden Lake area.
Western snowy plover	*Charadrius alexandrinus nivosus*	T	—	SSC (nesting)	Sand spits, beaches, creek and river mouths, salt flats at lagoons and estuaries, levees, river bars, edges of alkaline lakes and reservoirs where they feed on invertebrates. Nesting is on dry ground lacking vegetation. Occurs year-round in this area. Federal listing only applies to Pacific coastal populations.	**Unlikely.** Site is located inland away from beach areas; therefore, no suitable habitat is present onsite for nesting.

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
White-tailed kite	*Elanus leucurus*	—	—	FP (nesting)	Savannas, open woodlands (oak or pine), riparian forest, marshes, desert grasslands, and fields where they prey on small mammals, birds, lizards, and insects. Nests and roosts in the edges of forests or in tall isolated trees. Occurs in this area year-round.	**Potential.** Has been recorded at numerous locations along Los Osos Valley Road in close proximity to the site in eBird. Suitable foraging habitat is present in all habitats onsite, and although no stick nests were observed during surveys, species could nest or roost in Eucalyptus.
Yellow warbler	*Setophaga petechia*	—	—	SSC	Wetland and riparian habitats with willows, cottonwoods, aspens, sycamores and alders where they eat insects. Also uses gardens, orchards and roadside thickets. Nesting is in shrubs or small trees. Occurs year-round in this area.	**Potential.** Has been recorded on a neighboring property and at other locations nearby in eBird. Could forage or use Riparian onsite while migrating, but riparian habitat appears to be too limited in size and structure for breeding.
MAMMALS						
American badger	*Taxidea taxus*	—	—	SSC	Open grasslands, fields and the edge of scrub and woodland habitats; requires dry loose soils for burrowing and shelter and feeds on a variety of small mammals such as California ground squirrel and pocket gopher.	**Potential.** Suitable habitat is present in all habitats onsite. Area could be used for foraging, movement between other sites, and denning. No dens or potential prey were seen during the surveys reducing likelihood of occurrence.
Big free-tailed bat	*Nyctinomops macrotis*	—	—	SSC	Prefers rugged, rocky terrain and canyons. Roosts in buildings, caves, tree hollows, crevices in cliffs or rock outcrops. Feeds on moths.	**Not expected.** No suitable rocky habitat is present onsite, and the only record in the vicinity is from 1981.
Morro Bay kangaroo rat	*Dipodomys heermanni morroensis*	E	E	FP	Restricted to relict, stabilized sand dunes in Los Osos and Baywood Park, where they construct burrows in areas with low slope and compacted sandy soil. Associated with early seral stages of coastal dune scrub where there are patches of bare ground. Feeds on seeds. Has not been seen in the wild since 1986.	**Not expected.** Species is restricted to sand dune sheet that is not present onsite, and coastal scrub onsite is too dense. Site is outside the local distribution of the species. Species may be extinct.

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Pallid bat	*Antrozous pallidus*	—	—	SSC	Open dry habitats including deserts, grasslands, shrublands, woodlands, and forests. Roosts in rocky outcrops, caves, crevasses, mines, hollow trees, and buildings that moderate temperature. Night roosts on porches and open buildings.	**Potential.** Could forage over the site but no roosting habitat is present in the study area. Has been recorded in the vicinity.
San Diego desert woodrat	*Neotoma lepida intermedia*	—	—	SSC	Moderate to dense coastal scrub, especially in rocky areas with slopes.	**Not expected.** No rocky areas or slopes occur onsite, and the patch of coastal scrub habitat is very small. Species has been documented at Diablo Canyon property, but site is outside of the local distribution of the species, which is found further to the south.
Townsend's big-eared bat	*Corynorhinus townsendii*	—	—	SSC	Desert scrub, grassland, sagebrush, chaparral, oak woodlands, riparian and coniferous forests; prefers mesic habitats and closely tied to rock cliffs with crevasses; roosts in caves, cliffs, mines, tunnels and bridges.	**Potential.** Could forage onsite, but no structures for roosting are present. Individuals and roost sites have been recorded nearby.

**E = Endangered; T = Threatened; C = Candidate; SSC = Species of Special Concern; FP = Fully Protected; WL = Watch List; '—' = no status; California Natural Diversity Database (California Department of Fish and Wildlife 2019a); Special Animals List (California Department of Fish and Wildlife 2018b); California Wildlife Habitat Relationships System (CDFW 2019c); A Guide to the Amphibians and Reptiles of California (California Herps 2019); eBird (The Cornell Lab of Ornithology 2019a); All About Birds (The Cornell Lab of Ornithology 2019b); Guide to North American Birds (Audubon 2019).*

SENSITIVE NATURAL COMMUNITIES	
Central Coast Arroyo Willow Scrub or Forest — State Rarity Rank S3	**Present.** Occurs along low gradient stream reaches or dune slack ponds where there is moist to saturated sandy or gravelly soils. Can vary from shrub-dominated scrub habitat to dense closed-canopy forest. Characterized by arroyo willow (*Salix lasiolepis*) and/or Pacific willow (*S. lasiandra*). This community occurs onsite surrounding the downstream portion of the unnamed tributary, and an isolated willow was observed along the roadside ditch on LOVR.
Central Dune Scrub — State Rarity Rank S2.2	**Absent.** Restricted to coastal strip on stabilized backdunes. It is composed of low-growing scattered shrubs, subshrubs and herbs and is indicated by the presence of mock heather (*Ericameria ericoides*), beach blue lupine (*Lupinus chamissonis*), and beach sagewort (*Artemisia pycnocephala*). Site is located away from the coastline and this community is not present.

SENSITIVE NATURAL COMMUNITIES	
Central Foredunes — State Rarity Rank S1.2	**Absent.** Areas of sand accumulation that are exposed to onshore winds and sparsely vegetated by suffrutescent plant species including sand verbena (*Abronia* sp.), sea rocket (*Cakile* sp.), and primrose (*Camissonia* sp.). Site is located away from the coastline and beaches and this community is not present.
Central Maritime Chaparral — State Rarity Rank S2.2	**Absent.** Occurs on well-drained, sandy soils within the summer fog zone. Composed of sclerophyll shrubs dominated by one or more species of manzanita (*Arctostaphylos* spp.). No manzanita species occur on the site and this community is not present.
Coastal and Valley Freshwater Marsh — State Rarity Rank S3 and S4	**Present.** Occurs in permanently flooded sites with freshwater and lacking significant flow, dominated by perennial, emergent vegetation such as bulrushes (*Scirpus* sp. and *Schoenoplectus* sp.) and cattails (*Typha* sp.). Stands of American bulrush (*Schoenoplectus americanus*) were present in the old agricultural reservoir, which is considered the American Bulrush Marsh association. Stands of spike rush (*Eleocharis macrostachya*), which is considered the Pale Spike Rush Marsh Association, were also present in this area.
Coastal Brackish Marsh — State Rarity Rank S2.1	**Absent.** Occurs along the inland edges of coastal bays, lagoons and estuaries at the interface between saltwater and freshwater. Salinity may vary due to tides and seasonal freshwater runoff. It has dense cover by perennial emergent species such as bulrushes (*Scirpus* sp. or *Schoenoplectis* sp.), broadleaf cattail (*Typha latifolia*), sedges (*Carex* spp.) and saltgrass (*Distichlis spicata*). The site occurs away from the coast and does not have brackish water habitat.
Northern Coastal Salt Marsh — State Rarity Rank S3.2	**Absent.** This community occurs in sheltered inland margins of bays, lagoons and estuaries. These areas are subject to regular tidal inundation of salt water for at least part of the year. Salt-tolerant hydrophytes up to 1 meter tall for moderate to dense stands. Characteristic species include fleshy jaumea (*Jaumea carnosa*), Pacific cordgrass (*Spartina foliosa*), and pickleweed (*Salicornia* sp.). The site occurs away from the coast and tidally influenced habitat is not present.
Northern Interior Cypress Forest — State Rarity Rank S2.2	**Absent.** Occurs on dry, rocky, and often serpentine soils. Stands are open and scrubby, being maintained by fires. It is dominated by one or more native cypress species (*Hesperocyparis* spp.). Suitable soils and cypress are not present onsite.
Serpentine Bunchgrass — State Rarity Rank S2.2	**Absent.** Restricted to areas with serpentine soils. Dominated by native perennial bunchgrasses and herbs with low total cover. Characteristic species include needlegrass (*Stipa* spp.), California poppy (*Eschscholtzia californica*), and small fescue (*Festuca microstachys*). No suitable serpentine soils occur, and the onsite grassland has dense cover by non-native species.

SENSITIVE NATURAL COMMUNITIES	
Valley Needlegrass Grassland — State Rarity Rank S3.1	**Absent.** Often occurs on clay soils that are moist or saturated in winter and very dry in the summer. It is dominated by purple needlegrass (*Stipa pulchra*), but may have higher percent cover overall by native and introduced annual grassland species. A very low occurrence of purple needlegrass was observed within the coastal scrub habitat type. This area was composed mainly of shrubs and would not be classified as a grassland.
Vernal Marsh — State Rarity Rank S2.1	**Absent.** Vegetated by low, annual herbs such as sedges (*Carex* spp.) and rushes (*Juncus* spp.). Has marshy conditions or standing water following winter rains but is reduced or completely dry by summer. Often found at the transition between Coastal and Valley Freshwater Marsh and drier upland grassland. Although the basin of the onsite reservoir has marsh habitat, it transitions directly to upland Annual Grassland and Coastal Scrub due to the slope of the berm surrounding the pond.

Sources: Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986); California Natural Community List (California Department of Fish and Wildlife 2019b); California Natural Diversity Database (California Department of Fish and Wildlife 2019a).

DESIGNATED CRITICAL HABITAT	
California Red-legged Frog	**Absent.** Does not occur in Los Osos or Clark valleys. The nearest designated critical habitat is along the Chorro Creek watershed to the north.
Morro Bay Kangaroo Rat	**Absent.** Occurs along the coast southwest of Los Osos.
Morro Shoulderband Snail	**Absent.** Occurs only immediately surrounding Los Osos and Montana de Oro.
Tidewater Goby	**Absent.** Occurs along the lower portion of Los Osos Creek northeast of Baywood Park, but the unnamed tributary onsite is unsuitable.
Western Snowy Plover	**Absent.** Only occurs along the coastal strand to the west of the site.

Source: Threatened and Endangered Species Active Critical Habitat Report (United States Fish and Wildlife Service 2019b).