# Biological Resources Letter Report for the AES Battery Energy Storage System Project
# APNs 105-410-19, 105-410-10, 105-410-44
# 1405 East Mission Road
# Fallbrook, County of San Diego, California

***Prepared for:***
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## APPENDIX

## 1.0 Summary

The biological evaluation surveys were conducted by Pangea Biological and Gretchen Cummings for the Project. The surveys included vegetation mapping, general identification of potential jurisdictional water features, and an assessment of potential plant and wildlife species that could occur within the project area. The survey also included gathering of information for mapping vegetation communities within the project survey area (PSA). The PSA includes a 100-foot survey buffer that extends beyond the parcel boundaries.

During the surveys, six vegetation communities were documented, and four special status wildlife species were observed within the PSA. Two potential jurisdictional drainages were observed within the PSA. One drainage has been avoided through project design to avoid impacts to jurisdictional resources. However, the other drainage may have impacts resulting from a stormwater drainage outlet. The project has the potential to result in impacts to the drainage as a result of installation of a stormwater drainage outlet and therefore, the project has been conditioned to provide evidence that agency permits have been obtained or a letter from those agencies stating that a permit is not necessary.

## 2.0 Project Location

The PSA site is located within the northeastern portion of the unincorporated community of Fallbrook, immediately south of East Mission Road and approximately 0.4 mile southwest of the intersection of North Stage Coach Lane and Gumtree Lane in in San Diego County, California. (Figures 1 and 2, Attachment A).

The site is located within Section 19, Township 9 South, Range 3 West of the U.S. Geological Survey 7.5-minute topographical map, Temecula Quadrangle (Figure 3, Attachment A) (USGS 1968). The PSA is also located within the boundaries of the County's Draft North County MSCP (NCMSCP) Subarea Plan and is outside the Pre-approved Mitigation Area (PAMA) (County 2009).

The Project will be primarily located within parcel APN 105-410-19, with an access road located within an existing paved road on parcel APN 105-410-10 and a proposed underground electrical connection on parcel APN 105-410-44 (Figure 4, Attachment A). The Project is also located mostly within an area that has been historically used for agricultural purposes. The remaining areas located outside of the proposed conceptual project were used for residential purposes, historical and active agricultural areas, and landscape/ornamental purposes. The PSA is surrounded to the north by development and East Mission Road; to the south by historical agricultural land and development; to the east by historical and active agricultural land, development, and North Mercedes Road; and to the west by coast live oak woodland habitat, disturbed habitat, and development. The terrain within the PSA includes relatively flat topography with elevations of approximately 780 to 815 feet above mean sea level.

## 3.0 Project Description

AES proposes to construct a battery energy storage facility that would have a total capacity of 40 megawatts (MW) using a battery energy storage system, which would be housed in a warehouse building. The battery energy storage system will be connected, via a proposed underground electrical connection, to the existing San Diego Gas & Electric Company (SDG&E) Avocado Substation, which is located west of parcel APN 105-410-44. The main component of the Project includes the main battery storage site located on parcel APN 105-410-19. Proposed ancillary facilities within the main battery storage site may also include a 69 kilovolt (kV) substation parking area for approximately two to three vehicles as required by San Diego County, and access road improvements as required on parcel APN 105-410-10 (Figure 4, Attachment A).

In a regional context, the PSA falls within a draft subarea plan of California's Natural Community Conservation Planning (NCCP) program. This draft subarea plan is the County of San Diego's NCMSCP. Although conformance with the NCMSCP cannot be determined until the final plan is approved, the project design is intended to not conflict with the draft plan. According to the draft documents for the NCMSCP, the PSA is not located within the PAMA. The proposed PAMA usually consists of high-quality habitats and/or sensitive species that are targeted for preservation within the subarea plan. The draft mapping of the PSA as outside of the PAMA is consistent with the disturbed nature of the site. As such, the development of the PSA does not hinder the success of the draft NCMSCP at this time.

## 4.0 Biological Resources Evaluation

### *Methodology*

Pangea Biological biologists and Gretchen Cummings conducted a reconnaissance survey of potential biological and water resources within the PSA. The survey consisted of random, wandering pedestrian transects within the PSA. Table 1 below outlines survey dates, survey types and weather conditions during each of the surveys.

### *Habitat Evaluation*

Vegetation communities are assemblages of plant species that commonly coexist in the wild. The classification of vegetation communities is based on the life form of the dominant species within that community and the associated flora. Vegetation was mapped in accordance with Oberbauer (Oberbauer et. al. 2008). Initial vegetation community mapping and habitat suitability mapping data were collected in the field by hand-marking aerial maps, and then digitizing the data using GIS technology. The vegetation communities observed within the PSA are illustrated in Figure 5, Attachment A. A list of the plants and wildlife species observed during the surveys are included in Attachment E, and representative photographs are included in Attachment F.

**Table 1: Biological Survey Type, Survey Dates, and Personnel**

| Date | Surveyor(s) | Survey Conditions | Survey Type |
|---|---|---|---|
| May 18, 2017 | Amy Rowland and Jenna Stacy-Dawes | Temperatures of 72° Fahrenheit, winds at 1 to 5 miles per hour, and 0% cloud cover | Biological Constraints Survey |
| December 1, 2017 | Amy Rowland, Hiram Herrera, and Trevin Braun | Temperatures of 72° to 79° Fahrenheit, winds at 0 to 2 miles per hour, and 0% cloud cover | Biological Constraints Survey |
| September 19, 2018 | Gretchen Cummings, Amy Rowland, and Hiram Herrera | Temperatures of 68° to 79° Fahrenheit, winds at 0 to 3 miles per hour, and 0% cloud cover | Biological Constraints Survey |
| October 11, 2018 | Hiram Herrera | Temperatures of 67° to 72° Fahrenheit, winds at 0 to 8 miles per hour, and 0% to 80% cloud cover | Oak Tree Survey |
| October 12, 2018 | Hiram Herrera and Troy Hughes | Temperatures of 70° to 77° Fahrenheit, winds at 2 to 5 miles per hour, and 0% to 55% cloud cover | Oak Tree Survey |

***Plant Communities within the PSA***

There are seven mapped vegetation communities within the PSA: Southern Riparian Scrub; Coast Live Oak Woodland (RPO Associated); Coast Live Oak (Upland); Eucalyptus Woodland; Disturbed Habitat; Urban/Developed land; and Agriculture. A description of the plant communities occurring within the PSA are described below. The plant communities observed within the PSA and the relative acreages of each plant community are provided in Table 2. As shown in Figure 4, the PSA is undeveloped land surrounded by residential development and agriculture. The PSA contains a drainage in the northeast corner of the site that enters the site from the northeast via a culvert under East Mission Road. The drainage is natural for approximately 250 feet before it gets directed into an existing culvert under the existing access road and adjacent development. The remainder of the site contains disturbed habitat, agriculture, and an existing residence.

**Table 2: Vegetation Communities Located within the PSA**

| Vegetation Community | Approximate Area in Acres |
|---|---|
| ***Riparian/Wetland*** | |
| Coast Live Oak Woodland (RPO Associated) | .71 |
| Southern Riparian Scrub | 0.14 |
| *Subtotal* | *.85* |
| ***Upland Woodland*** | |
| Coast Live Oak Woodland (Upland) | 0.29 |
| Eucalyptus Woodland | 1.01 |
| *Subtotal* | *1.30* |
| ***Disturbed/Urban/Developed*** | |
| Disturbed Habitat | 13.81 |
| Urban/Developed | 6.24 |
| Agriculture | 3.00 |
| *Subtotal* | *23.05* |
| ***TOTAL*** | ***25.20*** |

Coast Live Oak Woodland (Oberbauer Code 71160)

Coast live oak woodland habitat within the PSA includes areas dominated by evergreen coast live oak trees with a closed canopy and an understory consisting of limited native and non-native vegetation. Dominant plant species observed include coast live oak (*Quercus agrifolia* var. *agrifolia*) and smilo grass (*Piptatherum miliaceum*) with scattered curly dock (*Rumex crispus*), short-pod mustard (*Hirschfeldia incana*), brome grass (*Bromus* sp.), and prickly lettuce (*Lactuca serriola*). This habitat occurs primarily within the northern boundary of parcel APN 105-410-10 and within the northwestern corner of parcel APN 105-410-19. Coast live oak woodland habitat located within the PSA is considered sensitive per the San Diego County Guidelines (County 2010a).

Southern Riparian Scrub (Oberbauer Code 63300)

Southern riparian scrub habitat within the PSA includes a riparian area that is dominated by a mix of small trees and shrubs, with a few non-native species and an understory consisting of palm tree and palm fronds. Dominant plant species observed include red willow (*Salix laevigata*), fan palm (*Washingtonia* sp.), western poison-oak (*Toxicodendron diversilobum*), wild grape (*Vitis girdiana*), smilo grass, and tall flatsedge (*Cyperus eragrostis*).

This habitat occurs primarily within the northeastern corner of parcel APN 105-410-10 and is associated with the drainage described below. Southern riparian scrub habitat located within the PSA is considered sensitive per the San Diego County Guidelines (County 2010a).

Eucalyptus Woodland (Oberbauer Code 79100)

Eucalyptus woodland habitat within the PSA includes areas that are heavily dominated by eucalyptus (*Eucalyptus* sp.) with no shrub understory. This habitat occurs within the northern boundary of parcel APN 105-410-10. Eucalyptus woodland habitat located within the PSA is not considered sensitive per the San Diego County Guidelines (County 2010a).

Disturbed Habitat (Oberbauer Code 11300)

Much of the disturbed habitat within the PSA includes historical agricultural lands with abandoned irrigation lines, and soils characterized by physical disturbance from vehicle tracks and vegetation clearing activities. Disturbed habitat also includes areas that were impacted by a recent fire and areas that are regularly mowed and/or graded for fire prevention purposes. In order to reduce the potential for fire on the site, routine mowing of the vegetation occurs. The vegetation within the disturbed habitat is predominantly dominated by nonnative herbs with few nonnative annual grasses. Dominant plant species observed in the disturbed habitat, before and after a recent fire, include tumbleweed (*Salsola tragus*), cheeseweed (*Malva parviflora*), short-pod mustard, olive tree (*Olea* sp.), ripgut grass (*Bromus diandrus*), foxtail chess (*Bromus madritensis* ssp. *rubens*), horseweed (*Conyza canadensis*), Peruvian pepper tree (*Schinus molle*), filaree, prickly lettuce, tree tobacco (*Nicotiana glauca*), oat (*Avena* sp.), and telegraph weed (*Heterotheca grandiflora*). Disturbed habitat occurs through most of parcels APN 105-410-19 and APN 105-410-44, and within the southwestern boundary of parcel APN 105-410-10. Parcels APN 105-410-19 and APN 105-410-44 are located within historical agricultural land that have been disturbed by activities from a recent fire, grading activity, and/or off-road vehicle tracks. The southwestern boundary of parcel APN 105-410-19 is being disturbed by mowing activities and activities from adjacent active agricultural land. Prior to the recent fire incident, numerous coast live oak saplings and seedlings were sprouting from the base of dead and decaying citrus trees that remained within parcel APN 105-410-19. Most of these coast live oak saplings and seedlings were severely damaged by the fire, and all citrus trees and some palm trees were burned and removed from the site.

The disturbed habitat located within the PSA is not considered sensitive per the San Diego County Guidelines (County 2010a).

Agricultural Land (Oberbauer Code 18000)

The agricultural land within the PSA includes areas dominated by old orchard, with aging, and unkept citrus and avocado trees that have a trimmed understory of nonnative and invasive

species. Agricultural land also include active and maintained areas dominated by non-native landscape/ornamental cactus with no understory. Agricultural land occurs through most of the eastern boundaries of parcel APN 105-410-10, and are composed of single species crops planted in rows with an understory of short grasses and other herbaceous plants between rows or an understory that is maintained clear of vegetation. The agricultural land located within the PSA is not considered sensitive per the San Diego County Guidelines (County 2010a).

Urban/Developed (Oberbauer Code 12000)

The urban/developed land within the PSA includes buildings, paved areas and dirt access roads, bare ground associated with development, houses, and ornamental landscaping. Patches of ornamental/landscape plantings, residences, an abandoned house, paved roads, and dirt access roads occur throughout parcels APN 105-410-10 and APN 105-410-44. Dirt access roads also occur within parcels APN 105-410-19, APN 105-410-10, and APN 105-410-44. Dominant plant species observed in these areas include ornamental ground cover, bougainvillea (*Bougainvillea* sp.), olive tree, coast live oak, and black poui (*Jacaranda mimosifolia*). The urban/developed land located within the PSA is not considered sensitive per the San Diego County Guidelines (County 2010a).

### *Special Status Species*

The sensitive species evaluated for the Project include San Diego County covered species, federal and state listed species, candidate species, species of special concern, and rare plants with potential to occur in the project area. A list of sensitive plant and wildlife species that occur within 10 miles of the project were gathered with the use of California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB) Rare Find 5 program, California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants, and San Diego County's comprehensive list of sensitive species. A list of these sensitive plant and wildlife species are included in Attachments B and C.

### *Special Status Plant Species*

A total of 90 special status plant species have been documented within 10 miles of the project. There is an unlikely or low potential for all special status plant species to occur within the PSA due to the absence of suitable habitat, unsuitable soils, disturbance from historical agricultural activities, and recent disturbance activities within the PSA due to fire and post-fire cleanup activities. The potential, species status, and habitat requirements for each special status plant species are shown in Attachment B.

### *Special Status Wildlife Species*

A total of 90 special status wildlife species have been documented within 10 miles of the project. The potential, species status, and habitat requirements for each special status wildlife species are shown in Attachment C.

Four special status wildlife species were observed flying over the project during the surveys conducted within the PSA. These species include the barn owl (*Tyto alba*, a California Sensitive Species and San Diego County List 2 species), great blue heron (*Ardea herodias*, a San Diego County List 2 species), red-shouldered hawk (*Buteo lineatus*, a San Diego County List 1 species), and turkey vulture (*Cathartes aura*, a San Diego County List 1 species).

Nine special status wildlife species, not observed during the surveys, have a moderate potential to occur within the PSA. These species include the California horned lark (*Eremophila alpestris actia*), Cooper's hawk (*Accipiter cooperii*), sharp-shinned hawk (*Accipiter striatus*), tricolored blackbird (*Agelaius tricolor*), western bluebird (*Sialia mexicana*), hoary bat (*Lasiurus cinereus*), pallid bat (*Antrozous pallidus*), western red bat (*Lasiurus blossevillii*), and Yuma myotis (*Myotis yumanensis*).

The disturbed habitat within the survey area could potentially be used as nesting habitat for the California horned lark. The coast live oak woodland, southern riparian scrub, and eucalyptus woodland habitats within the survey area provide potential nesting habitat for the Cooper's hawk. The coast live oak woodland, southern riparian scrub and eucalyptus woodland habitats within the survey area provide potential foraging habitat for the sharp-shinned hawk, however, this species is a migrant and winter visitor to San Diego County. The agricultural fields within and adjacent to the survey area provide potential foraging habitat for the tricolored blackbird, however, no nesting habitat occurs within the survey area. The coast live oak woodland habitat within and adjacent to the survey area provide potential nesting cavities for the western bluebird. The coast live oak woodland and surrounding landscape/ornamental vegetation within the survey area may provide potential roosting habitat for the hoary bat. The disturbed habitat and agricultural land within the survey area could potentially be used as foraging habitat for the pallid bat, and this species could potentially roost in the human-made structures located within the survey area. The coast live oak woodland within the survey area may provide potential roosting habitat for the western red bat. An abandoned house located within the survey area could potentially be used as a roosting location for the Yuma myotis, however, no bat signs or individuals were observed during the survey.

Sixteen special status wildlife species have a low potential to occur within the PSA and sixty-one special status wildlife species are unlikely to occur within the PSA. These species are unlikely to occur or have a low potential to occur within the PSA due to the absence of suitable habitat, nesting habitat, and/or roosting habitat.

Per the County's comments on the preliminary draft Biological Letter Report, specific special status wildlife species called out by the County requiring further explanation include Quino checkerspot butterfly (*Euphydryas editha quino*), arroyo toad (*Anaxyrus californicus*), coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo (*Vireo bellii pusillus*), and southwestern willow flycatcher (*Empidonax traillii extimus*).

No suitable habitat for the Quino checkerspot occurs within the PSA. Due to the absence of suitable habitat potentially supporting host plants and because the project is located outside the Recommended Quino Survey Area per the December 15, 2014 survey guidelines (USFWS), a protocol-level focused survey for Quino checkerspot butterfly was not conducted.

No suitable habitat for the arroyo toad occurs within the PSA. Due to the absence of streams with suitable substrate and lack of upland habitat composed of sand bars, alluvial terraces, and streamside benches required for foraging and burrowing, a protocol-level survey for arroyo toad was not conducted.

No suitable habitat, specifically coastal sage scrub, for the coastal California gnatcatcher occurs within the PSA. Due to the absence of suitable habitat, a protocol-level survey for coastal California gnatcatcher was not conducted.

Although a cluster of approximately five ground squirrel burrows was observed in the very southern portion of the PSA, no burrowing owl sign or individuals were observed in the PSA. The nearest suitable habitat for the burrowing owl occurs within Fallbrook Naval Weapon Station, which is located approximately 1.5 miles west of the Project. However, studies suggest that no breeding burrowing owls have been recently documented within Fallbrook Naval Weapon Station (Lincer et. al. 2007). Due to the absence of sign, presence of predators, disturbance from adjacent agricultural activities, disturbance within the PSA due to recent grading activities, and due to the fact that no known burrowing owls have been recorded in the immediate vicinity of the project, a protocol-level survey for the burrowing owl was not conducted.

No suitable riparian habitat for the least Bell's vireo and southwestern willow flycatcher occurs within the PSA. The southern riparian scrub habitat that occurs within the PSA is composed of one willow tree species with overhead canopy and an open understory composed of non-native invasive species. The riparian habitat within the PSA also lacks the structural diversity required for both the least Bell's vireo and southwestern willow flycatcher. The riparian habitat wtihin the survey area is not connected to other riparian habitats, and its located adjacent to a heavily used road. Due to the absence of suitable habitat, protocol-level surveys for least Bell's vireo and southwestern willow flycatcher were not conducted.

### *Special Status Species Surveys*

Philippe Jean Vergne conducted a habitat assessment for Stephen's kangaroo rat (*Dipodomys stephensi*; SKR) on September 22, 2018 to determine areas within the PSA that could be utilized by SKR. From September 27, 2018 to October 2, 2018, Mr. Vergne conducted protocol-level trapping surveys for the SKR. The trapping surveys followed the protocol established by the USFWS.

During the SKR habitat assessment, kangaroo rat sign was observed within parcels APN 105-410-19, APN 105-410-10, and APN 105-410-44. However, no SKR were captured or observed during the trapping surveys, and no impacts to SKR are expected to occur as a result of the Project (Attachment D). The kangaroo rat sign initially observed by Mr. Vergne turned out to be Dulzura Kanagaroo Rat (*Dipodomys simulans*), three of which were trapped during the surveys.

### *Jurisdictional Waters and Wetlands*

The survey included identification of aquatic resources that would potentially be subject to Army Corps of Engineers (ACOE), State of California Regional Water Quality Control Board (RWQCB), and CDFW jurisdiction.

A paved road is located in the northwestern boundary of parcel APN 105-410-10. The paved road starts immediately south of East Mission Road and runs south under eucalyptus woodland habitat towards a dirt road that leads into parcel APN 105-410-19. The paved road crosses over a box culvert located immediately east, with a jurisdictional drainage running from northeast to southwest along southern riparian scrub habitat and eucalyptus woodland habitat (Figure 6, Attachment A) (Attachment F, Photographs 5 and 6). The drainage is characterized as an intermittent drainage, with evidence of a defined bank and channel. Water was not present within the drainage at the time of the 2018 surveys. The drainage continues southwest and downstream through the culvert. The culvert appears to continue southwest under a concrete paved parking area west of the paved road and western edge of parcel APN 105-410-10. The drainage is considered ACOE jurisdictional and RWQCB jurisdictional to the ordinary high-water mark (OHWM) and CDFW jurisdiction to the extent of the southern riparian scrub habitat or top of bank. The project has the potential to result in impacts to the drainage as a result of installation of a stormwater drainage outlet and therefore, the project has been conditioned to provide evidence that agency permits have been obtained or a letter from those agencies stating that a permit is not necessary.

As detailed above, one of the jurisdictional drainages has been avoided through project design. However, the other drainage may have impacts dependent upon the final design of the stormwater outlet. The project has the potential to result in impacts to the drainage as a result of installation of a stormwater drainage outlet and therefore, the project has been conditioned to provide evidence that agency permits have been obtained or a letter from those agencies stating that a permit is not necessary

***Other Unique Features***

Critical Habitat

Critical Habitat is defined as areas of land, water, and air space containing the physical and biological features essential for the survival and recovery of endangered and threatened species. Designated Critical Habitat includes sites for breeding and rearing, movement or migration, feeding, roosting, cover, and shelter.

Designated Critical Habitats require special management and protection of existing resources, including water quality and quantity, host animals and plants, food availability, pollinators, sunlight, and specific soil types. Critical habitat designated delineates all suitable habitat occupied or not, that is essential to the survival and recovery of the species.

According to the USFWS Critical Habitat GIS[1], the Project area does not fall within any designated Critical Habitat (Figure 7, Attachment A).

Wildlife Movement Corridors

Wildlife corridors are defined as areas that connect suitable habitat in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features, such as canyons, drainages, ridgelines, or areas with dense vegetation cover can provide corridors for wildlife travel. Wildlife corridors are important to mobile species because they provide access to individuals to find shelter, mates, food, and water; allow the dispersal of individuals away from high population density areas; and by allowing immigration and emigration of individuals to other populations they allow for gene flow between populations.

The coast live oak woodland habitat located within the PSA may provide movement for wildlife, however, the PSA is surrounded by development and busy roads. Therefore, the proposed project is not expected to affect widlife movement. The nearest suitable wildlife corridor occurs along the Santa Margarita River, which is located approximately 1.5 miles north of the project.

Raptor Nesting

Native and non-native trees that can provide suitable nesting habitat for raptors are located within the PSA. These trees are coast live oaks and eucalyptus trees. In addition, the historical agricultural lands and recently disturbed areas may provide potential raptor foraging habitat.

[1] U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office. CRITHAB. ESRI ArcGIS 10.0.3.3600

## 5.0 Impacts

### *Direct and Indirect Impacts*

Direct impacts includes the physical loss or removal of vegetation due to the installation of the proposed facilities or work areas. Indirect impacts during construction may include interruption of normal nesting or foraging behaviors, loss of prey items, such as insects or food resources, or the suppression of growth due to excessive dust or noise. Impacts to special status species may occur either through temporary or permanent habitat loss, interruption of normal species routines, or through direct mortality.

Potential impacts to special status species associated with the Project were assessed by analyzing species-specific requirements, including necessary vegetation habitat, elevational range, foraging needs, denning or breeding requirements, migratory trends, current ranges, and known occurrences or records.

### *Impacts to Vegetation Communities*

Project impacts were calculated based on vegetation mapping, site-specific conditions, and proposed impact areas shown in the Project design.

In order to protect the sensitive root system of coast live oak woodland, a 50-foot oak root protection zone was established from the edge of the canopy of all mature oak trees within the PSA. A 100-foot limited building zone was also established to provide protection to biological resources in the proposed open space easement (Figure 8, Attachment A). Oak trees associated with the drainage are designated as coast live oak woodland (RPO Associated), and with the historical diversion of the drainage to underground adjacent to the site, the oak trees not associated with the drainage are designated coast live oak woodland (upland), and scattered individual oaks trees within other portions of the site, not associated with the drainage, are classified as upland as well (Figure 6, Attachment A).

The Project design is expected to impact approximately 0.47 acre of coast live oak woodland habitat and the oak root protection zone, which will require mitigation at a 3:1 ratio. The project proponent proposes to purchase 1.41 mitigation credits available from an approved Mitigation Bank, enhance areas onsite to mitigate for oak tree impacts, or restore oak trees onsite. Coast live oak woodland habitat and oak tree mitigation credits are available at an approved mitigation bank in north San Diego County; Brook Forest Mitigation Bank in Valley Center. In addition, credits may be available at the Cleveland Corridor Conservation Bank. In order for credits to be used, the bank must be approved by the CDFW.

The anticipated impact areas per vegetation community and their mitigation are shown in detail in Table 3 below.

**Table 3: Estimated Impacts to Vegetation Communities and Mitigation**

| Vegetation Community | Anticipated Area of Impact in Acres | Mitigation Ratio | Mitigation in Acres |
|---|---|---|---|
| Southern Riparian Scrub | 0 | 0 | 0 |
| Coast Live Oak Woodland (RPO Associated) | 0.47 | 3:1 | 1.41 |
| Coast Live Oak Woodland (Upland)[2] | 0 | 0 | 0 |
| Eucalyptus Woodland | 0.07 | 0 | 0 |
| Disturbed Habitat | 4.76 | 0 | 0 |
| Urban/Developed | 0.38 | 0 | 0 |
| Agricultural Land | 0.27 | 0 | 0 |
| ***Total*** | ***5.95*** | ***NA*** | ***1.41*** |

***Special Status Species Impacts***

Construction activities are not expected to impact special status plant species due to the lack of suitable habitat and the unlikely or low potential for special status plant species to occur within the PSA.

Construction activities could potentially impact special status wildlife species, depending on the final location of the proposed facilities. Permanent impacts to the special status wildlife species could include the removal of suitable habitat, or direct mortality to individuals, nests, burrows, and young as a result of construction. Temporary impacts may include temporary construction activities that alter normal behavior patterns, including migration dispersal, courtship and mating, and foraging and roosting.

## 6.0 Mitigation Measures

If project activities are conducted during the bird breeding season (typically February 15 through August 31, and December through August for raptors), a qualified biologist should conduct a pre-construction survey to ensure that no breeding birds are present within 300 feet of the Project. If an active nest is observed that may be impacted by project-related activities, avoidance measures shall be implemented to avoid impacting the nest. Avoidance measures delaying construction within the immediate vicinity of the active nest until the young have fledged or naturally failed or instituting a nest buffer to be determined by a qualified biologist.

[2] Although there are no impacts anticipated to the Coast Live Oak Woodland (Upland) vegetation community, there is the potential for impacts to individual oak trees greater than 6 inch dbh within the disturbed habitat on the southern portion of the project.

If impacts to the jurisdictional drainage crossing the northern boundary of parcels APN 105-410-10 are expected to occur as a result of the installation of a stormwater drainage outlet, the project will be required to provide evidence that agency permits (ACOE, CDFW and RWQCB) have been obtained or a letter from those agencies stating that a permit is not necessary.

Prior to construction activities, temporary flagging, shall be installed along the edge of the proposed open space to avoid any potential impacts to the proposed open space easement during construction to ensure no impacts occur within the RPO wetland. The temporary construction fencing shall be removed after all project activities are completed.

Due to the location of the access road leading into the site, the existing abandoned structures, and the existing utilities requiring maintenance, permanent fencing along the boundary of the open space easement is not feasible. The RPO wetland and coast live oak woodland (RPO Associated) within the proposed open space easement will be protected with signage in lieu of fencing. Signs, at 50-foot intervals, will be installed along the boundary of the open space easement to ensure the open space easement is evident (Figure 8, Attachment A). The coast live oak woodland (upland) and associated oak root protection zone located within and adjacent to the northwest corner of APN 105-410-19, 0-19 is shown on Figure 8, Attachment A. The upland coast live oak woodland is not connected to the RPO wetland, and therefore, is protected by the oak root protection zone. The individual oak trees and associated oak root protection zones within APN 105-410-44 are shown on Figure 8, Attachment A. All anticipated temporary and permanent impacts for the project are depicted on Figures 4, 5, 6, and 8.

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U.S. Geological Survey (USGS)

1968. Temecula, California 7.5-minute topographic map. Revised 1968.

**ATTACHMENT A**

**Figure 1: Regional Location Map**

**Figure 2: Project Vicinity Map - Aerial Imagery**

**Figure 3: Project Vicinity Map - USGS Topography**

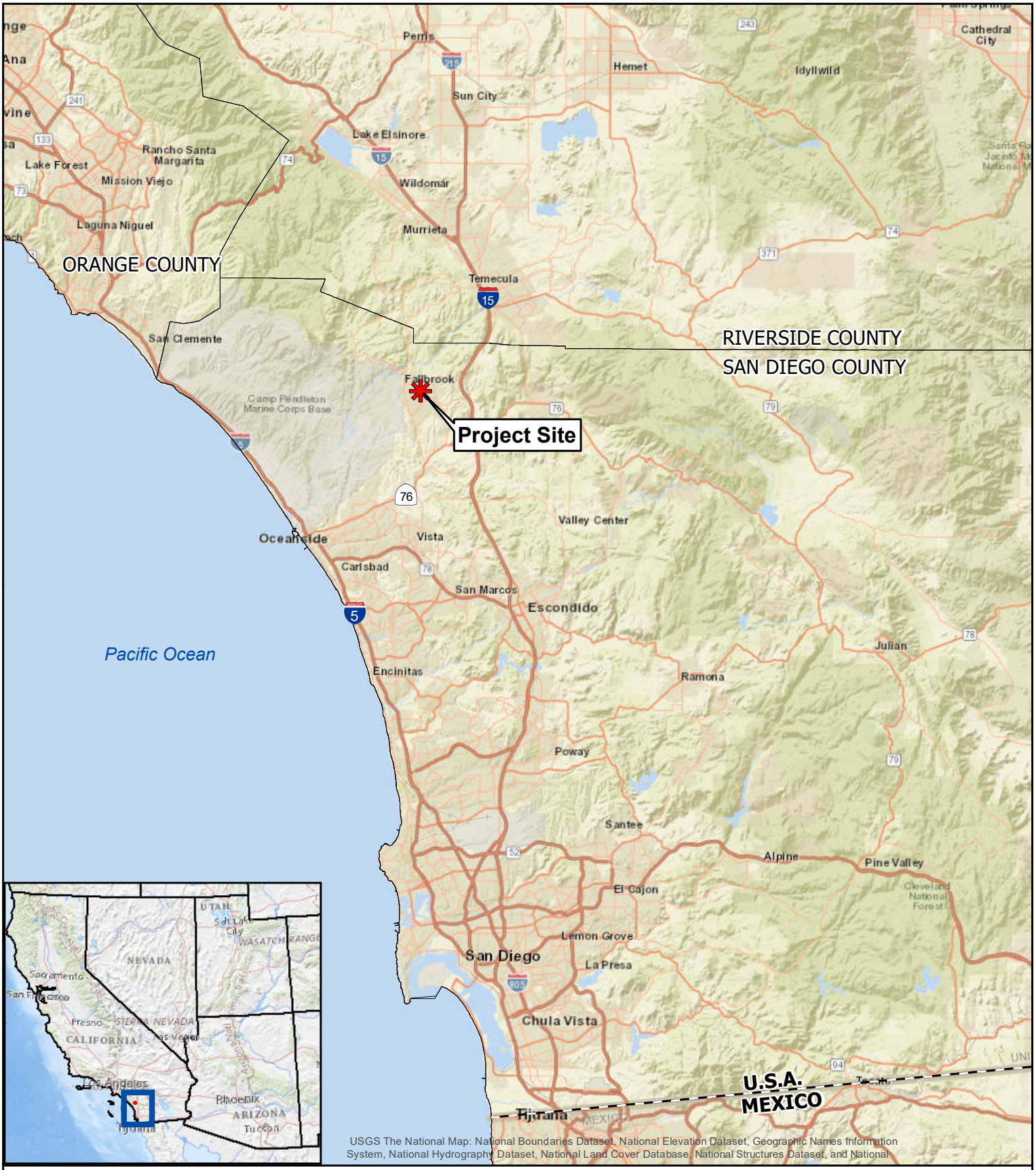
**Figure 4: Proposed Project Components**

**Figure 5: Vegetation Communities and Proposed Project Impacts**

**Figure 6: Project Components and RPO Wetland**

**Figure 7: U.S. Fish and Wildlife Service Critical Habitat Map**

**Figure 8: Oak Root Protection Zone and Proposed Project Impacts**




# AES Fallbrook 40MW Battery Energy Storage System Project

December 26, 2018

## Regional Location Map

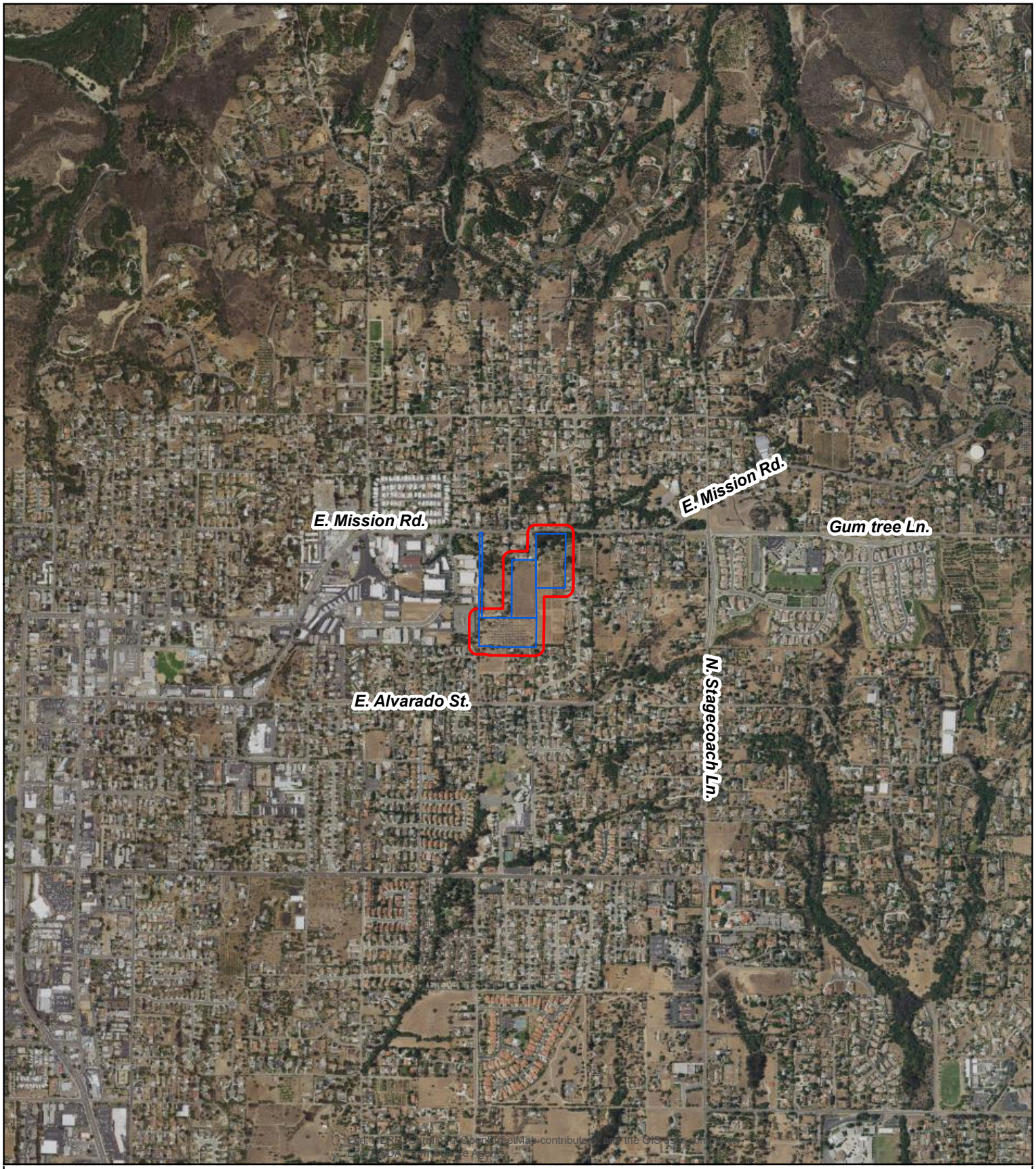
**Figure 1**

1 inch = 10 miles @ 8.5" x 11"

0 2.5 5 10 Miles

N

Pangea Biological




# AES Fallbrook 40MW Battery Energy Storage System Project

October 14, 2019

## Project Vicinity Map - Aerial Imagery

Parcel Boundary

Project Study Area

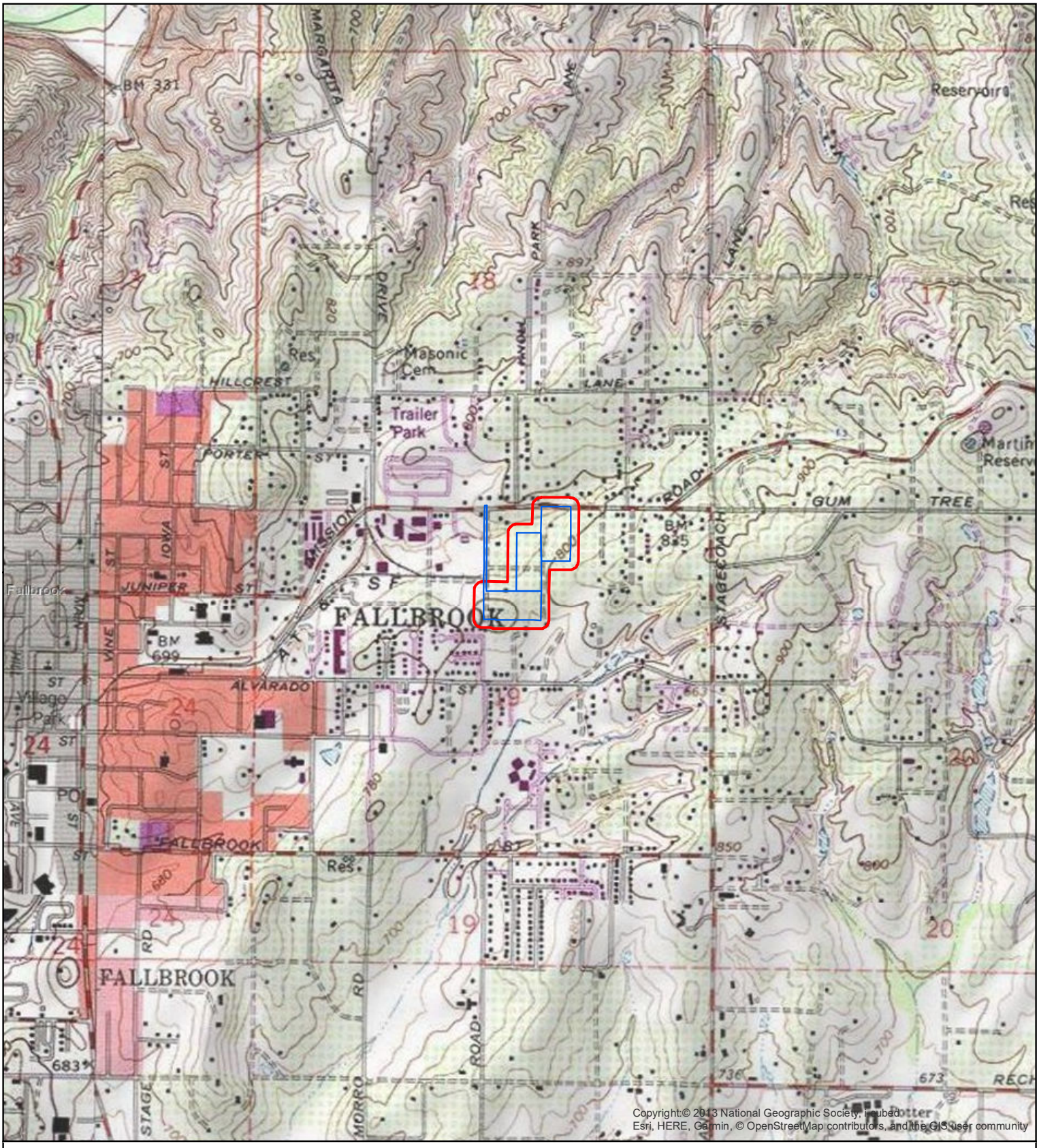
**Figure 2**

1 inch = 1,500 feet @ 8.5" X 11"

0 375 750 1,500 Feet

N

Pangea Biological




# AES Fallbrook 40MW Battery Energy Storage System Project

October 14, 2019

Parcel boundary

Project Study Area

## Project Vicinity Map - USGS Topography

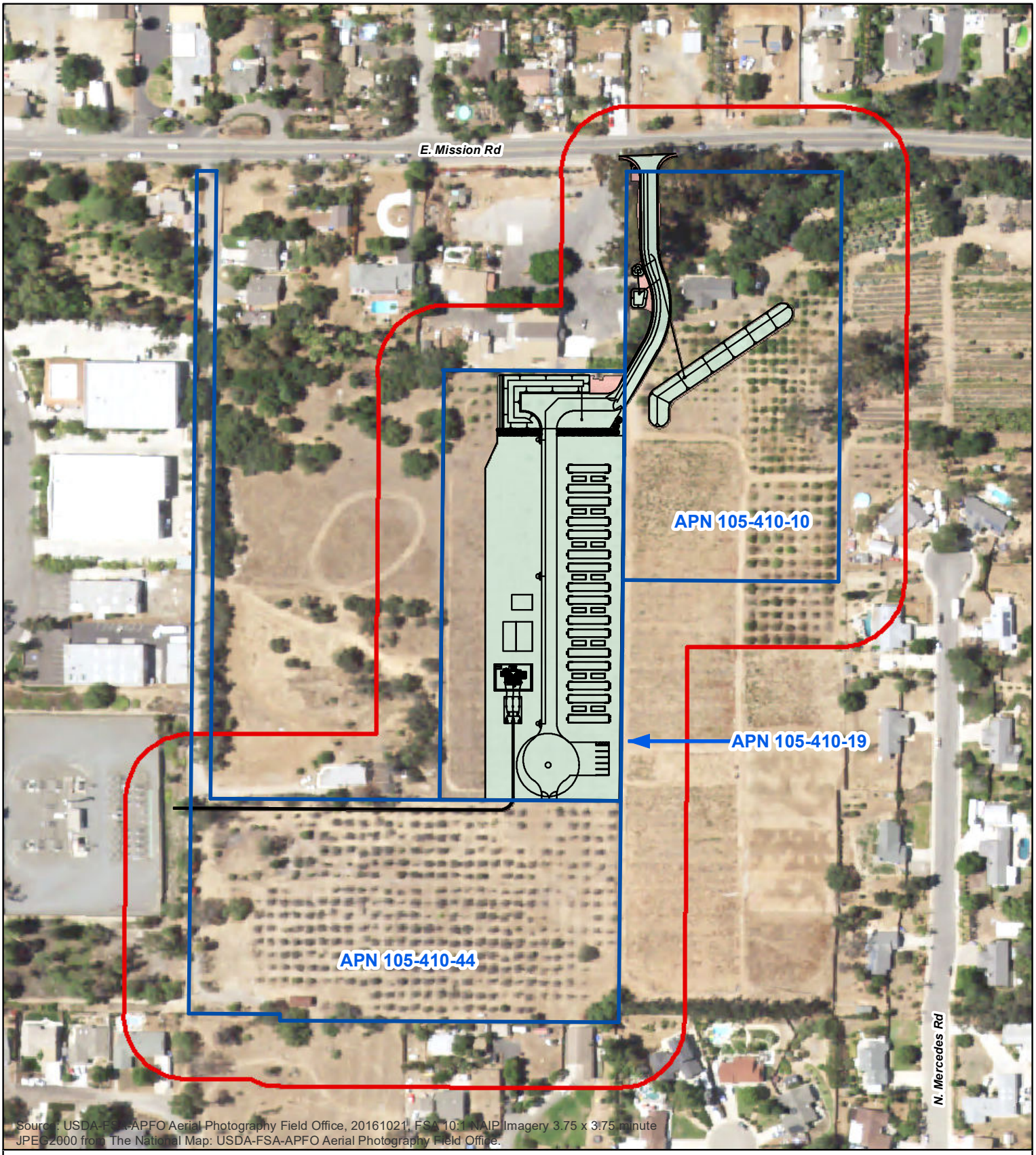
**Figure 3**

1 inch = 1,500 feet @ 8.5" X 11"

0 375 750 1,500 Feet

N

Pangea Biological




# AES Fallbrook 40MW Battery Energy Storage System Project

October 14, 2019

## Proposed Project Components

- Parcel Boundary
- Project site plan
- Permanent Work Area
- Temporary Work Area
- Project Study Area

**Figure 4**

1 inch = 200 feet @ 8.5" x 11"

0 50 100 200 Feet

N

Pangea Biological

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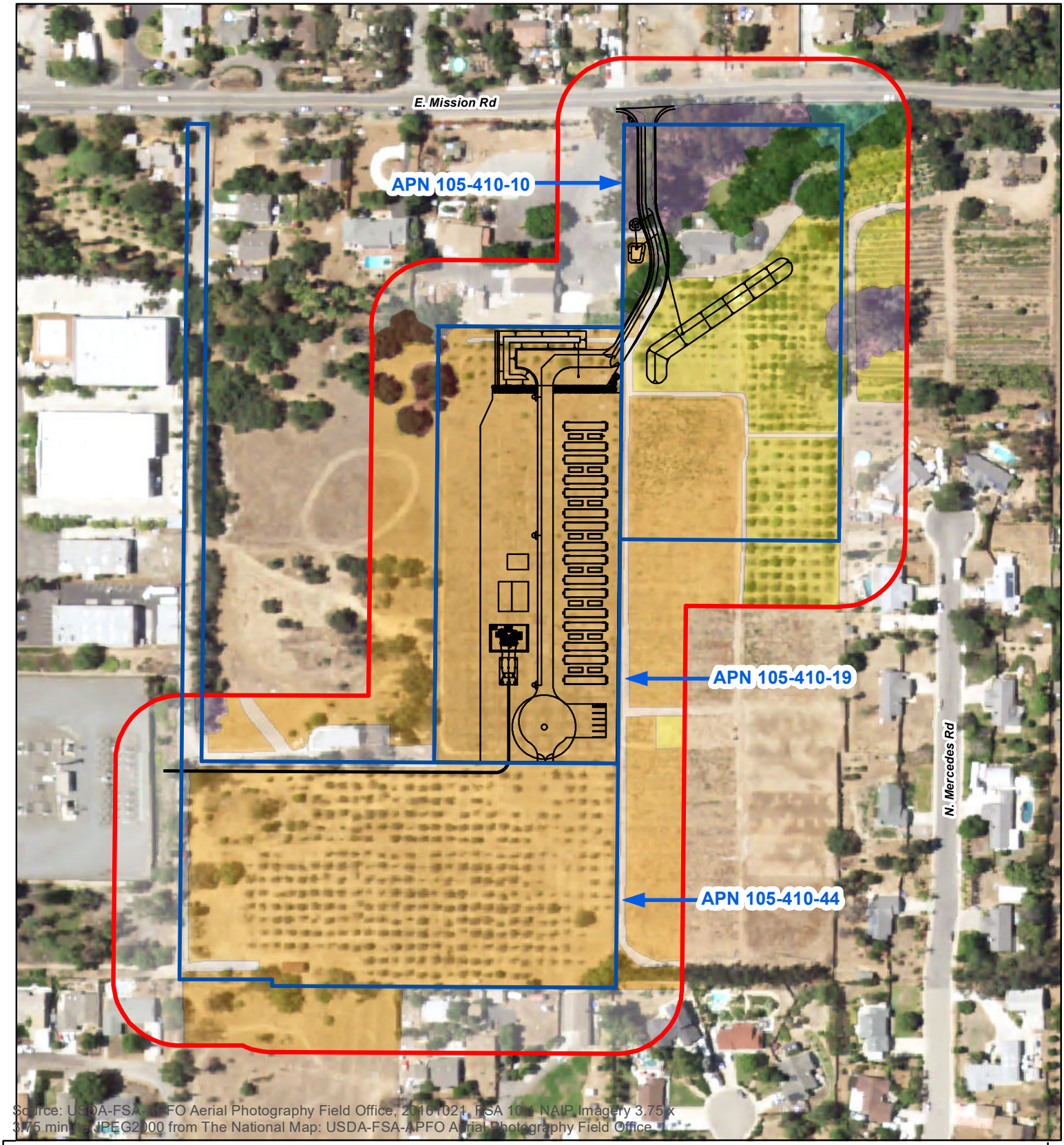


Source: USDA-FSA-APFO Aerial Photography Field Office, 20161021. FSA 10m NAIP Imagery 3.75 x 3.75 minute JPEG2000 from The National Map: USDA-FSA-APFO Aerial Photography Field Office

# AES Fallbrook 40MW Battery Energy Storage System Project

October 15, 2019

## Vegetation Communities and Proposed Project Impacts

- Proposed Site Plan
- Parcel Boundary
- Project Study Area

**Vegetation**

- Agriculture
- Coast Live Oak Woodland (RPO Associated)
- Coast Live Oak Woodland (Upland)
- Disturbed Habitat
- Eucalyptus Woodland
- Southern Riparian Scrub
- Urban Developed

**Figure 5**

1 inch = 200 feet @ 8.5" x 11"

0 50 100 200 Feet

N

Pangea Biological

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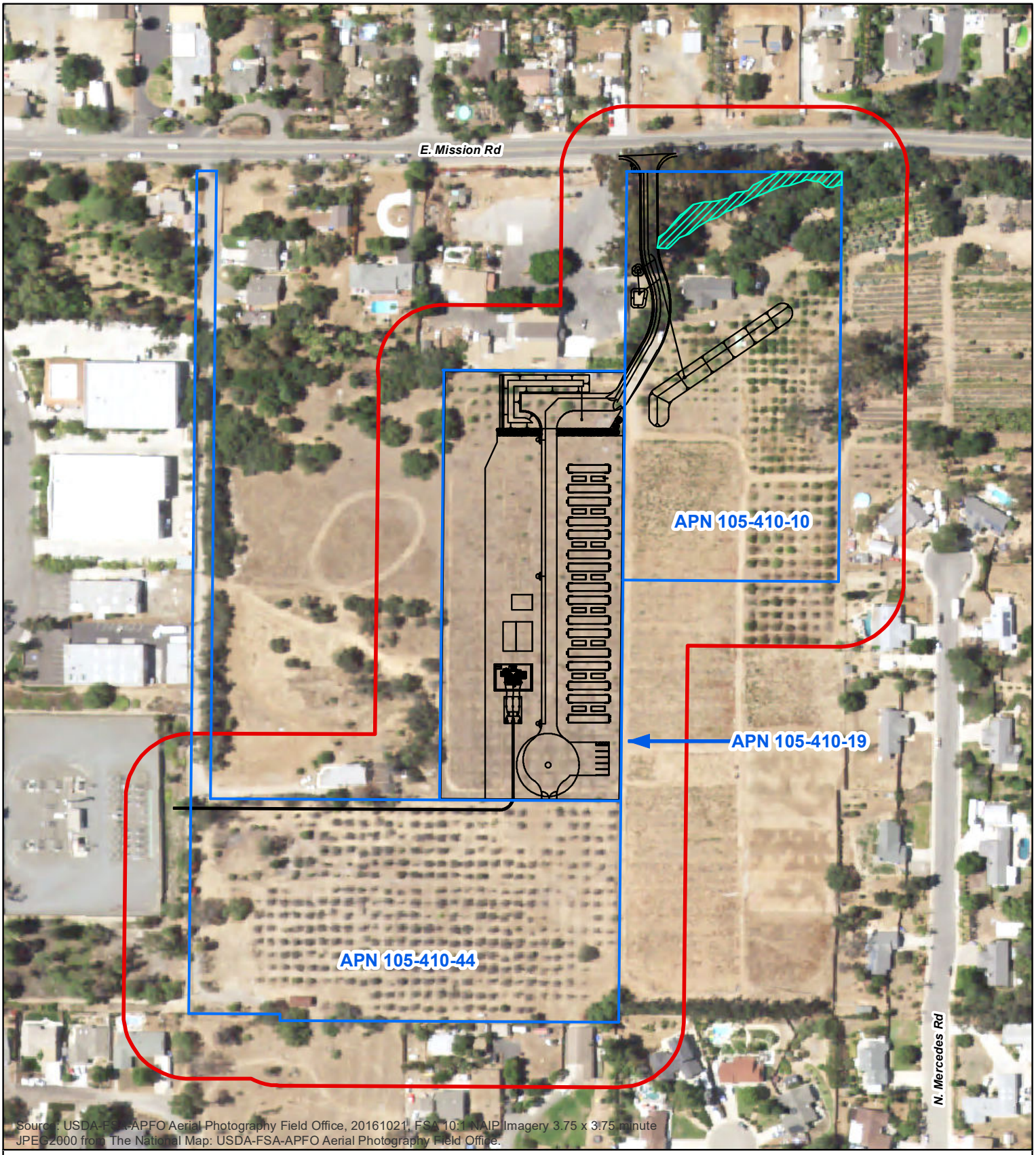


# AES Fallbrook 40MW Battery Energy Storage System Project

October 15, 2019

## Proposed Project Components and RPO Wetland

RPO Wetland
Project Site Plan
Parcel Boundaries
Project Study Area

**Figure 6**

1 inch = 200 feet @ 8.5" x 11"

0 50 100 200 Feet

N

Pangea Biological

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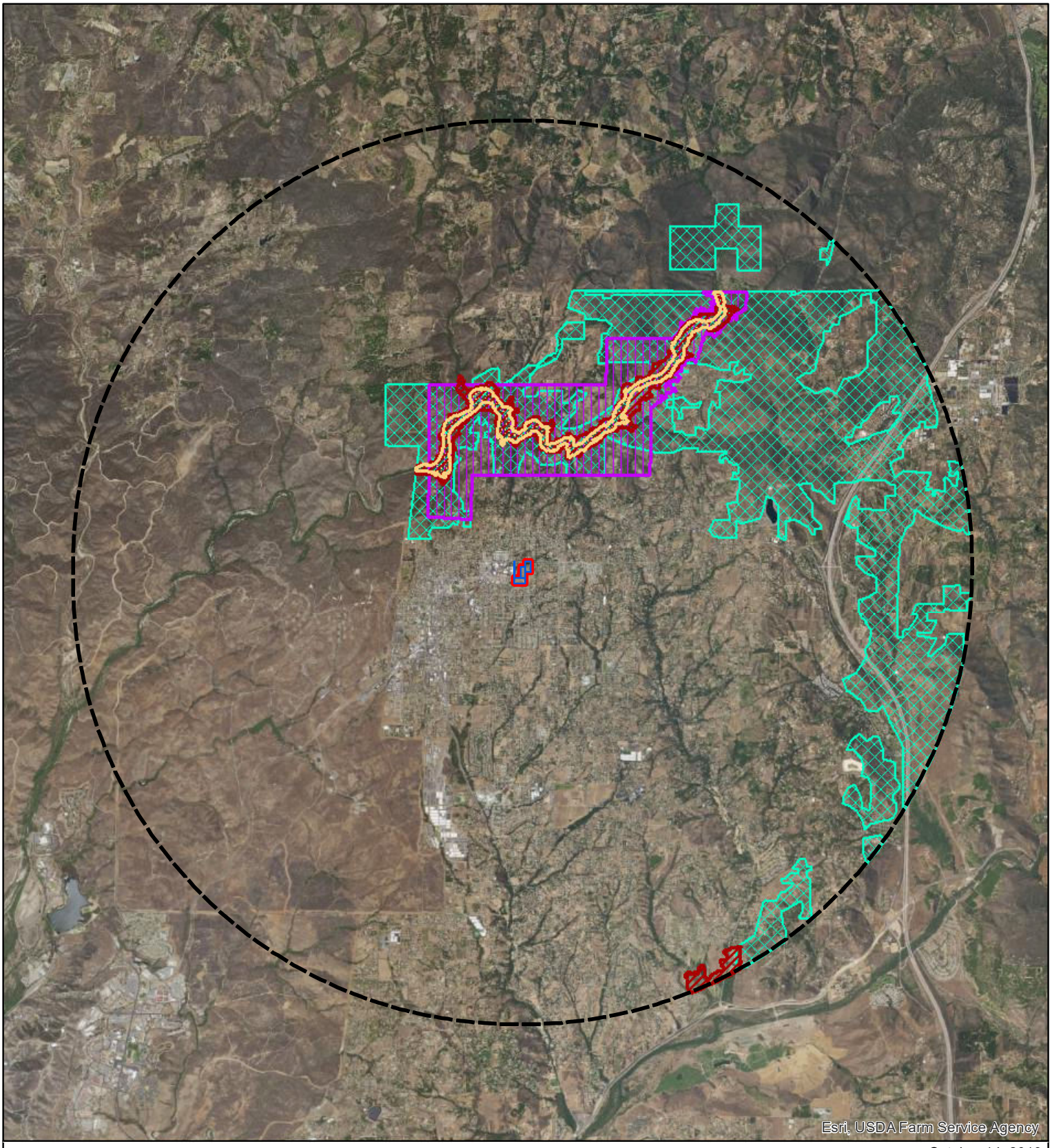



# AES Fallbrook 40MW Battery Energy Storage System Project

October 14, 2019

## U.S. Fish and Wildlife Service Critical Habitat Map

**Critical Habitat**
- Southwestern willow flycatcher
- Arroyo (=arroyo southwestern) toad
- Least Bell's vireo
- Coastal California gnatcatcher

- Property Boundary
- Project Study Area
- 5-mile buffer

**Figure 7**

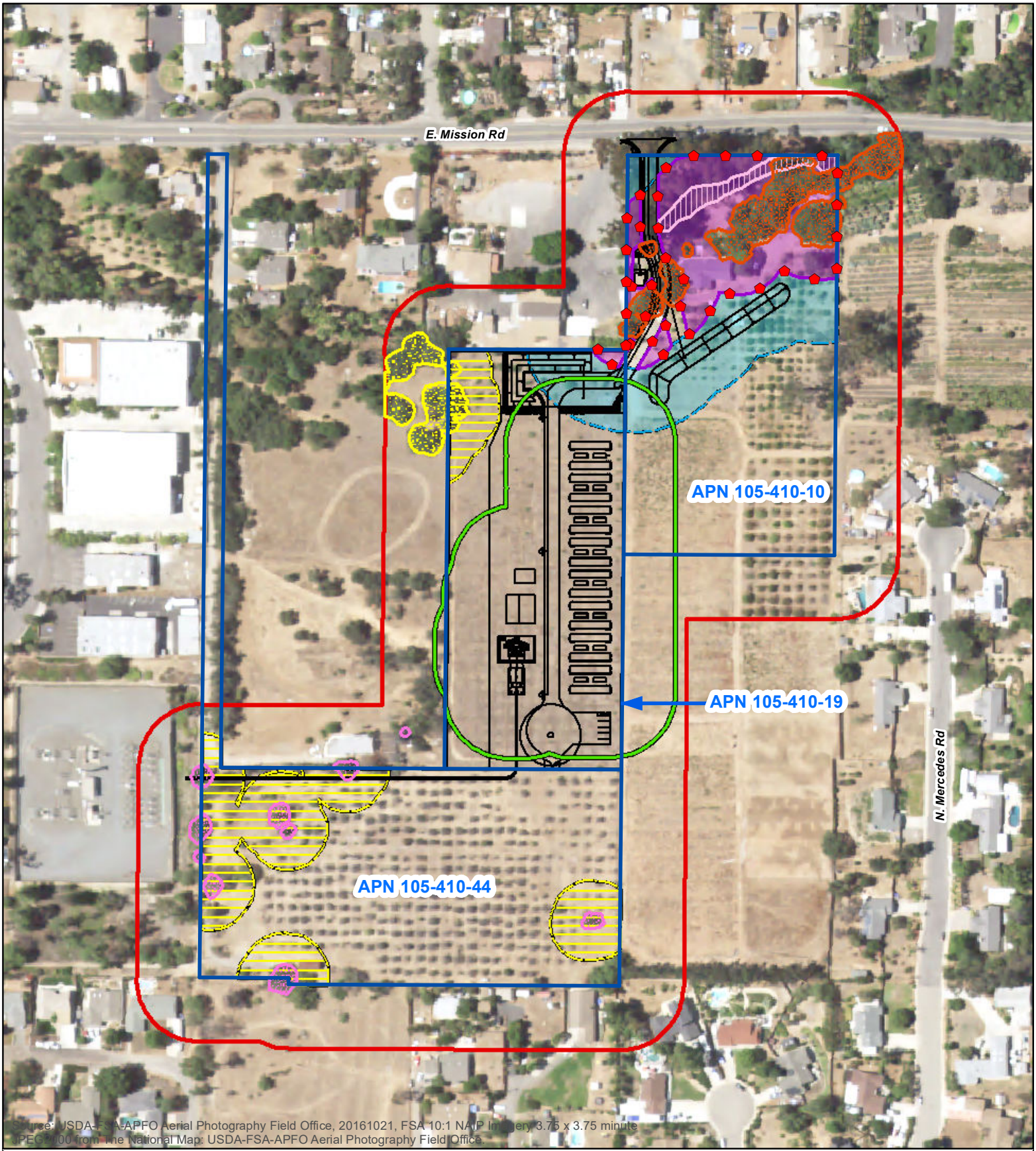
1 inch = 1.5 miles @ 8.5" x 11"

0 0.75 1.5 Miles

N

Pangea Biological

P:\Pangea Biological\Pangea GIS\Projects\AES\Maps\AES_Fig7_CriticalHabitat_10142019.mxd -DHR




# AES Fallbrook 40MW Battery Energy Storage System Project

**Open Space Easement, Limited Building Zone Easement, Oak Root Protection Zone, and Fuel Modification Zone**

October 15, 2019

- Proposed Site Plan
- Parcel Boundary
- Coast Live Oak Woodland (RPO Associated)
- Coast Live Oak Woodland (Upland)
- Oak Tree Canopy
- RPO Wetland
- Oak Root Protection Zone
- Fuel Modification Zone
- Project Study Area
- Open Space Easement
- Limited Building Zone Easement
- Open Space Signs 50-foot instervals

**Figure 8**

1 inch = 200 feet @ 8.5" x 11"

0 50 100 200 Feet

N

Pangea Biological

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# ATTACHMENT B

## Special Status Plant Species Potentially Occurring Within the PSA

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| *Abronia villosa* var. *aurita* (chaparral sand-verbena) | 1B.1 | List A | Sandy soils in coastal scrub, chaparral, or desert dune habitats. | No | U | No suitable habitat for this species occurs within the survey area. |
| *Allium munzii* (Munz's onion) | 1B.1 | – | Mesic or clay soils in chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, and pinyon and juniper woodland habitats. | No | U | No suitable habitats for this species occurs within the survey area. |
| *Almutaster pauciflorus* (alkali marsh aster) | 2B.2 | – | Meadow and seep habitats. | No | U | No suitable meadow or seep habitat occurs within the survey area. |
| *Ambrosia pumila* (San Diego ambrosia) | FE, 1B.1 | List A | Sandy loam or clay soils in coastal scrub, vernal pools, chaparral, and valley and foothill grassland habitats. | No | U | No suitable habitat for this species occurs within the survey area. |
| *Amsinckia douglasiana* (Douglas' fiddleneck) | 4.2 | – | Shale or dry soils in valley and foothill grassland or cismontane woodland habitats. | No | U | No suitable soils or habitat for this species occurs within the survey area. |
| *Arctostaphylos rainbowensis* (Rainbow manzanita) | 1B.1 | List A | Chaparral habitat. | No | U | This species was not detected during the survey area. |

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| *Astragalus pachypus* var. *jaegeri* (Jaeger's milk-vetch) | 1B.1 | List A | Sandy or rocky soils in coastal scrub, chaparral, valley and foothill grassland, and cismontane woodland habitats. | No | L | No rocky soils occur within the survey area. The cismontane woodlands have little to no understory. |
| *Atriplex pacifica* (south coast saltscale) | 1B.2 | List A | Coastal bluff scrub, coastal scrub, coastal dunes, and playa habitats. | No | U | No suitable habitat for this species occurs within the survey area. |
| *Ayenia compacta* (California ayenia) | 2B.3 | List B | Rocky soils in desert scrub habitats. | No | U | No suitable soils or habitat for this species occurs within the survey area. |
| *Berberis nevinii* (Nevin's barberry) | FE, SE, 1B.1 | List A | Sandy or gravel soils in coastal scrub, chaparral, cismontane woodland, and riparian scrub habitats. | No | U | This species was not detected within the survey area. |
| *Brodiaea filifolia* (thread-leaved brodiaea) | FT, SE, 1B.1 | List A | Clay soils around vernal pools and in openings in coastal scrub, chaparral, cismontane woodland, valley and foothill grassland, and playa habitats. | No | U | No suitable clay soils, vernal pools, or suitable habitat for this species occur within the survey area. |

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| *Brodiaea orcuttii* (Orcutt's brodiaea) | 1B.1 | List A | Mesic or clay soils around vernal pools and in openings in chaparral, cismontane woodland, valley and foothill grassland, and meadow and seep habitats. | No | U | No clay soils, vernal pools, ephemeral freshwater basins, or suitable habitat occur within the survey area. |
| *Brodiaea santarosae* (Santa Rosa Basalt brodiaea) | 1B.2 | – | Basaltic soils in valley and foothill grassland habitats. | No | U | No basaltic soils or suitable habitat for this species occur within the survey area. |
| *Calochortus catalinae* (Catalina mariposa lily) | 4.2 | List D | Coastal scrub, chaparral, cismontane woodland, and valley and foothill grassland habitats. | No | U | No suitable habitats for this species occurs within the survey area. |
| *Calochortus plummerae* (Plummer's mariposa lily) | 4.2 | – | Rocky or granitic soils in coastal scrub, chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland habitats. | No | U | No suitable rocky or granitic soils occur within the survey area. |
| *Calochortus weedii* var. *intermedius* (intermediate mariposa lily) | 1B.2 | – | Rocky or calcareous soils in coastal scrub, chaparral, and valley and foothill grassland habitats. | No | U | No suitable rocky or calcareous soils occur within the survey area. |

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| *Camissoniopsis lewisii* (Lewis' evening-primrose) | 3 | List C | Sandy or clay soils in coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland, and cismontane woodland habitats. | No | L | No clay soils occur within the survey area. The cismontane woodlands have little to no understory. |
| *Caulanthus simulans* (Payson's jewelflower) | 4.2 | List D | Sandy or granitic soils in coastal scrub and chaparral habitats. | No | U | No suitable habitat for this species occurs within the survey area. |
| *Ceanothus cyaneus* (Lakeside ceanothus) | 1B.2 | List A | Chaparral and closed-cone coniferous forest habitats. | No | U | This species was not detected within the survey area. |
| *Ceanothus ophiochilus* (Vail Lake ceanothus) | 1B.1 | – | Chaparral habitat with gabbroic soils or pyroxenite-rich outcrops. | No | U | No suitable soils or habitat for this species occurs within the survey area. |
| *Centromadia parryi* ssp. *australis* (southern tarplant) | 1B.1 | List A | Vernal pools, vernally mesic soils in valley and foothill grassland habitat, and margins of marsh and swamp habitat. | No | U | No vernal pools, vernally mesic soils or suitable habitat for this species occur within the survey area. |
| *Centromadia pungens* ssp. *laevis* (smooth tarplant) | 1B.1 | List A | Alkaline soils in chenopod scrub, meadow and seeps, playa, valley and foothill grassland, and riparian woodland habitats. | No | U | No alkaline soils occur within the survey area. |
| *Chaenactis glabriuscula* var. *orcuttiana* (Orcutt's pincushion) | 1B.1 | List A | Coastal bluff scrub and coastal dune habitats. | No | U | No suitable habitat for this species occurs within the survey area. |

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| *Chamaebatia australis* (southern mountain misery) | 4.2 | List D | Grabboic or metavolcanic soils in chaparral habitat. | No | U | No grabboic or metavolcanic soils occur within the survey area. |
| *Chorizanthe leptotheca* (Peninsular spineflower) | 4.2 | List D | Alluvial fan or granitic soils in costal scrub, chaparral, and lower montane coniferous forest habitats. | No | U | No alluvial fan or granitic soils for this species occurs within the survey area. |
| *Chorizanthe parryi* var. *parryi* (Parry's spineflower) | 1B.1 | – | Sandy or rocky soils in openings of coastal scrub, chaparral, cismontane woodland, and valley and foothill grassland habitats. | No | L | No rocky soils occur within the survey area. The cismontane woodlands have little to no understory. |
| *Chorizanthe polygonoides* var. *longispina* (long-spined spineflower) | 1B.2 | List A | Vernal pools or clay soils in coastal scrub, chaparral, meadow and seeps, and valley and foothill grassland habitats. | No | U | No clay soils, vernal pools, or ephemeral freshwater basins occur within the survey area. |
| *Chorizanthe procumbens* (prostrate spineflower) | – | – | Sandy soils in coastal sage, chaparral, and valley and foothill grassland habitats. | No | U | No suitable habitat for this species occurs within the survey area. |
| *Clarkia delicata* (delicate clarkia) | 1B.2 | List A | Grabboic soils in chaparral or cismontane woodland habitats. | No | U | No suitable soils or habitat for this species occurs within the survey area. |

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| *Clinopodium chandleri* (San Miguel savory) | 1B.2 | List A | Rocky, grabboic or metavolcanic soils in coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, and riparian woodland habitats. | No | U | No rocky, grabboic or metavolcanic soils occur within the survey area. |
| *Comarostaphylis diversifolia* ssp. *diversifolia* (Summer Holly) | 1B.2 | List A | Chaparral or cismontane woodland habitats. | No | U | No chaparral habitat and cismontane woodlands have little to no understory. |
| *Convolvulus simulans* (small-flowered morning-glory) | 4.2 | List D | Clay or serpentinite seep soils in coastal scrub, chaparral, and valley and foothill grassland habitats. | No | U | No clay or serpentinite seep soils occur within the survey area. |
| *Cryptantha wigginsii* (Wiggins' cryptantha) | 1B.2 | – | Clay soils in coastal scrub habitat. | No | U | No clay soils or suitable habitat for this species occurs within the survey area. |
| *Deinandra paniculata* (paniculate tarplant) | 4.2 | List D | Vernally mesic soils or sandy soils in coastal scrub, vernal pools, and valley and foothill grassland habitats. | No | U | No vernally mesic soils, vernal pools, or suitable habitat for this species occur within the survey area. |
| *Dichondra occidentalis* (western dichondra) | 4.2 | List D | Coastal scrub, chaparral, valley and foothill grassland, and cismontane woodland habitats. | No | U | No suitable habitat for this species occurs within the survey area. |

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| *Dodecahema leptoceras* (slender-horned spineflower) | FE, SE, 1B.1 | – | Sandy soils in coastal scrub, chaparral, and cismontane woodland habitats. | No | L | The cismontane woodlands have little to no understory. |
| *Dudleya alainae* (Banner dudleya) | 3.2 | – | Rocky soils in chaparral, lower montane coniferous forest, and desert scrub habitats. | No | U | No rocky soils or suitable habitat for this species occurs within the survey area. |
| *Dudleya multicaulis* (many-stemmed dudleya) | 1B.2 | List A | Clay soils in coastal scrub, chaparral, and valley and foothill grassland habitats. | No | U | No clay soils or suitable habitat for this species occur within the survey area. |
| *Dudleya viscida* (sticky dudleya) | 1B.2 | List A | Rocky soils in coastal scrub, chaparral, and cismontane woodland habitats. | No | U | No rocky soils or suitable habitat for this species occur within the survey area. |
| *Eryngium aristulatum* var. *parishii* (San Diego button-celery) | FE, SE, 1B.1 | List A | Vernal pools or mesic soils in coastal scrub and valley and foothill grassland habitats. | No | U | No vernal pools or suitable habitat for this species occur within the survey area. |
| *Eryngium pendletonense* (Pendleton button-celery) | 1B.1 | List A | Clay or vernally mesic soils in coastal bluff scrub, vernal pools, and valley and foothill grassland habitats. | No | U | No clay soils, vernal pools, mesic soils, or ephemeral freshwater basins occur within the survey area. |
| *Erysimum ammophilum* (sand-loving wallflower) | 1B.2 | – | Sandy soils in coastal dunes, coastal scrub, and chaparral habitats. | No | U | No suitable habitat for this species occurs within the survey area. |

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| *Erythranthe diffusa* (Palomar monkeyflower) | 4.3 | List D | Sandy or gravelly soils in chaparral and lower montane coniferous forest habitats. | No | U | No suitable habitats for this species occur within the survey area. |
| *Geothallus tuberosus* (Campbell's liverwort) | 1B.1 | – | vernal pools or mesic soils within coastal scrub habitat. | No | U | No vernal pools or ephemeral freshwater basins occur within the survey area. |
| *Harpagonella palmeri* (Palmer's grapplinghook) | 4.2 | List D | Clay soils in coastal scrub, chaparral, and valley and foothill grassland habitats. | No | U | No clay soils or suitable habitat for this species occur within the survey area. |
| *Hesperocyparis forbesii* (Tecate cypress) | 1B.1 | List A | Clay, gabbroic or metavolcanic soils in chaparral and closed-cone coniferous forest habitats | No | U | This species was not detected within the survey area. |
| *Holocarpha virgata* ssp. *elongata* (graceful tarplant) | 4.2 | List D | Coastal scrub, chaparral, valley and foothill grassland, and cismontane woodland habitats. | No | U | No suitable habitat for this species occurs within the survey area. |
| *Hordeum intercedens* (vernal barley) | 3.2 | List C | Vernal pools, coastal dunes, coastal scrub, and valley and foothill grassland habitats. | No | U | No vernal pools or suitable habitat for this species occur within the survey area. |
| *Horkelia cuneata* var. *puberula* (mesa horkelia) | 1B.1 | List A | Sandy or gravel soils in coastal scrub, chaparral, and cismontane woodland habitats. | No | L | The cismontane woodlands have little to no understory. |

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| *Horkelia truncata* (Ramona horkelia) | 1B.3 | List A | Clay or grabboic soils in chaparral and cismontane woodland habitats. | No | U | No clay or grabboic soils occur within the survey area. |
| *Juglans californica* (California black walnut) | 4.2 | List D | Alluvial soils in coastal scrub, chaparral, cismontane woodland, and riparian woodland habitat. | No | U | This species was not detected during the survey area. |
| *Juncus acutus* ssp. *leopoldii* (southwestern spiny rush) | 4.2 | List D | Coastal dune, meadow and seeps, and marsh and swamp habitats. | No | U | No suitable habitat for this species occurs within the survey area. |
| *Juncus luciensis* (Santa Lucia dwarf rush) | 1B.2 | – | Vernal pools or in chaparral, great basin scrub, meadow and seeps, and lower montane coniferous forest habitats. | No | U | No vernal pools or suitable habitat for this species occur within the survey area. |
| *Lasthenia glabrata* ssp. *coulteri* (Coulter's goldfields) | 1B.1 | List A | Coastal marsh and swamps, playas, and vernal pool habitats. | No | U | No suitable habitat for this species occurs within the survey area. |
| *Lepechinia cardiophylla* (heart-leaved pitcher sage) | 1B.2 | List A | Chaparral, cismontane woodland, and closed-cone coniferous forest habitats. | No | U | No suitable habitat for this species occurs within the survey area. |
| *Lepidium virginicum* var. *robinsonii* (Robinson's pepper-grass) | 4.3 | List A | Coastal scrub and chaparral habitats. | No | U | No suitable habitat for this species occurs within the survey area. |

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| *Lilium humboldtii* ssp. *ocellatum* (ocellated Humboldt lily) | 4.2 | List D | Coastal scrub, chaparral, cismontane woodland, lower montane coniferous forest, and riparian woodland habitats. | No | U | No suitable habitat for this species occurs within the survey area. |
| *Lilium parryi* (lemon lily) | 1B.2 | List A | Mesic soils in riparian forest, meadow and seep, and montane coniferous forest habitats. | No | U | No suitable soils or habitats for this species occur within the survey area. |
| *Limnanthes alba* ssp. *parishii* (Parish's meadowfoam) | SE, 1B.2 | List A | Vernal pools or vernally mesic soils in lower montane coniferous forest, and meadow and seep habitats. | No | U | No vernal pools, vernally mesic soils, or suitable habitat for this species occurs within the survey area. |
| *Microseris douglasii* ssp. *platycarpha* (small-flowered microseris) | 4.2 | List D | Vernal pools or clay soils in coastal scrub, cismontane woodland, and valley and foothill grassland habitats. | No | U | No vernal pools or clay soils for this species occur within the survey area. |
| *Mielichhoferia shevockii* (Shevock's copper moss) | 1B.2 | – | Cismontane woodland habitat. | No | U | No suitable habitat for this species occurs within the survey area. |
| *Monardella hypoleuca* ssp. *intermedia* (intermediate monardella) | 1B.3 | – | Chaparral, cismontane woodland, and lower montane coniferous forest habitats. | No | U | No suitable habitat for this species occurs within the survey area. |

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| *Monardella hypoleuca* ssp. *lanata* (felt-leaved monardella) | 1B.2 | List A | Chaparral and cismontane woodland habitats. | No | U | No suitable habitat for this species occurs within the survey area. |
| *Monardella macrantha* ssp. *hallii* (Hall's monardella) | 1B.3 | List A | Chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland, and broadleaf upland forest habitats. | No | U | No suitable habitats for this species occurs within the survey area. |
| *Myosurus minimus* ssp. *apus* (little mousetail) | 3.1 | List C | Vernal pools or valley and foothill grassland habitats. | No | U | No vernal pools or ephemeral freshwater basins occur within the survey area. |
| *Navarretia fossalis* (spreading navarretia) | FT, 1B.1 | List A | Vernal pools or chenopod scrub, marsh and swamps, and playa habitats. | No | U | No vernal pools or suitable habitat for this species occur within the survey area. |
| *Navarretia prostrata* (prostrate vernal pool navarretia) | 1B.1 | List A | Vernal pools or mesic soils in coastal scrub, meadow and seep, and valley and foothill grassland habitats. | No | U | No vernal pools or suitable habitat for this species occur within the survey area. |
| *Nolina cismontana* (chaparral nolina) | 1B.2 | List A | Sandstone or grabboic soils in coastal scrub or chaparral habitats. | No | U | No sandstone or grabboic soils occur within the survey area. |

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| *Ophioglossum californicum* (California adder's-tongue) | 4.2 | List D | Vernal pools or mesic soils within chaparral or valley and foothill grassland habitats. | No | U | No vernal pool or suitable habitat for this species occurs within the survey area. |
| *Orcuttia californica* (California Orcutt grass) | FE, SE, 1B.1 | List A | Vernal pools. | No | U | No vernal pools or ephemeral freshwater basins occur within the survey area. |
| *Packera ganderi* (Gander's ragwort) | 1B.2 | List A | Chaparral habitat. | No | U | No suitable habitat for this species occurs within the survey area. |
| *Pentachaeta aurea* ssp. *aurea* (golden-rayed pentachaeta) | 4.2 | List D | Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, riparian woodland, and lower montane coniferous forest habitats. | No | U | No suitable habitat for this species occurs within the survey area. |
| *Pickeringia montana* var. *tomentosa* (woolly chaparral-pea) | 4.3 | – | Grabboic, granitic, or clay soils in chaparral habitat. | No | U | No grabboic, granitic, or clay soils occur within the survey area. |
| *Piperia cooperii* (chaparral rein orchid) | 4.2 | List D | Chaparral, valley and foothill grassland, and cismontane woodland habitats. | No | U | No suitable habitat for this species occurs within the survey area. |
| *Piperia leptopetala* (narrow-petaled rein orchid) | 4.3 | List D | Cismontane woodland and montane coniferous forest habitats. | No | U | No suitable habitat for this species occurs within the survey area. |

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| *Polygala cornuta* var. *fishiae* (Fish's milkwort) | 4.3 | List D | Chaparral, cismontane woodland, and riparian woodland habitats. | No | U | No suitable habitat for this species occurs within the survey area. |
| *Pseudognaphalium leucocephalum* (white rabbit-tobacco) | 2B.2 | – | Sandy or gravel soils in coastal scrub, chaparral, cismontane woodland, and riparian woodland habitats. | No | L | No gravel soils occur within the survey area. The cismontane woodlands and riparian woodland habitats have little to no understory. |
| *Quercus engelmannii* (Engelmann oak) | 4.2 | List D | Chaparral, valley and foothill grassland, cismontane woodland, and riparian woodland habitats. | No | U | This species was not detected during the survey area. |
| *Romneya coulteri* (Coulter's matilija poppy) | 4.2 | List D | Coastal scrub and chaparral habitats | No | U | No suitable habitat for this species occurs within the survey area. |
| *Saltugilia latimerid* (Latimer's woodland-gilia) | 1B.2 | – | Rocky, sandy or granitic soils in chaparral, pinyon and juniper woodland, and desert scrub habitats. | No | U | No suitable habitat for this species occurs within the survey area. |
| *Scuttellaria bolanderi* ssp. *austromontana* (southern mountains skullcap) | 1B.2 | List A | Mesic soils in chaparral, cismontane woodland, and lower montane coniferous forest habitats. | No | U | No suitable mesic soils or habitat for this species occurs within the survey area. |

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| *Selaginella cinerascens* (ashy spike-moss) | 4.1 | List D | Coastal scrub and chaparral habitats | No | U | No suitable habitat for this species occurs within the survey area. |
| *Senecio aphanactis* (chaparral ragwort) | 2B.2 | List B | Coastal scrub, chaparral, and cismontane woodland habitats with some alkaline soils. | No | U | No suitable soils or habitat for this species occurs within the survey area. |
| *Sibaropsis hammittii* (Hammitt's clay-cress) | 1B.2 | List A | Clay soils in chaparral and valley and foothill grassland habitats. | No | U | No suitable clay soils or habitat for this species occurs within the survey area. |
| *Sidalcea neomexicana* (salt spring checkerbloom) | 2B.2 | – | Mesic and alkaline soils in coastal scrub, chaparral, playa, lower montane coniferous forest, and desert scrub habitats. | No | U | No suitable habitat for this species occurs within the survey area. |
| *Sphaerocarpos drewei* (bottle liverwort) | 1B.1 | – | Coastal scrub and chaparral habitats | No | U | No suitable habitat for this species occurs within the survey area. |
| *Symphyotrichum defoliatum* (San Bernardino aster) | 1B.2 | – | Occurs near streams, ditches, or springs in cismontane woodland, coastal scrub, montane coniferous forest, meadow and seeps, marshes and swamps, and valley and foothill grassland habitats | No | U | No suitable habitat for this species occurs within the survey area. |

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| *Tetracoccus dioicus* (Parry's tetracoccus) | 1B.2 | List A | Coastal scrub and chaparral habitats. | No | U | No suitable habitat for this species occurs within the survey area. |
| *Texosporium sancti-jacobi* (woven-spored lichen) | 3 | – | Occurs on soil, mammal pellets, dead twigs in chaparral habitat openings. | No | U | No suitable habitat for this species occurs within the survey area. |
| *Tortula californica* (California screw moss) | 1B.2 | – | Sandy soils in chenopod scrub or valley and foothill grassland habitats. | No | U | No chenopod scrub or suitable grassland habitat occur within the survey area. |

***California Rare Plant Ranking System***

*Rank:*
*1A: Plants presumed extinct in California*
*1B: Plants rare, threatened, or endangered in California and elsewhere*
*2: Plant rare, threatened, or endangered in California, but more common elsewhere*
*3: Plants about which we need more information – A review list*
*4: Plants of limited distribution – A watch list*
*Threat Ranks:*
*0.1-Seriously threatened in California (high degree/immediacy of threat)*
*0.2-Fairly threatened in California (moderate degree/immediacy of threat)*
*0.3-Not very threatened in California (low degree/immediacy of threats or no current threats known)*

***San Diego County Species Ranking System***

*List A: Plants that are rare, threatened or endangered in California and elsewhere*
*List B: Plants that are rare, threatened or endangered in California but more common elsewhere*
*List C: Plants that may be quite rare, but need more information to determine their true rarity status*
*List D: Plants of limited distribution and are uncommon, but are not presently rare or endangered*

***State and Federal Species Ranking Codes***

*SE: State listed as Endangered*
*FT: Federally listed as Threatened*

Determination of the potential for listed species to occur was assessed based on the criteria below:
**Observed** (O) – Individuals of this species were found within the bounds of the site.
**High Potential for Occurrence** (H) – The potential for occurrence is "high". Habitats onsite are considered suitable for the species, and the species is known from the immediate vicinity.
**Moderate Potential for Occurrence** (M) – The potential for occurrence is "medium". Historical records exist for the species within or adjacent to the Project Area or no previous historical records for this species have been recorded within or in the immediate vicinity of the Project Area. Habitats and conditions onsite are considered possible for the species.
**Low Potential for Occurrence** (L) – The potential for occurrence is "low". There are no recent historical records for this species within or in the immediate vicinity of the Proposed Project. The habitats present on-site are marginal for the species and/or extremely limited in extent. In other words, the species is not anticipated, but its occurrence cannot be precluded.
**Unlikely for Occurrence** (U) – The potential for occurrence is "unlikely". There are no recent historical records for this species within or in the immediate vicinity of the Proposed Project. The habitat and/or food requirements of the species are not present on the subject property.

# ATTACHMENT C

## Special Status Wildlife Species Potentially Occurring Within the PSA

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| **INVERTEBRATES** | | | | | | |
| *Bombus crotchii* (crotch bumble bee) | – | – | Open grassland and scrub habitat. Nests in abandoned rodent nests or above ground in tufts of grass, old bird nets, rock piles, or cavities of dead trees. | No | U | No suitable open grassland or scrub habitat for this species occurs within the survey area. |
| *Branchinecta lynchi* (vernal pool fairy) | FT | – | Vernal pools and ephemeral freshwater wetland habitats. | No | U | No vernal pools or ephemeral freshwater basins observed during the survey. |
| *Branchinecta sandiegonensis* (San Diego fairy shrimp) | FE | Group 1 | Shallow vernal pools and ephemeral freshwater wetland habitats. | No | U | No vernal pools or ephemeral freshwater basins observed during the survey. |
| *Danaus plexippus* (monarch) | – | Group 2 | Open habitats where its host plant, milkweed (*Asclepias* sp.), occurs. | No | U | No milkweed species observed during the survey. |
| *Euphydryas editha quino* (quino checkerspot butterfly) | FE, X-CI | Group 1 | Coastal sage scrub and chaparral habitats that contain open areas with low-growing or sparse vegetation - required the presence of at least one of its larval host plants, the most important of which is the dot-seed plantain (*Plantago ovata*), white snapdragon (*Antirrhinum coulterianum*), thread-leaved bird's beak (*Cordylanthus rigidus*), purple owl's clover (*Castilleja exserta*), and Chinese houses (*Collinsia concolor*) as larval host plants. | No | U | No suitable habitat or areas with the potential to support host plants occurs within the survey area. In addition, the project is located outside of the Recommended Quino Survey Area per the December 15, 2014 survey guidelines. |

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| *Linderiella santarosae* (Santa Rosa Plateau fairy shrimp) | – | – | Vernal pools and ephemeral freshwater wetland habitats. | No | U | No vernal pools or ephemeral freshwater basins observed during the survey. |
| *Streptocephalus woottoni* (Riverside fairy shrimp) | FE | Group 1 | Vernal pools and ephemeral freshwater wetland habitats. | No | U | No vernal pools or ephemeral freshwater basins observed during the survey. |
| **FISHES** | | | | | | |
| *Gila orcuttii* (arroyo chub) | SSC, AFS-EN | Group 1 | Rivers and watershed habitats. | No | U | No suitable river or watersheds for this species occur within the survey area. |
| **AMPHIBIANS** | | | | | | |
| *Anaxyrus californicus* (arroyo toad) | FE, SSC | Group 1 | Streams with silt-free streambeds, shallow pools or quiet runs, and nearby sandbars or sandy terraces - they prefer riparian habitat but can also be found in streams within woodland and forest habitats within minimal riparian vegetation. | No | U | The drainages located within the survey area do not have the sand, fine gravel, or friable soil with large gravel and cobble that is required by this species. In addition, no suitable upland habitat for foraging and burrowing occurs within the survey area. |
| *Rana draytonii* (California red-legged frog) | FT, SSC | Group 1 | Riparian habitats associated with deep, still or slow-moving water. | No | U | No suitable riparian habitat with deep water occurs within the survey area. |
| *Spea hammondii* (western spadefoot) | SSC, BLM-S | Group 2 | Mixed oak woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountain habitats. | No | L | No suitable habitat for this species occur within the survey area. |

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| *Taricha torosa* (coast range newt) | SSC | Group 2 | Rivers, streams, lakes, ponds, oak woodland, sage scrub, and chaparral habitats. | No | U | No suitable rivers, streams, lakes, or ponds for this species occur within the survey area. |
| **REPTILES** | | | | | | |
| *Anniella pulchra* (California legless lizard) | SSC, USFS-S | Group 2 | Warm moist loose soils with plant cover in beach dunes, chaparral, woodlands, sandy washes, and desert scrub habitats. | No | L | No suitable habitat for this species occurs within the survey area. |
| *Arizona elegans occidentalis* (California glossy snake) | SSC | – | Arid scrub, rocky washes, grassland, and chaparral habitats. | No | U | No suitable habitat for this species occur within the survey area. |
| *Aspidoscelis hyperythra* (orange-throated whiptail) | WL, USFS-S | Group 2 | Semi-arid bushy areas typically with loose soil and rocks, including washes, stream sites, rocky hillsides, coastal chaparral, and coastal sage scrub habitats. | No | L | No suitable habitat for this species occur within the survey area. |
| *Aspidoscelis tigris stejnegeri* (coastal whiptail) | SSC | Group 2 | Chaparral, valley and foothill woodlands, riparian, alkali scrub, grassland, and desert scrub habitats. | No | L | No suitable habitat for this species occurs within the survey area. |
| *Charina trivirgata* (coastal rosy boa) | – | Group 2 | Rocky areas within coastal sage scrub, chaparral, and desert habitats. | No | U | No rocky areas or suitable habitat for this species occur within the survey area. |
| *Coleonyx variegatus abbotti* (San Diego banded gecko) | SSC | Group 1 | Rocky areas within coastal sage scrub and chaparral habitats on the coastal side of the mountains. | No | U | No rocky areas or suitable habitat for this species occur within the survey area. |

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| *Crotalus ruber* (red-diamond rattlesnake) | SSC, USFS-S | Group 2 | Coastal sage scrub, chaparral, desert scrub, thorn scrub, and woodland habitats. | No | U | The cismontane woodland habitat on-site forms a closed canopy, with a more open understory that lacks dense vegetation and rocky areas for this species. In addition, the site is surrounded by development with a lack of connectivity to more suitable and typical habitat for this species. Therefore, no suitable habitat for this species occurs within the survey area. |
| *Diadophis punctatus modestus* (San Bernardino Ringneck Snake) | USFS-S | – | Moist habitat such as meadows but can also be found in chaparral, rocky hillsides, woodlands, and mixed coniferous forest habitats. | No | U | No suitable habitat for this species occurs within the survey area, and the site is surrounded by development. |
| *Diadophis punctatus similis* (San Diego ringneck snake) | USFS-S | Group 2 | Moist habitat such as meadows but can also be found in chaparral, rocky hillsides, woodlands, and mixed coniferous forest habitats. | No | L | No suitable habitat for this species occurs within the survey area, and the site is surrounded by development. |
| *Emys marmorata* (western pond turtle) | SSC, USFS-S, BLM-S | Group 1 | Ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches with emergent and floating vegetation. | No | U | No permanent water sources or irrigation ditches occur within the survey area. |

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| *Phrynosoma blainvillii* (coast horned lizard) | SSC, BLM-S | Group 2 | Sage scrub, chaparral, grassland, woodland, and coniferous forest habitats. | No | U | The cismontane woodland habitat on-site forms a closed canopy that does not provide sunny openings for thermoregulations for this species. In addition, the site is surrounded by development and no prey items (i.e., harvester ants) were observed. Therefore, no suitable habitat for this species occurs within the survey area. |
| *Plestiodon skiltonianus interparietalis* (Coronado skink) | WL, BLM-S | Group 2 | Pine forest, open woodland, grassland, chaparral, and coastal sage scrub habitats with rocky areas near streams. | No | U | No rocky areas or suitable habitat for this species occur within the survey area. |
| *Salvadora hexalepis virgultea* (coast patch-nosed snake) | SSC | Group 2 | Semi-arid bushy areas such as chaparral, coastal sagebrush, pinyon-juniper woodland, and desert scrub habitats. | No | U | No suitable habitat for this species occurs within the survey area. |
| *Thamnophis hammondii* (two-striped gartersnake) | SSC, USFS-S, BLM-S | Group 1 | Permanent or intermittent freshwater sources, such as ponds, lakes, and temporary bodies of water - prefers riparian habitat with coastal sage scrub and coniferous forest habitat. | No | U | No permanent water sources occur within the survey area. |
| *Thamnophis sirtalis* (south coast garter snake) | SSC | Group 2 | Restricted to marsh and upland habitats near permanent water sources with riparian vegetation. | No | U | No permanent water sources occur within the survey area. |

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| **BIRDS** | | | | | | |
| *Accipiter cooperii* (Cooper's hawk) | WL | Group 1 | Riparian woodlands, oak woodlands, and eucalyptus grove habitats. | No | M | Potential nesting habitat for this species occurs within the survey area. |
| *Accipiter striatus* (sharp-shinned hawk) | WL | Group 1 | Migrant and winter visitor to San Diego County that is found in areas with trees and tall shrubs. | No | M | The oak trees and eucalyptus woodland within the survey area provide potential foraging habitat for this species. |
| *Agelaius tricolor* (tricolored blackbird) | SCE, SSC, BCC, BLM-S | Group 1 | Nests and roosts in large colonies in freshwater marshes while foraging in nearby grasslands, fields, or pastures. | No | M | The agricultural fields within and adjacent to the survey area provide potential foraging habitat, however, no nesting habitat occurs within the survey area. |
| *Aimophila ruficeps canescens* (southern California rufous-crowned sparrow) | WL | Group 1 | Coastal sage scrub, broken or burned chaparral, and arid, rocky hillsides in mature chaparral habitat. | No | U | No suitable nesting habitat for this species occurs within the survey area. |
| *Ammodramus savannarum* (grasshopper sparrow) | SSC | Group 1 | Native and non-native grassland habitats. | No | U | No suitable grassland habitat for this species occurs within the survey area. |
| *Aquila chrysaetos* (golden eagle) | FP, WL, BCC, S, BLM-S | Group 1 | Forages in grassland, sage scrub, and chaparral habitats and nests built on cliff ledges, with few nests built in trees on steep slopes. | No | U | No suitable foraging or nesting habitat occurs within the survey area. |
| *Ardea herodias* (great blue heron) | S | Group 2 | Commonly found in freshwater and saltwater habitats but may also forage in grassland and agricultural fields, and nests in breeding colonies | Yes | O | Potential foraging habitat for this species occurs within the survey area, however, no known breeding colonies occur within or near the survey area. |
| *Artemisiospiza belli belli* (Bell's sage sparrow) | WL, BCC | Group 1 | Chaparral and sage scrub habitats. | No | U | No suitable nesting habitat for this species occurs within the survey area. |

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| *Athene cunicularia* (burrowing owl) | SSC, BCC, BLM-S | Group 1 | Grasslands and open scrub habitats but may also be found in vacant lots and other open disturbed areas. | No | L | This species has been documented near the project and no burrowing owl signs were observed within the survey area, and the few ground squirrel burrows located within the survey area were impacted by recent grading activities. |
| *Buteo lineatus* (red-shouldered hawk) | – | Group 1 | Riparian woodland, orchards, eucalyptus groves, and rural residential habitats. | Yes | O | The oak woodland and eucalyptus woodland within the survey area provided potential nesting habitat for this species. |
| *Buteo regalis* (ferruginous hawk) | WL, BCC | Group 1 | Uncommon winter visitor to southern California that is not known to breed in San Diego County. Forages in extensive tracts of grassland habitat and agricultural areas. | No | L | No extensive tracts of grassland habitat occurs, and the abundance of prey for this species is low within the survey area. |
| *Buteo swainsoni* (Swainson's hawk) | ST, BCC, BLM-S | Group 1 | Forages in grassland habitat for insects such as grasshoppers, dragonflies, and caterpillars - it no longer nests in San Diego County. | No | U | This species does not nest in San Diego County. |
| *Campylorhynchus brunneicapillus sandiegensis* (coastal cactus wren) | SSC, BCC, S | Group 1 | Arid and semiarid areas with coastal sage scrub habitat dominated by thickets of cactus. | No | U | No thickets of cactus occurs within the survey area. |
| *Cathartes aura* (turkey vulture) | – | Group 1 | Forages in a broad variety of habitats and nests in caves or crevices on steep rocky slopes. | Yes | O | Potential foraging habitat for this species occurs within the survey area, however, no suitable nesting habitat for this species occurs within the survey area. |

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| *Circus hudsonius* (northern harrier) | SSC | Group 1 | Grassland and marsh habitats. | No | U | No suitable nesting habitat for this species occurs within the survey area. |
| *Coccyzus americanus occidentalis* (western yellow-billed cuckoo) | FT, SE, BCC, USFS-S, BLM-S | Group 1 | Riparian woodland habitats. | No | U | No suitable nesting habitat for this species occurs within the survey area. |
| *Elanus leucurus* (white-tailed kite) | FP, BLM-S | Group 1 | Grassland with adjacent riparian woodland, oak groves, or sycamore groves habitats. | No | L | No suitable nesting habitat for this species occurs within the survey area. |
| *Empidonax traillii extimus* (southwestern willow flycatcher) | FE, SE, BCC, USFS-S | Group 1 | Riparian woodland and riparian forest habitats with some surface water. | No | L | The riparian scrub habitat documented within the survey area is small with minimal riparian vegetation, lacking connectivity to other riparian habitats, and is located adjacent to a high trafficked road. The lack of dense canopy and understory makes it unsuitable for nesting. |
| *Eremophila alpestris actia* (California horned lark) | WL | Group 2 | Coastal strands, arid grasslands, and sandy desert habitats. | No | M | The disturbed habitat within the survey area could potentially be used as nesting habitat for this species. |
| *Falco mexicanus* (prairie falcon) | WL, BCC | Group 1 | Forages in open desert and grassland habitats and nests on ledges on cliffs or bluffs. | No | L | No suitable nesting habitat for this species occurs within the survey area. |
| *Haliaeetus leucocephalus* (bald eagle) | SE, S, FP, BCC, BLM-S, USFS-S | Group 1 | In San Diego County, this species is a wintering resident to visitor of lakes in the foothills and mountains. This species builds nests on tall trees or on cliffs where trees are scarce. | No | U | No suitable foraging or nesting habitat for this species occurs within the survey area. |

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| *Icteria virens* (yellow-breasted chat) | SSC | Group 1 | Riparian woodland habitats. | No | L | No suitable nesting habitat for this species occurs within the survey area. |
| *Ixobrychus exilis* (least bittern) | SSC, BCC | Group 2 | Freshwater marshes, brackish lagoons, lakes, ponds, and inland streams. | No | U | No suitable nesting habitat for this species occurs within the survey area. |
| *Lanius ludovicianus* (loggerhead shrike) | SSC, BCC | Group 1 | Grassland, open sage scrub, chaparral, and desert scrub habitats. | No | L | No suitable nesting habitat for this species occurs within the survey area. |
| *Larus californicus* (California gull) | WL | Group 2 | Migrant and winter visitor to San Diego County that is found along the coast and lakes. | No | L | No suitable wintering or foraging habitat for this species occurs within the survey area. |
| *Nycticorax nycticorax* (black-crowned night heron) | – | – | Coast, lakes, and marsh habitats. | No | U | No suitable foraging or nesting habitat for this species occurs within the survey area. |
| *Pandion haliaetus* (osprey) | S, WL | Group 1 | Forages along the coast and inland lakes and builds nests on man-made structures near water bodies. | No | U | No suitable nesting habitat for this species occurs within the survey area. |
| *Plegadis chihi* (white-faced ibis) | WL | Group 1 | Freshwater marsh habitat. | No | U | No suitable nesting habitat for this species occurs within the survey area. |
| *Polioptila californica californica* (coastal California gnatcatcher) | FT, SSC | Group 1 | Coastal sage scrub habitat and prefers areas dominated by California sagebrush and California buckwheat - may also forage and nest in other scrub habitats, such as chaparral and riparian scrub habitats. | No | U | No coastal sage scrub habitat occurs within the survey area. As such, no federal protocol survey for this species was necessary. |
| *Rallus obsoletus levipes* (light-footed Ridgway's rail) | FE, SE, FP | Group 1 | Saltwater and brackish marsh habitats. | No | U | No suitable nesting habitat for this species occurs within the survey area. |

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| *Setophaga petechia* (yellow warbler) | SSC, BCC | Group 2 | Riparian woodland habitats. | No | L | No suitable nesting habitat for this species occurs within the survey area. |
| *Sialia mexicana* (western bluebird) | – | Group 2 | Coniferous and oak woodland habitats in the foothills and mountains. | No | M | The oak woodland habitat within and adjacent to the survey area may provide potential nesting cavities for this species |
| *Sternula antillarum browni* (California least tern) | FE, SE, FP | Group 1 | Breeds on sand dunes and on sandbars close to lagoons, bays, and estuaries - may also forage at inland lakes and reservoirs. | No | U | No permanent water bodies or suitable nesting habitat occurs within the survey area. |
| *Tyto alba* (barn owl) | – | Group 2 | Found in various habitats and nests in buildings, base of palm leaves, coastal slopes, riparian and oak woodlands, or other man-made structures. | Yes | O | This species was observed during the surveys and potential nesting habitat for this species occurs within the survey area. |
| *Vireo bellii pusillus* (least Bell's vireo) | FE, SE | Group 1 | Riparian woodland habitats with a relative dense tree canopy. | No | L | The riparian scrub habitat documented within the survey area is not structural diverse and has an open understory composed of non-native invasive species. In addition, the riparian scrub habitat is unsuitable for this species due to the minimal willows (*Salix* sp.) that occur, lack of connectivity to other riparian habitats, and its adjacent to a high traffic road. |

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| **MAMMALS** | | | | | | |
| *Antrozous pallidus* (pallid bat) | SSC, USFS-S, BLM-S, WBWG-H | Group 2 | Arid open scrub, grassland, and coniferous forest habitats - roosts in rock and sandstone crevices, caves, trees, mines, buildings, bridges, culverts, and other man-made structures. | No | M | The disturbed habitat and agricultural land within the survey area could potentially be used as foraging habitat and this species could potentially roost in the man-made structures located within the survey area. |
| *Bassariscus astutus* (ringtailed cat) | FP | Group 2 | Chaparral, oak woodland, coniferous forest, riparian, semi-arid deserts, and palm oases habitats. | No | U | No suitable habitat for this species occurs within the survey area. |
| *Chaetodipus californicus femoralis* (Dulzura pocket mouse) | SSC | Group 2 | Coastal sage scrub, chaparral, oak woodland, and grassland habitats. | No | U | No suitable habitat for this species occurs within the survey area. |
| *Chaetodipus fallax fallax* (northwestern San Diego pocket mouse) | SSC | Group 2 | Sandy soils with rocks or coarse gravel in coastal sage scrub, chaparral, grassland, and sage scrub/grassland transitional habitats. | No | U | No sandy soils with rocks or coarse gravel soils occur within the survey area. |
| *Corynorhinus townsendii* (Townsend's big-eared bat) | SSC, USFS-S, BLM-S, WBWG-H | Group 2 | Commonly found in historic mining and boulder-strewn areas in desert scrub, mixed conifer forest, and pinon-juniper or pine forest habitats - roosts primarily in natural caves but can also roost in tree hollows, mines, flumes, buildings, bridges, and other man-made structures that offer a cave-like situation. | No | U | No mining or boulder-strewn areas occur within the survey area. |
| *Dipodomys merriami parvus* (San Bernardino kangaroo rat) | FE, SSC | – | Gravelly or sandy soils in alluvial scrub habitats that are located next to river and stream terraces. | No | U | No suitable habitats for species occur within the survey area. |

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| *Dipodomys stephensi* (Stephens' kangaroo rat) | FE, ST | Group 1 | Open grassland habitat dominated by annual forbs and open coastal sage scrub habitat with extensive bare ground areas. | No | U | A Stephens' kangaroo rat focus survey was conducted; however, no Stephens' kangaroo rat were captured or observed during the survey. |
| *Euderma maculatum* (spotted bat) | SSC, BLM-S, WBWG-H | Group 2 | Rocky and arid and semi-arid habitats - roosts primarily in high rocky cliff. | No | U | No rocky areas for this species occur within the survey area. |
| *Eumops perotis californicus* (western mastiff bat) | SSC, BLM-S, WBWG-H | Group 2 | Coastal and desert scrub, riparian, oak woodlands, and montane pine forest habitats - roosts in high vertical cliffs, rock quarries, outcrops of fractured boulders, and tall buildings. | No | U | No steep rocky cliffs, tall buildings or other suitable roosting habitat for this species occurs within the survey area. |
| *Lasiurus blossevillii* (western red bat) | SSC, WBWG-H | Group 2 | Grassland, shrubland, woodland, forest, and cropland habitats - roosts in large shrubs, ornamental vegetation, and orchard trees. | No | M | The oak woodland habitat may provide potential roosting habitat for this species. |
| *Lasiurus cinereus* (hoary bat) | WBWH-M | – | A highly migratory species that is commonly found in San Diego County during fall, winter, and spring. This species roosts in coniferous and broad-leafed trees, as well as in ornamental and citrus trees. | No | M | The oak woodland habitat and surrounding landscape/ornamental vegetation within the survey area may provide potential roosting habitat for this species. |
| *Lepus californicus bennettii* (San Diego black-tailed jackrabbit) | SSC | Group 2 | Grassland and open scrub habitats. | No | U | No suitable habitat for this species occurs within the survey area. |

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| *Macrotus californicus* (California leaf-nosed bat) | SSC, BLM-S, WBWG-H | Group 2 | Arid areas with subtropical vegetation and desert lowland habitat - roost in natural caves, fallen palm trunks, mines, flumes, building, bridges, and other man-made structures that offer a cave-like situation. | No | U | In San Diego County, this species is currently known to occur in desert scrub habitats and no suitable habitat for this species occurs within the survey area. |
| *Myotis ciliolabrum* (western small-footed myotis) | BLM-S, WBWG-M | Group 2 | This species is strongly associated with chaparral and montane habitats in San Diego County- roosts in rock crevices, caves, mines, buildings, and bridges. | No | U | No suitable habitat for this species occurs within the survey area. |
| *Myotis evotis* (long-eared myotis) | BLM-S, WBWG-M | Group 2 | Chaparral, riparian zones, oak woodland, and pine forest habitats in the foothills and mountains - roosts in crevice, tree cavities, buildings, bridges, mines, and other man-made structures. | No | L | No suitable habitat for this species occurs within the survey area. |
| *Myotis thysanodes* (fringed myotis) | BLM-S, USFS-S, WBWG-H | Group 2 | Chaparral, mixed forest of oak and pine, and high-desert habitats - roosts in rock crevices, tree cavities, buildings, bridges, and other man-made structures. | No | U | In San Diego County, this species is known to occur exclusively in the mountains near woodland habitats and no suitable habitat for this species occurs within the survey area. |
| *Myotis volans* (long-legged myotis) | WBWG-H | Group 2 | Dry montane forest of mixed oak and pine, desert transition, desert riparian, and palm groves habitats - roosts in rock crevices, buildings, bridges, mines, and other man-made structures. | No | U | In San Diego County, this species is known to occur at higher elevations and no suitable habitat for this species occurs within the survey area. |

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| *Myotis yumanensis* (Yuma myotis) | BLM-S, WBWG-L | Group 2 | Habitats associated with rivers, creeks, ponds and reservoirs - roosts in rock crevices, caves, mines, trees, dams, buildings, and other human-made structures. | No | M | Ephemeral drainage present within the survey area, however, no permanent open water bodies or rivers occur within the survey area. An abandoned house located within the survey area could potentially be used for roosting. The abandoned house was searched for bat sign and bats during the biological surveys, and no bat sign or individuals were observed. |
| *Neotoma lepida intermedia* (San Diego desert woodrat) | SSC | Group 2 | Sage scrub, chaparral, desert scrub, and juniper woodland and scrub habitats. | No | U | No woodrat middens or suitable habitat for this species occur within the survey area. |
| *Nyctinomops femorosaccus* (pocketed free-tailed bat) | SSC, WBWG-M | Group 2 | Oak woodland, coniferous forest, riparian, meadow, grassland, coastal and desert scrub, and wetland habitats - roosts in vertical cliffs, quarries, and rocky outcrops. | No | U | No vertical cliffs, quarries or rock outcrop that can provide roosting habitat for this species occurs within the survey area. |
| *Nyctinomops macrotis* (big free-tailed bat) | SSC, WBWG-MH | Group 2 | Coastal and desert scrub, evergreen forest, riparian, and montane woodland habitats - roosts in steep vertical cliffs, quarries, rocky outcrops, and tall buildings. | No | U | No steep rocky cliffs, outcrops, abandoned quarries, or tall buildings that can provide roosting habitat for this species occurs within the survey area. |
| *Odocoileus hemionus* (southern mule deer) | – | Group 2 | Coastal scrub, chaparral, oak woodland, riparian woodland, montane forest, and desert scrub. | No | U | No suitable foraging habitat for this species occurs within the survey area. |

| Common Name (*Scientific Name*) | Species Status | San Diego County Status | Habitat Requirements | Observed | Potential to Occur | Factual Basis for Potential |
|---|---|---|---|---|---|---|
| *Onychomys torridus ramona* (southern grasshopper mouse) | SSC | Group 2 | Perennial grassland, coastal sage scrub, alluvial fans, and desert scrub habitats with friable soils and scattered shrubs. | No | U | No suitable habitat for this species occurs within the survey area. |
| *Perognathus longimembris brevinasus* (Los Angeles pocket mouse) | SSC | Group 2 | Grassland, sandy washes, oak woodland, and disturbed sage scrub habitats. | No | U | No soils or suitable habitat for this species occurs within the survey area. |
| *Perognathus longimembris internationalis* (Jacumba pocket mouse) | SSC | – | This species is only found in central and southern San Diego County on the desert side of the mountains. | No | U | No suitable habitat for this species occurs within the survey area. |
| *Perognathus longimembris pacificus* (Pacific pocket mouse) | FE, SSC | Group 1 | Open coastal sage scrub habitat with fine-grain, sandy substrates. | No | U | No fine grain soils or suitable habitat for this species occur within the survey area. |
| *Puma concolor* (mountain lion) | SSC | Group 2 | Scrub, chaparral, riparian woodland, grassland, and desert scrub habitats where southern mule deer exist. | No | U | No suitable habitat for this species occurs within the survey area. |
| *Taxidea taxus* (American badger) | SSC | Group 2 | Undeveloped land such as grassland, alluvial fan, meadow, and desert habitats. | No | U | The project area is surrounded by development and no suitable foraging habitat observed within the survey area. |

***San Diego County Species Ranking System***

*Group 1: Animals with a high level of sensitivity, either because they are listed as threatened or endangered or because they have a specific natural history.*

*Group 2: Animals that are becoming less common but are not yet rare that extirpation or extinction is imminent without immediate action. These species tend to be prolific within their suitable habitat types.*

***State and Federal Species Ranking Codes***

*FE: Federally listed as Endangered*
*SE: State listed as Endangered*
*FT: Federally listed as Threatened*
*ST: State listed as Threatened*
*SCE: State candidate for listing as Endangered*
*S: State listed Sensitive Species*
*SSC: State Species of Special Concern*
*FP: State Fully Protected species*
*WL: State Watch List species*

*BCC: Federally listed Birds of Conservation Concern species*
*X-CI: Xerces Society listed as Critically Imperiled*
*AFS-EN: American Fisheries Society listed as Endangered*
*BLM-S: Bureau of Land Management listed as Sensitive*
*USFS-S: U.S Forest Service listed as Sensitive*
*WBWG-H: Western Bat Working Group listed as High Priority*
*WBWG-MH: Western Bat Working Group listed as Medium-High Priority*
*WBWG-M: Western Bat Working Group listed as Medium Priority*
*WBWG-L: Western Bat Working Group listed as Low-Medium Priority*

The "Potential to Occur" column assesses the potential for the particular species to occur on the subject property given the known habitat preferences and distribution of that species. Determination of the potential for listed species to occur was assessed based on the codes and criteria below:

**Observed** (O) – Individuals of this species were found within the bounds of the site.
**High Potential for Occurrence** (H) – The potential for occurrence is "high". Habitats onsite are considered suitable for the species, and the species is known from the immediate vicinity.
**Moderate Potential for Occurrence** (M) – The potential for occurrence is "medium". Historical records exist for the species within or adjacent to the Project Area or no previous historical records for this species have been recorded within or in the immediate vicinity of the Project Area. Habitats and conditions onsite are considered possible for the species.
**Low Potential for Occurrence** (L) – The potential for occurrence is "low". There are no recent historical records for this species within or in the immediate vicinity of the Proposed Project. The habitats present on-site are marginal for the species and/or extremely limited in extent. In other words, the species is not anticipated, but its occurrence cannot be precluded.
**Unlikely for Occurrence** (U) – The potential for occurrence is "unlikely". There are no recent historical records for this species within or in the immediate vicinity of the Proposed Project. The habitat and/or food requirements of the species are not present on the subject property.

**ATTACHMENT D**

**Stephens' Kangaroo Rat Presence/Absence Report**

# STEPHENS' KANGAROO RAT
# PRESENCE/ABSENCE TRAPPING STUDIES
# AES FALLBROOK PROJECT, SAN DIEGO COUNTY, CALIFORNIA

***Project Proponent*:**
AES
Project Acres and Area Surveyed Area 14.88 estimated

***Prepared by:***
Philippe Jean Vergne
ENVIRA

***Trapping Surveys Conducted:***
September 27 to October 2, 2018

***Final Report Date:***
October 19, 2018

This report was prepared in accordance with professional requirements and recommended protocols for small mammal trapping studies (USFWS Permit TE068072-4).

*Philippe Jean Vergne*

Philippe Jean Vergne, Field Biologist and Author

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## EXECUTIVE SUMMARY

Philippe Jean Vergne of ENVIRA, at the request of Pangea Biological, conducted a live-trapping effort for the Stephens' kangaroo rat (*Dipodomys stephensi*; SKR). The SKR study was conducted within potentially suitable SKR habitat on the estimated 14.88 acres AES proposed project area.

An initial phase one assessment of the site, conducted on September 22, revealed the presence of trace k-rat burrows and sign within limited areas of the property.

A literature review, and records check were conducted for sensitive resources within the vicinity of the proposed project**.** The site is located several miles from documented SKR population on the Naval Weapon Storage Center and the Fallbrook airport.

Three sensitive mammal species were identified as potentially present in the vicinity of the project site: SKR, the Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), and the San Diego desert woodrat (*Neotoma lepida intermedia*).

Trapping surveys for the SKR were conducted according to U. S. Fish and Wildlife Service (USFWS) protocols. The current protocol calls for five nights of trapping, conducted when the species is active above ground at night. The trapping survey was conducted from September 27 to October2, 2018.

Based on the trapping results, SKR do not occur within the property boundaries.

No impacts to SKR will occur from project implementation.

No other sensitive mammal species were captured as part of the trapping effort.

# 1.0 METHODS

A literature review and California Natural Diversity Data Base (CNDDB) records check were conducted for sensitive small mammal resources within the vicinity of the proposed project. In addition to the literature review, a reconnaissance-level field survey of the project area was conducted. The field survey provided information on the existing conditions within the study area and the potential for sensitive resources to be present.

Focused trapping surveys for the SKR were conducted on areas containing suitable habitat and suitable soils. Trapping surveys for the SKR were conducted according to U. S. Fish and Wildlife Service (USFWS) protocols as defined in the USFWS 10-A Recovery Permit TE-068072-4 (Appendix E). The current protocol, located in section 9 of the permit, calls for five nights of trapping, in suitable habitat, conducted when the species is active above ground at night. The trapping survey was conducted from September 27 to October 2, 2018.

## 1.1 LITERATURE REVIEW

A literature review was conducted prior to the trapping effort. This included a review of standard field guides and texts on sensitive and non-sensitive biological resources, as well as the following sources:

- List of sensitive biological resources provided by the CNDDB;
- Biological resources reports for the Ramona Grasslands Preserve and other adjacent properties; and
- General texts and other documents identifying potential resources within the study area.

Section 5.0 of this report includes references for the literature reviewed.

## 1.2 GENERAL BIOLOGICAL SURVEYS

An initial phase one assessment of the site, conducted on September 22. The phase one reconnaissance-level pedestrian survey was conducted within the study area to assess suitable habitat for sensitive biological resources. Mr. Philippe Vergne inventoried and evaluated the condition of the plant communities and soils on site in order to assess the probability of occurrence for SKR and other sensitive species.

Based on the results of the reconnaissance survey and the presence of kangaroo rat sign, a focused trapping survey was recommended and performed.

An inventory was taken during the surveys of all plant and animal species observed or detected in the study area (i.e., by scat, trails, tracks, burrows, nests, calls, and visual observation). In addition, site characteristics such as soils, topography, the condition of the plant communities, and evidence of human use of the study area were noted. A list of plant and wildlife species observed or detected is included (Appendix A).

### 1.3 FOCUSED SURVEYS

Field surveys and focused trapping for SKR were performed by Mr. Philippe Vergne of ENVIRA. Mr. Vergne holds a USFWS permit to trap and handle SKR and to conduct field studies of sensitive small mammals in Southern California (TE-831207-4). Mr. Vergne also holds a California Department of Fish and Wildlife (CDFW) Memorandum of Understanding for the above mentioned species and a CDFW collection permit.

Over the course of five nights and subsequent morning 11 trap lines were set within the study area (Exhibit 2). The trap lines contained 15 to 20 traps, set 12 meters apart, each were placed in areas containing small-mammal sign and/or suitable soils and open vegetation.

Each trap was baited with a mixture of birdseed placed at the back of the traps. The traps were opened at dusk each night and inspected once during the night and at dawn. All animals were identified and released at the point of capture.

Photographs were taken of the site habitat conditions (Appendix B). Weather conditions at the time of the trapping were also noted.

## 2.0 EXISTING CONDITIONS

The property is located to the South of East Mission Road, eastward projected of Industrial Way, in Fallbrook, San Diego County, Ca. (Exhibit 1).

### 2.1 WEATHER CONDITIONS

Weather conditions during the trapping surveys included sun-rise temperatures in the low sixties degrees Fahrenheit. The moon was full and waning. Weather conditions are summarized in Table 1 below.

**Table 1. Weather Conditions**

| DAY | CLOUD COVER | MORNING TEMPERATURE (°F ) | WIND (MPH) |
|---|---|---|---|
| 1 (PM) | Clear | 84 (PM) | 0 |
| 2 | Clear | 62 | 0 |
| 3 | Partly Cloudy | 64 | <3 |
| 4 | Partly Cloudy | 61 | <3 |
| 5 | Cloudy | 62 | 0 |
| 6 | Cloudy | 62 | <5 |

### 2.2 TOPOGRAPHY AND SOILS

The study area contours vary from flat to gently sloping.

Soils are listed as Fallbrook, Bonsal and Vista sandy loams. The soils within the areas trapped are suitable for small fossorial mammal occupancy.

### 2.3 SURROUNDING LAND USES

Surrounding land uses consist of groves and agricultural areas, rural housing, power switching station, and light commercial/industrial.

Disturbances within the study area include dirt and paved roads, groves, remnant of row crop agriculture, fences, abandoned house and related structures.

### 2.4 PLANT COMMUNITIES

The study area is dominated by ruderal fallow fields within the cut down groves. The dominant vegetation in less impacted areas is disturbed annual grasslands- DAG. The DAG are comprised of but not limited to common ragweed, doveweed, red-stemmed filaree, and Mediterranean grass.

A complete list of plant species observed within the study area is given in Appendix A.

## 2.5 WILDLIFE

Wildlife activity was moderate, with most of the wildlife represented by birds and mammals captured during the focused trapping surveys.

Mammal species observed, other than those trapped, include Botta's pocket gopher (*Thomomys bottae*), California ground squirrel (*Spermophilus beecheyi*), Audubon's cottontail (*Sylvilagus audubonii*), and coyote (*Canis latrans*). Refer to Appendix A for a complete list of wildlife species detected or observed.

One reptile species the Side-blotched lizard (*Uta stansburiana*) was observed.

## 2.6 SENSITIVE SMALL FOSSORIAL MAMMAL BIOLOGICAL RESOURCES

Three sensitive species were identified as potentially occurring within the study area. They are as follows:

### 2.6.1 Stephens' Kangaroo Rat

The SKR prefers open areas with sparse perennial cover. This species occurs in areas of loose soil where the soil depth is at least 0.5 meter (Price and Endo 1989). SKR will also inhabit disturbed areas such as fallow fields by using the burrows of other rodents, including the pocket gopher and the California ground squirrel (O'Farrell 1989).

Like all kangaroo rats, SKR is primarily a seedeater, feeding on the seeds of both annual species and shrub species. It also feeds on green vegetation and insects when these are available. Being a primarily dry biome species, kangaroo rats obtain nearly all of their water from the food they eat, and can subsist indefinitely on water extracted from dry seeds. They forage in open ground and underneath shrubs. Burrows are dug in loose soil.

The site is located several miles from documented SKR population on the Naval Weapon Storage Center and the Fallbrook airport.

### 2.6.2 Northwestern San Diego Pocket Mouse

The Northwestern San Diego pocket mouse prefers habitat similar to that preferred by the San Bernardino kangaroo rat (*Dipodomys merriami parvus*), a species closely related to the SKR. The Northwestern San Diego pocket mouse occurs in open, sandy areas in the valleys and foothills of southwestern California. The range of this species extends from Orange County to San Diego County, and includes Riverside and San Bernardino counties. This species is a

California Species of Special Concern (CSSC); its historical range has been reduced by urban development and agriculture.

The Northwestern San Diego pocket mouse was not captured within the study area although it does occur in scrub in the Fallbrook area.

### 2.6.3 San Diego Desert Woodrat

The San Diego desert woodrat is a relatively wide-ranging species with a range extending along the coast of California from south of San Francisco to the border with Baja California, Mexico. This species also occurs in the Central Valley and in the deserts of southern California, and occurs along the desert side of the Sierra Nevada into southeastern Oregon.

The coastal subspecies of the desert woodrat, the San Diego desert woodrat, prefers scrub habitats such as coastal sage scrub, chaparral, and alluvial fan sage scrub. It is more common in areas with rock piles and coarse sandy to rocky soils throughout coastal southern California.

This coastal subspecies of the widespread desert woodrat (*Neotoma lepida)* is listed as a CSSC as its historic range has been impacted by the conversion of scrub habitats into residential, commercial, and industrial use.

The San Diego desert woodrat was not captured, but it does occur in the general area.

## 3.0 FOCUSED TRAPPING SURVEY RESULTS

A total of three small mammal species were trapped during the survey period. Table 2 provides summary information of the species trapped per line within the study area.

**TABLE 2. FOCUSED TRAPPING RESULTS FOR THE AES FALLBROOK PROJECT**

| Trap Lines | DKR<br>Dulzura K. Rat | PEMA<br>Deer Mouse | RARA<br>Black Rat |
|---|---|---|---|
| A | 1SAM | 3 | 2 |
| B | | 2 | |
| C | | 6 | |
| D | | 4 | |
| E | | 3 | 1 |
| F | | 7 | |
| G | 1AM | 5 | |
| H | | 4 | |
| I | 1AF | 6 | |
| J | | 9 | |
| K | | 4 | |
| **TOTAL** | **3** | **53** | **3** |

## 4.0 CONCLUSION

Based on the trapping results, SKR do not occur within the property boundaries.

No impacts to SKR will occur from project implementation.

No other sensitive mammal species were captured as part of the trapping effort.

The low number and low diversity of small mammals captured could in part be explained by the historical site agricultural practices (bait control of gophers Picture 1), recent fire, and grove removal activities.

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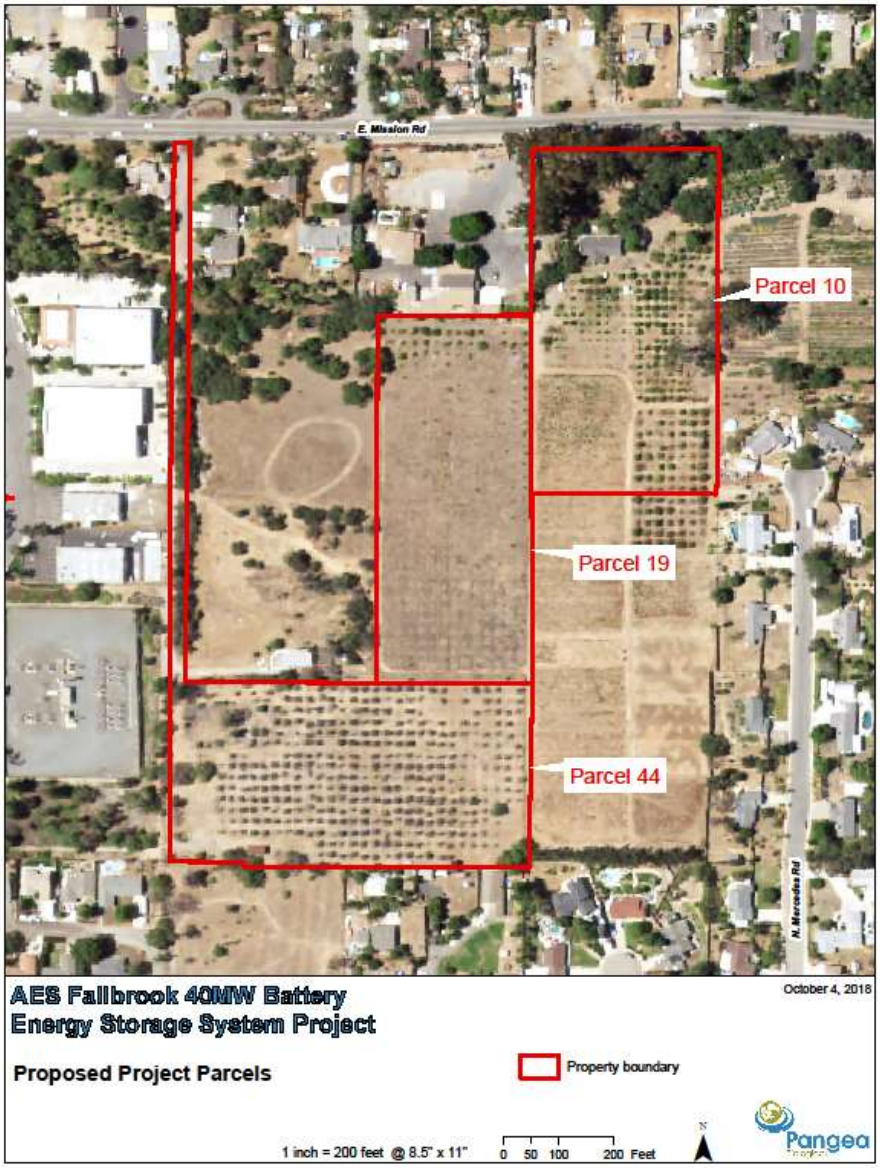
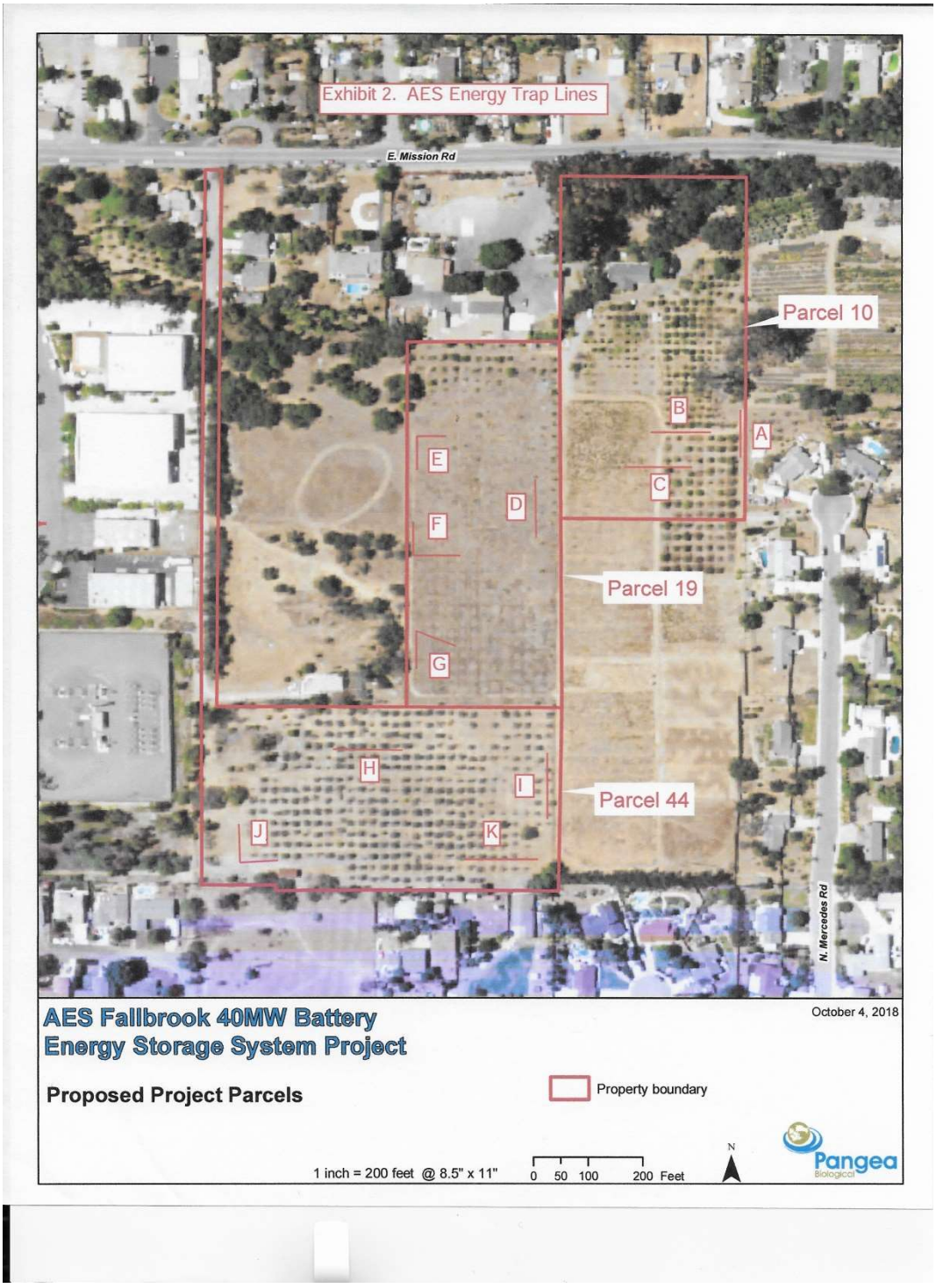
## Exhibit 1 Site Vicinity and Proposed Project Boundaries



## EXHIBIT 2. AES FALLBROOK TRAP LINES




# APPENDIX A. FLORAL AND FAUNAL SPECIES OBSERVED

**ANGIOSPERMAE: DICOTYLEDONES** **DICOT FLOWERING PLANTS**

| | |
|---|---|
| **Asteraceae** | **Sunflower family** |
| *Ambrosia psilostachya* | Western ragweed |
| *Helianthus annuus* | Annual sunflower |
| *Hemizonia fasciculata* | Fascicled tarweed |
| *Heterotheca grandiflora* | Telegraph weed |
| **Boraginaceae** | **Borage family** |
| *Amsinckia menziesii* | Fiddleneck |
| **Brassicaceae** | **Mustard family** |
| *Hirschfeldia incana* | Short-podded mustard |
| *Sisymbrium irio* | London rocket |
| **Cactaceae** | **Cactus family** |
| *Opuntia sp.* | Prickly pear |
| **Chenopodiaceae** | **Saltbush family** |
| *Salsola tragus* | Russian thistle |
| **Cucurbitaceae** | **Gourd family** |
| *Cucurbita palmata* | Coyote melon |
| **Euphorbiaceae** | **Spurge family** |
| *Eremocarpus setigerus* | Doveweed |
| *Ricinus communis* | Castor bean |
| **Fagaceae** | **Oak family** |
| *Quercus berberidifolia* | Scrub oak |
| **Geraniaceae** | **Geranium family** |
| *Erodium cicutarium* | Red-stemmed filaree |
| **Myrtaceae** | **Myrtle family** |
| *Eucalyptus* sp. | Eucalyptus |
| **Oleaceae** | **Olive family** |
| *Olea europaea* | Olive |

**ANGIOSPERMAE: MONOCOTYLEDONAE MONOCOT FLOWERING PLANTS**

| | |
|---|---|
| **Poaceae** | **Grass family** |
| *Avena sativa* | Cultivated oats |
| *Bromus diandrus* | Ripgut brome |

| | |
|---|---|
| *Bromus madritensis* | Red brome |
| *Schismus barbatus* | Mediterranean grass |
| *Vulpia myuros* | Foxtail |

Taxonomy and nomenclature follow Hickman 1993 and Munz 1974.

**FAUNA**

| | |
|---|---|
| **REPTILIA** | **REPTILES** |
| **Iguanidae** | **Iguanas and their allies** |
| *Uta stansburiana* | Side-blotched lizard |
| **AVES** | **BIRDS** |
| **Ardeidae** | **Herons and bitterns** |
| *Ardea herodias* | Great blue heron |
| **Cathartidae** | **Vultures** |
| *Cathartes aura* | Turkey vulture |
| **Accipitridae** | **Kites, hawks and eagles** |
| *Buteo lineatus* | Red-shouldered hawk |
| **Falconidae** | **Caracaras and falcons** |
| *Falco sparverius* | American kestrel |
| **Phasianidae** | **Quails and pheasants** |
| *Callipepla californica* | California quail |
| **Columbidae** | **Pigeons and doves** |
| *Columba livia* | Rock dove |
| *Zenaida macroura* | Mourning dove |
| **Tytonidae** | **Barn owl** |
| *Tyto alba* | Barn owl |
| **Cuculidae** | **Typical cuckoos** |
| *Geococcyx californianus* | Greater roadrunner |
| **Trochlidae** | **Hummingbirds** |
| *Calypte anna* | Anna's hummingbird |
| **Tyrannidae** | **Tyrant flycatchers** |
| *Tyrannus verticaulis* | Western kingbird |
| **Corvidae** | **Crows and ravens** |

| | |
|---|---|
| *Corvus brachyrhynchos* | American crow |
| **Mimidae** | **Mimic thrushes** |
| *Mimus polyglottos* | Northern mockingbird |
| **Sturnidae** | **Starlings** |
| *Sturnus vulgaris* | European starling |
| **Emberizidae** | **Warblers, sparrows, blackbirds and relatives** |
| *Pipilo crissalis* | California towhee |
| *Zonotrichia leucophyrs* | White-crowned sparrow |
| **Fringillidae** | **Finches** |
| *Carpodacus neomexicanus* | House finch |
| **MAMMALIA** | **MAMMALS** |
| **Leporidae** | **Rabbits and hares** |
| *Sylvilagus audubonii* | Audubon's cottontail |
| **Sciuridae** | **Squirrels, chipmunks and marmots** |
| *Spermophilus beecheyi* | California ground squirrel |
| **Geomyidae** | **Pocket gophers** |
| *Thomomys bottae* | Botta's pocket gopher |
| **Heteromyidae** | **Pocket mice and kangaroo rats** |
| *Dipodomys simulans* | Dulzura kangaroo rat |
| **Cricetidae** | **Cricetine mice and rats** |
| *Peromyscus maniculatus* | Deer mouse |
| **Muridae** | **Old World rats and mice** |
| *Rattus rattus* | Black rat |
| **Canidae** | **Foxes, wolves and relatives** |
| *Canis latrans* | Coyote |

Nomenclature follows Garth & Tilden 1986, Hall 1981, Laudenslayer et al. 1991, and Stebbins 1966.

# Appendix B Site Photographs

Parcel 10 Looking East

Parcel 19 Looking West

Parcel 44 Looking Southwest

Western Side of Parcel 19 Looking South

Gopher Bait Containers in Parcel 10

# Appendix C Phase One Survey AES Fallbrook

**STEPHENS' KANGAROO RAT**
**PHASE ONE SITE EVALUATION AES FALLBROOK PROJECT, SAN DIEGO COUNTY, CALIFORNIA**

***Project Proponent*:**
AES
Project Acres and Area Surveyed Area 14.88 estimated

***Prepared by:***
Philippe Jean Vergne
ENVIRA

This report was prepared in accordance with professional requirements and recommended protocols for small mammal trapping studies (USFWS Permit TE068072-4).

*Philippe Jean Vergne*

Philippe Jean Vergne, Field Biologist and Author

At the request of Pangea Biological, a Phase One survey for SKR were performed by Mr. Philippe Vergne of ENVIRA on the 14.8 acres proposed AES Project.

Mr. Vergne holds a USFWS permit to trap and handle SKR and to conduct field studies of sensitive small mammals in Southern California (TE-831207-4). Mr. Vergne also holds a California Department of Fish and Wildlife (CDFW) Memorandum of Understanding for the above mentioned species and a CDFW collection permit.

The proposed project is located to the south of East Mission Road in Fallbrook, Ca. (Exhibit 1).

A literature review and California Natural Diversity Data Base (CNDDB) records check were conducted for sensitive small mammal resources within the vicinity of the proposed project.

In addition to the literature review, a reconnaissance-level field survey of the project area was conducted.

The field survey provided information on the existing conditions within the study area and the potential for sensitive resources to be present.

A reconnaissance-level pedestrian survey was conducted on September 22, within the proposed 14.8 acres project area, to assess suitable habitat for sensitive small mammal resources.

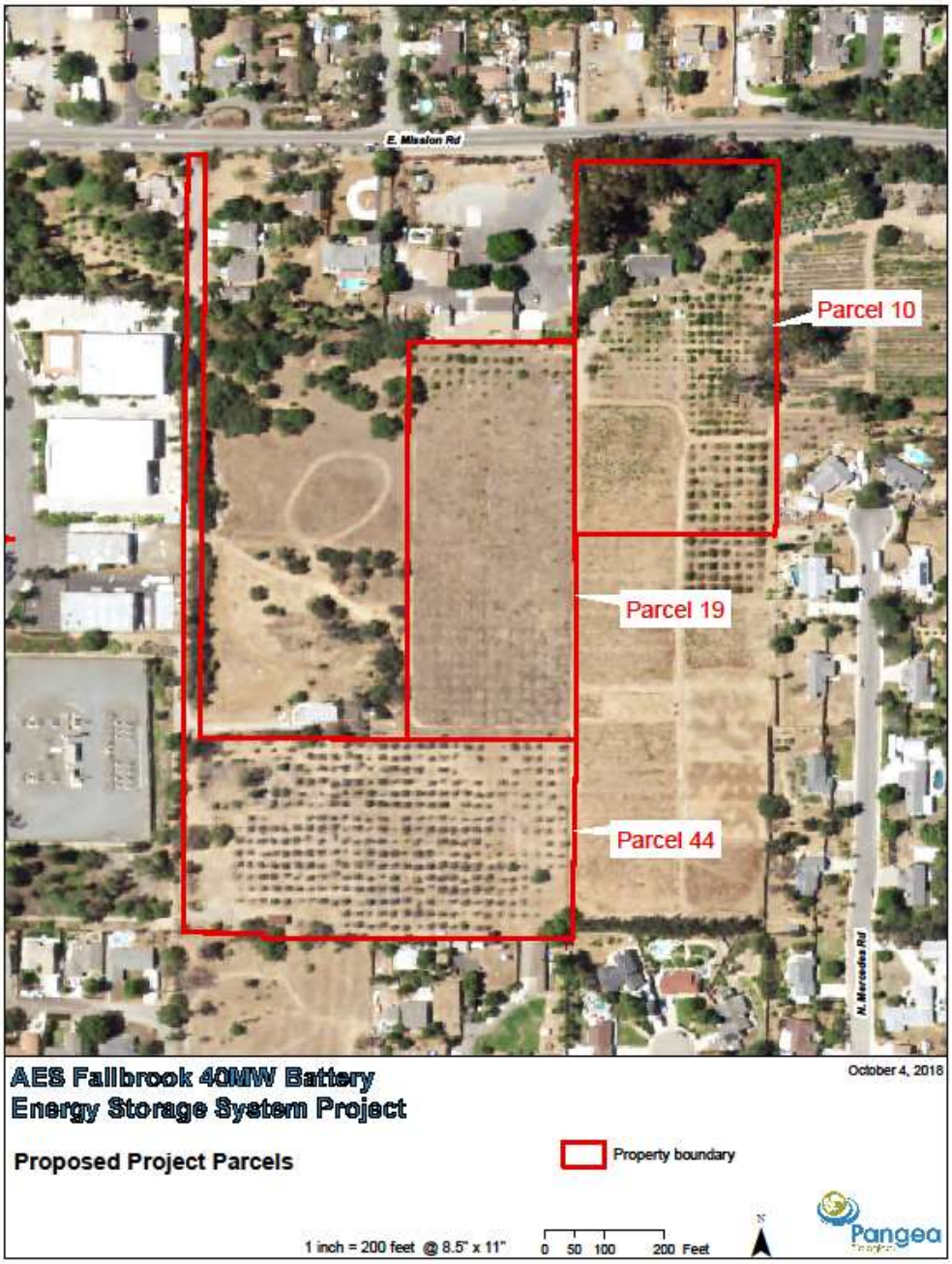
Philippe Vergne inventoried and evaluated the condition of the plant communities on site in order to assess the probability of occurrence for SKR and other sensitive species.

Walking transects were performed on 100 percent of the project site.

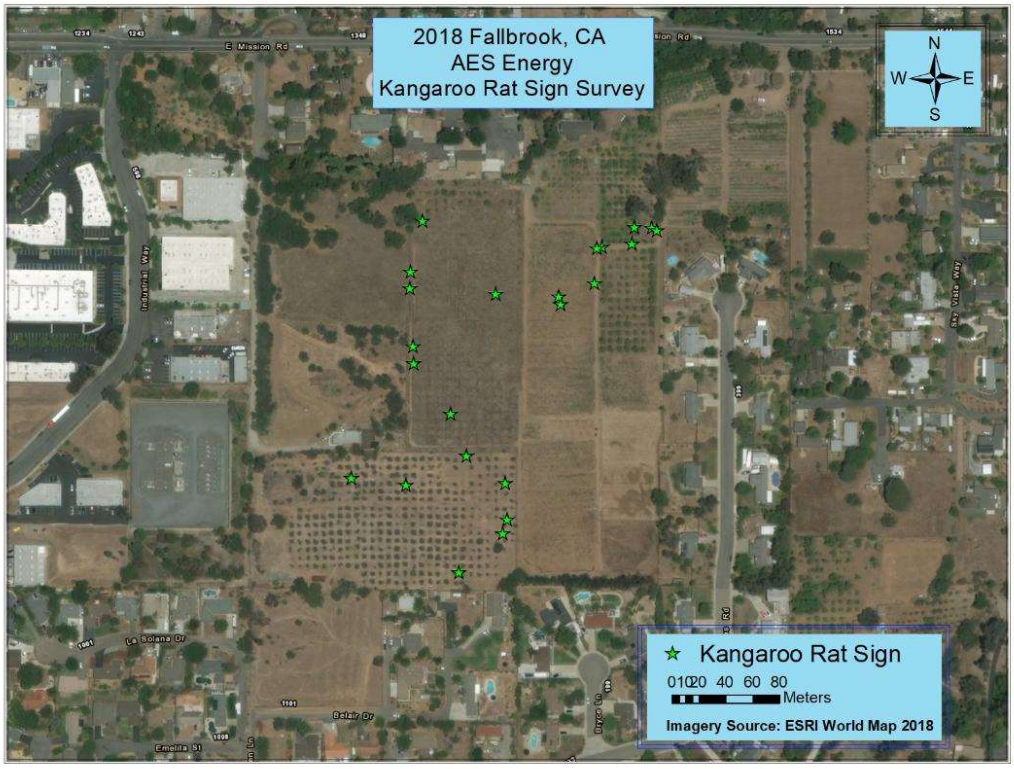
Potential kangaroo rat sign observed on the property was recorded via GPS Points (Exhibit 2).

Based on the results of the reconnaissance survey and the presence of kangaroo rat sign, a focused trapping survey was recommended.

Exhibit 1. AES Fallbrook Project Boundaries and Site Vicinity



## EXHIBIT 2. AES FALLBROOK K-RAT SIGN OBSERVED




## APPENDIX A. FLORAL AND FAUNAL SPECIES OBSERVED

| ANGIOSPERMAE: DICOTYLEDONES | DICOT FLOWERING PLANTS |
|---|---|
| **Asteraceae** | **Sunflower family** |
| *Ambrosia psilostachya* | Western ragweed |
| *Helianthus annuus* | Annual sunflower |
| *Hemizonia fasciculata* | Fascicled tarweed |
| *Heterotheca grandiflora* | Telegraph weed |
| **Boraginaceae** | **Borage family** |
| *Amsinckia menziesii* | Fiddleneck |
| **Brassicaceae** | **Mustard family** |
| *Hirschfeldia incana* | Short-podded mustard |
| *Sisymbrium irio* | London rocket |
| **Cactaceae** | **Cactus family** |
| *Opuntia sp.* | Prickly pear |

| | |
|---|---|
| **Chenopodiaceae** | **Saltbush family** |
| *Salsola tragus* | Russian thistle |
| **Cucurbitaceae** | **Gourd family** |
| *Cucurbita palmata* | Coyote melon |
| **Euphorbiaceae** | **Spurge family** |
| *Eremocarpus setigerus* | Doveweed |
| *Ricinus communis* | Castor bean |
| **Fagaceae** | **Oak family** |
| *Quercus berberidifolia* | Scrub oak |
| **Geraniaceae** | **Geranium family** |
| *Erodium cicutarium* | Red-stemmed filaree |
| **Myrtaceae** | **Myrtle family** |
| *Eucalyptus* sp. | Eucalyptus |
| **Oleaceae** | **Olive family** |
| *Olea europea* | Olive |

**ANGIOSPERMAE: MONOCOTYLEDONAE MONOCOT FLOWERING PLANTS**

| | |
|---|---|
| **Poaceae** | **Grass family** |
| *Avena sativa* | Cultivated oats |
| *Bromus diandrus* | Ripgut brome |
| *Bromus madritensis* | Red brome |
| *Schismus barbatus* | Mediterranean grass |
| *Vulpia myuros* | Foxtail |

Taxonomy and nomenclature follow Hickman 1993 and Munz 1974.

**FAUNA**

| | |
|---|---|
| **REPTILIA** | **REPTILES** |
| **Iguanidae** | **Iguanas and their allies** |
| *Uta stansburiana* | Side-blotched lizard |

| AVES | BIRDS |
| --- | --- |
| **Ardeidae** | **Herons and bitterns** |
| *Ardea herodias* | Great blue heron |
| **Cathartidae** | **Vultures** |
| *Cathartes aura* | Turkey vulture |
| **Accipitridae** | **Kites, hawks and eagles** |
| *Buteo lineatus* | Red-shouldered hawk |
| **Falconidae** | **Caracaras and falcons** |
| *Falco sparverius* | American kestrel |
| **Phasianidae** | **Quails and pheasants** |
| *Callipepla californica* | California quail |
| **Columbidae** | **Pigeons and doves** |
| *Columba livia* | Rock dove |
| *Zenaida macroura* | Mourning dove |
| **Tytonidae** | **Barn owl** |
| *Tyto alba* | Barn owl |
| **Cuculidae** | **Typical cuckoos** |
| *Geococcyx californianus* | Greater roadrunner |
| **Trochlidae** | **Hummingbirds** |
| *Calypte anna* | Anna's hummingbird |
| **Tyrannidae** | **Tyrant flycatchers** |
| *Tyrannus verticaulis* | Western kingbird |
| **Corvidae** | **Crows and ravens** |
| *Corvus brachyrhynchos* | American crow |
| **Mimidae** | **Mimic thrushes** |
| *Mimus polyglottos* | Northern mockingbird |
| **Sturnidae** | **Starlings** |
| *Sturnus vulgaris* | European starling |
| **Emberizidae** | **Warblers, sparrows, blackbirds and relatives** |
| *Pipilo crissalis* | California towhee |
| *Zonotrichia leucophyrs* | White-crowned sparrow |
| **Fringillidae** | **Finches** |
| *Carpodacus neomexicanus* | House finch |

| **MAMMALIA** | **MAMMALS** |
|---|---|
| **Leporidae**<br>*Sylvilagus audubonii* | **Rabbits and hares**<br>Audubon's cottontail |
| **Sciuridae**<br>*Spermophilus beecheyi* | **Squirrels, chipmunks and marmots**<br>California ground squirrel |
| **Geomyidae**<br>*Thomomys bottae* | **Pocket gophers**<br>Botta's pocket gopher |
| **Heteromyidae**<br>*Dipodomys simulans* | **Pocket mice and kangaroo rats**<br>Dulzura kangaroo rat |
| **Cricetidae**<br>*Peromyscus maniculatus* | **Cricetine mice and rats**<br>Deer mouse |
| **Muridae**<br>*Rattus rattus* | **Old World rats and mice**<br>Black rat |
| **Canidae**<br>*Canis latrans* | **Foxes, wolves and relatives**<br>Coyote |

Nomenclature follows Garth & Tilden 1986, Hall 1981, Laudenslayer et al. 1991, and Stebbins 1966.

## Appendix B Site  Photographs

Southern portion of property looking west

Northern portion of property looking south

K-rat burrow and scat on site

## Appendix D USFWS 15 Day Notification

**ENVIRA**

**Aquaculture Fisheries Environmental**
P.O. Box 2612, Ramona, California, USA 92065
Phone 619-885-0236 E-mail PHVERGNE@AOL.COM

September 26, 2018

**MS. Stacey Love**
Recovery Permit Coordinator
Carlsbad Fish and Wildlife Office

U.S. Fish and Wildlife Service
2177 Salk Avenue, Ste. 250
Carlsbad, CA 92008
(760) 431-9440 x 263
stacey_love@fws.gov

## 15 day notification (re-sent)

Per my permit TE068072-34 I will be trapping for the Steven's Kangaroo rats on a proposed project, located off of East Mission in Fallbrook, San Diego County per the attached aerial map.

I have walked the property and have found trace k-rat sign. I believe the sign is probably that of DKR but due to the proximity of known populations the only way of knowing for sure is to trap.

The purpose of the survey is to identify the small mammal species that occurs on site and to determine presence/absence of the SKR within the project footprint.

I have attached the site aerial map and sign location as well as a couple of pictures for your reference.

This letter serves as my fifteen day notification.

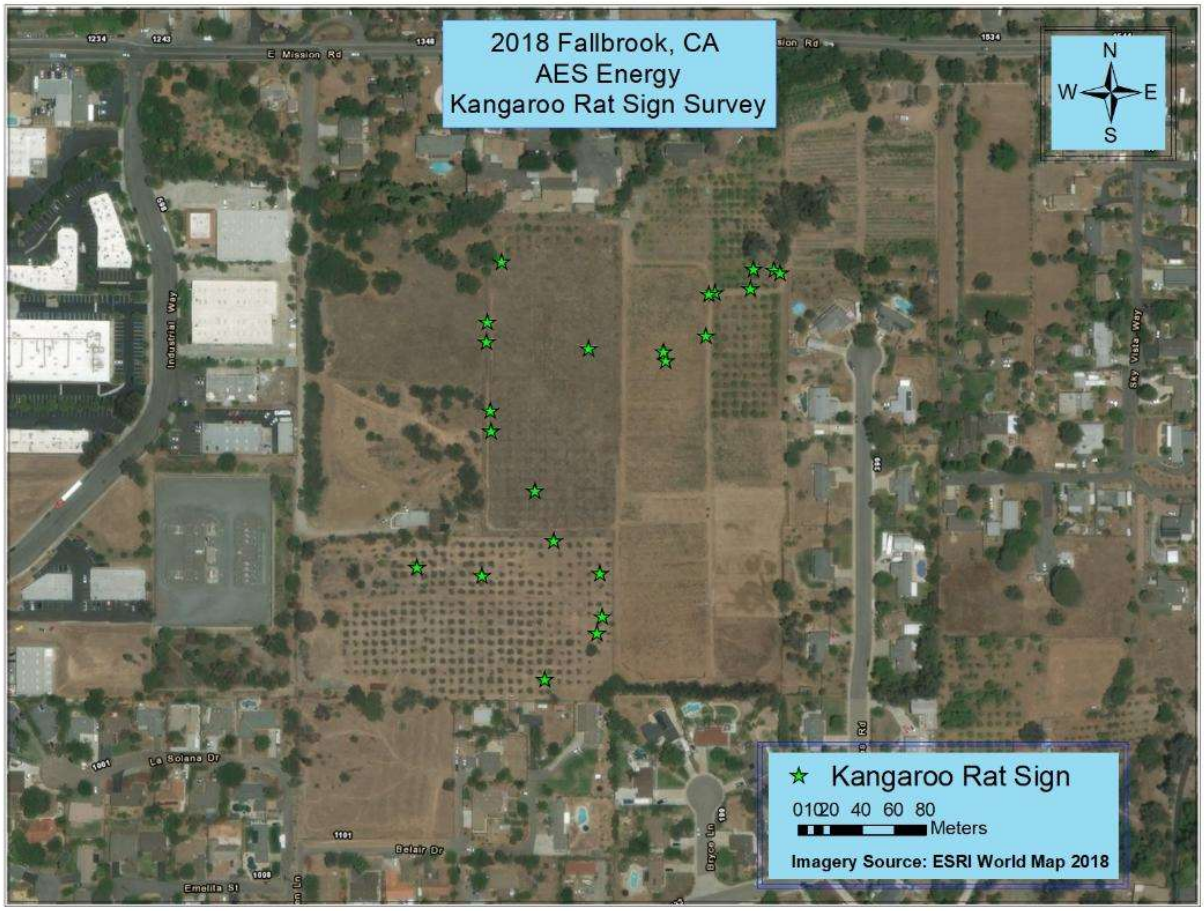
The protocol trapping survey will be conducted by Philippe Vergne. No other personnel will be involved.

We propose to place trap lines placed where sign was observed and in suitable adjacent habitat across the proposed project site. The exact number of trap lines, and their placement will be determined on the first day of trapping after we have re-walked the site. Based on the available information and our first site visit we plan only one trapping session to cover the site.

Sincerely

*Philippe Jean Vergne*

Philippe Vergne


2018 Fallbrook, CA
AES Energy
Kangaroo Rat Sign Survey
N
W
E
S
E Mission Rd
Industrial Way
Sky Vista Way
La Solana Dr
Belair Dr
Emelita St
Kangaroo Rat Sign
0 10 20 40 60 80
Meters
Imagery Source: ESRI World Map 2018

Southern portion of property looking west

Northern portion of property looking south

K-rat burrow and scat on site

## Appendix E USFWS 10A Recovery Permit

NATIVE ENDANGERED SPECIES RECOVERY
ENDANGERED WILDLIFE

**Permit Number: TE068072-4**

Effective: 08/24/2017 Expires: 08/23/2022

Issuing Office:

Department of the Interior
U.S. FISH & WILDLIFE SERVICE
Endangered Species Permit Office
2800 Cottage Way, Suite W-2606
Sacramento, CA 95825-1846
permitsR8ES@fws.gov

*ACTING ENDANGERED SPECIES DIVISION CHIEF*

Permittee:

**PHILIPPE JEAN VERGNE**
**dba ENVIRA**
**PO BOX 2612**
**RAMONA, CA 92065**
**U.S.A.**

Authority: Statutes and Regulations: 16 USC 1539(a); 50 CFR 17.22, 50 CFR 13.

**Location where authorized activity may be conducted:**
ON LANDS SPECIFIED WITHIN THE ATTACHED SPECIAL TERMS AND CONDITIONS

**Reporting requirements:**
ANNUAL REPORTS DUE: 1/31
See permit conditions for further reporting requirements.

**Authorizations and Conditions:**

A. General conditions set out in Subpart B of 50 CFR 13, and specific conditions contained in Federal regulations cited above, are hereby made a part of this permit. All activities authorized herein must be carried out in accordance with and for the purposes described in the application submitted. Continued validity, or renewal of this permit is subject to complete and timely compliance with all applicable conditions, including the filing of all required information and reports.

B. The validity of this permit is also conditioned upon strict observance of all applicable foreign, state, local tribal, or other federal law.

C. Valid for use by permittee named above.

SPECIAL TERMS AND CONDITIONS
Philippe Vergne

1. This permit was previously issued on August 10, 2012. The terms and conditions set forth in that permit are hereby superseded by this amendment.

2. Acceptance of this permit serves as evidence that the permittee understands and agrees to abide by the "General Permit Procedures and Permit Regulations for Native Endangered and Threatened Wildlife Species Permits," 50 CFR Part 13, 50 CFR 17.21 and 17.22 (endangered wildlife) and/or 50 CFR 17.31 and 17.32 (threatened wildlife), as applicable found at: http://www.fws.gov/carlsbad/r8permits/permitprocedures-regulations.htm

3. The permittee must have all other applicable State and Federal permits prior to the commencement of activities authorized by this permit. In addition, this permit does not authorize access to Federal, Tribal, State, local government, or private lands as it is the responsibility of the permittee to obtain land owner permission prior to commencing permitted activities on such lands.

4. The permittee is authorized to take (harass by survey, capture, handle, and release) the Stephens' kangaroo rat (*Dipodomys stephensi*), Pacific pocket mouse (*Perognathus longimembris pacificus*) and San Bernardino kangaroo rat (*Dipodomys merriami*) in conjunction with survey activities for the purpose of enhancing their survival, as specified in the permittee's May 8, 2016, permit renewal request, in accordance with the conditions stated below.

5. Permitted activities are restricted to the following geographic area in California:

   Throughout the range of the species.

   Notifications to conduct activities at the above authorized locations pursuant to this permit shall be submitted in writing to the Recovery Permit Coordinator at the appropriate Fish and Wildlife Office (FWO) of the U.S. Fish and Wildlife Service (Service) at least 15 days prior to conducting such activities. The appropriate FWO is determined as follows:

   **Carlsbad Fish and Wildlife Office** (CFWO):
   For areas from Los Angeles County east of the Santa Monica pier and east of the 405 freeway, south of and including the San Gabriel Mountains, and east and north of the San Andreas Rift Zone; in Kern County south and east of the Tehachapi Mountains and east of the Piute and Scodie Mountains; in Inyo County east of the Owens Valley; then south to the U.S. border with Mexico including San Bernardino, Riverside, Orange, Imperial, and San Diego Counties in their entirety, contact the Carlsbad Fish and Wildlife Office, 2177 Salk Avenue, Suite 250, Carlsbad, California 92008 (telephone: 760-431-9440).

   For guidance regarding field office jurisdiction please reference:
   http://www.fws.gov/carlsbad/r8permits/R8JurisdictionalMaps.html

If still in doubt in determining the jurisdictional boundary lines within any jurisdictional field office, contact the Recovery Permit Coordinator of the applicable FWO to ensure your activities are conducted and reported within the correct jurisdiction.

For additional guidance regarding field office contacts, please reference: https://www.fws.gov/cno/es/minqual.html

Notifications shall include, as appropriate: (a) an explanation of the purpose of the study and a clear description of methods, including the names of field personnel and the number and dates of surveys; (b) the number of individuals proposed to be captured and/or collected; (c) a map (at a minimum, a 1:24,000 scale U.S. Geological Survey (USGS) topographical map) depicting the location of the survey site(s); (d) the assessor's parcel number (APN) for the site (if possible); and (e) geographic information system (GIS) data depicting the survey site or global positioning system (GPS) coordinates (if possible). Information may be submitted electronically if pre-arranged with the Recovery Permit Coordinator.

Fifteen (15) days after the Service's receipt of the notification, the permittee may commence activities authorized by this permit unless authorization is denied by the Service. If the permittee is denied authorization to conduct the proposed activities or activities at the requested location(s), including previously authorized sites, a request for reconsideration may be submitted to the Endangered Species Division Chief at the Service's Regional Office for the Pacific Southwest Region (Region 8), 2800 Cottage Way, Room W-2606, Sacramento, California 95825-1846, as provided in 50 CFR 13.29. The procedures specified in 50 CFR 13.29(b) must be followed.

6. Authorized individuals:

Only individuals on the attached List of Authorized Individuals (List) are authorized to conduct activities pursuant to this permit. The List, printed on Service letterhead, may identify special conditions or circumstances under which individuals are authorized to conduct permitted activities and must be retained with these Special Terms and Conditions. Each named individual will be responsible for compliance with the terms and conditions of this permit.

To request changes to the List, the permittee must submit written requests to the Recovery Permit Coordinator at the CFWO at least 30 days prior to the requested effective date. The request must be signed and dated by the permittee and include:

1. The permit number.

2. The name of each individual to be appended to the List.

3. The resume/qualifications statement of each person to be appended to the List, detailing their experience with each species and type of activity for which authorization is requested.

4. The names, phone numbers and email addresses of a minimum of two references including letters of reference. Letters of reference should address the individual's qualifications for the specific activities to be conducted.

5. The names of the individuals to be deleted from the List.

   Note: This procedure is for personnel changes only. For requests to renew/amend this permit, a complete application must be submitted to the Region 8 office.

7. Taking of the Pacific pocket mouse (pocket mouse):

The permittee is authorized to conduct presence/absence surveys for the pocket mouse through harass by survey, capture, handle, and release within the geographic boundaries specified above, and the time limitation specified in the permit, provided that:

a. For determining presence of pocket mice at a given site, all traps must be located to include areas that best typify pocket mouse habitat, and be placed in sufficient numbers to provide adequate coverage of the available suitable habitat. Trapping will continue for a minimum of 5 consecutive nights, unless pocket mice are captured, at which point trapping will cease.

b. Only 9-inch or 12-inch long Sherman live traps will be used to trap pocket mice. All trap models will be modified to eliminate or substantially reduce the risk of injury (e.g., tail lacerations or excisions) to the pocket mouse and sympatric species. Traps of similar design will require approval by the CFWO and the CDFW prior to their use.

c. To minimize the potential for inadvertent take during daylight hours, traps will only be operated (i.e. left open to allow for capture) from the time that they are baited around sunset (not to exceed 2-hours before sunset) until traps are checked at sunrise.

d. Traps must be checked at least twice per night, once near midnight and again at sunrise. Trapping may not be conducted if the nightly low temperature forecast is to be below 50° F and/or if extended wind, rain, or other inclement weather has made or will make conditions unsuitable for trapping, or could unduly jeopardize the lives of the pocket mouse.

e. Each time the traps are placed, set, and baited, the traps will be adjusted and set by hand at a sensitivity level appropriate for capturing pocket mouse. When closing traps, each trap will be visually inspected and closed by hand.

f. To minimize the exposure of pocket mice to ants during surveys, all bait will be emptied from traps during each sunrise trap check and traps will only be baited between the time that traps are opened around sunset and the time that their contents are checked at sunrise.

g. Plastic bags will be used only for removing pocket mice from the traps (for extraction and processing). Trapped individuals will be processed as quickly as possible to reduce stress to the animals. Under no circumstances will the individual be kept in plastic bags beyond 5 minutes. Trapped pocket mice that must be kept for longer periods of time will be transferred into a clean, structurally sound, breathable container with adequate ventilation. At no time will the individual be allowed to become stressed due to temperature extremes.

h. To ensure that all traps are monitored and visited, the following measures will be applied:

i. All trap locations will be identified with a unique identification code.

ii. Trap locations will be marked with flagging, reflective tape or other techniques that allows the surveyor to readily locate the traps under day and nighttime conditions. To the maximum extent possible, the markings will be visible at a distance of at least 15 feet.

iii. A log sheet of trap locations will be used while checking traps and will include the name of the surveyor, the trap identification code, and the date and time the trap is checked. Periodically, the surveyor will review the log sheet to ensure that no traps were inadvertently missed. The log sheet and copies of all other field data forms will be available to the Service upon request.

i. Information on new localities for the pocket mouse will be reported immediately, and this notification will be followed up in writing to the CFWO and the California Natural Diversity Database (CNDDB) as specified in condition number 17 below within 3 working days of their discovery. Information may be submitted electronically if pre-arranged with the Recovery Permit Coordinator.

j. Translocation, marking with a mutilation marking scheme (e.g., toe or ear clipping), marking with an invasive techniques (e.g., PIT-tagging), biological sampling, is <u>not</u> authorized pursuant to this recovery permit. Other marking schemes (e.g., hair clipping, ear-tagging) may be permissible with prior written approval by the CFWO.

8. Taking of the San Bernardino Merriam's kangaroo rat (SBKR):

The permittee is authorized to conduct presence/absence surveys for SBKR through harass by survey, capture, handle, and release within the geographic boundaries specified above, and the time limitation specified in the permit, provided that:

a. For determining presence of SBKR at a given site, all traps must be located to include areas that best typify SBKR habitat, and be placed in sufficient numbers to provide adequate coverage of the available suitable habitat. Trapping will

continue for a minimum of 5 consecutive nights, unless SBKR are captured, at which point trapping with cease.

b. Only 12-inch long Sherman or wire-mesh live traps will be used to trap SBKR. Trap models 9 inches in length may be used only if they were purchased before March 13, 1990. All trap models will be modified to eliminate or substantially reduce the risk of injury (e.g., tail lacerations or excisions) to SBKR and sympatric species.

c. To minimize the potential for inadvertent take during daylight hours, traps will only be operated (i.e. left open to allow for capture) from the time that they are baited around sunset (not to exceed 2-hours before sunset) until traps are checked at sunrise.

d. Traps must be checked at least twice per night, once near midnight and again at sunrise. Trapping may not be conducted if the nightly low temperature forecast is to be below 50° F and/or if extended wind, rain, or other inclement weather has made or will make conditions unsuitable for trapping, or could unduly jeopardize the lives of SBKR. No batting may be used in the traps.

e. Plastic bags will be used only for removing SBKR from the traps (for extraction and processing). Trapped individuals will be processed as quickly as possible to reduce stress to the animals. Under no circumstances will the individual be kept in plastic bags beyond 5 minutes. Trapped SBKR that must be kept for longer periods of time will be transferred into a clean, structurally sound, breathable container with adequate ventilation. At no time will the individual be allowed to become stressed due to temperature extremes.

f. Captured SBKR may be held for up to 1 hour and then will be released as near as possible to the point of capture. SBKR will be released into the mouth of a small mammal burrow or other suitable refugia.

g. To ensure that all traps are monitored and visited, the following measures will be applied:

    i. All trap locations will be identified with a unique identification code.

    ii. Trap locations will be marked with flagging, reflective tape or other techniques that allows the surveyor to readily locate the traps under day and nighttime conditions. To the maximum extent possible, the markings will be visible at a distance of at least 15 feet.

    iii. A log sheet of trap locations will be used while checking traps and will include the name of the surveyor, the trap identification code, and the date and time the trap is checked. Periodically, the surveyor will review the log sheet to ensure that no traps were inadvertently missed. The log sheet and copies of all other field data forms will be available to the Service upon request.

h. To minimize the spread of pathogens, the permittee will disinfect traps that have been used outside of the range of SBKR prior to using them for trapping SBKR. Traps should be disinfected between survey areas to the greatest extent practicable.

i. Information on new localities for the SBKR will be reported immediately, and this notification will be followed up in writing to the CFWO and the California Natural Diversity Database (CNDDB) as specified in condition number 17 below within 3 working days of their discovery. Information may be submitted electronically if pre-arranged with the Recovery Permit Coordinator.

j. Translocation, marking SBKR with a mutilation marking scheme (e.g., toe or ear clipping), or marking with an invasive techniques (e.g., PIT-tagging) is <u>not</u> authorized pursuant to this recovery permit. Other marking schemes (e.g., hair clipping, ear-tagging) may be permissible with prior written approval by the CFWO.

9. Taking of the Stephens' kangaroo rat (SKR):

The permittee is authorized to conduct presence/absence surveys for SKR through harass by survey, capture, handle, and release within the geographic boundaries specified above, and the time limitation specified in the permit, provided that:

a. For determining presence of SKR at a given site, all traps must be located to include areas that best typify SKR habitat, and be placed in sufficient numbers to provide adequate coverage of the available suitable habitat. Trapping will continue for a minimum of 5 consecutive nights, unless SKR are captured, at which point trapping with cease.

b. Only 12-inch long Sherman or wire-mesh live traps will be used to trap SKR. Trap models 9 inches in length may be used only if they were purchased before March 13, 1990. All trap models will be modified to eliminate or substantially reduce the risk of injury (e.g., tail lacerations or excisions) to SKR and sympatric species.

c. To minimize the potential for inadvertent take during daylight hours, traps will only be operated (i.e. left open to allow for capture) from the time that they are baited around sunset (not to exceed 2-hours before sunset) until traps are checked at sunrise.

d. Traps must be checked at least twice per night, once near midnight and again at sunrise. Trapping may not be conducted if the nightly low temperature forecast is to be below 50° F and/or if extended wind, rain, or other inclement weather has made or will make conditions unsuitable for trapping, or could unduly jeopardize the lives of SKR. No batting may be used in the traps.

e. Plastic bags will be used only for removing SKR from the traps (for extraction and processing). Trapped individuals will be processed as quickly as possible to

reduce stress to the animals. Under no circumstances will the individual be kept in plastic bags beyond 5 minutes. Trapped SKR that must be kept for longer periods of time will be transferred into a clean, structurally sound, breathable container with adequate ventilation. At no time will the individual be allowed to become stressed due to temperature extremes.

f. Captured SKR may be held for up to 1 hour and then will be released as near as possible to the point of capture. SKR will be released into the mouth of a small mammal burrow or other suitable refugia.

g. To minimize the permittee inadvertently missing traps the following measures will be applied:

i. All trap locations will be identified with a unique identification code.

ii. Trap locations will be marked with flagging, reflective tape or other techniques that allows the surveyor to readily locate the traps under day and nighttime conditions. To the maximum extent possible, the markings will be visible at a distance of at least 15 feet.

iii. A log sheet of trap locations will be used while checking traps and will include the name of the surveyor, the trap identification code, and the date and time the trap is checked. Periodically, the surveyor will review the log sheet to ensure that no traps were inadvertently missed. The log sheet and copies of all other field data forms will be available to the Service upon request.

h. To minimize the spread of pathogens, the permittee will disinfect traps that have been used outside of the range of SKR prior to using them for trapping SKR. Traps should be disinfected between survey areas to the greatest extent practicable.

i. Information on new localities for the SKR will be reported immediately, and this notification will be followed up in writing to the CFWO and the California Natural Diversity Database (CNDDB) as specified in condition number 17 below within 3 working days of their discovery. Information may be submitted electronically if pre-arranged with the Recovery Permit Coordinator.

j. Translocation, marking SKR with a mutilation marking scheme (e.g., toe or ear clipping), or marking with an invasive techniques (e.g., PIT-tagging) is <u>not</u> authorized pursuant to this recovery permit. Other marking schemes (e.g., hair clipping, ear-tagging) may be permissible with prior written approval by the CFWO.

10. Within 45 days following completion of a presence/absence survey for any authorized species in this permit, a report shall be submitted to the Recovery Permit Coordinator at the appropriate FWO that includes: a) a map (at a minimum, a 1:24,000 scale USGS

topographic map) depicting the location and boundary of the survey area(s); b) a qualitative description of the plant communities (including dominant species and habitat quality) on and adjacent to the survey area; c) a complete description of survey methods including the names of personnel, the number of acres surveyed per biologist per survey-day, the number and dates of surveys, survey routes, the temperature and weather conditions at the beginning and end of each survey, and how frequently recorded vocalizations were used, if at all; d) the number, age, and sex of all species detected, and these data shall also be plotted on 1:24,000 scale map(s) of the survey area; e) the assessor's parcel number for the site (if possible); f) GIS data or GPS coordinates (if possible); g) a conclusion section that specifically provides recommendations for recovery of the species; h) other pertinent observations made during survey efforts; and i) the following certification statement signed by each surveyor(s) performing activities in independent status pursuant to this permit: "I certify that the information in this survey report and attached exhibits fully and accurately represents my work." The date of signature and the surveyor's permit number shall be included. Information may be submitted electronically if pre-arranged with the Recovery Permit Coordinator of the appropriate FWO.

11. Minor deviation from the stipulated terms and conditions may be authorized on a case-by-case basis when approved by the applicable FWO unless an amendment to this permit would be required.

12. This permit does not cover any activities authorized pursuant to a biological opinion or habitat conservation plan (HCP). All such activities must be authorized by the office that wrote the biological opinion, issued the section 10(a)(1)(B) incidental take permit based on an HCP, or is the lead field office implementing the HCP. Note also that this permit is not to be construed as meaning that the permittee or other authorized individuals are qualified to conduct activities pursuant to a biological opinion or HCP except insofar as the activities are similar to those authorized in this permit. Their qualifications for activities to be done pursuant to the biological opinion are subject to review and written approval for the specific activities by the office that wrote the biological opinion, issued the section 10(a)(1)(B) incidental take permit based on an HCP, or is the lead field office implementing the HCP.

13. This permit does not authorize take of federally listed species that are not specifically authorized pursuant to this permit. However, the Service acknowledges that incidental take of a co-occurring federally listed species could potentially occur while conducting certain permitted activities. When applicable, the following conditions now apply to all federally listed animals that the permittee is not authorized to take pursuant to this permit, but which may be incidentally sighted, encountered, captured, injured, or killed:

    a. Each individual authorized pursuant to this permit shall be knowledgeable about potentially co-occurring listed species that may occur throughout the habitats in which permitted activities are conducted; additionally individuals must be observant and cautious to the extent practicable in order to minimize take.

    b. Any federally listed animal that the permittee is not authorized to take pursuant to

this permit, but is incidentally captured during the course of conducting authorized activities, shall be released immediately at the point of capture.

c. During the course of permitted activities, if an incidental injury or mortality occurs to a federally listed species not authorized in this permit, the permittee shall follow instructions specified in condition 14 below.

d. Any incidental capture, injury or mortality of a federally listed species not authorized in this permit shall be recorded and reported in the annual report submitted pursuant to this permit.

e. All incidental encounters, sightings, capture, injury, or mortality of other federally listed species not authorized under this permit shall be recorded and reported in the annual report submitted pursuant to this permit. We request that it also be reported to the California Natural Diversity Database (CNDDB) as specified in condition number 17 below.

14. The number of individuals allowed to be incidentally injured or killed during activities conducted pursuant to this permit is 0 (zero) SKR, 0 (zero) SBKR, and 0 (PPM) in any calendar year. In the event that an individual is injured or killed during the performance of permitted activities, the permittee must:

a. Immediately notify the Regional Recovery Permit Coordinator of the Pacific Southwest Region (telephone: 760-431-9440) and the Recovery Permit Coordinator of the appropriate FWO. The permittee must follow-up such verbal notification in writing to each office.

b. With the written notification, the permittee is to provide a report of the circumstances that led to the injury or mortality. A description of the changes in protocols that will be implemented to reduce the likelihood of such injury or mortality from happening again should be included, if appropriate. The incident will also be discussed in the annual report that is subsequently submitted. A copy of this report will also be sent to the California Department of Fish and Wildlife (CDFW), Attention: Permit Biologist, Wildlife Branch, 1812 Ninth Street, Sacramento, California 95811 (telephone: 916-445-3764).

c. Dead specimens and/or appropriate parts of dead specimens that are incidentally taken pursuant to this section will be preserved in accordance with standard museum practices. Within 120 days, the preserved specimen(s) will be properly labeled and deposited with one of the designated repositories specified below. The permittee will supply the repository with a copy of this permit to validate that the specimens supplied to the museum were taken pursuant to a permit. Collection data (e.g., dates and location) and depositions of carcasses by the permittee must be reported in the subsequent annual report.

15. The permittee is authorized to salvage all authorized species' carcasses and provide them to one of the designated repositories within 120 days by following condition number 14.c

above. Any specimens salvaged will be documented and specified in the annual report submitted to the appropriate field office.

16. Designated repositories:

The Los Angeles County Museum of Natural History, Los Angeles, California; the San Bernardino County Museum, Redlands, California; or the San Diego Natural History Museum, San Diego, California.

17. California Natural Diversity Database forms shall be completed, as appropriate, for each listed species addressed herein and submitted to the Biogeographic Data Branch, CDFW, 1416 9th Street, Suite 1266, Sacramento, California 95814 (also accessible online at: https://www.wildlife.ca.gov/Data/CNDDB). Copies of the form can be obtained from the CDFW at the above address (telephone: 916-322-2493). The appropriate field office will be notified via email when the forms are submitted. This can consist of a one sentence email simply stating the forms were submitted.

18. All reports or other documents that include information gathered under the authority of this permit (e.g., reports prepared by consulting firms for their clients, theses, or scientific journal articles) shall reference this permit number. Copies of such documents shall include a transmittal letter and be provided to the Recovery Permit Coordinator at the appropriate FWO upon their completion. Draft documents, raw/field data, and other information resulting from work conducted under the authority of this permit shall be submitted to the Service upon request.

19. Annual reports:

In order to track, document, and assess all activities conducted pursuant to this permit, we are requiring an annual summary report be submitted to the Recovery Permit Coordinator of each FWO specified in condition number 5 above by January 31, following each year this permit is in effect. The report must summarize all of the activities conducted during the previous calendar year. Activities that are continuous (i.e., overlapping in two or more calendar years), must be reported each year the activity is in effect. These reports may be submitted electronically if pre-arranged with the Recovery Permit Coordinator. The annual summary report will include but not be limited to the following:

a. Permittee name and permit number with date of expiration.

b. A section listing all authorized activities conducted for each permitted species during the previous calendar year. This information can be in tabular format and should provide a summary of each activity for each species authorized in this permit. This section will include but not be limited to:

i. The name and title of each permitted activity conducted during the previous calendar year (preferably the same title as the reports previously or concurrently being submitted to the Service as specified in condition 10 above).

ii. The version of each activity report (draft or final) and the report date. If a draft report was submitted, indicate the reason (ongoing activities, processing or analysis of data, final report in review, final report in progress, etc.) and the anticipated final report finish date.

iii. The specific location of the project site, including the County.

iv. The common and scientific names of the listed species for which the permitted activity was conducted.

v. Indicate whether or not the species was observed.

vi. Indicate whether or not GIS or GPS data was submitted.

vii. The date and name of the FWO where each individual report(s) have been or will be submitted.

c. The number of individuals incidentally injured and/or killed, including dates, locations, circumstances of take, and repository receiving the preserved specimen(s). If no injuries or mortalities occurred, please state this in your annual summary report.

d. Other pertinent observations made regarding the status or ecology of the species.

e. Planned future activities, if authorized under this permit.

20. Failure to comply with reporting requirements may result in non-renewal or suspension/revocation of this permit.

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Acting Endangered Species Division Chief

# United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Southwest Region
2800 Cottage Way, Suite W-2606
Sacramento, California 95825-1846

LIST OF AUTHORIZED INDIVIDUALS
TE-068072-4

1. Individual authorized to independently conduct all activities pursuant to this permit is:

   Philippe Jean Vergne.

2. Individual authorized to conduct Stephen's kangaroo rat PIT-tagging activities pursuant to this permit only under the direct, on-site supervision of Mr. Vergne:

   Karen Kirtland.

   Other individuals may conduct activities pursuant to this permit only under the direct, on-site supervision of an independently authorized individual specified above. "On-site supervision" is defined as an unauthorized person conducting activities within 3 meters (9.8 feet) of an authorized individual.

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Acting Endangered Species Division Chief

This List is only valid if it is dated on or after the permit issuance date.

**ATTACHMENT E**

**Plant and Wildlife Species Lists**

**Attachment E: AES Fallbrook Energy Storage General Plant and Wildlife Species**

| General Plant Species Observed | |
|---|---|
| **Scientific Name** | **Common Name** |
| **Dicots** | |
| **Anacardiaceae** | |
| *Schinus molle** | Peruvian Pepper Tree |
| *Toxicodendron diversilobum* | Western Poison-Oak |
| **Asteraceae** | |
| *Conyza canadensis** | Horseweed |
| *Heterotheca grandiflora* | Telegraph Weed |
| *Lactuca serriola* | Prickly Lettuce |
| **Bignoniaceae** | |
| *Jacaranda mimosifolia* | Black Poui |
| **Brassicaceae** | |
| *Hirschfeldia incana** | Short-pod Mustard |
| *Raphanus sativus** | Wild Radish |
| *Salsola tragus** | Tumbleweed |
| **Euphorbiaceae** | |
| *Ricinus communis** | Castor Bean |
| **Fagaceae** | |
| *Quercus agrifolia* var. *agrifolia* | Coast Live Oak |
| **Geraniaceae** | |
| *Erodium* sp.* | Filaree |
| **Malvaceae** | |
| *Malva parviflora** | Cheeseweed |
| **Myrtaceae** | |
| *Eucalyptus* sp.* | Eucalyptus |
| **Nyctaginaceae** | |
| *Bougainvillea spectabilis** | Great Bougainvillea |
| **Polygonaceae** | |
| *Rumex crispus** | Curly Dock |
| *Polygonum* sp.* | Knotweed |
| **Salicaceae** | |
| *Salix laevigata* | Red Willow |
| **Solanaceae** | |
| *Nicotiana glauca** | Tree Tobacco |
| **Vitaceae** | |
| *Vitis girdiana* | Desert Wild Grape |

| General Plant Species Observed | |
|---|---|
| **Scientific Name** | **Common Name** |
| **MONOCOTS** | |
| **Arecaceae** | |
| *Washingtonia* sp.* | Fan Palm |
| **Cyperaceae** | |
| *Cyperus eragrostis* | Tall Flatsedge |
| **Poaceae** | |
| *Avena* sp.* | Oat |
| *Bromus diandrus** | Ripgut Grass |
| *Lamarckia* sp.* | Goldentop |
| *Bromus madritensis ssp. rubens** | Foxtail Chess |
| *Polypogon monspeliensis** | Annual Beard Grass |
| *Piptatherum miliacea* | Smilo Grass |

*Denotes nonnative species

| General Wildlife Species Observed | |
|---|---|
| **Scientific Name** | **Common Name** |
| ***Invertebrates*** | |
| *Junonia coenia grisea* | Common Buckeye |
| ***Reptiles*** | |
| *Uta stansburiana elegans* | Western Side-Blotched Lizard |
| ***Birds*** | |
| *Aphelocoma californica* | California Scrub-Jay |
| *Ardea herodias* | Great Blue Heron |
| *Baeolophus inornatus* | Oak Titmouse |
| *Buteo lineatus* | Red-shouldered Hawk |
| *Buteo jamaicensis* | Red-tailed Hawk |
| *Corvus brachyrhynchos* | American Crow |
| *Corvus corax* | Common Raven |
| *Dendroica Setophaga* | Yellow-rumped Warbler |
| *Falco sparverius* | American Kestrel |
| *Haemorhous mexicanus* | House Finch |
| *Melospiza crissalis* | California Towhee |
| *Mimus polyglottos* | Northern Mockingbird |
| *Phainopepla nitens* | Phainopepla |
| *Sayornis nigricans* | Black Phoebe |
| *Streptopelia decaocto* | Eurasian Collared-dove |
| *Sturnus vulgaris* | European Starling |
| *Tyrannus vociferans* | Cassin's Kingbird |
| *Tyto alba* | Barn Owl |
| *Zenaida macroura* | Mourning Dove |
| *Zonotrichia leucophrys* | White-crowned Sparrow |
| ***Mammals*** | |
| *Canis latrans* | Coyote |
| *Dipodomys simulans* | Dulzura Kangaroo Rat |
| *Thomomys bottae* | Botta’s Pocket Gopher |
| *Peromyscus maniculatus* | Deer Mouse |
| *Rattus rattus* | Black Rat |
| *Spermophilus beecheyi* | California Ground Squirrel |
| *Sylvilagua audubonii* | Desert Cottontail |

**ATTACHMENT F**

**Photo Document**

**Attachment F: AES Fallbrook Energy Storage Photo Document**

Photo 1: View southwest of northern boundary of APN 105-410-19 (September 19, 2018).

Photo 2: View northeast of northern boundary of APN 105-410-44 in foreground and APN 105-410-19 in background (September 19, 2018).

**Attachment F: AES Fallbrook Energy Storage Project Photo Document**

Photo 3: View northwest of eastern boundary of APN 105-410-44 (September 19, 2018).

Photo 4: View northeast of northeastern boundary of APN 105-410-10 (September 19, 2018).

**Attachment F: AES Fallbrook Energy Storage Project Photo Document**


Photo 5: View west of northern boundary of APN 105-410-10 and drainage (December 1, 2017).


Photo 6: View north of northern boundary of APN 105-410-10 and drainage (October 11, 2018).

**Attachment F: AES Fallbrook Energy Storage Project Photo Document**


Photo 7: View southwest of storage northeastern boundary of APN 105-410-10 (December 1, 2017).


Photo 8: View northeast of the midpoint on the western boundary of APN 105-410-10 (October 11, 2018).

**Attachment F: AES Fallbrook Energy Storage Project Photo Document**

Photo 9: View southeast of the southwestern boundary of APN 105-410-10 in the foreground (September 19, 2018).

Photo 10: View northwest of the southwestern boundary of Parcel 10 in the foreground and APN 105-410-19 in the background (October 11, 2018).