



HELIX
Environmental Planning

San Vincente Energy Storage Facility Project

Preliminary Biological
Resource Assessment

October 16, 2019 | HVC-05

Prepared for:

Harvey Consulting Group
81776 Corte Valdemoro
Indio, CA 92203

Prepared by:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

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ACRONYMS AND ABBREVIATIONS

AOS	American Ornithological Society
APN	Assessor's Parcel Number
CEQA	California Environmental Quality Act
CDFW	California Department of Fish and Wildlife
CFG	California Fish and Game Code
City	City of San Diego
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	County of San Diego
CWA	Clean Water Act
ESA	Endangered Species Act
GPS	Global Positioning System
GWh	Gigawatt-hours
HAF	Habitat Acquisition Fund
HELIX	HELIX Environmental Planning, Inc.
HCP	Habitat Conservation Plan
kV	kilovolt
MSCP	Multiple Species Conservation Program
MWh	megawatt-hours
NABA	North American Butterfly Association
NCCP	Natural Community Conservation Plan
NRCS	Natural Resource Conservation Service
OHWM	Ordinary High-Water Mark
PAMA	Pre-Approved Mitigation Area
PMPP	Programmatic Master Plan Permit
RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SSAR	Society for the Study of Amphibians and Reptiles
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey
USFWS	U.S. Fish and Wildlife Service

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1.0 INTRODUCTION

1.1 PROJECT LOCATION

The project's proposed upper reservoir site is generally planned to the north and west of the existing San Vicente Reservoir, which is located north of the unincorporated community of Lakeside in eastern San Diego County, California (Figure 1, *Regional Location*). The site is depicted within Township 14 South, Ranges 1 West and 1 East of the San Vicente Reservoir, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle maps (Figure 2, *USGS Topography*). It generally lies along and west of Mussey Grade Road, north and west of San Vicente Reservoir, east of State Route 67, and south of Foster Truck Trail (Figure 3, *Aerial Photography*). The project site and immediate vicinity generally occur within the following 16 Assessor's Parcel Numbers (APNs): 324-060-02, 324-060-03, 326-030-01, 326-030-02, 326-061-17, 329-010-05, 329-010-06, 329-010-08, 329-010-14, 329-010-15, 329-040-01, 329-040-02, 329-041-02, 329-041-03, 329-080-01, and 760-148-01.

The study area includes three contiguous survey areas, as depicted on Figures 2 and 3; the proposed Upper Reservoir, the proposed Transmission Line, and the existing Mussey Grade Road. The Upper Reservoir and northern half of Mussey Grade Road are located within areas identified as Pre-Approved Mitigation Area (PAMA) for the County of San Diego (County) South Segment Multiple Species Conservation Program (MSCP) Subarea Plan (Figure 4, *Soils*). The Transmission Line and southern half of Mussey Grade Road are located within Multiple Habitat Planning Area (MHPA) Cornerstone Lands of the adopted City of San Diego (City) MSCP Subarea Plan. The northernmost section of the Upper Reservoir occupies the County's Boulder Oaks Open Space Preserve, with the southern section classified as State of California lands. The Transmission Line and Mussey Grade Road portions are almost entirely on City land, with a small area shown as private property. The project falls within the planning boundaries of the San Diego County Water Authority (Water Authority) Subregional Natural Community Conservation Plan (NCCP) / Habitat Conservation Plan (HCP).

1.2 PROJECT DESCRIPTION

The City and Water Authority are conceptually planning to develop an energy storage facility utilizing the existing San Vicente Reservoir as the lower reservoir, connected to a new upper reservoir. The energy storage project will be owned and operated by the City in partnership with the Water Authority. Approximately 120 acres of land will be required for the new reservoir and associated facilities. Easements for access roads and tunnels will require approximately eight additional acres.

The project will have generation capacity of up to 500 MW with estimated annual generation ranging from 715 to 1,022 gigawatt-hours (GWh). The project will intertie via a new 230 kilovolt (kV) line with the regional transmission grid at a new substation to be developed in the vicinity of the marina at the existing San Vicente Reservoir. Operations will be tied to fluctuating renewable energy supply characteristics and hourly power demand, with daily generation of up to a maximum of eight hours ranging from 2,500 to 4,000 megawatt-hours (MWh).

Energy storage facilities of this scale are of increasing importance due to their unique capability to provide economic energy storage and on-demand instantly dispatchable power that is valuable for providing ancillary transmission grid support services. These include voltage regulation, load following, and load management that are essential for stable and reliable electric transmission grid operations

while integrating a higher percentage of intermittent renewable energy sources (solar and wind) in the regional generation portfolio.

2.0 METHODS

2.1 STUDY AREA

The approximately 213-acre study area for the preliminary assessment was established based on the conceptual locations of key project components, including the Upper Reservoir, Transmission Line, and the existing Mussey Grade Road. The study area covers the approximately 105-acre Upper Reservoir site and 100-foot buffer surrounding the site; the approximately 2.4-mile Transmission Line alignment and 100-foot buffer on either side of the alignment; the potential access provided by Mussey Grade Road and 50-foot buffer on either side of the road; an approximately 0.5-acre plant substation and 100-foot buffer below the Upper Reservoir; and four approximately 0.5-acre tunnel portal locations and 100-foot buffer surrounding the portals. The study area was accessed from the north via Mussey Grade Road, from the south via the San Vicente Reservoir marina, and from the west via Foster Truck Trail. All surveys were conducted under authorized permits received from the California Department of Fish and Wildlife, County of San Diego, and City of San Diego.

2.2 LITERATURE REVIEW

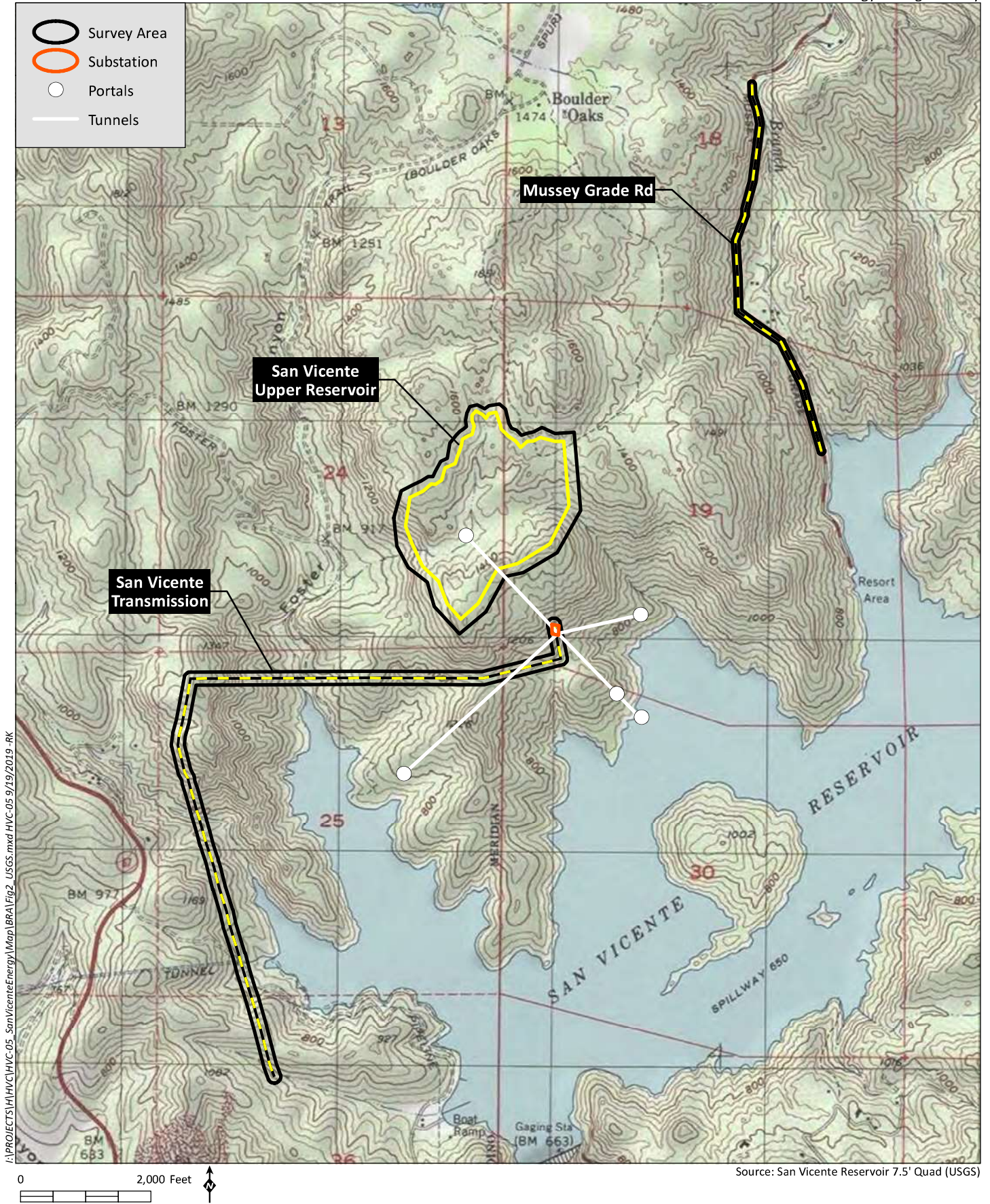
Prior to conducting biological field surveys, HELIX conducted an updated search of sensitive species and habitats databases for information regarding sensitive species known to occur within two miles of the study area, including the U.S. Fish and Wildlife Service (USFWS) species records (USFWS 2019), California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB; CDFW 2019a), SanBIOS, and California Native Plant Society (CNPS) Rare Plant Inventory (CNPS 2019). Recent aerial imagery, topographic maps, soils maps (Natural Resource Conservation Service [NRCS] 2019), and other maps of the study area and vicinity were acquired and reviewed to obtain updated information on the natural environmental setting.

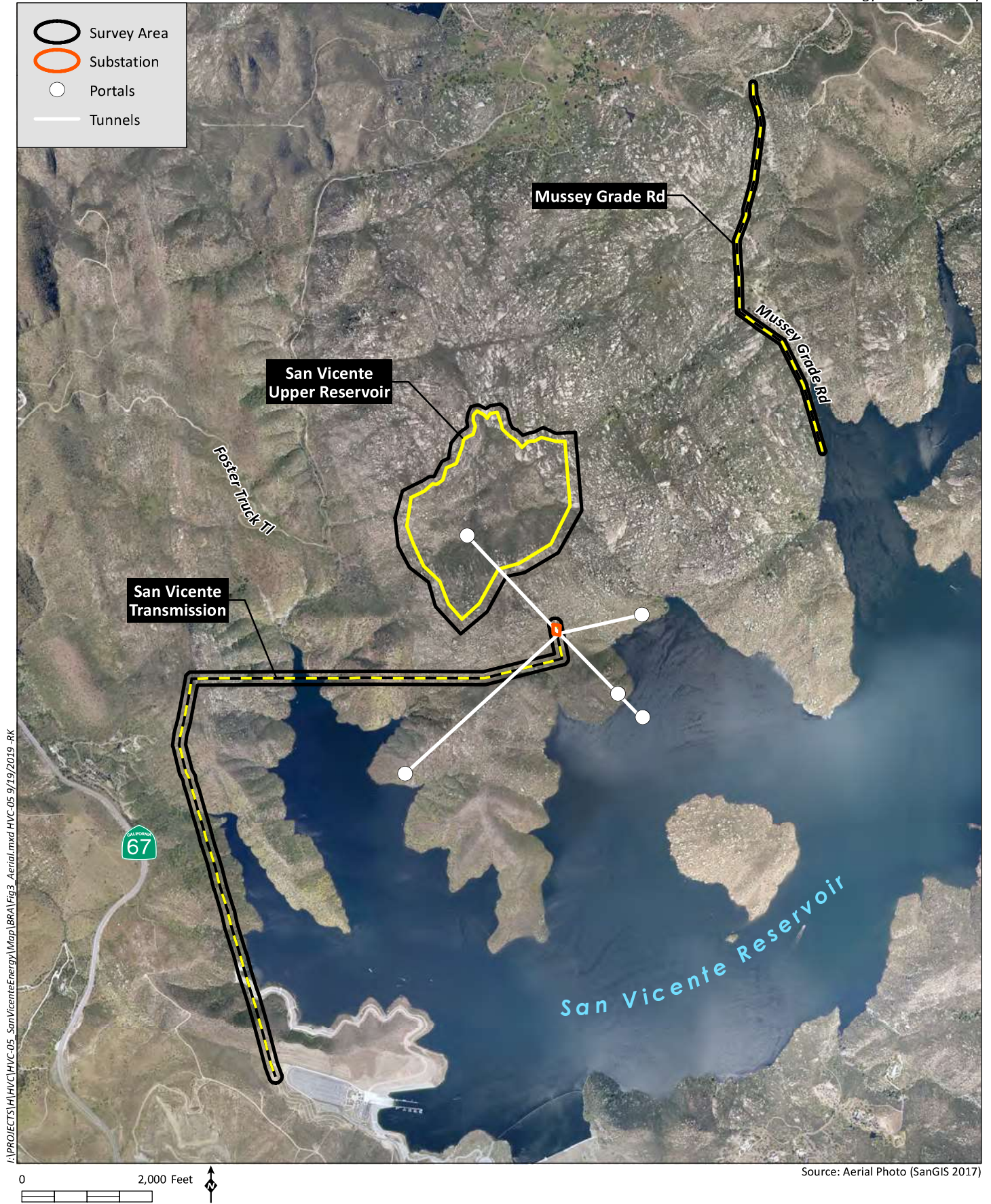
2.3 GENERAL BIOLOGICAL SURVEYS

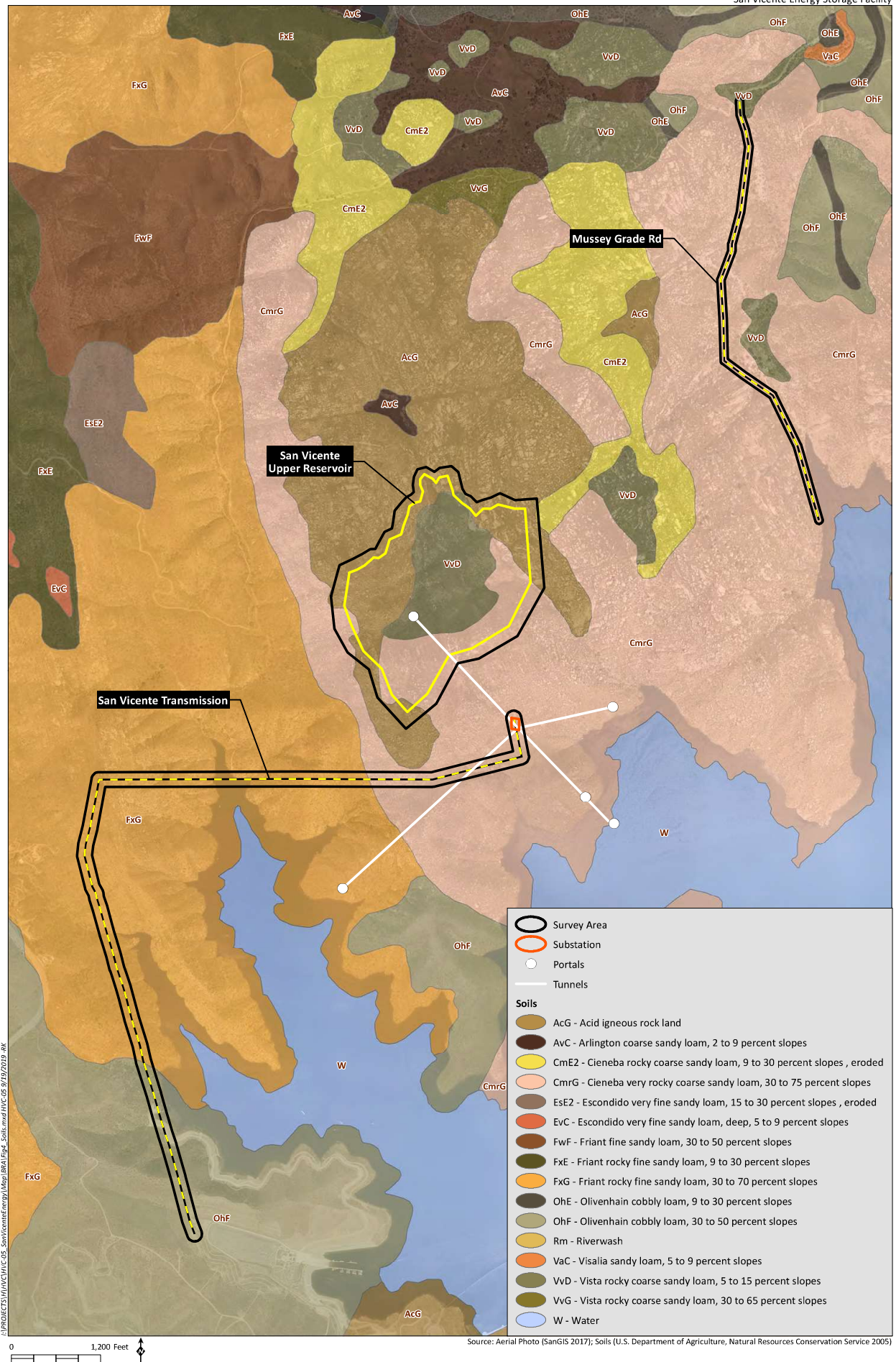
General biological resource surveys of the study area were conducted by HELIX biologists on April 30, May 14, 15, 23, 24, 28, 29, and August 28, 29, and 30, 2019 (Table 1, *2019 Biological Surveys*). The general biological surveys included large-scale vegetation mapping, habitat assessment for special-status plant and animal species with potential to occur, and preliminary mapping of potential jurisdictional waters and wetlands. Region wide vegetation data were obtained from SANDAG (2010) and revised in the field according to Holland (1986), as modified by Oberbauer (2008). The study area was surveyed on foot and with the aid of binoculars. Representative photographs of the study area were taken and are enclosed as Appendix A. Plant and animal species observed or otherwise detected were recorded in field notebooks and later transferred into compendia (Appendices B and C). The locations of special status plant and animal species incidentally observed or otherwise detected were mapped. Animal identifications were made in the field by direct, visual observation, or indirectly by detection of calls, burrows, tracks, scat, or other signs. Plant identifications were made in the field or in the lab through comparison with voucher specimens or photographs.

0 8 Miles

A horizontal number line is shown with '0' at the left end and '8 Miles' at the right end. There are three tick marks between 0 and 8, dividing the segment into four equal intervals. Above the right end of the line is a north arrow pointing upwards, with the letter 'N' inside a diamond shape.







2.4 RARE PLANT SURVEYS

HELIX biologists conducted rare plant surveys concurrent with the general biological surveys in April, May, and August 2019. The surveys were staggered throughout the spring and summer to account for variable flowering/blooming periods for target plant species. The surveys were conducted on foot and included 100 percent visual coverage and a complete botanical inventory of the study area. Where possible, individuals were identified to the species level using keys and reference materials. Point locations of rare plant individuals and polygons of rare plant concentrations were recorded and mapped in the field using hand-held Global Positioning System (GPS) with sub-meter accuracy.

Table 1
2019 BIOLOGICAL SURVEYS

Dates (2019)	HELIX Biologist	Survey Type
April 30	Larry W. Sward	General biological survey, vegetation mapping, habitat assessment
May 14 May 15	Larry W. Sward Dane van Tamelen Daniel Torres	General biological survey, vegetation mapping, rare plant survey, Quino host plant mapping, preliminary jurisdictional delineation
May 23	Dane van Tamelen Daniel Torres	General biological survey, vegetation mapping, rare plant survey, Quino host plant mapping
May 24 May 28	Larry W. Sward Dane van Tamelen Daniel Torres	General biological survey, vegetation mapping, rare plant survey, Quino host plant mapping, preliminary jurisdictional delineation
May 30	Larry W. Sward Dane van Tamelen	General biological survey, vegetation mapping, rare plant survey, Quino host plant mapping, preliminary jurisdictional delineation
August 28	Larry W. Sward Dane van Tamelen Daniel Torres Matthew Dimson	General biological survey, rare plant survey, Quino host plant mapping, preliminary jurisdictional delineation
August 29	Angelia Bottiani Dane van Tamelen Daniel Torres Matthew Dimson	General biological survey, rare plant survey, Quino host plant mapping, preliminary jurisdictional delineation
August 30	Dane van Tamelen Daniel Torres Matthew Dimson	General biological survey, rare plant survey, Quino host plant mapping, preliminary jurisdictional delineation

2.5 QUINO CHECKERSPOT BUTTERFLY LARVAL HOST PLANT MAPPING

HELIX biologists conducted Quino host plant surveys concurrent with the general biological surveys in April, May, and August 2019. Primary and secondary larval host plants known to be associated with Quino occurring within the study area were mapped. The estimated number of host plants and point locations of host plant patches were recorded using hand-held GPS with sub-meter accuracy, with a minimum mapping unit size of one meter squared.

2.6 PRELIMINARY JURISDICTIONAL DELINEATION

HELIX biologists conducted preliminary mapping and delineation of potential jurisdictional aquatic resources within the study area concurrent with the general biological surveys. The preliminary delineation focused on assessing ordinary high-water mark (OHWM) and other hydrology indicators, riparian and wetland vegetation, surface soils, topography, and other data, but did not include excavation of soil pits and establishment of wetland sampling points. Prior to beginning fieldwork, aerial photographs (1" = 100' scale), topographic maps (1" = 100' scale), and NWI maps were reviewed to assist in determining the location of potential jurisdictional areas in the project site. The field delineations were conducted to identify and map potential water and wetland resources that could be subject to U.S. Army Corps of Engineers (USACE) jurisdiction pursuant to Section 404 of the Clean Water Act (CWA; 33 USC 1344), Regional Water Quality Control Board (RWQCB) jurisdiction pursuant to CWA Section 401 or State Porter-Cologne Water Quality Control Act, and CDFW jurisdiction pursuant to Sections 1600 *et seq.* of the California Fish and Game Code (CFG Code). Areas generally characterized by depressions, drainage features, and riparian and wetland vegetation were evaluated.

2.7 SURVEY LIMITATIONS

The timing of surveys within certain portions of the study area were restricted by access permissions. Surveys prior to May 30, 2019 were restricted to City-owned lands only and surveys of the northernmost portion of the proposed Upper Reservoir within the County-owned Boulder Oaks Preserve were restricted to August 28, 29, and 30, 2019. Nevertheless, optimal environmental conditions were encountered throughout the duration of the survey effort, allowing for positive identification of multiple resources encountered.

Noted animal species were identified by direct observation, vocalizations, or the observance of scat, tracks, or other signs. However, the lists of species identified are not necessarily comprehensive accounts of all species that utilize the study area as species that are nocturnal, secretive, or seasonally restricted may not have been observed. Those species that are of special status and have potential to occur within the study area, however, are addressed in this report.

2.8 NOMENCLATURE

Nomenclature used in this report generally comes from Holland (1986) and Oberbauer (2008) for vegetation; Jepson eFlora (2019) and Baldwin et al. (2012) for plants; North American Butterfly Association (NABA 2016) for butterflies; Society for the Study of Amphibians and Reptiles (SSAR 2019) for reptiles and amphibians; American Ornithological Society (AOS 2019) for birds; and Bradley et al. (2014) for mammals. Plant species status is from the CNPS's Rare Plant Inventory (CNPS 2019), CDFW (2019b), and County (2010b). Animal species status is from the CDFW (2019c) and County (2010b).

3.0 EXISTING CONDITIONS

3.1 TOPOGRAPHY AND SOILS

The study area has variable and uneven topography, with elevations ranging from approximately 700 feet above mean sea level (amsl) in the northeastern and southwestern portions of the study area to 1,500 feet amsl towards the center of the study area (Figure 2). The area is rugged with numerous

gullied land features and associated drainages generally trending north to south or west to east from higher elevations down into San Vicente Reservoir (Figure 3).

Five soil types have been mapped in the study area (NRCS 2019; Figure 4). Those soil types covering the most area include Cienega very rocky coarse sandy loam (30 to 75 percent slopes) and Friant rocky fine sandy loam (30 to 70 percent slopes). Other soil types in the study area include Olivenhain cobbly loam (30 to 50 percent slopes), Vista rocky coarse sandy loam (5 to 15 percent slopes), and Acid igneous rock land.

3.2 VEGETATION COMMUNITIES/LAND USE TYPES

Eight vegetation communities/land use types were generally mapped within the study area (Table 2, *Existing Vegetation Communities/Land Use Type*, Figures 5a through 5e, *Vegetation and Sensitive Resources*). The numeric codes in parentheses following each community/land use type name are from the Holland classification system (Holland 1986) as added to by Oberbauer (2008). The communities are presented in Table 2 and discussed further below in order of City MSCP and Water Authority NCCP/HCP Tier designation.

Table 2
EXISTING VEGETATION COMMUNITIES/LAND USE TYPES

Vegetation Community¹	Acres²
Wetland³	
Coastal and Valley Freshwater Marsh (52410)	0.02
Open Water/Freshwater (64140)	1.96
Southern Coast Live Oak Riparian Forest (61310)	1.00
Tier⁴ I	
Coast Live Oak Woodland (71160)	1.60
Tier II	
Diegan Coastal Sage Scrub (32500)	43.30
Tier III	
Southern Mixed Chaparral (37120)	161.40
N/A	
Urban/Developed (12000)	3.80
TOTAL	213.09

¹ Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008)

² Upland habitats are rounded to the nearest 0.1 acre, while wetland habitats are rounded to the nearest 0.01; thus, total does not reflect rounding

³ City and Water Authority NCCP/HCP Wetland designation

⁴ City MSCP and NCCP/HCP Tier designation

3.2.1 Coastal and Valley Freshwater Marsh

Freshwater marsh is dominated by perennial, emergent monocots, 5 to 13 feet tall, forming incomplete to completely closed canopies. This vegetation type occurs along the coast and in coastal valleys near river mouths and around the margins of lakes and springs, freshwater or brackish marshes. These areas are semi- or permanently flooded yet lack a significant current. Dominant species include cattails (*Typha* sp.) and bulrushes (*Schoenoplectus* sp.), along with umbrella sedges (*Cyperus* sp.), rushes (*Juncus* sp.), and spike-sedge (*Eleocharis* sp.). A small patch occurs in the southwestern portion of the study area at

the downstream end of a drainage going into San Vicente Reservoir. A total of 0.02 acre of freshwater marsh occurs within the study area.

3.2.2 Open Water / Freshwater

Freshwater within the study area consists of an inlet from San Vicente Reservoir along the Transmission Line and at the southern edge of Mussey Grade Road. These open freshwater features are surrounded by native riparian habitat. A total of 1.96 acres of freshwater occurs within the study area.

3.2.3 Southern Coast Live Oak Riparian Forest

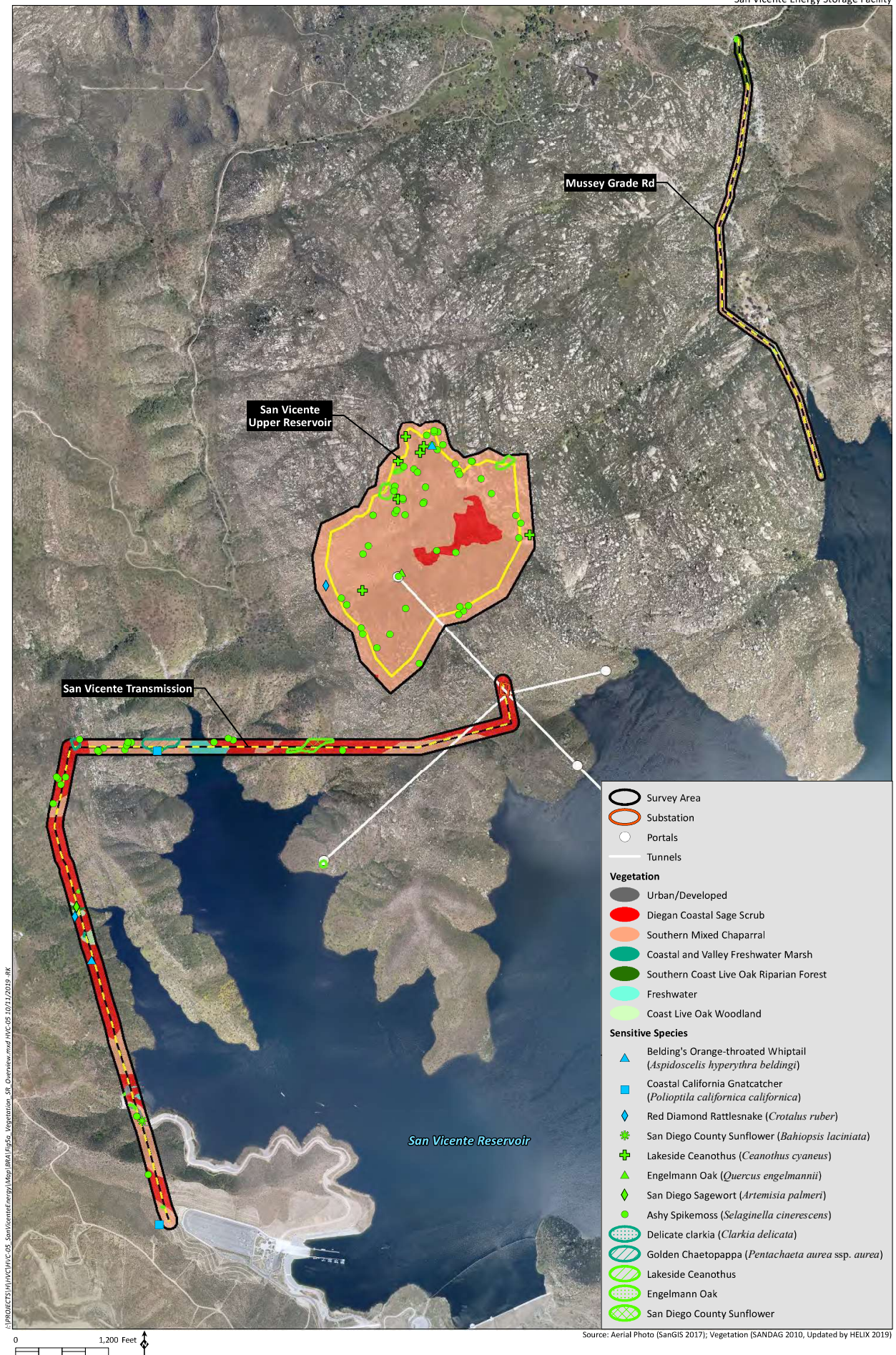
Southern coast live oak riparian forest is an open, to locally dense, evergreen, sclerophyllous, riparian woodland that is dominated by coast live oak (*Quercus agrifolia*). This community appears to be richer in herbs and poorer in understory shrubs than other riparian communities. Southern coast live oak riparian forest occurs on fine-grained alluvial soils on the floodplains along large streams in the canyons and valleys of coastal southern California (Holland 1986). Associated species include toyon (*Heteromeles arbutifolia*), Mexican elderberry (*Sambucus mexicana*), spreading snowberry (*Symphoricarpos mollis*), California rose (*Rosa californica*), California blackberry (*Rubus ursinus*), and poison oak (*Toxicodendron diversilobum*). Only small edges of this habitat type occur within the study area along the eastern edge of the Mussey Grade Road survey area. Approximately 1.0 acre of southern coast live oak riparian forest occurs within the study area.

3.2.4 Coast Live Oak Woodland

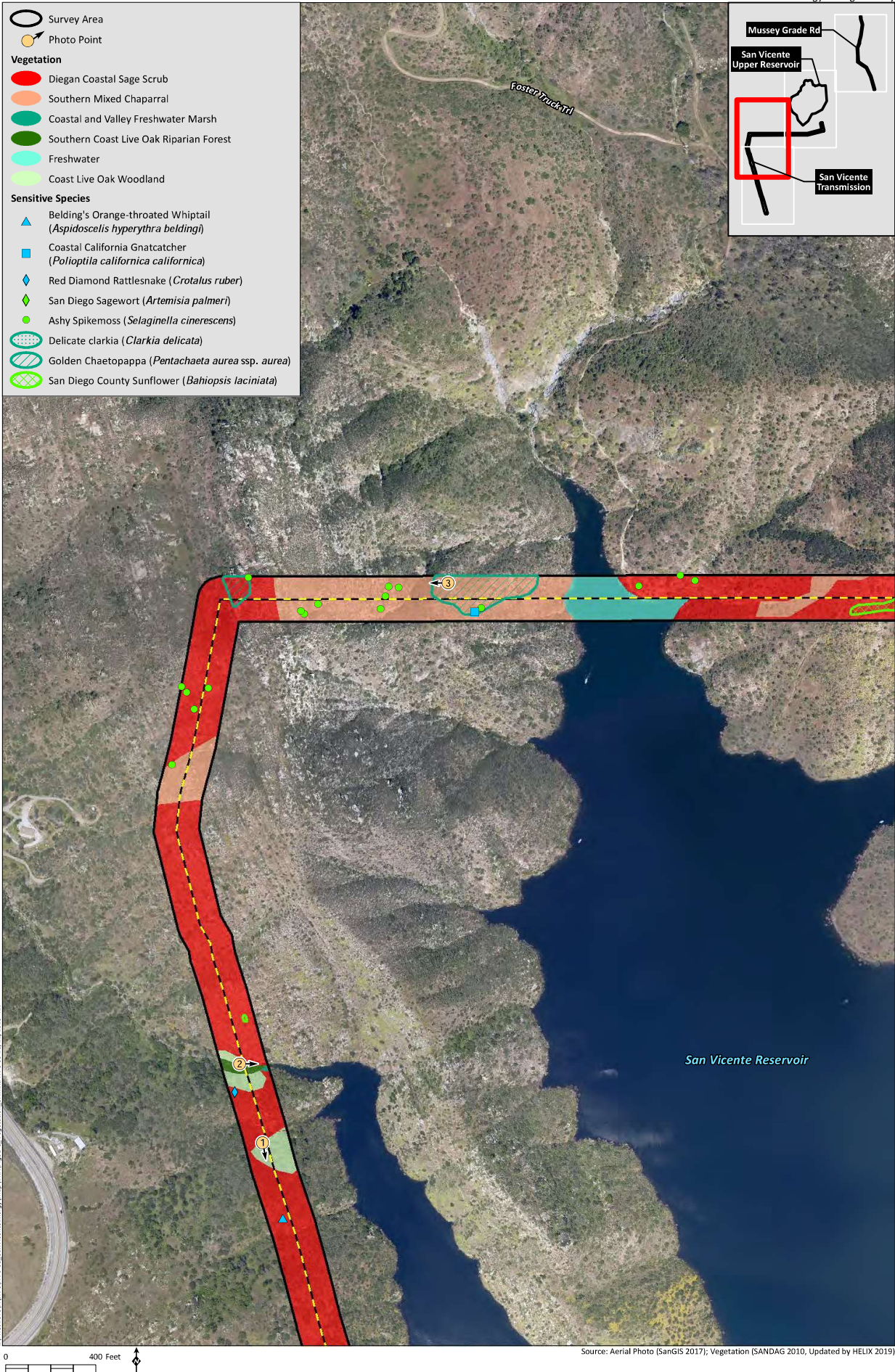
Coast live oak woodland is an open-to-dense evergreen woodland or forest community, dominated by coast live oak (*Quercus agrifolia*) that may reach a height of 35-80 feet. The shrub layer consists of toyon (*Heteromeles arbutifolia*), Mexican elderberry (*Sambucus mexicana*), spreading snowberry (*Symphoricarpos mollis*), fuchsia-flowered gooseberry (*Ribes speciosum*), and poison oak (*Toxicodendron diversilobum*). A dense herbaceous understory is dominated by miner's lettuce (*Claytonia perfoliata* var. *perfoliata*) and chickweed (*Stellaria media*). This community occurs along the coastal foothills of the Peninsular Ranges; typically, on north-facing slopes and shaded ravine. Small patches of this habitat type occur within the western leg of the Transmission Line and along the eastern edges of Mussey Grade Road. Approximately 1.6 acres of coast live oak woodland occurs within the study area.

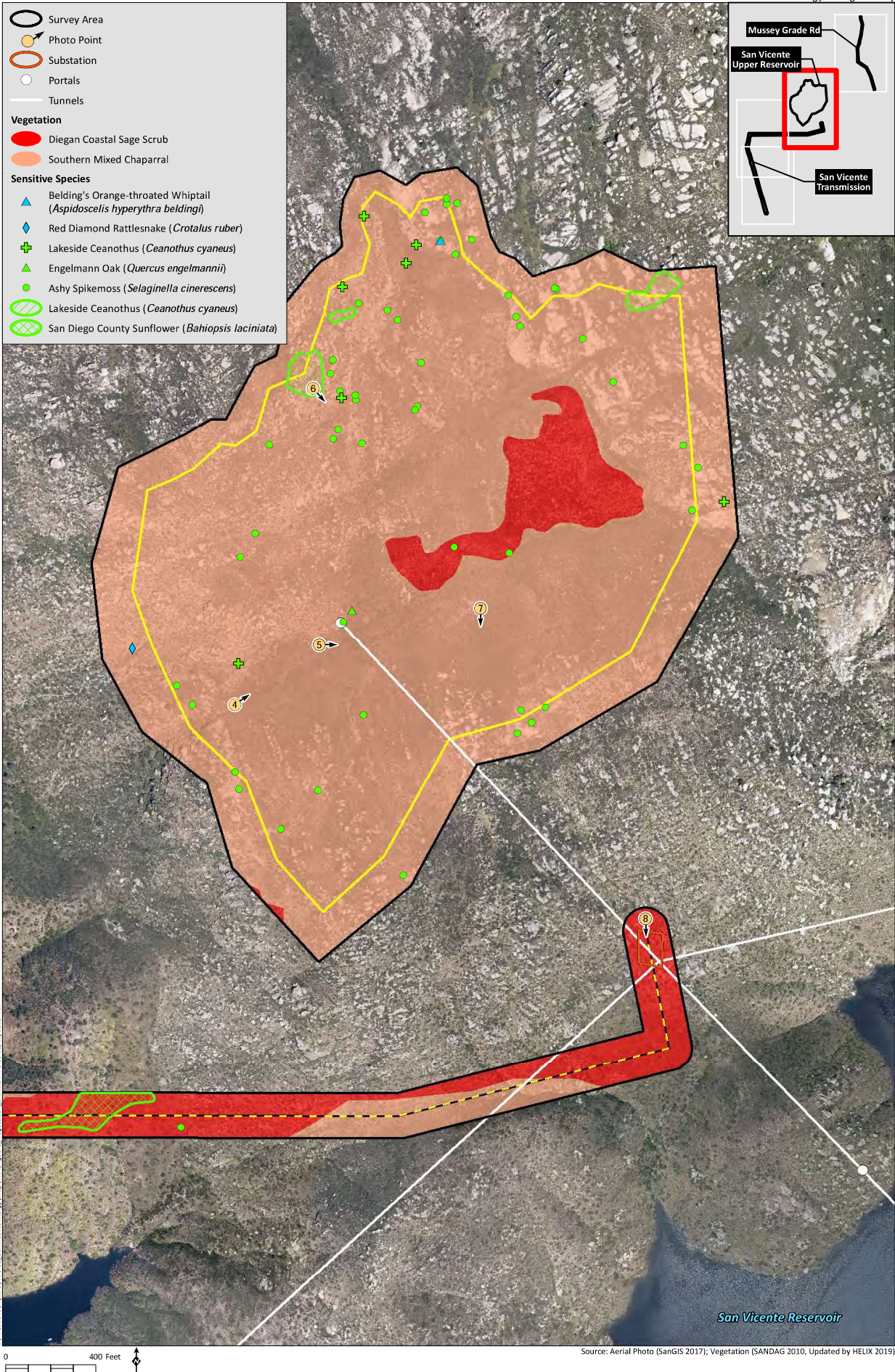
3.2.5 Diegan Coast Sage Scrub

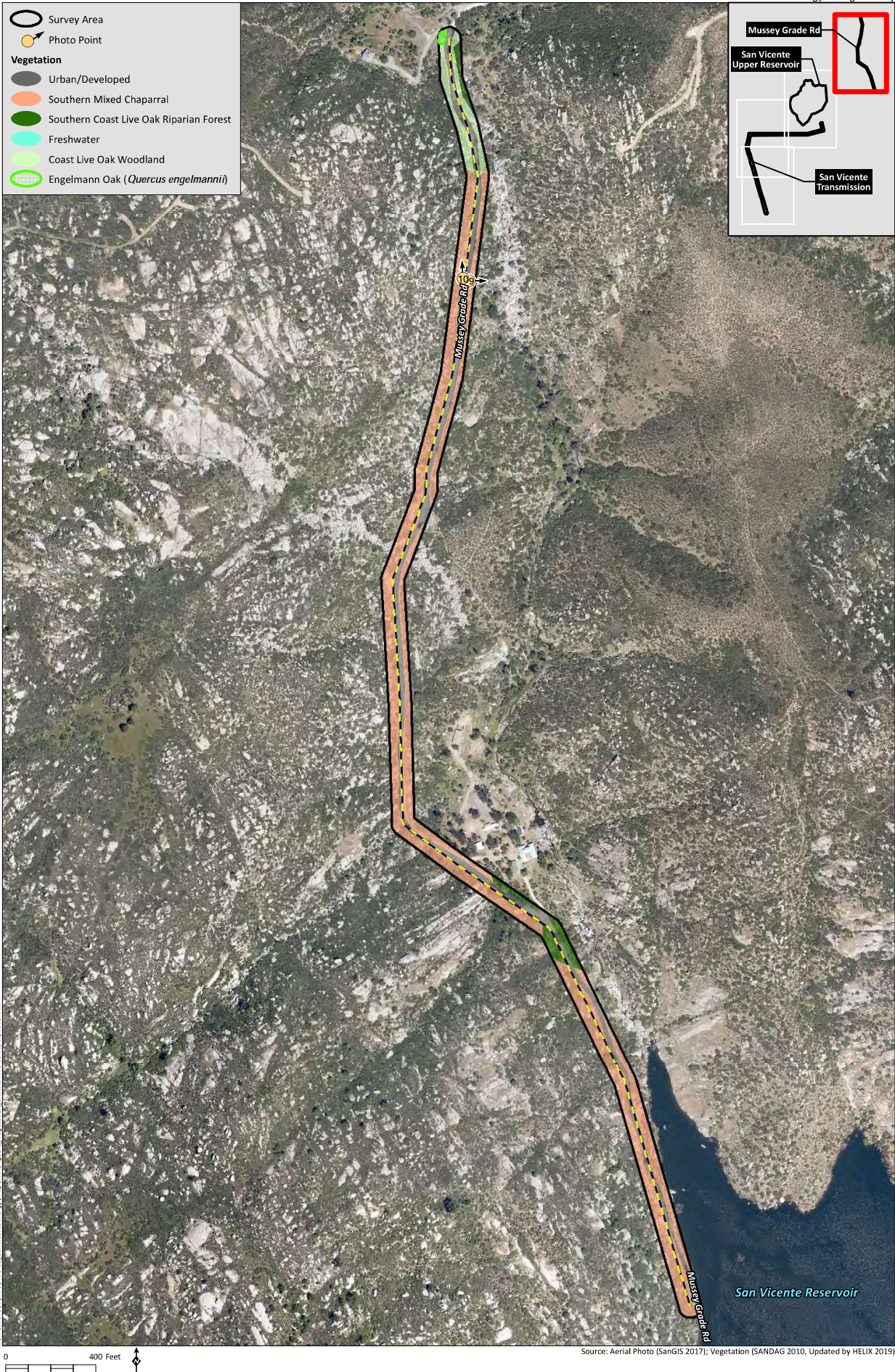
Coastal sage scrub is one of the two major shrub types that occur in southern California, occupying xeric areas characterized by shallow soils (the other is chaparral). Diegan coastal sage scrub may be dominated by a variety of species depending upon soil type, slope, and aspect. Typical species found within Diegan coastal sage scrub include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), lemonadeberry (*Rhus integrifolia*), white sage (*Salvia apiana*), and black sage (*Salvia mellifera*). Large areas of this habitat occur across the Transmission Line and within the Upper Reservoir survey areas. These patches are connected to larger swaths of coastal sage scrub that occur outside of the study area within preserved lands and open space. Disturbed coastal sage scrub within the study area occurs as intermixed patches of California sagebrush and California buckwheat growing among non-native grasses along the Transmission Line. A total of 43.3 acres of Diegan coastal sage scrub are mapped within the study area.











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3.2.6 Southern Mixed Chaparral

Southern mixed chaparral is composed of broad-leaved sclerophyllous shrubs that can reach 6 to 10 feet in height and form dense often nearly impenetrable stands with poorly developed understories. Shrubs are generally tall and deep rooted, with a well-developed soil litter layer, high canopy coverage, low light levels within the canopy, and lower soil temperatures. This vegetation community occurs on dry, rocky, often steep north-facing slopes with little soil. As conditions become more mesic, broad-leaved sclerophyllous shrubs that resprout from underground root crowns become dominant. Depending upon relative proximity to the coast, southern mixed chaparral is dominated by chamise (*Adenostoma fasciculatum*), mission manzanita (*Xylococcus bicolor*), coast white lilac (*Ceanothus verrucosus*), Ramona lilac (*Ceanothus tomentosus*), white-stem wild-lilac (*Ceanothus leucodermis*), big-berry manzanita (*Arctostaphylos glauca*), and scrub oak (*Quercus dumosa*). This habitat type is prominent along north-facing slopes and eastern half of the Upper Reservoir, the western edge of Mussey Grade Road, and in intermittent segments along the Transmission Line. The composition and sparsity of the stands is variable throughout the study area generally depending on substrate conditions, slope aspect, and exposure. Approximately 161.4 acres of southern mixed chaparral occur within the study area.

3.2.7 Urban/Developed

Urban or developed land includes areas that have been constructed upon or otherwise covered with a permanent, unnatural surface and may include, for example, structures, pavement, irrigated landscaping, or hardscape to the extent that no natural land is evident. These areas no longer support native or naturalized vegetation (County 2010a). Urban or developed land within the study area consists of the paved portion of Mussey Grade Road and sections of the Transmission Line that cross over access roads around San Vicente Reservoir. Approximately 3.8 acres of developed land are mapped within the study area.

3.3 FLORA

A total of 243 plant species were identified within the study area, of which 192 (79 percent) are native species and 51 (21 percent) are non-native species (Appendix B).

3.4 FAUNA

A total of 39 animal species were observed or otherwise detected within the study area during the biological surveys, including eight invertebrate, two amphibian, two reptile, 24 bird, and three mammal species (Appendix C).

4.0 SENSITIVE BIOLOGICAL RESOURCES

4.1 SENSITIVE VEGETATION COMMUNITIES

Sensitive vegetation communities/habitat types are defined as land that supports unique vegetation communities or the habitats of rare or endangered species or subspecies of animals or plants as defined by Section 15380 of the State CEQA Guidelines. Sensitive habitat types are grouped as a hierarchy of Tiers under the City and County MSCP Subarea Plans, as well as under the Water Authority NCCP/HCP.

Sensitive vegetation communities/habitat types mapped within the study area include coastal and valley freshwater marsh (Wetland), open water/freshwater (Wetland), southern coast live oak riparian forest (Wetland), coast live oak woodland (Tier I), Diegan coastal sage scrub (Tier II), and southern mixed chaparral (Tier III). Impacts to sensitive habitats typically require in-kind or like-kind, habitat-based compensatory mitigation in accordance with ratios established by the MSCP and Water Authority NCCP/HCP.

4.2 SPECIAL STATUS SPECIES

4.2.1 Special Status Plant Species

Special status plant species have been afforded special status and/or recognition by the USFWS and/or CDFW and may also be included in the CNPS' Inventory of Rare and Endangered Plants. Their status is often based on one or more of three distributional attributes: geographic range, habitat specificity, and/or population size. A species that exhibits a small or restricted geographic range, such as those that are endemic to the region, is geographically rare. A species may be abundant but occur only in very specific habitats. Lastly, a species may be widespread but exist naturally in small populations.

4.2.1.1 Special Status Plant Species Observed

Seven special status plant species were observed within the study area, as listed below by degree of sensitivity. Observed locations are shown on Figure 5.

Lakeside ceanothus (*Ceanothus cyaneus*)

Sensitivity Status: --/--; CRPR 1B.2; City MSCP Covered; Water Authority NCCP/HCP Covered

Distribution: Elevations between 750-2,500 feet in San Diego County.

Habitat(s): Chaparral and closed cone coniferous forest.

Status on site: A total of 127 individuals observed, all within the Upper Reservoir survey area. Near the northern center of the study area, two populations comprised of 70 individuals and 15 individuals, a group of two individuals, and four isolated individuals were observed. One population of 36 individuals was observed in the northeastern corner, and one isolated individual was observed towards the eastern edge of the proposed Upper Reservoir.

Delicate clarkia (*Clarkia delicata*)

Sensitivity Status: --/--; CRPR 1B.2; City MSCP Non-Covered; Water Authority NCCP/HCP Non-Covered

Distribution: Elevations between 750-3,300 feet in San Diego County.

Habitat(s): Gabbroic soils in chaparral and foothill woodlands.

Status on site: One population of 55 individuals observed along a slope near a drainage within the proposed Transmission Line alignment.

Ashy spike-moss (*Selaginella cinerescens*)

Sensitivity Status: --/--; CRPR 4.1; City MSCP Non-Covered; Water Authority NCCP/HCP Non-Covered

Distribution: Elevations between 65-2,100 feet in San Diego, Orange, and Riverside Counties.

Habitat(s): Chaparral and coastal scrub.

Status on site: Prominent across all survey areas on bare, rocky, south-facing slopes.

Golden-rayed pentachaeta (*Pentachaeta aurea* ssp. *aurea*)**Sensitivity Status:** --/--; CRPR 4.2; City MSCP Non-Covered; Water Authority NCCP/HCP Non-Covered**Distribution:** Elevations between 250-6,075 feet in San Diego County and southern California regions.**Habitat(s):** Grassy areas in chaparral, woodland, forest, and coastal scrub.**Status on site:** Multiple populations observed along the northwestern corner of the proposed Transmission Line alignment.**Engelmann oak (*Quercus engelmannii*)****Sensitivity Status:** --/--; CRPR 4.2; City MSCP Non-Covered; Water Authority NCCP/HCP Non-Covered**Distribution:** Elevations between 150-4,275 feet in San Diego County and southern California regions.**Habitat(s):** Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland.**Status on site:** Seven individuals observed at the northern limit of Mussey Grade Road and one individual observed near the center of the proposed Upper Reservoir.**San Diego sagewort (*Artemisia palmeri*)****Sensitivity Status:** --/--; CRPR 4.2; City MSCP Non-Covered; Water Authority NCCP/HCP Non-Covered**Distribution:** Elevations between 50-3,000 feet in San Diego County.**Habitat(s):** Sandy and mesic soils of chaparral, coastal scrub, riparian scrub, and riparian woodland.**Status on site:** One population of six individuals observed within a drainage along the proposed Transmission Line alignment.**San Diego viguiera (*Bahiopsis laciniata*)****Sensitivity Status:** --/--; CRPR 4.3; City MSCP Non-Covered; Water Authority NCCP/HCP Non-Covered**Distribution:** Elevations between 300-2,475 feet in San Diego County and southern California regions.**Habitat(s):** Coastal scrub and chaparral slopes.**Status on site:** Multiple populations observed along the southern and eastern portions of the proposed Transmission Line alignment and the proposed western Tunnel Portal location.**4.2.1.2 Special Status Plant Species with Potential to Occur**

Special status plant species that were not observed but may have potential to occur within the study area are listed in Appendix D. In total, ten additional special status plant species that were not observed within the study area were determined to have a high potential to occur: Western spleenwort (*Asplenium vespertinum*), Peninsular spineflower (*Chorizanthe leptotheca*), San Miguel savory (*Clinopodium chandleri*), Short-bracted bird's-beak (*Cordylanthus rigidus* ssp. *brevibracteatus*), Decumbent goldenbush (*Isocoma menziesii* var. *decumbens*), Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*), Felt-leaved monardella (*Monardella hypoleuca* ssp. *lanata*), Willowy monardella (*Monardella viminea*), Chaparral rein orchid (*Piperia cooperi*), and Rush-like bristleweed (*Xanthisma junceum*). No additional species have a high potential to occur based on this preliminary assessment, primarily due to the lack of suitable conditions.

4.2.2 Special Status Animal Species

Special status animal species include those that have been afforded special status and/or recognition by the USFWS and/or CDFW. In general, the principal reason an individual taxon (species or subspecies) is given such recognition is the documented or perceived decline or limitations of its population size or geographical extent and/or distribution, resulting in most cases from habitat loss.

4.2.2.1 Special Status Animal Species Observed or Otherwise Detected

Six special status animal species were observed or detected on or directly adjacent to the study area, or observed flying over the study area, during biological surveys conducted for the project. Each species is listed below by degree of sensitivity and shown on Figure 5. Status codes are defined in Appendix F.

Coastal California Gnatcatcher (*Poliophtila californica californica*)

Status: FT/SSC; City MSCP Covered; Water Authority NCCP/HCP Covered

Distribution: A year-round resident from southern California to northwest Baja California from Ventura County south to San Diego County and in the western portions of San Bernardino and Riverside Counties, typically below 1,640 feet but may occur as high as 3,000 feet.

Habitat(s): Typically occurs in arid, open sage scrub habitats on gently slopes hillsides to relatively flat areas. The composition of sage scrub in which gnatcatchers are found varies, however, California sagebrush is at least present as a dominant or co-dominant species.

Presence on Site: Two individuals observed, one calling to the west of the study area near the southern edge of the proposed Transmission Line alignment, and one observed calling near the northwest corner of the proposed Transmission Line alignment.

Red Diamond Rattlesnake (*Crotalus ruber*)

Status: --/SSC; City MSCP Non-Covered; Water Authority NCCP/HCP Covered

Distribution: Can be found from San Bernardino County south to Loreto, Baja California, Mexico below 5,000 feet, most frequently below 4,000 feet.

Habitat(s): Wide tolerance for varying environments including the desert, dense foothill chaparral, warm inland mesas and valleys, and cool coastal zones. It is most commonly found near heavy brush with large rocky microhabitats

Presence on Site: Two individuals were observed within the study area, one along the proposed Transmission Line alignment and one within the proposed Upper Reservoir.

Belding's Orange-throated Whiptail (*Aspidoscelis hyperythrus beldingi*)

Status: --/WL, City MSCP Covered; Water Authority NCCP/HCP Covered

Distribution: Southern Orange County and southern San Bernardino County, south through Baja California below 3,500 feet.

Habitat(s): Coastal sage scrub, chaparral, edges of riparian woodlands, and washes. Also found in weedy, disturbed areas adjacent to these habitats. Important habitat requirements include open, sunny areas, shaded areas, and abundant insect prey base, particularly termites (*Reticulitermes* sp.).

Presence on Site: Two individuals observed, one in the northern section of the proposed Upper Reservoir and one in the center of the western leg along the proposed Transmission Line alignment.

Red-shouldered Hawk (*Buteo lineatus*)

Status: --/--; City MSCP Non-Covered; Water Authority NCCP/HCP Non-Covered

Distribution: Occurs year-round throughout San Diego County where stands of trees are present.

Habitat(s): Oak and riparian woodlands, and eucalyptus stands or other mature forests. Increasingly found in suburban and urban areas.

Presence on Site: One individual was observed flying over the proposed Transmission Line alignment. Suitable nesting and foraging habitat are present.

Turkey Vulture (*Cathartes aura*)**Status:** --/--; City MSCP Non-Covered; Water Authority NCCP/HCP Non-Covered**Distribution:** Observed throughout San Diego County with the exception of extreme coastal San Diego where development is heaviest.**Habitat(s):** Foraging habitat includes most open habitats with breeding occurring in crevices among boulders. Roosts communally preferring stands of large trees or hilly areas, usually away from human disturbance.**Presence on Site:** Two individuals observed soaring overhead in the southwestern portion of the study area. Suitable nesting and foraging habitat are present.**Southern Mule Deer (*Odocoileus hemionus fuliginatus*)****Status:** --/--; City MSCP Covered; Water Authority NCCP/HCP Non-Covered**Distribution:** Year-round resident throughout Southern California and Baja California, Mexico.**Habitat(s):** Prefers hill terrain, especially within oak woodland habitat.**Presence on Site:** Single individual observed across the canyon east of Mussey Grade Road.**4.2.2.2 Special Status Animal Species with Potential to Occur**

Special status animal species present or with potential to occur within the study area are included in Appendix E. Fifteen additional special status animal species that were not observed within the study area were determined to have a high potential to occur: Quino, western spadefoot toad (*Spea hammondi*), San Diego tiger whiptail (*Aspidoscelis tigris stejnegeri*), Blainville's horned lizard (*Phrynosoma blainvillii*), coast patch-nosed snake (*Salvadora hexalepis virgulata*), Two-striped garter snake (*Thamnophis hammondi*), Cooper's Hawk (*Accipiter cooperii*), Southern California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*), Bell's sparrow (*Artemisiospiza belli*), Golden Eagle (*Aquila chrysaetos*), least Bell's vireo (*Vireo bellii pusillus*), Dulzura pocket mouse (*Chaetodipus californicus femoralis*), Mountain lion (*Felis concolor*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), and San Diego Bryant's woodrat (*Neotoma bryanti intermedia*). These species are further discussed in Appendix E.

4.3 QUINO CHECKERSPOT BUTTERFLY HABITAT

Additional detail is provided here for Quino given the habitat assessment and host plant mapping findings (Figures 6a through 6e, *Quino Checkerspot Butterfly Habitat*):

Quino Checkerspot Butterfly (*Euphydryas editha quino*)**Status:** FE/--; City MSCP Non-Covered; Water Authority NCCP/HCP Covered**Distribution:** Occurs in California from western Riverside County southwards to southern San Diego County.**Habitat(s):** Inhabits open and sparsely vegetated areas that contain larval host plant species (principally dwarf plantain [*Plantago erecta*], but also woolly plantain [*Plantago patagonia*], desert Indianwheat [*Plantago ovata*], purple owl's clover [*Castilleja exserta*], Coulter's snapdragon [*Antirrhinum coulterianum*], and rigid bird's beak [*Cordylanthus rigidus*]) and nectar sources. Often found on rounded hilltops, ridgelines, and occasionally rocky outcrops. Occurs within a wide range of open-canopied habitats including vernal pools, sage scrub, chaparral, grassland, and open oak and juniper woodland communities.**Presence on Site:** Unknown. Suitable habitat occurs within the study area and the species is known to occur at nearby locations. Host plants observed include dwarf plantain (46 locations with concentrations

in the 1,000s), purple owl's clover (69 locations with concentrations in the 100s), rigid bird's beak (92 locations with concentrations in the 100s), and desert Indianwheat (two locations with concentrations in the 1s). There is a high potential for this species to occur.

4.4 POTENTIAL JURISDICTIONAL WATERS AND WETLANDS

In the context of this assessment, jurisdictional waters and wetlands include waters of the U.S., including wetlands, regulated by the USACE pursuant to CWA Section 404; waters of the State regulated by the RWQCB pursuant to Section 401 of the CWA and State Porter-Cologne Water Quality Control Act; and streambed and riparian habitat regulated by the CDFW pursuant to Sections 1600 et seq. of CFG Code. The potential boundaries of jurisdictional aquatic resources were preliminarily delineated.

Aquatic resources mapped within the study area are depicted on Figures 7a through 7e, *Potential Jurisdictional Waters and Wetlands*. The resources are associated with San Vicente Reservoir and its tributaries entering into the Aqueduct Arm from the west, Toll Road Arm from the northwest, and Kimball Arm from the north. The resources represent non-wetland waters of the U.S./State and CDFW-jurisdictional streambed or lake habitat. The drainage features mapped throughout the study area are ephemeral and non-wetland, with OHWM widths ranging from one to eight feet wide and streambed widths ranging from 1 to 20 feet wide. The features are natural and relatively undisturbed throughout the study area, with the exception of several culverts that have been installed below the access road for the Aqueduct Arm to the west and Mussey Grade Road to the north. Small pockets of herbaceous wetland vegetation were observed within limited portions of several drainage features, although the presence of hydric soils was not confirmed during this preliminary assessment.

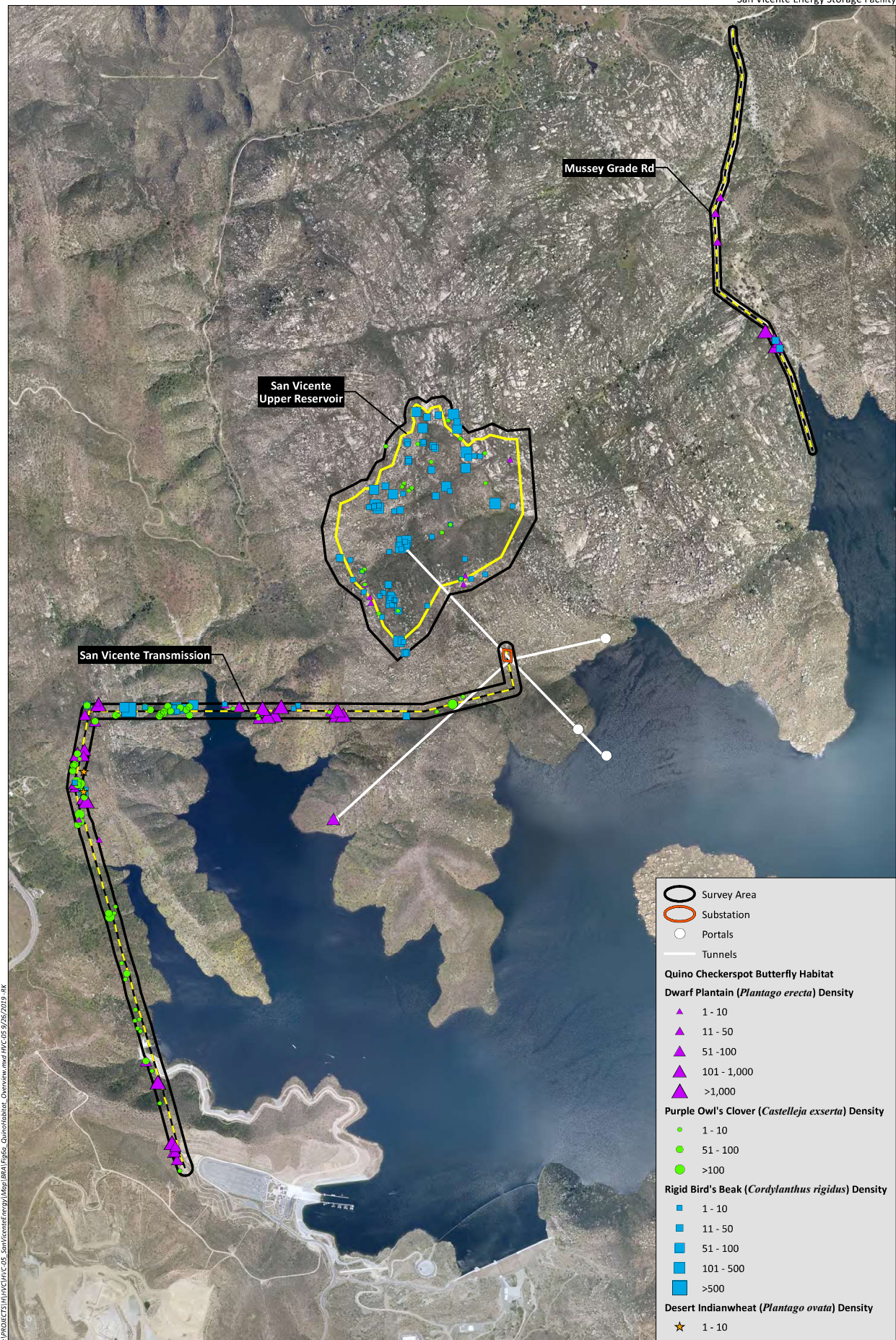
5.0 DISCUSSION AND RECOMMENDATIONS

In general, the biological resources found within the study area during the preliminary assessment do not present any unusual or potentially insurmountable constraints. The resources found are typical of the region and many are common and widespread. Potentially constraining resources are discussed below in order of most to least constraining. Some of these constraints would be reduced or eliminated for the project depending on the lead agency, discretionary approvals, and applicability of adopted subregional conservation plans and programmatic permits. These are noted with each potential constraint below.

Constraint No. 1 – Quino Checkerspot Butterfly Surveys, Permitting, and Mitigation

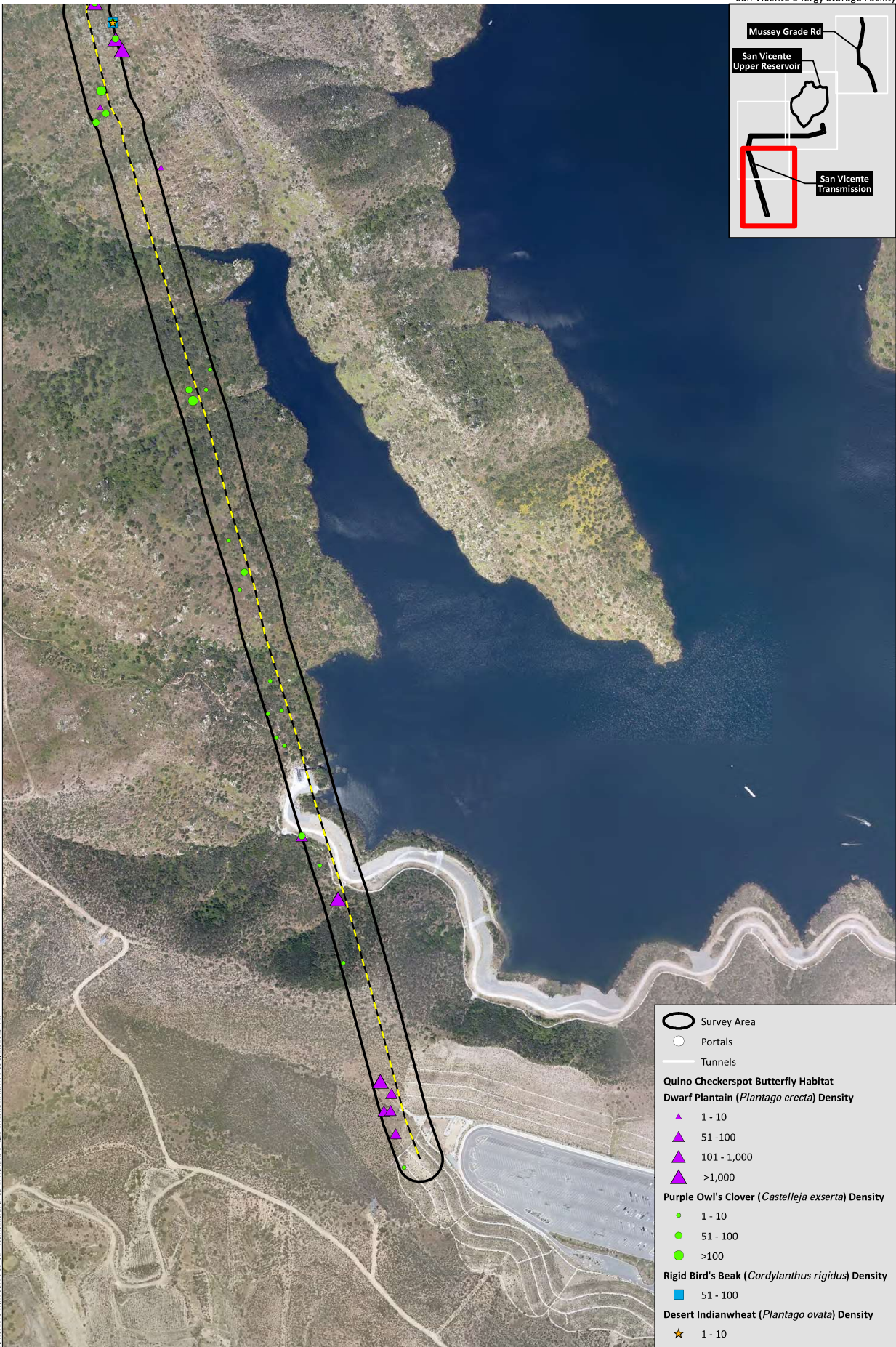
Quino presents a significant constraint if the benefit of take coverage under the Water Authority NCCP/HCP cannot be extended to the project. Take coverage is not afforded under the City MSCP. If the project cannot receive take coverage under the Water Authority NCCP/HCP, then potential effects on the species would require assessment, conservation planning, mitigation, and obtaining a Biological Opinion and Incidental Take Statement from the USFWS pursuant to Section 7 of the Federal Endangered Species Act (ESA).

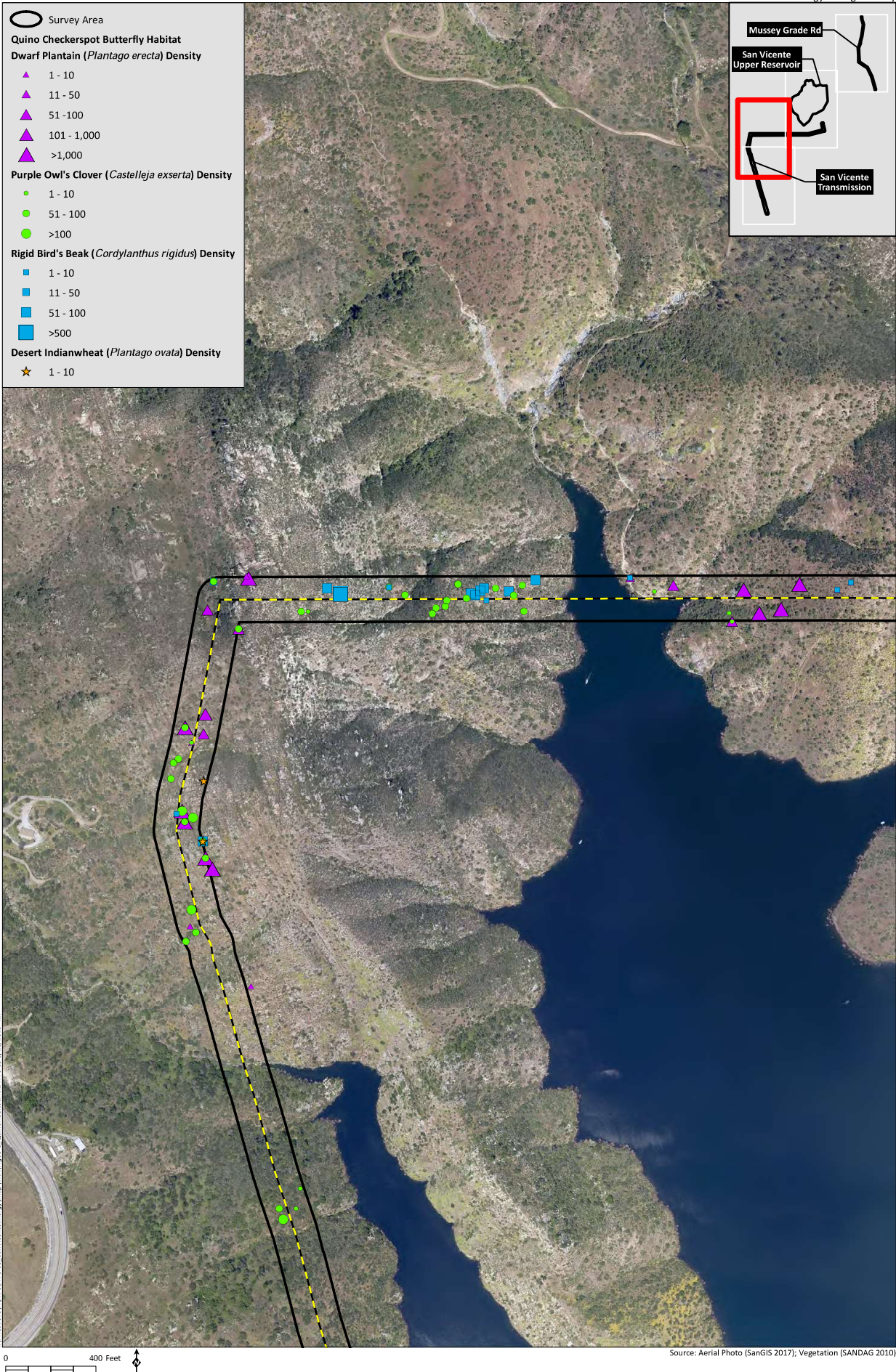
It is recommended that take coverage for Quino under the Water Authority NCCP/HCP be pursued, either as a covered activity as a planned or future project or amendment to extend take coverage to the project. Section 5.1.6 of the Water Authority NCCP/HCP states that, *"The construction of future hydroelectric generating stations relying on high pressure in the pipeline system is a Covered Activity when implemented consistent with the Plan... However, a future pump storage project is not a Covered*

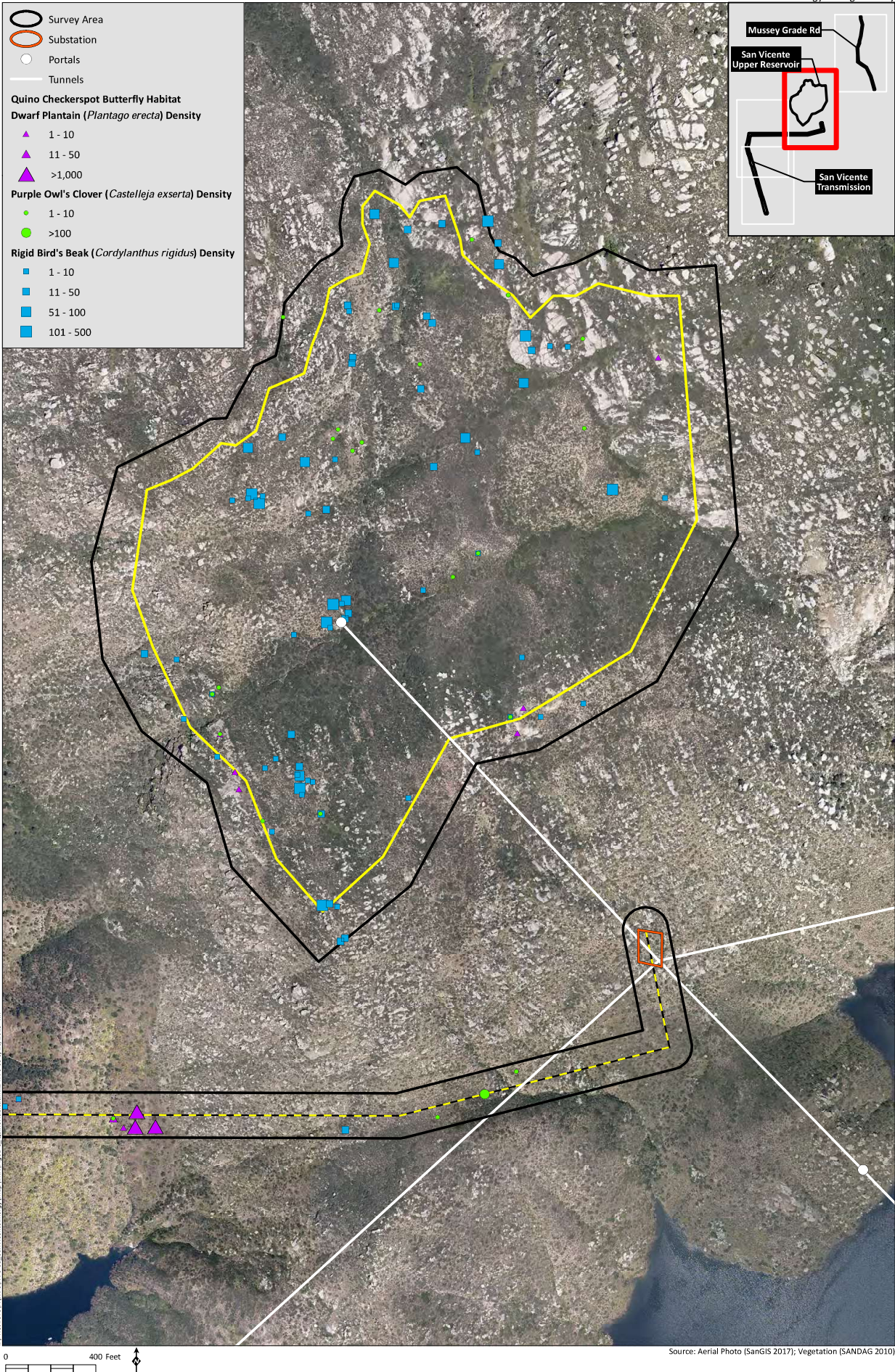


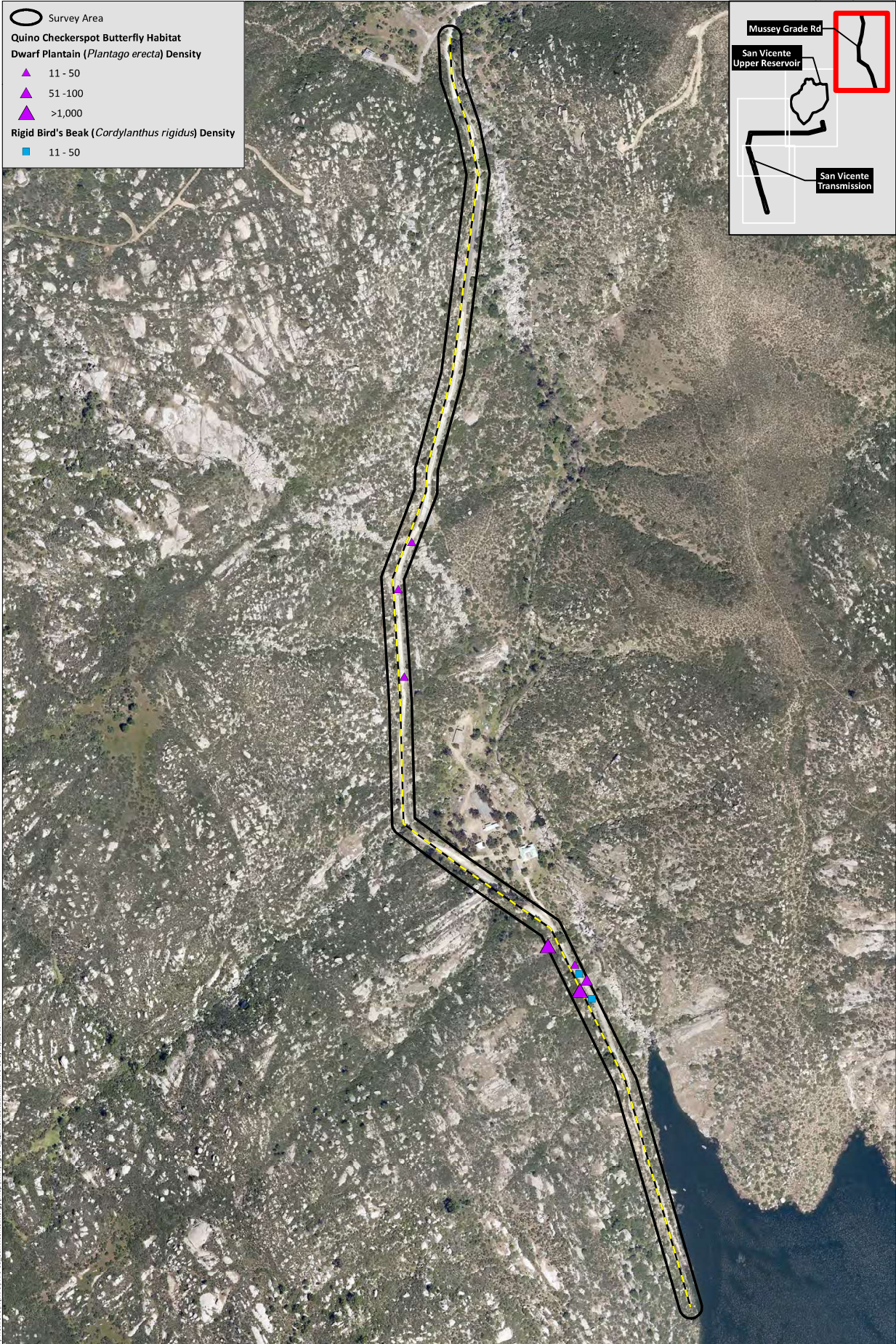
I:\PROJECTS\H\HVC\OS_SanVicenteEnergy\Map\B&E\Figs_QuinoHabitat_Overview.mxd HVC OS 9/25/2019 -RK

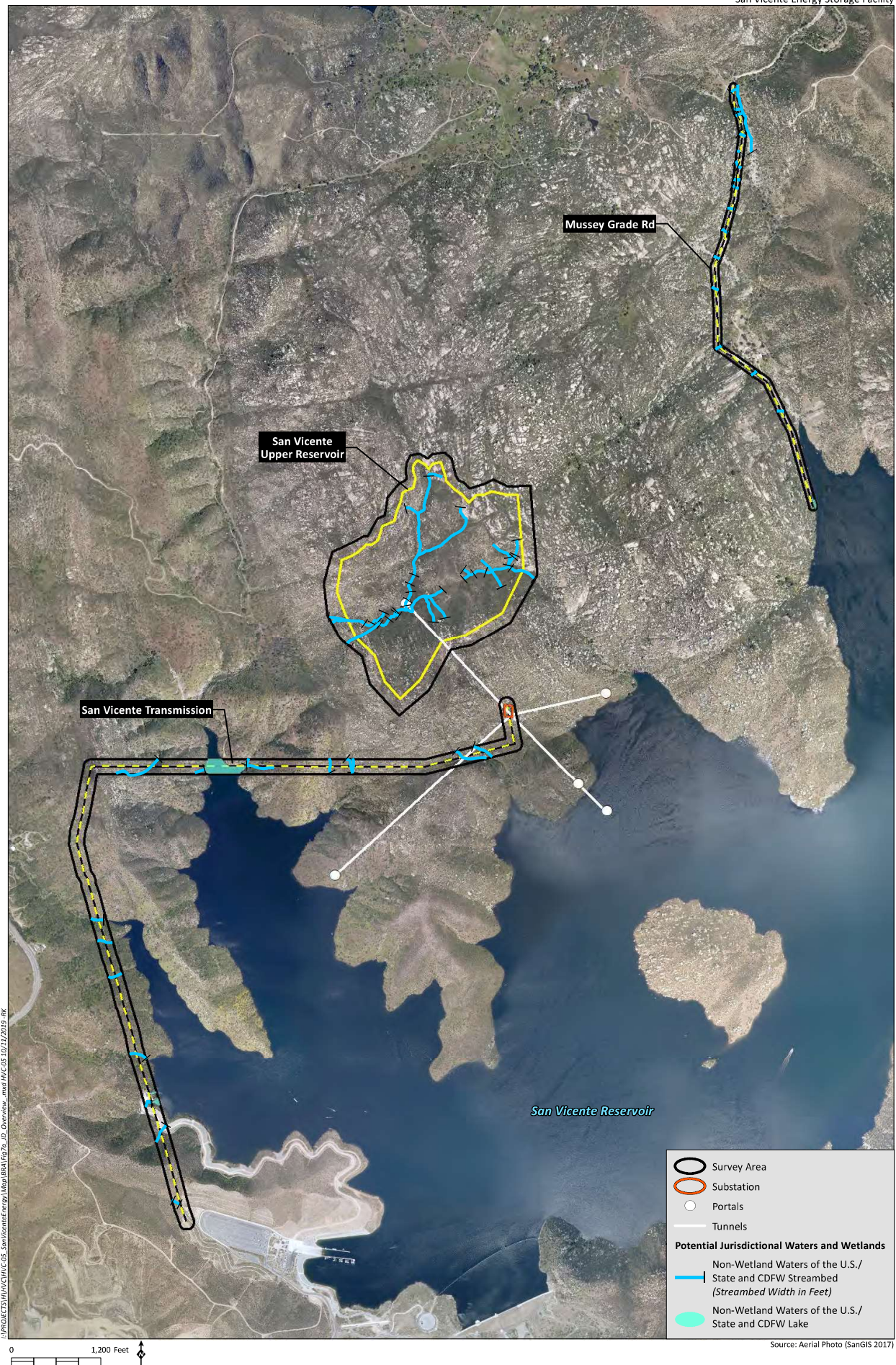
Source: Aerial Photo (SanGIS 2017); Vegetation (SANDAG 2010)





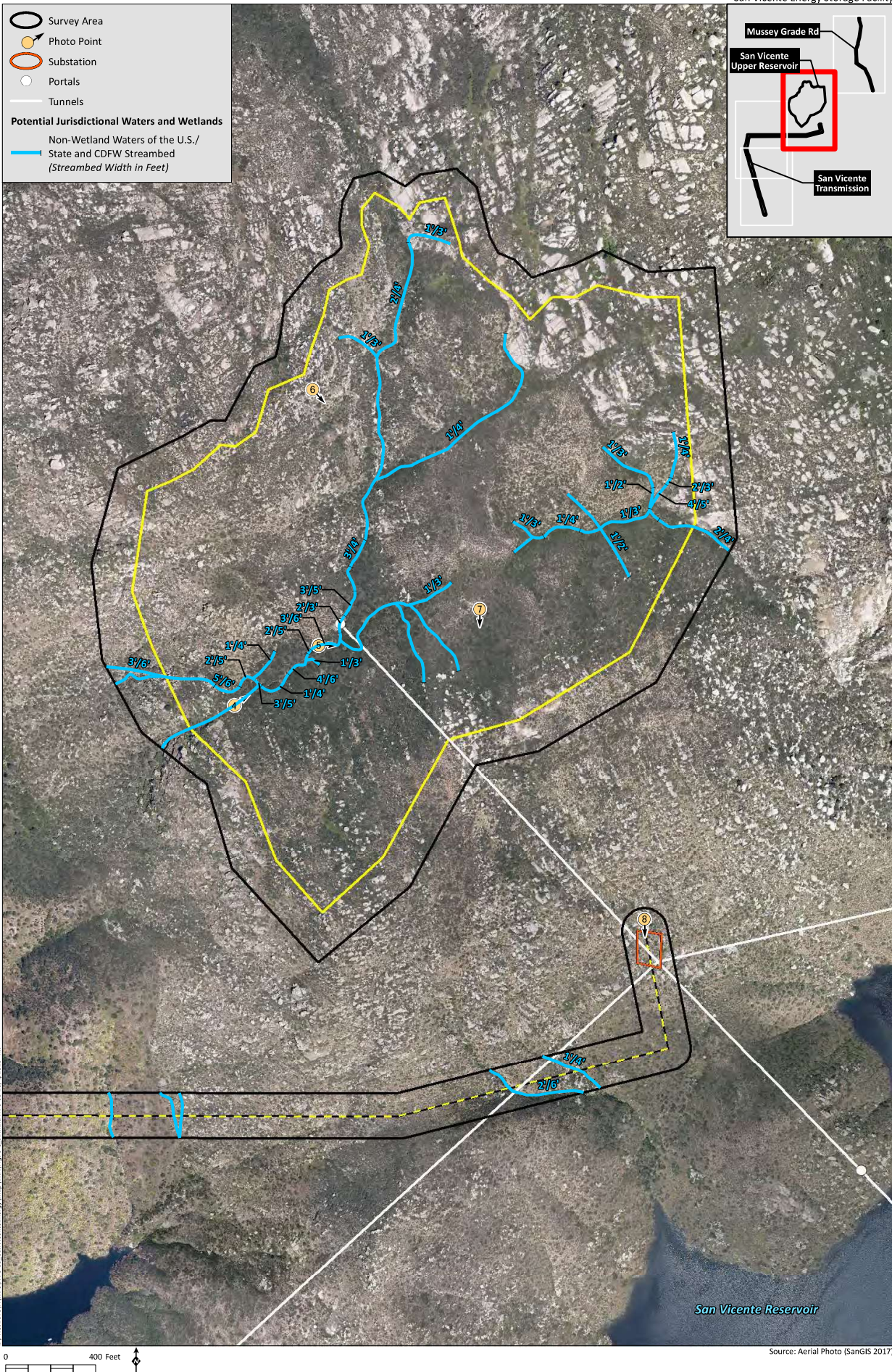


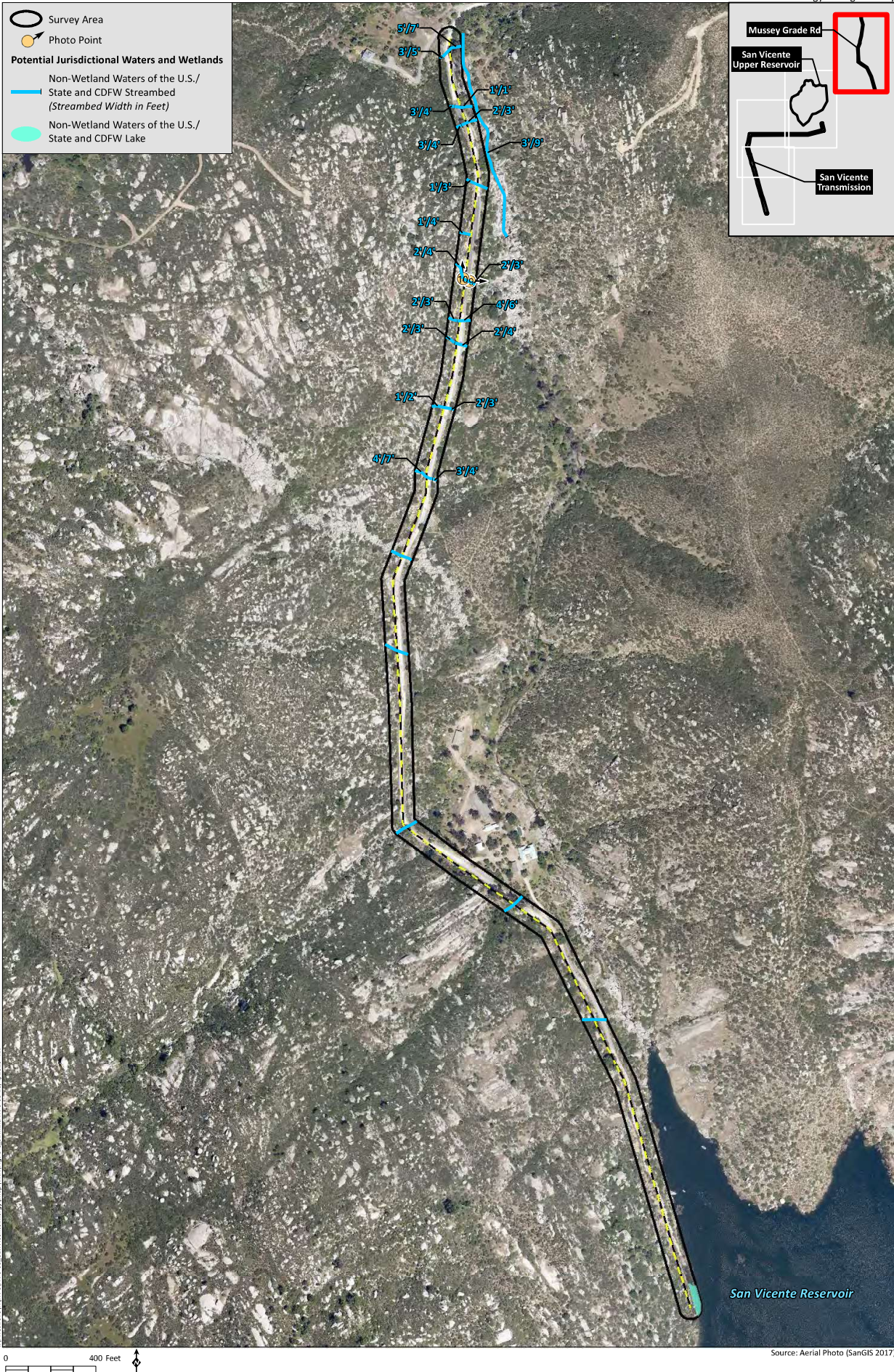












Activity if its implementation specifically requires the construction of a new dam and open storage reservoir, or the expansion of an existing reservoir's surface area. In this case, project permitting would be independent of the Plan, or may be processed as a Major Amendment (Section 8.4). The decision on whether to process a Major Amendment or pursue permits independent of the Plan will be made by the Water Authority based on the individual project conditions". (Water Authority 2010). Therefore, as currently planned with dam and open storage reservoir components, the project would likely require a major amendment, as opposed to qualifying as a covered activity. Section 8.4 of the Water Authority NCCP/HCP describes the general process requirements for a major amendment. It is expected that the major amendment process would be preferred above pursuing permits independent of the NCCP/HCP, although further study and consideration is warranted.

Protocol surveys for Quino are expected to be required based on the presence of suitable habitat within the conceptual planned locations of project components. Protocol surveys are labor intensive requiring multiple surveys over an extended survey season. Negative survey findings are only valid for a period of one year and would need to be repeated. There is also uncertainty regarding the survey season from year to year, which can be abbreviated or eliminated entirely during any given year due to poor environmental conditions (typically lack of rainfall). Surveys are recommended once in the near-term during the preliminary design phase of the project then again during project planning and permitting.

The presence of this species' host plant within the study area warrants consideration for alternative siting and design of certain project components. Even if take coverage can be obtained under the Water Authority's NCCP/HCP, the project would likely need to incorporate siting and design criteria to avoid and minimize impacts to occupied or potentially occupied patches of host plants. It is expected that the transmission tower locations, access road alignments, substation location, and portals could potentially be sited and designed to avoid or minimize impacts; however, the proposed upper reservoir location is expected to be relatively fixed and impacts would be unavoidable. In this regard and as design of the project progresses, the transmission tower locations, access road alignments, substation location, and portal footprints should be shifted where possible to avoid and minimize Quino host plant patch locations, as mapped by HELIX during optimal environmental conditions in 2019.

Mitigation for unavoidable impacts presents a constraint due to timing restrictions on construction and the potentially challenging process of identifying and securing occupied Quino habitat to offset any losses. Construction within or adjacent to occupied or potentially occupied host plant patches could be restricted to times when Quino are confirmed in flight (February to May) and not residing at the host plant as eggs or larvae. Loss of occupied Quino habitat would require compensatory mitigation at a minimum 1:1 ratio and may be greater due to the impact location within existing preserve lands. Mitigation options, including locations and methods, would need to be identified during the planning phase of the project. The mitigation location and method would be finalized during Section 7 consultation and would require preparation and implementation of a mitigation plan and long-term management plan. It is recommended that the project pursue mitigating within mitigation lands already identified and agreed upon by the USFWS in the Water Authority's NCCP/HCP to serve as adequate mitigation for Quino take coverage.

Constraint No. 2 – Jurisdictional Resources Permitting and Mitigation

Jurisdictional aquatic resources can present significant constraints on the project. Activities requiring impacts on the aquatic resources within the study area would be subject to the regulatory jurisdiction of the USACE, RWQCB, and CDFW.

Additional studies anticipated to be required during the planning and permitting phases of the project include a formal jurisdictional aquatic resources delineation, permit application materials, alternatives analysis, and mitigation plan, depending on the mitigation required. By spring 2020, it is anticipated that the USACE and RWQCB will have new requirements in effect for determining jurisdictional limits and contents of permit application materials, including additional data, alternatives analyses, and other requirements. These additional requirements are expected to add complexity to the delineation verification and permitting process. Early planning and consultation with the USACE, RWQCB, and CDFW is recommended. Aquatic resources delineation surveys are recommended once in the near-term during the preliminary design phase of the project then again during project planning and permitting.

As with Quino, alternative siting and design of certain project components would avoid and minimize the impacts on jurisdictional resources. Placement of permanent structures in uplands outside of jurisdictional limits and incorporating pre-cast arch culverts that span jurisdictional limits at access road crossings would help minimize the impact associated with the proposed transmission, access road, substation, and portal components of the project. Unavoidable impacts would occur at the fixed location of the proposed upper reservoir, which is where the majority of the permanent impacts on jurisdictional resources are anticipated to occur.

Permit instruments expected to be applicable to the planned project activities include CWA Section 404 Standard Individual Permit, CWA Section 401 Water Quality Certification, and CFG Code Section 1602 Streambed Alteration Agreement. It is possible that the project could qualify for a CWA Section 404 Nationwide Permit, depending on the final impact type, acreage, and linear feet. It is recommended to plan for a minimum of two years to complete the permit process. This timeframe is expected to be shortened by accessing regulatory staff contracted to work on City and Water Authority projects and by collaborating on mitigation options with the USACE, RWQCB, and CDFW during early project permitting stages.

Compensatory mitigation will be required for temporary and permanent impacts. Temporary impacts are anticipated to require mitigation at a 1:1 ratio and is most often completed through on-site restoration at the impact location. Permanent impacts are anticipated to require mitigation at a 3:1 ratio, including a minimum 1:1 ratio for the establishment/re-establishment (i.e., creation) to ensure no net loss of the resource. Mitigation could occur on or off site. The USACE's preference and policy is for mitigation to occur off site at an approved mitigation bank or in-lieu fee program, although they do accept on- or off-site permittee-responsible mitigation. Conversely, the RWQCB preference and policy is for mitigation to occur at the impact site or off site within the same watershed through permittee-responsible mitigation, although they do accept mitigation bank, in-lieu fee program, and out-of-watershed permittee-responsible mitigation. The ratio required by the RWQCB increases by 1:1 for every watershed the mitigation site is separated from the impact site.

Early planning and consultation with the USACE, RWQCB, and CDFW is recommended to collaborate on mitigation options and potentially shorten permit processing timeframes. The cost of traditional mitigation bank credits from the two currently available banks (San Luis Rey Mitigation Bank and Brook Forest Mitigation Bank) ranges from \$550,000 to \$575,000 per acre. The cost of permittee-responsible mitigation ranges from \$75,000 to \$150,000 per acre, not including cost of land acquisition, easement, grading, and endowment costs. It is recommended that the project pursue mitigating within mitigation lands potentially already identified and agreed upon by the USACE, RWQCB, and/or CDFW in the City Cornerstone Lands, City Stadium Wetland Mitigation, Water Authority NCCP/HCP, and/or Water

Authority Programmatic Master Plan Permit (PMPP) preserve lands to serve as adequate mitigation for aquatic resources impacts.

Constraint No. 3 – Sensitive Vegetation Communities Mitigation

Mitigation for sensitive natural communities represents a constraint due to the relatively large mitigation obligation in terms of acreage, however, most of the obligation is represented by southern mixed chaparral (Tier III), which is a more common type with higher availability and lower cost associated with the mitigation. Given the relatively large obligation and that the impacts are located within existing preserve lands (Cornerstone Lands, San Vicente Highlands, Boulder Oaks Preserve), it is expected that the mitigation would occur through acquisition and preservation of an off-site parcel or multiple parcels as opposed to purchasing credits from a conservation bank, paying into the City's Habitat Acquisition Fund (HAF), or other method. Table 3, *Sensitive Natural Communities and Potential Mitigation Ratios*, below summarizes the sensitive communities preliminarily mapped within the study area, including existing acreages and potential mitigation ratios, considering the location of the impact within existing preserve lands.

Table 3
SENSITIVE NATURAL COMMUNITIES AND POTENTIAL MITIGATION RATIOS

Vegetation Community¹	Acres²	Potential Mitigation Ratio
Wetland³		
Coastal and Valley Freshwater Marsh (52410)	0.02	3:1 – 6:1
Open Water/Freshwater (64140)	1.96	1:1
Southern Coast Live Oak Riparian Forest (61310)	1.00	3:1 – 6:1
Tier⁴ I		
Coast Live Oak Woodland (71160)	1.6	3:1 – 6:1
Tier II		
Diegan Coastal Sage Scrub (32500)	43.3	2:1 – 4:1
Tier III		
Southern Mixed Chaparral (37120)	161.4	1:1 – 2:1
TOTAL	209.29	--

As found in the preliminary assessment, some of the habitat within the study area is occupied by special status species or has a high potential to support them. Given the location of the impact within existing preservation areas, it is expected that the habitat mitigation will need to be in-kind, or like-kind, and demonstrated to support similar species and habitat functions and services to ensure there is no net loss over the preserve assembly or NCCP/HCP planning area. Two special status plant species with relatively high sensitivity, Lakeside ceanothus and delicate clarkia, are present in the study area, as are several other less-sensitive species. Impacts to habitat supporting these plant species could require mitigation with occupied habitat. Impacts to habitat supporting Quino and coastal California gnatcatcher will likely require mitigation with occupied habitat. Mitigating with occupied habitat represents an additional constraint of identifying potentially suitable mitigation sites available for acquisition and confirming occupancy of the target species through protocol surveys. The occupied habitat connection with Quino is another reason why Quino presence within an impact area could represent the most significant biological resources constraint for the project.

The cost of acquiring land for mitigation is variable and dependent upon several factors that are unknown at the time of this assessment. HELIX recently completed an inventory of currently available conservation banks in the region to determine the comparative cost of purchasing bank credits. The per acre costs were found to be as follows: Wetland \$265,000/acre - \$575,000/acre; Tier I \$45,000/acre - \$57,000/acre; Tier II \$45,000/acre - \$75,000/acre; and Tier III \$15,000/acre - \$76,000/acre. As with Quino and jurisdictional resources, it is recommended that the project pursue mitigating within mitigation/conservation lands potentially already identified and agreed upon by the resource agencies in the City Cornerstone Lands, City Stadium Wetland Mitigation, Water Authority NCCP/HCP, and/or Water Authority PMPP preserve lands to serve as adequate mitigation for aquatic resources impacts.

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Appendix A

Representative Site Photos



Photo Point 1: *Clarkia delicata* along Transmission Line.



Photo Point 2: Drainage feature facing east along Transmission Line.



Photo Point 3: *Pentachaeta aurea* ssp. *aurea* along Transmission Line.



Photo Point 4: Central drainage feature within Upper Reservoir facing east.



Photo Point 5: Central drainage feature within Upper Reservoir facing east.



Photo Point 6: Ceanothus cyaneus facing southeast into Upper Reservoir



Photo Point 7: Southern mixed chaparral understory within Upper Reservoir.



Photo Point 8: Eastern end of Transmission Line facing south.



Photo Point 9: Upstream roadside culvert facing north along Mussey Grade Road.



Photo Point 10: Downstream roadside culvert facing east along Mussey Grade Road

Appendix B

Plant Species Observed

Appendix B

Plant Species Observed

Family	Scientific Name* †	Common Name
Adiantaceae	<i>Adiantum jordanii</i>	California maidenhair
Adoxaceae	<i>Sambucus nigra</i>	black elderberry
Agavaceae	<i>Chlorogalum parviflorum</i>	small-flower soap-plant
	<i>Hesperoyucca whipplei</i>	chaparral yucca
Alliaceae	<i>Allium haematochiton</i>	redskin onion
	<i>Allium peninsulare</i>	Mexicali onion
Anacardiaceae	<i>Malosma laurina</i>	laurel sumac
	<i>Rhus aromatica</i>	skunk bush
	<i>Rhus integrifolia</i>	lemonadeberry
	<i>Rhus ovata</i>	sugar bush
	<i>Toxicodendron diversilobum</i>	poison oak
Apiaceae	<i>Apiastrum angustifolium</i>	mock parsley
	<i>Apium graveolens*</i>	celery
	<i>Bowlesia incana</i>	hoary bowlesia
	<i>Daucus pusillus</i>	rattlesnake weed
	<i>Foeniculum vulgare*</i>	fennel
	<i>Sanicula arguta</i>	sharp toothed snakeroot
	<i>Tauschia arguta</i>	southern umbrellawort
Asteraceae	<i>Acourtia microcephala</i>	sacapellote
	<i>Ambrosia psilostachya</i>	western ragweed
	<i>Arctotis venusta*</i>	blue-eyed African daisy
	<i>Artemisia californica</i>	California sagebrush
	<i>Artemisia douglasiana</i>	mugwort
	<i>Artemisia palmeri†</i>	San Diego sagewort
	<i>Baccharis pilularis</i>	coyote brush
	<i>Baccharis salicifolia</i>	mule fat
	<i>Baccharis salicina</i>	willow baccharis
	<i>Baccharis sarothroides</i>	broom baccharis
	<i>Bahiopsis laciniata†</i>	San Diego viguiera
	<i>Brickellia californica</i>	brickellbrush
	<i>Carduus pycnocephalus*</i>	Italian thistle
	<i>Centaurea melitensis*</i>	tocalote
	<i>Chaenactis artemisiifolia</i>	white pincushion
	<i>Chaenactis glabriuscula</i>	yellow pincushion
	<i>Cirsium occidentale</i> var. <i>californicum</i>	California thistle
	<i>Corethrogyne filaginifolia</i>	common sandaster

Appendix B (cont.) Plant Species Observed

Family	Scientific Name *†	Common Name
	<i>Deinandra fasciculata</i>	fascicled tarplant
	<i>Ericameria pinifolia</i>	pine goldenbush
	<i>Erigeron canadensis</i>	horseweed
	<i>Erigeron foliosus</i> var. <i>foliosus</i>	leafy daisy
	<i>Eriophyllum confertiflorum</i>	golden-yarrow
	<i>Gutierrezia californica</i>	California matchweed
	<i>Gutierrezia sarothrae</i>	matchweed
	<i>Hazardia squarrosa</i>	saw-toothed goldenbush
	<i>Hedypnois cretica</i> *	crete weed
	<i>Helianthus annuus</i>	common sunflower
	<i>Helianthus gracilentus</i>	slender sunflower
	<i>Hypochaeris glabra</i> *	smooth catsear
	<i>Isocoma menziesii</i>	goldenbush
	<i>Lactuca serriola</i> *	wild lettuce
	<i>Lasthenia gracilis</i>	needle goldfields
	<i>Layia platyglossa</i>	coastal tidy-tips
	<i>Logfia gallica</i> *	narrowleaf cottonrose
	<i>Madia gracilis</i>	gumweed
	<i>Osmadenia tenella</i>	osmadenia
	<i>Pentachaeta aurea</i> ssp. <i>aurea</i> †	golden chaetopappa
	<i>Porophyllum gracile</i>	slender poreleaf
	<i>Pseudognaphalium beneolens</i>	fragrant everlasting
	<i>Pseudognaphalium californicum</i>	California everlasting
	<i>Pseudognaphalium canescens</i>	everlasting
	<i>Rafinesquia californica</i>	California chicory
	<i>Senecio vulgaris</i>	common groundsel
	<i>Sonchus asper</i> *	prickly sow thistle
	<i>Sonchus arvensis</i> *	perennial sow thistle
	<i>Stephanomeria diegensis</i>	San Diego milk aster
	<i>Stephanomeria virgata</i>	virgate wreath-plant
	<i>Stylocline gnaphaloides</i>	everlasting nest straw
	<i>Uropappus lindleyi</i>	silverpuffs
Boraginaceae	<i>Cryptantha intermedia</i>	common cryptantha
	<i>Eriodictyon crassifolium</i>	felt-leaved yerba santa
	<i>Eucrypta chrysanthemifolia</i>	common eucrypta
	<i>Pectocarya linearis</i> ssp. <i>ferocula</i>	narrow-toothed pectocarya

Appendix B (cont.) Plant Species Observed

Family	Scientific Name *†	Common Name
	<i>Phacelia cicutaria</i> var. <i>hispida</i>	caterpillar phacelia
	<i>Phacelia minor</i>	California bluebell
	<i>Phacelia parryi</i>	Parry's phacelia
	<i>Phacelia ramosissima</i>	branching phacelia
Brassicaceae	<i>Brassica nigra</i> *	black mustard
	<i>Caulanthus heterophyllus</i>	slender pod jewelflower
	<i>Hirschfeldia incana</i> *	short-pod mustard
	<i>Lepidium nitidum</i>	shining pepperweed
	<i>Sisymbrium altissimum</i> *	tumble mustard
	<i>Sisymbrium irio</i> *	London rocket
Cactaceae	<i>Opuntia ficus-indica</i> *	Indian-fig
	<i>Opuntia littoralis</i>	coastal prickly pear
Campanulaceae	<i>Nemacladus longiflorus</i>	longflower threadplant
Caprifoliaceae	<i>Lonicera subspicata</i>	southern honeysuckle
Caryophyllaceae	<i>Polycarpon tetraphyllum</i> *	four-leaved allseed
	<i>Silene gallica</i> *	common catchfly
	<i>Silene laciniata</i>	southern pink
Chenopodiaceae	<i>Salsola tragus</i> *	Russian thistle
Cistaceae	<i>Crocanthemum scoparium</i>	peak rush-rose
Convolvulaceae	<i>Calystegia macrostegia</i>	morning-glory
	<i>Cuscuta californica</i>	dodder
Crassulaceae	<i>Crassula connata</i>	pigmy weed
	<i>Dudleya edulis</i>	fingertips
	<i>Dudleya lanceolata</i>	coastal dudleya
	<i>Dudleya pulverulenta</i>	chalk dudleya
Cucurbitaceae	<i>Marah macrocarpa</i>	wild cucumber
Cyperaceae	<i>Carex triquetra</i>	triangular fruit sedge
	<i>Eleocharis macrostachya</i>	common spikerush
Ericaceae	<i>Arctostaphylos glandulosa</i>	Eastwood manzanita
	<i>Xylococcus bicolor</i>	mission manzanita
Euphorbiaceae	<i>Acalypha californica</i>	California acalypha
	<i>Chamaesyce albomarginata</i>	rattlesnake weed
	<i>Croton setiger</i>	dove weed
Fabaceae	<i>Acmispon americanus</i>	Spanish-clover
	<i>Acmispon argophyllus</i>	silver birds foot trefoil
	<i>Acmispon glaber</i>	deerweed

Appendix B (cont.) Plant Species Observed

Family	Scientific Name *†	Common Name
	<i>Acmispon micranthus</i>	small flowered lotus
	<i>Lathyrus vestitus</i>	canyon sweet pea
	<i>Lupinus bicolor</i>	miniature lupine
	<i>Lupinus hirsutissimus</i>	stinging lupine
	<i>Medicago polymorpha</i> *	burclover
	<i>Melilotus albus</i> *	white sweet clover
	<i>Melilotus indicus</i> *	Indian sweet clover
	<i>Trifolium albopurpureum</i>	rancheria clover
	<i>Trifolium ciliolatum</i>	foothill clover
	<i>Trifolium willdenovii</i>	tomcat clover
	<i>Vicia villosa</i> *	winter vetch
Fagaceae	<i>Quercus agrifolia</i>	coast live oak
	<i>Quercus berberidifolia</i>	scrub oak
	<i>Quercus engelmannii</i> †	Engelmann oak
	<i>Quercus x acutidens</i>	Torrey's hybrid oak
Geraniaceae	<i>Erodium cicutarium</i> *	redstem filaree
	<i>Geranium californicum</i>	California geranium
Gentianaceae	<i>Zeltnera venusta</i>	charming centaury
Grossulariaceae	<i>Ribes indecorum</i>	white flowering currant
	<i>Ribes malvaceum</i>	chaparral current
Iridaceae	<i>Sisyrinchium bellum</i>	blue-eyed grass
Juncaceae	<i>Juncus bufonius</i>	toad rush
	<i>Juncus dubius</i>	mariposa rush
Lamiaceae	<i>Salvia apiana</i>	white sage
	<i>Salvia columbariae</i>	chia
	<i>Salvia mellifera</i>	black sage
	<i>Stachys ajugoides</i>	ajuga hedgenettle
	<i>Stachys bullata</i>	California hedgenettle
Liliaceae	<i>Calochortus splendens</i>	splendid mariposa lily
Lythraceae	<i>Lythrum hyssopifolia</i>	hyssop loosestrife
Malvaceae	<i>Malacothamnus fasciculatus</i>	chaparral mallow
	<i>Malva parviflora</i> *	cheeseweed
	<i>Sidalcea malviflora</i>	checkerbloom
Montiaceae	<i>Claytonia perfoliata</i>	miner's lettuce
Myrsinaceae	<i>Lysimachia arvensis</i> *	scarlet pimpernel
Myrtaceae	<i>Eucalyptus</i> sp.	eucalyptus

Appendix B (cont.) Plant Species Observed

Family	Scientific Name *†	Common Name
Nyctaginaceae	<i>Mirabilis laevis</i> ssp. <i>crassifolia</i>	wishbone bush
Oleaceae	<i>Olea europaea</i> *	olive
Onagraceae	<i>Camissoniopsis bistorta</i>	California sun cup
	<i>Clarkia delicata</i> †	delicate clarkia
	<i>Clarkia purpurea</i>	purple clarkia
	<i>Clarkia rhomboidea</i>	diamond clarkia
	<i>Clarkia similis</i>	Ramona clarkia
	<i>Epilobium canum</i> ssp. <i>canum</i>	California fuchsia
	<i>Eulobus californicus</i>	California primrose
Orobanchaceae	<i>Castilleja affinis</i>	Indian paintbrush
	<i>Castilleja densiflora</i>	denseflower owl's clover
	<i>Castilleja exserta</i>	purple owl's clover
	<i>Cordylanthus rigidus</i>	rigid bird's beak
Oxalidaceae	<i>Oxalis californica</i>	California wood sorrel
Papaveraceae	<i>Eschscholzia californica</i>	California poppy
	<i>Papaver rhoeas</i> *	corn poppy
Phrymaceae	<i>Diplacus aurantiacus</i>	bush monkeyflower
	<i>Diplacus brevipes</i>	wide-throat yellow monkeyflower
	<i>Diplacus puniceus</i>	sticky monkeyflower
	<i>Erythranthe guttata</i>	seep monkeyflower
	<i>Mimetanthe pilosa</i>	snouted monkeyflower
Plantaginaceae	<i>Antirrhinum coulterianum</i>	Coulter's snapdragon
	<i>Antirrhinum nuttallianum</i>	Nuttall's snapdragon
	<i>Collinsia heterophylla</i>	purple Chinese houses
	<i>Collinsia parviflora</i>	blue-eyed mary
	<i>Keckiella cordifolia</i>	heart-leaved penstemon
	<i>Penstemon spectabilis</i> var. <i>spectabilis</i>	showy penstemon
	<i>Plantago erecta</i>	dwarf plantain
	<i>Plantago ovata</i>	desert plantain
Platanaceae	<i>Platanus racemosa</i>	western sycamore
Poaceae	<i>Aristida adscensionis</i>	sixweeks threeawn
	<i>Arundo donax</i> *	giant reed
	<i>Avena barbata</i> *	slender oat
	<i>Brachypodium distachyon</i> *	false brome
	<i>Briza minor</i> *	small quaking grass
	<i>Bromus catharticus</i>	rescue grass

Appendix B (cont.) Plant Species Observed

Family	Scientific Name *†	Common Name
	<i>Bromus diandrus</i> *	common ripgut grass
	<i>Bromus hordeaceus</i> *	soft brome
	<i>Bromus madritensis</i> ssp. <i>madritensis</i> *	compact brome
	<i>Bromus madritensis</i> ssp. <i>rubens</i> *	red brome
	<i>Cynodon dactylon</i> *	Bermuda grass
	<i>Elymus glaucus</i>	blue wildrye
	<i>Festuca myuros</i> *	rattail sixweeks grass
	<i>Festuca perennis</i> *	Italian ryegrass
	<i>Gastridium phleoides</i> *	nit grass
	<i>Lamarckia aurea</i> *	goldentop grass
	<i>Melica imperfecta</i>	California melic
	<i>Melinis repens</i> *	Natal grass
	<i>Muhlenbergia microsperma</i>	littleseed muhly
	<i>Pennisetum setaceum</i> *	fountaingrass
	<i>Phalaris minor</i> *	littleseed canarygrass
	<i>Poa secunda</i>	Nevada blue grass
	<i>Polypogon monspeliensis</i> *	annual beardgrass
	<i>Schismus barbatus</i> *	Mediterranean grass
	<i>Stipa coronata</i>	crested needlegrass
	<i>Stipa lepida</i>	foothill needlegrass
	<i>Stipa miliacea</i> *	smilo grass
	<i>Stipa pulchra</i>	purple needlegrass
Polemoniaceae	<i>Gilia capitata</i>	blue field gilia
	<i>Navarretia hamata</i>	hooked navarretia
Polygonaceae	<i>Chorizanthe fimbriata</i>	fringed spineflower
	<i>Chorizanthe procumbens</i>	prostrate spineflower
	<i>Eriogonum fasciculatum</i>	California buckwheat
	<i>Eriogonum fasciculatum</i> var. <i>foliolosum</i>	leafy California buckwheat
	<i>Pterostegia drymarioides</i>	California thread-stem
Primulaceae	<i>Primula clevelandii</i>	Padre's shooting star
Pteridaceae	<i>Adiantum jordanii</i>	California maidenhair fern
	<i>Myriopteris newberryi</i>	Newberry's lip fern
	<i>Pellaea andromedifolia</i>	coffee fern
	<i>Pellaea mucronata</i>	birdfoot fern
Ranunculaceae	<i>Clematis pauciflora</i>	ropevine
	<i>Consolida ajacis</i> *	doubtful knight's spur

Appendix B (cont.) Plant Species Observed

Family	Scientific Name *†	Common Name
	<i>Delphinium cardinale</i>	scarlet larkspur
	<i>Delphinium nuttallianum</i>	meadow larkspur
	<i>Delphinium parishii</i>	Parish's larkspur
	<i>Delphinium parryi</i> ssp. <i>parryi</i>	Parry's larkspur
	<i>Thalictrum fendleri</i>	meadow rue
Resedaceae	<i>Reseda luteola</i> *	dyer's rocket
Rhamnaceae	<i>Ceanothus crassifolius</i>	hoaryleaf ceanothus
	<i>Ceanothus cyaneus</i> †	lakeside ceanothus
	<i>Ceanothus leucodermis</i>	chaparral whitethorn
	<i>Ceanothus oliganthus</i>	hairy ceanothus
	<i>Rhamnus crocea</i>	spiny redberry
	<i>Rhamnus ilicifolia</i>	holly-leaf redberry
Rosaceae	<i>Adenostoma fasciculatum</i>	chamise
	<i>Cercocarpus betuloides</i>	mountain mahogany
	<i>Heteromeles arbutifolia</i>	toyon
	<i>Prunus ilicifolia</i>	hollyleaf cherry
Rubiaceae	<i>Galium angustifolium</i> ssp. <i>angustifolium</i>	narrow-leaved bedstraw
	<i>Galium aparine</i>	common bedstraw
	<i>Galium nuttallii</i>	San Diego bedstraw
Rutaceae	<i>Cneoridium dumosum</i>	bushrue
Salicaceae	<i>Populus fremontii</i>	Fremont cottonwood
Scrophulariaceae	<i>Scrophularia californica</i>	California figwort
Selaginellaceae	<i>Selaginella biglovii</i>	bushy spike moss
	<i>Selaginella cinerascens</i> †	ashy spike moss
Solanaceae	<i>Datura wrightii</i>	jimson weed
	<i>Nicotiana glauca</i> *	tree tobacco
	<i>Solanum xanti</i>	purple nightshade
Tamaricaceae	<i>Tamarix ramosissima</i> *	saltcedar
Themidaceae	<i>Bloomeria crocea</i> var. <i>crocea</i>	golden star
	<i>Dichelostemma capitatum</i>	blue dicks
	<i>Muilla maritima</i>	common muilla

† Special Status Species

* Non-Native Species

Appendix C

Animal Species Observed or Detected

Appendix C

Animal Species Observed or Detected

Taxon		Scientific Name†	Common Name
Order	Family		
INVERTEBRATES			
Coleoptera	Tenebrionidae	<i>unidentified</i>	Darkling beetle
Hymenoptera	Apidae	<i>Apis mellifera</i>	European honeybee
	Formicidae	<i>Linepithema humile</i>	Argentine ant
		<i>unidentified</i>	Harvester ant
	Pompilidae	<i>unidentified</i>	Tarantula hawk
	Vespula	<i>unidentified</i>	Yellow jacket
Lepidoptera	Papilionidae	<i>Papilio rutulus</i>	Western Tiger Swallowtail
Odonata	Libellulidae	<i>Pachydiplax longipennis</i>	Blue dasher
VERTEBRATES			
Amphibians			
Anura	Hylidae	<i>Pseudacris regilla</i>	Pacific treefrog
	Ranidae	<i>Lithobates catesbeianus</i>	American bullfrog
Reptiles			
Squamata	Teiidae	<i>Aspidoscelis hyperythra beldingi</i> †	Belding’s orange-throated whiptail
	Viperidae	<i>Crotalus ruber</i> †	Red diamond rattlesnake
Birds			
Accipitriformes	Accipitridae	<i>Buteo jamaicensis</i>	Red-tailed Hawk
		<i>Buteo lineatus</i> †	Red-shouldered Hawk
	Cathartidae	<i>Cathartes aura</i> †	Turkey Vulture
Apodiformes	Trochilidae	<i>Calypte anna</i>	Anna's Hummingbird
Columbiformes	Columbidae	<i>Zenaida macroura</i>	Mourning Dove
Cuculiformes	Cuculidae	<i>Geococcyx californianus</i>	Greater Roadrunner
Galliformes	Odontophoridae	<i>Callipepla californica</i>	California Quail
Passeriformes	Aegithalidae	<i>Psaltiriparus minimus</i>	Bushtit
	Corvidae	<i>Aphelocoma californica</i>	California Scrub-Jay
		<i>Corvus brachyrhynchos</i>	American Crow
		<i>Corvus corax</i>	Common Raven
	Fringillidae	<i>Haemorhous mexicanus</i>	House Finch
		<i>Spinus psaltria</i>	Lesser Goldfinch
	Mimidae	<i>Toxostoma redivivum</i>	California Thrasher
	Parulidae	<i>Geothlypis trichas</i>	Common Yellowthroat
	Passerellidae	<i>Melozone crissalis</i>	California Towhee
		<i>Pipilo maculatus</i>	Spotted Towhee
		<i>Spizella artogularis</i>	Black-chinned Sparrow
	Polioptilidae	<i>Polioptila californica californica</i> †	Coastal California Gnatcatcher
	Ptilogonatidae	<i>Phainopepla nitens</i>	Phainopepla
	Sylviidae	<i>Chamaea fasciata</i>	Wrentit

Appendix C (cont.)

Animal Species Observed or Detected

Taxon		Scientific Name [†]	Common Name
Order	Family		
	Troglodytidae	<i>Catherpes mexicanus</i>	Canyon Wren
Birds (cont.)			
Piciformes	Picidae	<i>Melanerpes formicivorus</i>	Acorn Woodpecker
		<i>Picoides nuttallii</i>	Nuttall's Woodpecker
Mammals			
Artiodactyla	Cervidae	<i>Odocoileus hemionus fuliginatus</i> [†]	Southern mule deer
Rodentia	Cricetidae	<i>Neotoma</i> sp.	Woodrat
	Sciuridae	<i>Otospermophilus beecheyi</i>	California ground squirrel

[†] Special Status Species

Appendix D

Special Status Plant Species with Potential to Occur

Appendix D

Special Status Plant Species Observed or With Potential to Occur

Species	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
San Diego thorn-mint (<i>Acanthomintha ilicifolia</i>)	FT/SE CRPR 1B.1 County List A MSCP Covered MSCP NE	Annual herb. Typically found on clay soils within chaparral, coastal scrub, valley and foothill grassland, and vernal pools. Flowering period: April to June. Elevation: below 3,150 feet (960 meters).	Low. The species has been observed to the west of the study area within Sycamore Canyon Preserve but suitable clay soils are not mapped within the project.
California adolphia (<i>Adolphia californica</i>)	--/-- CRPR 2B.1 County List B	Perennial shrub. Most often found in sage scrub but occasionally occurs in peripheral chaparral habitats, particularly hillsides near creeks on clay soils. Flowering period: December to April. Elevation: below 1,312 feet (400 meters).	Low. The species was observed south of San Vicente Reservoir in 1997 but suitable clay soils re not mapped within the study area.
San Diego sagewort (<i>Artemisia palmeri</i>)	--/-- CRPR 4.2 County List D	Perennial herb. Typically found along stream courses, often beneath riparian woodland, on sandy and mesic soils. May occur in coast live oak woodland, coastal sage scrub, and southern mixed chaparral. Flowering period: June to October. Elevation: below 1,969 feet (600 meters).	Present. A total of six individuals were observed within a drainage along the Transmission Line during biological surveys.
Western spleenwort (<i>Asplenium vespertinum</i>)	--/-- CRPR 4.2 County List D	Perennial rhizomatous herb. Occurs in chaparral, cismontane woodland, and coastal scrub along rocky bluffs. Flowering period: February to June. Elevation: 180 to 1,000 meters.	High. Suitable habitat and rocky bluffs occur within the study area and the species was observed north of the project within Boulder Oaks County Park in 2007.
Dean's milk-vetch (<i>Astragalus deanei</i>)	--/-- CRPR 1B.1 County List A	Perennial herb. Found on open, shrubby slopes in chaparral. Also occurs within coastal scrub, cismontane woodland, and riparian forest. Flowering period: February to May. Elevation: 246 to 2,280 feet (75 to 695 meters).	Moderate. Suitable habitat occurs within the study area, but the closest recorded occurrence of the species is over 6 miles east near El Capitan Reservoir.
San Diego milk-vetch (<i>Astragalus oocarpus</i>)	--/-- CRPR 1B.2 County List A	Perennial herb. Grows in openings of chaparral and oak woodlands. Flowering period: May to August. Elevation: 1,000 to 5,000 feet (305 to 1,524 meters).	Moderate. Suitable habitat occurs within the study area, but the closest recorded occurrence of the species is over 6 miles east near El Capitan Reservoir from 1976.
Encinitas baccharis (<i>Baccharis vanessae</i>)	FT/SE CRRP 1B.1 County List A MSCP Covered MSCP NE	Perennial shrub. Grows on sandstone within chaparral, maritime chaparral, woodlands, and Torrey-pine forest understory. Flowering period: August to December. Elevation: 196 to 2,400 feet (60 to 720 meters).	Low. Suitable sandstone soils are not mapped within the study area and the closest occurrence of the species is over 2.7 miles northwest of the project at Iron Mountain.

Appendix D (cont.)

Special Status Plant Species Observed or With Potential to Occur

Species	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
San Diego County viguiera (<i>Bahiopsis laciniosa</i>)	--/-- CRPR 4.3 County List D	Perennial shrub. Occurs on a variety of soil types within coastal sage scrub. Generally, shrub cover is more open than at mesic, coastal locales supporting sage scrub. Flowering period: February to August. Elevation: 295 to 2,461 feet (90 to 750 meters).	Present. Numerous individuals were observed along the southern and eastern portions of the Transmission Line and the western Tunnel Portal location during biological surveys.
San Diego goldenstar (<i>Bloomeria clevelandii</i>)	--/-- CRPR 1B.1 County List A MSCP Covered	Perennial bulbiferous herb. Occurs in valley grasslands and coastal scrub, particularly near mima mound topography or in the vicinity of vernal pools, on clay soils. Flowering period: April to May. Elevation: 164 to 1,526 (50 to 465 meters).	Low. The species has been observed to the southwest of the study area within Marine Corps Air Station Miramar, but suitable clay soils are not mapped within the project.
Orcutt's brodiaea (<i>Brodiaea orcuttii</i>)	--/-- CRPR 1B.1 County List A MSCP Covered	Perennial bulbiferous herb. Occurs within closed-cone coniferous forest, chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and vernal pools. Prefers mesic or clay soils. Flowering period: May to July. Elevation: 98 to 5,550 feet (30 to 1,692 meters).	Low. There are multiple occurrences of the species within the project vicinity, but suitable clay soils are not mapped within the study area.
Brewer's calandrinia (<i>Calandrinia breweri</i>)	--/-- CRPR 4.2 County List D	Annual herb. Occurs within chaparral or coastal scrub on sandy or loamy soil, disturbed sites, and after burns. Flowering period: January to June. Elevation: 32 to 4,000 feet (10 to 1,220 meters).	Moderate. Suitable soils and habitat occur within the study area, but the nearest occurrence of the species is over 2.7 miles northwest of the project at Iron Mountain.
Dunn's mariposa lily (<i>Calochortus dunnii</i>)	--/-- CRPR 1B.2 County List A MSCP Covered MSCP NE	Perennial bulbiferous herb. Found in closed-cone coniferous forest, chaparral, and valley and foothill grassland, typically on gabbroic, metavolcanics, or rocky soils. Flowering period: February to June. Elevation: 600 to 6,000 feet (185 to 1,830 meters).	Moderate. Suitable habitat and rocky soils occur within the study area, but the closest recorded occurrence of the species is over 11 miles east near El Capitan Reservoir.
Lewis' evening-primrose (<i>Camissoniopsis lewisii</i>)	--/-- CRPR 3 County List C	Annual herb. Occurs on sandy or clay soils within grasslands, coastal scrub, cismontane woodland, and coastal bluffs and dunes. Flowering period: March to June. Elevation: below 984 feet (300 meters).	Low. Suitable habitat occurs within the study area, but mapped soils are generally rocky lacking sandy and clay soils. The closest reported occurrence of the species is located east of San Vicente Reservoir in Wildcat Canyon from 1966.
San Luis Obispo sedge (<i>Carex obispoensis</i>)	--/-- CRPR 1B.2	Perennial herb. Found along springs and streams within chaparral, coastal sage scrub, and grasslands. Often associated with serpentine, gabbro, and clay soils. Flowering period: April to June. Elevation: 30 to 2,690 feet (10 to 820 meters).	None. Suitable serpentine, gabbro, and clay soils are not mapped within the study area and no there are no reported occurrences of the species within the project vicinity.

Appendix D (cont.)

Special Status Plant Species Observed or With Potential to Occur

Species	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
Payson's jewelflower (<i>Caulanthus simulans</i>)	--/-- CRPR 4.2 County List D	Annual herb. Occurs within coastal sage scrub, chaparral, and pinyon-juniper woodlands on sandy and granitic soils. Flowering period February to June. Elevation: 295 to 7,220 feet (90 to 2,200 meters).	Low. Suitable habitat occurs within the study area, but mapped soils are generally rocky lacking sandy and granitic soils. There are no reported occurrences of the species within the project vicinity.
Lakeside ceanothus (<i>Ceanothus cyaneus</i>)	--/-- CRPR 1B.2 County List A MSCP Covered MSCP NE	Perennial shrub. Occurs on slopes and ridgelines in closed cone coniferous forest and chaparral. Flowering period: April to June. Elevation: 770 to 2,540 feet (235 to 755 meters).	Present. A total of 127 individuals were recorded within the study area, all within the Upper Reservoir survey area.
Wart-stemmed ceanothus (<i>Ceanothus verrucosus</i>)	--/-- CRPR 2B.2 County List B MSCP Covered	Perennial shrub. Found on rocky slopes within chaparral. Flowering period: December to May. Elevation: below 1,148 feet (350 meters).	Low. Suitable rocky slopes and chaparral occur within the study area; however, there are not reported occurrences of the species within the project vicinity. The species is distribution is predominately west of Interstate 15 within the more coastal regions.
Southern mountain misery (<i>Chamaebatia australis</i>)	--/-- CRPR 4.2 County List D	Perennial shrub. Occurs in chaparral on gabbroic or metavolcanics soils. Flowering period: November to May. Elevation: 980 to 3,350 feet (300 to 1,020 meters).	Low. Suitable gabbroic and metavolcanics soils are not mapped within the study area. The closest occurrence of the species is located approximately 1.6 miles north of the project within Boulder Oaks County Park.
Peninsular spineflower (<i>Chorizanthe leptotheca</i>)	--/-- CRPR 4.2 County List D	Annual herb. Occurs on alluvial fans and sandy and gravelly soils within coastal sage scrub, chaparral, and coniferous forests. Flowering period: May to August. Elevation: 980 to 6,235 feet (300 to 1,900 meters).	High. Suitable habitat and gravelly soils occur within the study area and occurrences of the species are reported within the project vicinity near the Iron Mountain area.
Long-spined spineflower (<i>Chorizanthe polygonoides</i> var. <i>longispina</i>)	--/-- CRPR 1B.2 County List A	Annual herb. Occurs in chaparral, coastal scrub, and native grassland, often in sandy soils. Flowering period: April to June. Elevation: 98 to 4,920 feet (30 to 1,500 meters).	None. Suitable sandy soils are not mapped within the study area and no there are no reported occurrences of the species within the project vicinity.
Delicate clarkia (<i>Clarkia delicata</i>)	--/-- CRPR 1B.2 County List A	Annual herb. Occurs in shaded areas or the periphery of oak woodlands and cismontane chaparral, often on gabbroic soils. Flowering period: April to May. Elevation: below 3,281 feet (1,000 meters).	Present. One population of 55 individuals was observed along the Transmission Line.

Appendix D (cont.)

Special Status Plant Species Observed or With Potential to Occur

Species	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
San Miguel savory (<i>Clinopodium chandleri</i>)	--/-- CRPR 1B.2 County List A MSCP Covered	Perennial shrub. Occurs within chaparral, cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland on rocky, gabbroic, or metavolcanic soils. Flowering period: March to July. Elevation: 390 to 3,530 feet (120 to 1,075 meters).	High. Suitable soils and habitat occur within the study area and the species was previously reported to occur within the study area along Mussey Grade Road in 1995.
Summer holly (<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>)	--/-- CRPR 1B.2 County List A	Perennial shrub. Occurs in chaparral and cismontane woodland. Flowering period: May to June. Elevation: 328 to 1,804 feet (100 to 550 meters).	Moderate. Suitable habitat is present within the study area. A single historical occurrence from 1938 was reported north of San Vicente Reserved near Mussey Grade.
Small-flowered morning-glory (<i>Convolvulus simulans</i>)	--/-- CRPR 4.2 County List D	Annual herb. Occurs on clay soils and serpentinite seeps in openings within chaparral, coastal scrub, and native grassland. Flowering period: April to June. Elevation: 98 to 2,871 feet (30 to 875 meters).	None. Suitable clay soils and serpentinite seeps are not mapped within the study area. There are no reported occurrences of the species within the project vicinity.
Short-bracted bird's-beak (<i>Cordylanthus rigidus</i> ssp. <i>brevibracteatus</i>)	--/-- CRPR 4.3	Annual herb. Found in granitic openings within chaparral, coniferous forests, and pinyon-juniper woodlands. Flowering period: July to October. Elevation: 2,000 to 8,500 feet (610 to 2,590 meters).	High. Suitable habitat occurs within the study area and there are several reported occurrences of the species within the project vicinity to the wet at the edge of San Vicente Reservoir.
Cleveland's bush monkeyflower (<i>Diplacus clevelandii</i>)	--/-- CRPR 4.3	Perennial herb. Grows on gabbroic and rocky soils within disturbed areas and open borders of chaparral and woodlands. Flowering period: April to July. Elevation: 1,475 to 6,560 feet (450 to 2,000 meters).	Low. Suitable rocky soils and habitat are present within the study area; however, there are no reported occurrences of the species within the project vicinity.
Variegated dudleya (<i>Dudleya variegata</i>)	--/-- CRPR 1B.2 County List A MSCP Covered MSCP NE	Perennial herb succulent. Occurs on clay soils of dry hillsides and mesas within chaparral, valley grassland, foothill woodland and coastal sage scrub communities. Flowering period: April to June. Elevation: below 984 feet (300 meters).	Low. Suitable clay soils are not mapped within the study area, but the species has been observed west of the project within Sycamore Canyon Preserve.
Palmer's goldenbush (<i>Ericameria palmeri</i> var. <i>palmeri</i>)	--/-- CRPR 1B.1 County List B MSCP Covered MSCP NE	Perennial shrub. Found in mesic areas within coastal sage scrub and chaparral. Flowering period: September to November. Elevation: below 1,968 feet (600 meters).	Moderate. Suitable habitat is present within the study area and the species was reported to occur approximately 3 miles southeast of the project along Wildcat Canyon Road in 2005.

Appendix D (cont.) Special Status Plant Species Observed or With Potential to Occur

Species	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
Abrams' spurge (<i>Euphorbia abramsiana</i>)	--/-- CRPR 2B.2	Perennial shrub. Found in rocky areas of coastal bluffs, coastal sage scrub, and Mojavean desert scrub. Flowering period: December to August. Elevation: below 1,800 feet (550 meters).	Low. Suitable rocky areas are present within the study area, but there are no reported occurrences of the species within the project vicinity.
Mission Canyon bluecup (<i>Githopsis diffusa</i> ssp. <i>filicaulis</i>)	--/-- CRPR 3.1	Annual herb. Occurs in mesic and disturbed areas within chaparral. Flowers April to June. Flowering period: April to June. Elevation: 1,475 and 2,300 feet (450 to 700 meters).	Moderate. Suitable habitat is present within the study area and the species was reported to occur east of the project within El Capitan Preserve in the 1960s.
Palmer's grapplinghook (<i>Harpagonella palmeri</i>)	--/-- CRPR 4.2 County List D	Annual herb. Found in clay soils in annual grasslands and coastal sage scrub. Flowering period: March to May. Elevation: 65 to 3,100 feet (20 to 955 meters).	Low. Suitable clay soils are not mapped within the study area, but the species was observed west of the project within Sycamore Canyon Preserve in 1992.
Tecate cypress (<i>Hesperocyparis forbesii</i>)	--/-- CRPR 1B.1 County List A MSCP Covered	Perennial tree. Found within closed-cone coniferous forest and chaparral on clay, gabbroic, or metavolcanics soils. Elevation: 262 to 4,900 feet (80 to 1500 meters).	None. Suitable soils are not mapped within the study area and there are no reported occurrences of the species within the project vicinity.
Ramona horkelia (<i>Horkelia truncata</i>)	--/-- CRPR 1B.3 County List A	Perennial herb. Occurs on clay and gabbroic soils within chaparral and woodlands. Flowering period: May to June. Elevation: 1,310 to 4,265 feet (400 to 1,300 meters).	Low. Suitable clay and gabbroic soils are not mapped within the study area, but the species has been observed within the project vicinity near Iron Mountain.
Decumbent goldenbush (<i>Isocoma menziesii</i> var. <i>decumbens</i>)	--/-- CRPR 1B.2 County List A	Perennial shrub. Occurs in sandy soil and disturbed areas on the inland side of dunes, hillsides, and arroyos within coastal sage scrub and chaparral communities. Flowering period: July to November. Elevation: below 656 feet (200 meters).	High. Suitable habitat occurs within the study area and the species was previously observed on the western portion of San Vicente Reservoir in 2005.
San Diego marsh-elder (<i>Iva hayesiana</i>)	--/-- CRPR 2B.2 County List B	Perennial herb. Found in alkaline flats, depressions, and streambanks within wetland communities. Flowering period: April to October. Elevation: 32 to 1,640 feet (10 to 500 meters).	Low. Suitable habitat is present along drainages within the study area, but there are no reported occurrences of the species within the project vicinity.
Southwestern spiny rush (<i>Juncus acutus</i> ssp. <i>leopoldii</i>)	--/-- CRPR 4.2 County List D	Perennial herb. Found in moist saline environments such as alkaline seeps and meadows, and coastal salt marshes and swamps. Flowering period: May to June. Elevation: below 984 feet (300 meters).	Low. Suitable habitat is present along drainages within the study area, but there are no reported occurrences of the species within the project vicinity.

Appendix D (cont.)

Special Status Plant Species Observed or With Potential to Occur

Species	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
Pride-of-California (<i>Lathyrus splendens</i>)	--/-- CRPR 4.3 County List D	Perennial herb. Found within chaparral. Flowering period: March to June. Elevation: 650 to 5,000 feet (200 to 1,525 meters).	Low. Suitable habitat is present within the study area, but there are no recent reported occurrences of the species within the project vicinity. The closest observation is located northeast of the project near Barona Indian Reservation from 1954.
Gander's pitcher sage (<i>Lepechinia ganderi</i>)	--/-- CRPR 1B.3 County List A MSCP Covered MSCP NE	Perennial shrub. Occurs on gabbroic or metavolcanic soils within coastal sage scrub, chaparral, coniferous forest, and grasslands. Flowering period June to July. Elevation: 1,000 to 3,300 feet (305 to 1,005 meters).	None. Suitable soils are not mapped within the study area and there are no reported occurrences within the project vicinity.
Robinson's pepper-grass (<i>Lepidium virginicum</i> var. <i>robinsonii</i>)	--/-- CRPR 4.3 County List A	Annual herb. Grows in openings in sage scrub and chaparral at the coastal and foothill elevations. Typically observed in relatively dry, exposed locales rather than beneath a shrub canopy. Also, found in disturbed areas. Flowering period: March to June. Elevation: below 9,186 feet (2,800 meters).	High. Suitable habitat is present within the study area and there are several reported occurrences of the species within the project vicinity.
Felt-leaved monardella (<i>Monardella hypoleuca</i> ssp. <i>lanata</i>)	--/-- CRPR 1B.2 County List A MSCP Covered	Perennial rhizomatous herb. Occurs on rocky, granitic slopes or hilltops within chaparral and woodlands. Flowering period: June to August. Elevation: 1,000 to 5,170 feet (300 to 1,575 meters).	High. Suitable habitat is present within the study area and there are several reported occurrences of the species within the project vicinity.
Willow monardella (<i>Monardella viminea</i>)	FE/SE CRPR 1B.1 MSCP Covered	Perennial herb. Occurs within alluvial ephemeral washes within coastal scrub, chaparral, and riparian habitats. Generally, there is no canopy cover, and river cobbles may lie in close proximity. Flowering period: June to August. Elevations below 1,000 feet.	High. Suitable habitat is present within the study area and the species is reported to occur west of the project within Sycamore Canyon Preserve.
Dehesa nolina (<i>Nolina interrata</i>)	--/SE CRPR 1B.1 County List A MSCP Covered MSCP NE	Perennial herb. Grows on gabbroic, metavolcanics, or serpentine soils within chaparral. Flowering period: June to July. Elevation: 600 to 2,805 feet (185 to 855 meters).	None. Suitable soils are not mapped within the study area and there are no reported occurrences within the project vicinity.
Gander's ragwort (<i>Packera ganderi</i>)	--/SR CRPR 1B.2 County List A	Perennial herb. Occurs on gabbroic soils within the understory of chaparral and recently burned chaparral slopes. Flowering period: April to June. Elevation: 1,310 to 3,940 feet (400 to 1,200 meters).	Low. Suitable gabbroic soils are not mapped within the study area; however, the species was observed north of the project near Iron Mountain in 1999.

Appendix D (cont.)

Special Status Plant Species Observed or With Potential to Occur

Species	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
Golden-rayed pentachaeta (<i>Pentachaeta aurea</i> ssp. <i>aurea</i>)	--/-- CRPR 4.2 County List D	Annual herb. Occurs in grassy areas within coastal scrub, chaparral, cismontane woodland, lower montane coniferous forest, riparian woodland. Flowering period: March to July. Elevation: 260 to 6,100 feet (80 and 1,850 meters).	Present. Multiple populations were observed along the northwestern corner of the Transmission Line.
Woolly chaparral-pea (<i>Pickeringia montana</i> var. <i>tomentosa</i>)	--/-- CRPR 4.3	Evergreen shrub. Occurs in chaparral on gabbroic, granitic, or clay soils. Flowering period: May to August. Elevation: below 5,600 feet (1,700 meters).	Low. Suitable habitat is present within the study area; however, there is only one reported occurrence of the species east of the project within El Capitan Preserve.
Chaparral rein orchid (<i>Piperia cooperi</i>)	--/-- CRPR 4.2 County List D	Perennial herb. Generally found on dry sites within grasslands, chaparral, and cismontane woodland. Flowering period: March to June. Elevation: 50 to 5,200 feet (15 to 1,585 meters).	High. Suitable habitat is present within the study area and there are several reported occurrences of the species within the project vicinity.
Fish's milkwort (<i>Polygala cornuta</i> var. <i>fishiae</i>)	--/-- CRPR 4.3 County List D	Perennial shrub. Occurs within chaparral and oak woodlands. Flowering period: May to August. Elevation: 320 to 3,280 feet (100 to 1,000 meters).	Low. Suitable habitat is present within the study area, but there are no recent reported occurrences of the species within the project vicinity. The closest observation is located east of the project within Barona Valley from 1937.
Nuttall's scrub oak (<i>Quercus dumosa</i>)	--/-- CRPR 1B.1 County List A	Perennial shrub. Occurs on sandy or clay loam soils near the coast within coastal scrub, chaparral, cismontane woodland, and riparian woodland. Flowering period: March to May. Elevation: below 656 feet (200 meters).	Moderate. Suitable habitat is present and there are reported occurrences of the species within the project vicinity; however, the majority of these occurrences are located further west within coastal areas.
Engelmann oak (<i>Quercus engelmannii</i>)	--/-- CRPR 4.2 County List D	Perennial tree. Occurs on slopes and foothills within grasslands, chaparral, oak woodland, and riparian woodlands. Flowering period: March to June. Elevation: 160 to 4,300 feet (50 to 1,300 meters).	Present. Seven individuals were observed at the northern limit of Mussey Grade Road and one individual was observed near the center of the Upper Reservoir.
Moreno currant (<i>Ribes canthariforme</i>)	--/-- CRPR 1B.3 County List A	Perennial shrub. Occurs within chaparral and riparian scrub. Flowering period: February to April. Elevation: 785 to 3,940 feet (340 to 1,200 meters).	Moderate. Suitable habitat is present within the study area; however, reported occurrences of the species within the project vicinity are all located to the east within El Capitan Preserve.
Munz's sage (<i>Salvia munzii</i>)	--/-- CRPR 2B.2 County List B	Perennial evergreen shrub. Occurs within chaparral and coastal scrub. Flowering period: February to April. Elevation: 370 and 3,500 feet (115 to 1,065 meters).	Low. Suitable habitat is present within the study area, but there are no reported occurrences of the species within the project vicinity.

Appendix D (cont.) Special Status Plant Species Observed or With Potential to Occur

Species	Status ¹	Habit, Ecology and Life History	Potential to Occur ²
San Diego County needle grass (<i>Stipa diegoensis</i>)	--/-- CRPR 4.2	Perennial herb. Found in rocky, mesic soils near streams or along the coast within coastal scrub and chaparral. Flowering period: February to June. Elevation: 30 to 2,600 feet (10 and 800 meters).	Low. Suitable habitat is present within the study area, but there are no reported occurrences of the species within the project vicinity.
Ashy spike-moss (<i>Selaginella cinerascens</i>)	--/-- CRPR 4.1 County List D	Rhizomatous fern. Occurs in chaparral and coastal sage scrub. Elevation: below 1,804 feet (550 meters).	Present. This species was prominent within the study area on bare, rocky, south-facing slopes.
Parry's tetradococcus (<i>Tetradococcus dioicus</i>)	--/-- CRPR 1B.2 County List A MSCP Covered	Perennial shrub. Occurs on dry slopes within coastal sage scrub and chaparral. Usually, conditions are quite xeric with only limited annual growth. Flowering period: April to May. Elevation: below 3,281 feet (1,000 meters).	Low. Suitable habitat is present within the study area, but there are no recent reported occurrences of the species within the project vicinity. Previous observations of the species within the area are located east of the project near Barona Indian Reservation from the 1940s and 1950s.
Rush-like bristleweed (<i>Xanthisma junceum</i>)	--/-- CRPR 4.3	Perennial herb. Grows on dry hillsides within coastal sage scrub and chaparral. Flowering period: May to January. Elevation: 785 to 3,280 feet (240 to 1,000 meters).	High. Suitable habitat is present within the study area and the species was reported to occur north of the project within Boulder Oaks County Park.

¹ Listing codes as follows: F = Federal; S = State of California; E = Endangered; T = Threatened; CE = Candidate Endangered; R = Rare

CRPR = California Native Plant Society Rare Plant Rank: 1A – presumed extirpated in California and either rare or extinct elsewhere; 1B – rare, threatened, or endangered in California and elsewhere; 2A – presumed extirpated in California, but more common elsewhere; 2B – rare, threatened, or endangered in California, but more common elsewhere; 3 – more information needed; 4 – watch list for species of limited distribution. Extension codes: .1 – seriously endangered; .2 – moderately endangered; .3 – not very endangered.

County of San Diego Sensitivity Status: Plant species are divided into Groups A through D on the County Rare Plant List. **Groups A and B** Plants include those that have a very high level of sensitivity, either because they are listed as threatened or endangered or because they have very specific natural history requirements that must be met. **Groups C and D** Plants include those species that are becoming less common but are not yet so rare that extirpation or extinction is imminent without immediate action. These species tend to be prolific within their suitable habitat types.

MSCP Covered Species: Covered Species under MSCP; NE = Narrow Endemic Species under MSCP.

² Potential to Occur is assessed as follows: **None:** There are no present or historical records of the species occurring on or in the immediate vicinity of the study area and the diagnostic habitats and soils associated with the species do not occur on or in the immediate vicinity of the project; **Low:** Suitable habitat is present in the study area and a historical record of the species occurs in the immediate vicinity but existing conditions such as elevation, soils, density of cover, prevalence of non-native species, evidence of disturbance, limited habitat area, and/or isolation substantially reduce the possibility that the species may occur; **Moderate:** The diagnostic habitats associated with the species occur on or in the immediate vicinity of the study area, but there is not a recorded occurrence of the species within the immediate vicinity. Some species that contain extremely limited distributions may be considered moderate, even if there is a recorded occurrence in the immediate vicinity; **High:** Suitable habitat occurs in the study area and the species has been recorded recently on or in the immediate vicinity but the species was not observed during project surveys; **Present:** The species was observed during biological surveys for the project and is assumed to occupy the study area; **Presumed Absent:** Species would be visible all year and would have been observed if present.

Appendix E

Special Status Animal Species with Potential to Occur

Appendix E

Special Status Animal Species Observed or With Potential to Occur

Species	Status ¹	Habitat Associations	Potential to Occur ²
Invertebrates			
Quino checkerspot butterfly (<i>Euphydryas editha quino</i>)	FE/-- County Group 1 MSCP Covered MSCP NE	Occurs in California from western Riverside County southwards to southern San Diego County. Inhabits open and sparsely vegetated areas that contain larval host plant species (principally dot-seed plantain [<i>Plantago erecta</i>], woolly plantain [<i>Plantago patagonia</i>] but also Coulter's snapdragon [<i>Antirrhinum coulterianum</i>], and rigid bird's beak [<i>Cordylanthus rigidus</i>]) and nectar sources. Often found on rounded hilltops, ridgelines, and occasionally rocky outcrops. Occurs within a wide range of open-canopied habitats including vernal pools, sage scrub, chaparral, grassland, and open oak and juniper woodland communities.	High. Suitable habitat and host plants occur within the study area, and there are numerous recent occurrences of the species within the project vicinity.
Amphibians			
Arroyo toad (<i>Anaxyrus californicus</i>)	FE/SSC County Group 1 MSCP NE MSCP Covered	Inhabits low gradient, medium to large streams and rivers with intermittent and perennial flow in coastal and desert drainages of central and southern California. Breeding habitat specialists that require slow-moving streams composed of sandy soils with sandy streamside terraces. May occupy first-order streams, though most populations inhabit second-sixth-order streams that have extensive braided channels and sediment deposits of sand, gravel, or pebbles that are redistributed by flooding. Utilizes shallow pools (at least 1-inch deep) for breeding, egg-laying, and tadpole development. Vulnerable to habitat destruction and alteration due to changes in hydrology, including construction of dams and water diversions. Impacted by the presence of non-native predators such as American bullfrog (<i>Lithobates catesbeianus</i>).	None. Suitable sandy, stream habitat for the species does not occur within the study area.

Appendix E (cont.)

Special Status Animal Species Observed or With Potential to Occur

Species	Status ¹	Habitat Associations	Potential to Occur ²
Amphibians (cont.)			
Western spadefoot toad (<i>Spea hammondi</i>)	--/SSC County Group 2	Occurs from northern California southward to San Diego County, and to the west of the Sierra Nevada at elevations below 4,500 feet. Terrestrial species requiring temporary pools for breeding. Suitable upland habitats include coastal sage scrub, chaparral, and grasslands. Most common in grasslands with vernal pools or mixed grassland-coastal sage scrub areas. Breeds in temporary pools formed by heavy rains, but also found in riparian habitats with suitable water resources. Breeding pools must lack exotic predators such as fish, bullfrogs, and crayfish for the species to successfully reproduce. Estivates in burrows within upland habitats adjacent to potential breeding sites.	High. Suitable habitat occurs within the study area and there are reported occurrences of the species northeast of the study area along San Vicente Creek and west within Sycamore Canyon Preserve.
Reptiles			
California glossy snake (<i>Arizona elegans occidentalis</i>)	--/SSC	Occurs along the coastal regions from San Francisco south to San Diego County; though it is absent along the central coast of California. Inhabits arid scrub, rocky washes, grasslands, and chaparral. Prefers open areas and areas with soils loose enough for easy burrowing.	Low. Suitable habitat occurs within the study area; however, the only reported occurrences of the species within the project vicinity are from the 1940s.
Belding's orange-throated whiptail (<i>Aspidoscelis hyperythra beldingi</i>)	--/WL County Group 2 MSCP Covered	Found within the southwestern portion of California in southern San Bernardino, western Riverside, Orange, and San Diego Counties on the western slopes of the Peninsular ranges below 3,500 feet. Suitable habitat includes coastal sage scrub, chaparral, juniper woodland, oak woodland, and grasslands along with alluvial fan scrub and riparian areas. Occurrence of the species correlated with the presence perennial plants (such as California buckwheat, California sagebrush, black sage, or chaparral) to provide a food base for its major food source, termites.	Present. Two individuals were observed within the study area: one in the northern section of the Upper Reservoir and one in the center of the western leg along the Transmission Line.

Appendix E (cont.)

Special Status Animal Species Observed or With Potential to Occur

Species	Status ¹	Habitat Associations	Potential to Occur ²
Reptiles (cont.)			
San Diego tiger whiptail (<i>Aspidoscelis tigris stejnegeri</i>)	--/SSC County Group 2	Occurs along the coastal region of southern California from San Luis Obispo south to San Diego County. Inhabits a wide variety of habitats, primarily in hot and dry open areas with sparse vegetation, from sea level to 4,900 feet. Associated habitats include coastal sage scrub, chaparral, riparian areas, woodlands, and rocky areas with sandy or gravel substrates.	High. Suitable habitat occurs within the study area and there are recent occurrences of the species within the project vicinity.
Red diamond rattlesnake (<i>Crotalus ruber</i>)	--/SSC County Group 2	Occurs in the southwestern portion of California from San Bernardino County southward to San Diego County at elevations below 5,000 feet. Has a wide tolerance for varying environments including the desert, dense foothill chaparral, warm inland mesas and valleys, and cool coastal zones. Most commonly found near heavy brush with large rocky microhabitats. Chamise and red shank chaparral associations may offer better structural habitat for refuges and food resources.	Present. Two individuals were observed within the study area: one along the Transmission Line and one within the Upper Reservoir.
Blainville's horned lizard (<i>Phrynosoma blainvillii</i>)	--/SSC County Group 2 MSCP Covered	Occurs from southern California to northern Baja California. In California, the species predominately occurs from Kern County south to San Diego County west of the desert at elevations below 8,000 feet. Inhabits a wide variety of vegetation types including sagebrush scrub, chaparral, grasslands, forests, and woodlands but is restricted to areas with suitable sandy, loose soils with open areas for basking. Diet primarily composed of native harvester ants (<i>Pogonomyrmex</i> sp.) and are generally excluded from areas invaded by Argentine ants (<i>Linepithema humile</i>).	High. Suitable habitat occurs within the study area and there are recent occurrences of the species within the project vicinity.
Coast patch-nosed snake (<i>Salvadora hexalepis virgulata</i>)	--/SSC	Occurs in the coastal regions of California from the northern Carrizo Plains in San Luis Obispo County south to San Diego County at elevations below 7,000 feet. Inhabits semi-arid shrubby areas such as chaparral and desert scrub. Also found along washes, sandy flats, canyons, and rocky areas. Takes refuge and overwinters in burrows and woodrat nests.	High. Suitable habitat occurs within the study area and there are multiple occurrences of the species in the project vicinity, particularly to the west within the Sycamore Canyon Preserve. Furthermore, the species was observed outside of the study area during biological surveys.

Appendix E (cont.)

Special Status Animal Species Observed or With Potential to Occur

Species	Status ¹	Habitat Associations	Potential to Occur ²
Reptiles (cont.)			
Two-striped garter snake (<i>Thamnophis hammondi</i>)	--/SSC County Group 1	Found in California from Monterey County south along the coast to San Diego County and into northern Baja California at elevations below 7,000 feet. Commonly inhabits perennial and intermittent streams with rocky beds bordered by riparian habitats dominated by willows and other dense vegetation. The species has also been found in stock ponds and other artificially created aquatic habitats if bordered by dense vegetation and potential prey, such as amphibians and fish, are present.	High. Suitable habitat occurs within the study area and there are reported occurrences of the species within the project vicinity.
Birds			
Cooper's Hawk (<i>Accipiter cooperii</i>)	--/WL County Group 1 MSCP Covered	In California, the species breeds from Siskiyou County south to San Diego County and east to the Owens Valley at elevations below 9,000 feet. Inhabits forests, riparian areas, and more recently suburban and urban areas nesting within dense woodlands and forests and isolated trees in open areas.	High. Suitable habitat occurs within the study area and there are numerous occurrences of the species within the project vicinity.
Southern California Rufous-crowned Sparrow (<i>Aimophila ruficeps canescens</i>)	--/WL County Group 1 MSCP Covered	Restricted to southwestern California occurring from Santa Barbara County southwards to San Diego County at elevations below 5,000 feet. Generally found on moderate to steep slopes vegetated with grassland, coastal sage scrub, and chaparral. Prefer areas with California sagebrush but area also generally absent from areas with dense stands of coastal sage scrub or chaparral. May occur on steep grassy slopes without shrubs if rock outcrops are present.	High. Suitable habitat occurs within the study area and there are numerous occurrences of the species within the project vicinity.
Bell's sparrow (<i>Artemisiospiza belli</i>)	BCC/WL County Group 1	Non-migratory resident on the coastal ranges of California and western slopes of the central Sierra Nevada mountains. Occurs year-round in southern California. Breeds in dry coastal sage scrub and chaparral, desert scrub, and similar other open, scrubby habitats. In foothill chaparral, they tend toward younger, less dense stands that are recovering from recent fires; less common in older, taller stands that have remained unburned.	High. Suitable habitat occurs within the study area and there are numerous occurrences of the species within the project vicinity.

Appendix E (cont.)

Special Status Animal Species Observed or With Potential to Occur

Species	Status ¹	Habitat Associations	Potential to Occur ²
Birds (cont.) Golden Eagle (<i>Aquila chrysaetos</i>)	BCC/WL, FP County Group 1 MSCP Covered	Uncommon permanent resident and migrant throughout California, except the center of the Central Valley. More common in southern California than in northern regions. Inhabits a variety of habitats, nesting in cliffs or trees and rugged terrain and foraging over plains, grasslands, or low and open shrublands including chaparral and coastal sage scrub. Typically absent from heavily forested areas or on the immediate coast and are almost never detected in urbanized environments.	High. Suitable habitat occurs within and adjacent to the study area and potential breeding habitat is found within the project vicinity, particularly to the east near El Capitan Preserve.
Red-shouldered Hawk (<i>Buteo lineatus</i>)	--/-- County Group 1	In California, the species occurs to the west of Sierra Nevada occupying mature oak and riparian woodlands, eucalyptus groves, and suburban areas near forested areas. Nests in trees, both native and non-native, often located near a water source such as stream or pond.	Present. One individual was observed flying over the Transmission Line during biological surveys.
Turkey Vulture (<i>Cathartes aura</i>)	--/-- County Group 1	In California, the species occurs as a year-round resident along the coastal regions but breeds throughout the entire state. Preferred habitat includes farmland and forests but is also found at pastures and agricultural areas in the west and has an increased presence in urban areas during the winter. Nests in partly forested to forested areas isolated from humans on rock outcrops, fallen trees, and abandoned buildings. Roosts communally preferring stands of large trees or hilly areas, usually away from human disturbance. Opportunistic feeders of domestic and wild carrion, primarily mammals but also non-mammals, foraging and locating food through both sight and smell.	Present. Two individuals observed soaring overhead in the southwestern portion of the study area during biological surveys.

Appendix E (cont.)

Special Status Animal Species Observed or With Potential to Occur

Species	Status ¹	Habitat Associations	Potential to Occur ²
Birds (cont.) Coastal California Gnatcatcher (<i>Polioptila californica californica</i>)	FT/SSC County Group 1 MSCP Covered	Year-round resident of California occurring from Ventura County south to San Diego County, and east to the western portions of San Bernardino and Riverside Counties. Typically occur in arid, open sage scrub habitats on gently slopes hillside to relatively flat areas at elevations below 3,000 feet. The composition of sage scrub in which gnatcatchers are found varies; however, California sagebrush is at least present as dominant or co-dominant species. The species is mostly absent from areas dominated by black sage, white sage, or lemonadeberry, though the species may occur more regularly in inland regions dominated by black sage.	Present. Two individuals were detected during biological surveys: one gnatcatcher was heard calling west of the study area near the southern edge of the Transmission Line; and another was heard calling near the northwest corner of the Transmission Line.
Least Bell's Vireo (<i>Vireo bellii pusillus</i>)	FE/SE County Group 1 MSCP NE MSCP Covered	Breeds within California and northern Baja California, wintering in southern Baja California. In California, breeds along the coast and western edge of the Mojave Desert from Santa Barbara County south to San Diego County, and east to Inyo County, San Bernardino, and Riverside Counties. Breeding habitat consists of early to mid-successional riparian habitat, often where flowing water is present, but also found in dry watercourses within the desert. A structurally diverse canopy and dense shrub cover is required for nesting and foraging. Dominant species within breeding habitat includes cottonwood and willows with mule fat, oaks, and sycamore, and mesquite (<i>Prosopis glandulosa</i>) and arrowweed (<i>Pluchea sericea</i>) within desert habitats. The species can be tolerant of the presence of non-native species such as tamarisk.	High. The species has been recently reported to occur within the study area along San Vicente Reservoir. The species was observed in 2016 at the southern portion end of Mussey Grade Road and documented breeding along the southern portion of the Transmission Line.

Appendix E (cont.)

Special Status Animal Species Observed or With Potential to Occur

Species	Status ¹	Habitat Associations	Potential to Occur ²
Mammals			
Dulzura pocket mouse (<i>Chaetodipus californicus femoralis</i>)	--/SSC County Group 2	Occurs within the foothills and mountains of southern California from Orange County, western Riverside County, and San Diego County. Inhabits a variety of habitats including grassland, coastal scrub, chaparral, sagebrush, desert wash and scrub, oak woodland, and pinyon-juniper woodlands. Prefers gravelly substrates with good sun exposure and is often found within or on the edge of chaparral. More abundant on steeper than gentler slopes and may occur on the upper portions of the desert slopes of the mountains.	High. Suitable habitat is present within the study area and the species is reported to occur within the project vicinity. Furthermore, two individuals were captured west of the project within upper Sycamore Canyon in 1993.
Mountain lion (<i>Felis concolor</i>)	--/-- County Group 2 MSCP Covered	Uncommon permanent resident found throughout California in nearly all habitats, except xeric regions of Mojave and Colorado deserts. Requires extensive riparian vegetation and brushy habitats with interspersed irregular terrain, rocky outcrops, and tree or brush edges. Main prey is mule deer.	High. Suitable habitat occurs within the study area and the species has been documented around San Vicente Reservoir.
San Diego black-tailed jackrabbit (<i>Lepus californicus bennettii</i>)	--/SSC County Group 2	Occurs along the coastal regions of southern California south to northern Baja California. Found in arid regions preferring grasslands, agricultural fields, and sparse scrub. Typically absent from areas with high-grass or dense brush, such as closed-canopy chaparral, primarily occupying short-grass and open scrub habitats.	High. Suitable habitat occurs within the study area and the species has been documented to the west within Sycamore Canyon Preserve and to the east of San Vicente Reservoir.
San Diego Bryant's (formerly desert) woodrat (<i>Neotoma bryanti [formerly lepida] intermedia</i>)	--/SSC County Group 2	Occurs along the coastal regions of California being found as far north as San Luis Obispo County, south to San Diego County, and in the western portions of San Bernardino and Riverside Counties. Inhabits a variety of shrub and desert habitats such as coastal sagebrush scrub, chaparral, pinyon-juniper woodland, and Joshua tree woodland among others. Often associated with rock outcroppings, boulders, cacti patches, and areas with dense understories. Construct dens used for shelter, food storage, and nesting around rock outcroppings and cacti using various materials such as twigs, sticks, and other debris.	High. Suitable habitat occurs within the study area and the species has been documented to the west within Sycamore Canyon Preserve and to the east of San Vicente Reservoir.

Appendix E (cont.) Special Status Animal Species Observed or With Potential to Occur

Species	Status ¹	Habitat Associations	Potential to Occur ²
Mammals (cont.) Mule deer (<i>Odocoileus hemionus</i>)	--/-- County Group 2 MSCP Covered	Found throughout California with the species lacking from only completely urbanized areas and the desert floor. Distribution determined by vegetation type, water availability, and quality and quantity of foraging habitat. Inhabits a wide array of habitats from grasslands, meadows, coastal sage scrub, chaparral, riparian and montane forests. Crepuscular activity and movements are along routes that provide the greatest amount of protective cover.	Present. A single individual was observed across the canyon east of Mussey Grade Road during biological surveys.

¹ Listing codes are as follows: F = Federal; S = State of California; E = Endangered; T = Threatened; CE = Candidate Endangered; R = Rare; BCC = Federal Bird of Conservation Concern; SSC = State Species of Special Concern; FP = State Fully Protected; WL = Watch List

County of San Diego Sensitivity Status: Animals are divided into Groups 1 and 2 on the Sensitive Animal List. **Group 1** Animals include those that have a very high level of sensitivity, either because they are listed as threatened or endangered or because they have very specific natural history requirements that must be met. **Group 2** Animals include those species that are becoming less common but are not yet so rare that extirpation or extinction is imminent without immediate action. These species tend to be prolific within their suitable habitat types.

MSCP Covered Species: Covered Species under MSCP; NE = Narrow Endemic Species under the MSCP.

² Potential to Occur is assessed as follows: **None:** Species is so limited to a particular habitat that it cannot disperse on its own, and habitat suitable for its establishment and survival does not occur in the study area; **Not Expected:** There are no present or historical records of the species occurring on or in the immediate vicinity of the study area. The species moves freely and might disperse through or across the study area, but suitable habitat for residence or breeding does not occur; **Low:** Suitable habitat is present in the study area and there is a historical record of the species in the project vicinity, but no sign of the species was observed during surveys. Existing conditions such as elevation, species composition, density of cover, prevalence of non-native species, evidence of disturbance, limited habitat area, and/or isolation may substantially reduce the possibility that the species may occur; **Moderate:** Diagnostic habitats associated with the species occur on or adjacent to the study area, but there is not a recorded occurrence of the species within the immediate vicinity. Some species that contain extremely limited distributions may be considered moderate, even if there is a recorded occurrence in the immediate vicinity; **High:** Suitable habitat associated with the species occurs in the study area and the species has been recorded recently on or near the project, but was not observed during biological surveys; **Present:** The species was observed during biological surveys for the project and is assumed to occupy the study area.

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Appendix F

Explanation of Status Codes for Plant and Animal Species

Appendix F

Explanation of Status Codes for Plant and Animal Species

FEDERAL AND STATE CODES

U.S. Fish and Wildlife Service (USFWS)

BCC	Bird of Conservation Concern
BGEPA	Bald and Golden Eagle Protection Act
FC	Federal candidate species
FE	Federally listed endangered
FPD	Federally proposed for delisting
FPE	Federally proposed endangered
FPT	Federally proposed threatened
FT	Federally listed threatened

USFWS Birds of Conservation Concern (BCC)

The primary legal authority for Birds of Conservation Concern (2008) is the Fish and Wildlife Conservation Act of 1980 (FWCA), as amended. Other authorities include the Endangered Species Act, Fish and Wildlife Act (1956) and 16 USC §701. A FWCA 1988 amendment (Public Law 100-653, Title VIII) requires the Secretary of the Interior through the USFWS to “identify species, subspecies, and populations of all migratory non-game birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act of 1973.” The 2008 BCC report is the most recent effort by the USFWS to carry out this proactive conservation mandate.

The BCC report aims to identify accurately the migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent the USFWS’ highest conservation priorities and draw attention to species in need of conservation action. The USFWS hopes that by focusing attention on these highest priority species, the report will promote greater study and protection of the habitats and ecological communities upon which these species depend, thereby ensuring the future of healthy avian populations and communities. Birds of Conservation Concern 2008 lists are available online at <https://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>.

USFWS Federal Candidate (FC) Species

Federal candidate species are those for which the USFWS has on file “sufficient information on biological vulnerability and threats to support a proposal to list as endangered or threatened, but for which preparation and publication of a proposal is precluded by higher-priority listing actions. [The USFWS] maintain[s] this list for a variety of reasons: to notify the public that these species are facing threats to their survival; to provide advance knowledge of potential listings that could affect decisions of environmental planners and developers; to provide information that may stimulate conservation efforts that will remove or reduce threats to these species; to solicit input from interested parties to help us identify those candidate species that may not require protection under the [Endangered Species Act] or additional species that may require the Act’s protections; and to solicit necessary information for setting priorities for preparing listing proposals” (Federal Register 70:90 [May 11, 2005]).

Appendix F (cont.)

Explanation of Status Codes for Plant and Animal Species

USFWS Federal Proposed Endangered (FPE) Species

Any species the Service has determined is in danger of extinction throughout all or a significant portion of its range and the Service has proposed a draft rule to list as endangered. Proposed endangered species are not protected by the take prohibitions of section 9 of the ESA until the rule to list is finalized. Under section 7(a)(4) of the ESA, federal agencies must confer with the Service if their action will jeopardize the continued existence of a proposed species.

USFWS Federal Proposed Threatened (FPT) Species

Any species the Service has determined is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and the Service has proposed a draft rule to list as threatened. Proposed threatened species are not protected by the take prohibitions of section 9, consistent with any protective regulations finalized under section 4(d) of the ESA, until the rule to list is finalized. Under section 7(a)(4) of the ESA, federal agencies must confer with the Service if their action will jeopardize the continued existence of a proposed species.

USFWS Bald and Golden Eagle Protection Act (BGEPA)

In 1782, Continental Congress adopted the bald eagle as a national symbol. During the next one and a half centuries, the bald eagle was heavily hunted by sportsmen, taxidermists, fisherman, and farmers. To prevent the species from becoming extinct, Congress passed the Bald Eagle Protection Act in 1940. The Act was extremely comprehensive, prohibiting the take, possession, sale, purchase, barter, or offer to sell, purchase, or barter, export or import of the bald eagle “at any time or in any manner.”

In 1962, Congress amended the Eagle Act to cover golden eagles, a move that was partially an attempt to strengthen protection of bald eagles, since the latter were often killed by people mistaking them for golden eagles. The golden eagle, however, is accorded somewhat lighter protection under the Act than the bald eagle. Another 1962 amendment authorizes the Secretary of the Interior to grant permits to Native Americans for traditional religious use of eagles and eagle parts and feathers.

California Department of Fish and Wildlife (CDFW)

SCE	State candidate for listing as endangered
SCT	State candidate for listing as threatened
SE	State listed endangered
SR	State listed rare
ST	State listed threatened
SSC	State species of special concern
WL	Watch List
FP	Fully Protected species refers to all vertebrate and invertebrate taxa of concern to the Natural Diversity Data Base regardless of legal or protection status. These species may not be taken or possessed without a permit from the Fish and Game Commission and/or CDFW.
Special Animal	Refers to all vertebrate and invertebrate taxa of concern to the Natural Diversity Database regardless of legal or protection status.

Appendix F (cont.) Explanation of Status Codes for Plant and Animal Species

OTHER CODES AND ABBREVIATIONS

California Native Plant Society California Rare Plant Rank (CRPR) Codes

Lists

1A = Presumed extirpated in California and either rare or extinct elsewhere. Eligible for state listing.

1B = Rare, threatened, or endangered in California and elsewhere. Eligible for state listing.

2A = Presumed extirpated in California but common elsewhere. Eligible for state listing.

2B = Rare, threatened, or endangered in California but more common elsewhere. Eligible for state listing.

3 = Review List: Plants about which more information is needed. Some eligible for state listing.

4 = Watch List: Plants of limited distribution. Needs monitoring for changes in population status. Few (if any) eligible for state listing.

List/Threat Code Extensions

.1 = Seriously threatened in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)

.2 = Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

.3 = Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

A "CA Endemic" entry corresponds to those taxa that only occur in California.

All List 1A (presumed extinct in California) and some List 3 (need more information; a review list) plants lacking threat information receive no extension. Threat Code guidelines represent only a starting point in threat level assessment. Other factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are considered in setting the Threat Code.

Appendix F (cont.)

Explanation of Status Codes for Plant and Animal Species

County of San Diego

Plant sensitivity:

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

Animal sensitivity:

- Group 1 Animals include those that have a very high level of sensitivity, either because they are listed as threatened or endangered or because they have very specific natural history requirements that must be met.
- Group 2 Animals include those species that are becoming less common but are not yet so rare that extirpation or extinction is imminent without immediate action. These species tend to be prolific within their suitable habitat types.

Multiple Species Conservation Program (MSCP) Covered

Multiple Species Conservation Program covered species for which the County of San Diego and City of San Diego have take authorization within the MSCP (South County) subarea and City of San Diego subarea.

MSCP Narrow Endemic

Narrow endemic species are native species that have “restricted geographic distributions, soil affinities, and/or habitats.” The MSCP participants’ subarea plans have specific conservation measures to ensure impacts to narrow endemics are avoided to the maximum extent practicable.