ENSR

May 3, 2007

Mr. Gerardo Rios
Chief, Permits Office (AIR 3)
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105

RE: Victorville 2 Hybrid Power Project (VV2) Application for PSD Permit and Request for Informal Endangered Species Act Consultation

Dear Mr. Rios:

As discussed with you and Ed Pike on July 18, 2006, and again with Mr. Pike recently, Inland Energy, Inc., on the behalf of the City of Victorville, is submitting an application for a Prevention of Significant Deterioration (PSD) permit for the VV2 Project. The VV2 Project is a hybrid power plant consisting of combined-cycle power plant integrated with 50 MW of solar arrays for a combined nominal output of 570 MW. Enclosed please find two copies of the PSD Application.

As discussed at our meeting last year, the City and Inland Energy understand that the U.S. Environmental Protection Agency (EPA) will be initiating consultation with the U.S. Fish and Wildlife Service, pursuant to Section 7 of the Endangered Species Act of 1973, as amended, regarding potential impacts to listed species resulting from EPA's issuance of a PSD permit for the VV2 Project. We have enclosed two copies of a Draft Biological Assessment (BA) for the VV2 Project to assist you with that consultation.

We also have included CD's with electronic copies of the PSD Application, modeling files and the Draft Biological Assessment. Please note that the Class II and Class I modeling protocols for the VV2 Project were submitted to the EPA on January 17, 2007. At your request, ENSR also submitted a copy of the Class I modeling protocol to the National Park Service (NPS) and the U.S. Forest Service Federal Land Managers (FLMs) on January 31, 2007. The NPS indicated that, based on the information in the protocol, they do not expect significant impacts on Joshua Tree National Park, and hence would not provide comments on the protocol. A copy of the PSD Application (but not the Draft BA) also is being submitted to the FLMs, as requested.

An air quality impact analysis has been conducted to demonstrate that the VV2 Project will not cause or contribute to violations of the National Ambient Air Quality Standards (NAAQS) during routine operations. The enclosed PSD Application includes the details of this impact analysis.

The City of Victorville submitted its Application of Certification (AFC) to the California Energy Commission (CEC) on February 28, 2007, and was deemed Data Adequate on April 11, 2007. The Application for a Determination of Compliance to the Mojave Desert Air Quality Management District (MDAQMD) has also been deemed complete. The contacts at these agencies for the VV2 Project include:

- Mr. John Kessler, Project Manager, CEC, 916-654-4679, Jkessler@energy.state.ca.us
- Mr. Alan De Salvio, Engineering Manager, MDAQMD, 760-245-1661, ext. 6726, adesalvio@mdaqmd.ca.gov

We request that EPA work with these other agencies to coordinate the timeline for permit approvals and requirements.

Please call Mr. Tom Barnett, Inland Energy (949) 856-2200 or me at (805) 388-3775 if you have any questions or need additional information. We appreciate your assistance with this matter.

Sincerely

Sara J. Head
Vice President

Attachments: PSD Application (2)
Draft Biological Assessment (2)
Compact Disk (CD) with documents and modeling files

cc: Mr. Ed Pike, U.S. Environmental Protection Agency
Mr. Dee Morse, National Park Service (with PSD Application)
Mr. Mike McCorison, U.S. Forest Service (with PSD Application)
Mr. John Kessler, California Energy Commission
Mr. Alan De Salvio, Mojave Desert Air Quality Management District
Mr. Jon B. Roberts, City Manager, Victorville
Mr. Tom Barnett, Inland Energy, Inc.
Mr. Tony Penna, Inland Energy, Inc.
Mr. Mike Carroll, Latham & Watkins
Ms. Kim McCormick, Law Offices of Kim McCormick

DRAFT

Victorville 2 Hybrid Power Project
BIOLOGICAL ASSESSMENT

City of Victorville
San Bernardino County, California

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AMEC Job # 6554000228
Report Date: 2 May 2007

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Victorville 2 Hybrid Power Project BIOLOGICAL ASSESSMENT

1.0 INTRODUCTION

AMEC Earth & Environmental, Inc. (AMEC) has been contracted by ENSR Corporation on behalf of the City of Victorville and Inland Energy, Inc. to prepare a draft Biological Assessment (Draft BA) for the proposed Victorville 2 Hybrid Power Project (Proposed Project or Project) located in the City of Victorville, San Bernardino County, California (See Appendix 1, Map 1). The purpose of this document is to provide the U.S. Environmental Protection Agency (EPA) and the California Department of Fish and Game (CDFG) with site-specific analyses regarding species protected under the federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA), as well as other special status species, which may be affected by the Proposed Project.

EPA will be consulting with the U.S. Fish and Wildlife Service (FWS) pursuant to Section 7 of the federal Endangered Species Act, regarding the effects of EPA's issuance of a Prevention of Significant Deterioration (PSD) permit for the Proposed Project (Proposed Action) under the federal Clean Air Act. It is anticipated that the Proposed Project also will be obtaining CESA permits from the CDFG.

The focal species addressed herein are the state and federally listed-Threatened Desert Tortoise (*Gopherus agassizii*), the state listed-Threatened Mohave Ground Squirrel (*Spermophilus mohavensis*) and the state-Protected Burrowing Owl (*Athene cunicularia*). In addition, this document assesses all potential impacts to the following state and federally-listed species:

- Arroyo Toad (*Bufo californicus*): Federally listed-Endangered;
- Bald Eagle (*Haliaeetus leucocephalus*): Federally listed-Threatened and California listed-Endangered;
- California Red-legged Frog (*Rana [aurora] draytonii*): Federally listed-Threatened;
- Least Bell's Vireo (*Vireo bellii pusillus*): Federally and California listed-Endangered.
- Southwestern Willow Flycatcher (*Empidonax trailii extimus*): Federally listed-Endangered;
- Western Yellow-billed Cuckoo (*Coccyzus americanus occidentalis*):California listed-Endangered; and
- Swainson's Hawk (*Buteo swainsonii*): California listed-Threatened.

A variety of species designated as "California Special Concern" (CSC) by CDFG and/or protected by the State of California are also addressed in this document. These include:

- Cooper's Hawk (*Accipiter cooperi*)
- Golden Eagle (*Aquila chrysaetos*)

- Gray Vireo (*Vireo vicinior*)
- Le Conte's Thrasher (*Toxostoma lecontei*)
- Loggerhead Shrike (*Lanius ludovicianus*)
- Mojave River Vole (*Microtus californicus mohavensis*)
- Northern Harrier (*Circus cyaneus*)
- Osprey (*Pandion haliaetus*)
- Pallid San Diego Pocket Mouse (*Chaetodipus fallax pallidus*)
- Prairie Falcon (*Falco mexicanus*)
- San Diego Coast Horned Lizard (*Phrynosoma coronatum blainvillii*)
- Southwestern Pond Turtle (*Actinemys marmorata pallida*)
- Summer Tanager (*Piranga rubra*)
- Vaux's Swift (*Chaetura vauxi*)
- White-faced Ibis (*Plegadis chihi*)
- Yellow Warbler (*Dendroica petechia*)
- Yellow-breasted Chat (*Icteria virens*)

The analyses provided in this Draft BA are the results of: 1) a general biological assessment and inventory; 2) a focused survey for Desert Tortoise; 3) focused Mohave Ground Squirrel trapping; and 4) focused Burrowing Owl surveys.

2.0 CRITICAL HABITAT

No lands designated or proposed as critical habitat would be affected by the Proposed Project. Critical habitat designated for the Southwestern Willow Flycatcher (Mojave Management Unit) is located 150 feet east of the Proposed Project's utility feature Segments 1 and 2 (See Appendix 1, Map 12). No surface disturbance would occur within this river habitat zone.

One designated critical habitat unit for the Desert Tortoise (Fremont-Kramer Desert Wildlife Management Area) is located approximately three miles north of the Proposed Project vicinity (Appendix 1, Map 9); but no surface disturbing activities associated with the Proposed Project are planned in this locality. Similarly, the southernmost portion of the Proposed Project's Utility Feature Segment 3 is located over ten miles north of lands designated as critical habitat for the Arroyo Toad (Upper Santa Ana River Basin/Cajon Wash Management Unit 20) and over 26 miles north of habitat designated as critical for the Least Bell's Vireo; with no effects to either habitat area resulting from the Proposed Project.

3.0 AGENCY NOTIFICATION AND PARTICIPATION TO DATE

An introductory meeting and site visit on the Proposed Project was held on 20 June 2006, with representatives of the Ventura FWS Field Office, CDFG and the California Energy Commission (CEC) attending. The agencies were informed that the EPA would likely be initiating ESA Section 7 consultation at some point in the future regarding federally-listed species potentially affected by the Proposed Project, and that a discussion would take place with CDFG regarding permitting under CESA. Although CDFG-approved trapping for Mohave Ground Squirrel in the proposed power plant area has not confirmed species' occurrence, the Project Proponent has

elected to assume species' presence based on the existence of potentially suitable habitat for Mohave Ground Squirrel on the Proposed Project site.

On February 28, 2007, the Project Proponent submitted an Application for Certification (AFC) to the CEC. The AFC was deemed data adequate by the CEC on April 11, 2007. The AFC includes a comprehensive discussion of the Proposed Project and all potential environmental impacts that may result from the Proposed Project, including biology and water. The AFC describes in detail the California Natural Diversity Data Base (CNDDB) analysis conducted, as well as the numerous sensitive species surveys undertaken to date, for all aspects of the Proposed Project and a description of how all unavoidable biological impacts of the Proposed Project are minimized and/or mitigated. On March 23, 2007, CDFG submitted a comment letter to the CEC requesting additional information regarding road access to the Project site. Those concerns are being addressed by the Project Proponent as part of the CEC process.

A meeting with the California Desert District Office of the Bureau of Land Management (BLM), CDFG, and FWS to discuss potential Desert Tortoise translocation sites and procedures was held on March 28, 2007, at the Ventura FWS Field Office. It was confirmed at this meeting that the FWS would issue an ESA Biological Opinion regarding the Desert Tortoise; with the CDFG issuing a separate CESA incidental take permit for Desert Tortoise and Mohave Ground Squirrel. FWS and CDFG representatives agreed at this meeting that a single BA addressing state/federally listed species, candidates for such listing, and species of special concern would be acceptable for these two separate regulatory processes.

As currently designed, the Proposed Project will not disturb any California streambeds or federal "Waters of the United States." However as discussed in the AFC, CDFG and the U.S. Army Corps of Engineers (USACE) will be notified immediately if design changes occur that would result in a potential impact to state or federal jurisdictional waters.

4.0 CURRENT MANAGEMENT DIRECTION

The Proposed Project is located entirely on private lands, primarily within the City of Victorville. Approximately five miles in the southernmost portions of the Proposed Project's 21 mile-length transmission line route (utility feature Segment 3) is located within the corporate boundaries of the City of Hesperia. The final 0.2 mile-length of this route is located on unincorporated lands within the jurisdiction of San Bernardino County. No public or federal lands are traversed by any portion of the Proposed Project.

Because the Proposed Project may result in an incidental take of a federally listed species (Desert Tortoise), and EPA will be issuing a PSD permit for the Proposed Project, EPA will be engaging in ESA Section 7 consultation with the FWS. The Project Proponent is submitting this Draft BA to EPA to facilitate its consultation with FWS. The FWS Ventura Field Office administers ESA Section 7 consultation actions in the Victorville, California region.

Similarly, because the Desert Tortoise and the Mohave Ground Squirrel are state-listed species under CESA, CESA Section 2081 incidental take permitting has also been identified as necessary. This Draft BA will be used in that regulatory process.

Lands and biological resources located in proximity to the Proposed Project have recently been addressed in the BLM's West Mojave Plan Amendment to the California Desert Conservation Plan (BLM 2005). This conservation planning document, based on an ESA Section 7 biological opinion, addressed the recovery and long-term conservation needs of many special status species occurring in the region.

No federal lands, FWS-designated critical habitat, CDFG-designated "crucial habitat", or BLM-"categorized" Desert Tortoise habitat (i.e., Category I, II, or III) are encompassed within the Proposed Project area. However, public lands managed as "Category III Desert Tortoise Habitat," having an estimated 1984 density of 0-20 Desert Tortoises per square mile, are located immediately north of the Proposed Project area (BLM 2005). The goals for BLM Category III habitat are to "limit tortoise habitat and population declines to the extent possible by mitigating impacts", per the *California Statewide Desert Tortoise Management Policy* (Policy) developed by the BLM and CDFG in 1992. When the latter policy was adopted, Category III Habitats were not considered essential to maintaining viable populations of the Desert Tortoise. These habitats were generally known for irreconcilable land use conflicts or were located in proximity to rapidly urbanizing landscapes.

One of the objectives of this statewide policy was to provide an incentive to locate development close to urbanizing areas, within Category III habitat where necessary, with the use of low habitat impact compensation requirements. Resulting compensation lands or funding was to be directed to consolidation and management of Category I and II habitat lands located at a distance from urban interface localities, where higher habitat impact compensation requirements would apply.

5.0 DESCRIPTION OF THE PROPOSED PROJECT

The Proposed Project is the construction and operation of a hybrid electrical facility consisting of natural gas-fired, combined cycle, generating equipment integrated with solar thermal generating equipment utilizing parabolic collector arrays. The Proposed Project would be located on primarily undeveloped lands within the northernmost portions of the City of Victorville, adjacent to the Southern California Logistics Airport (SCLA), formerly George Air Force Base (GAFB). This locality is situated approximately 0.5 mile west of the Mojave River (Appendix 1, Map 1).

The proposed power plant disturbance footprint, inclusive of fill slopes and new vehicle access surface disturbance, would total 338 acres. An additional 50 acres of temporary-use lands would be required for construction staging adjacent to the proposed power plant. One 30-acre construction staging area would be located north of Colusa Road and west of Helendale Road; with a second 20-acre staging area located south of Colusa Road and east of Helendale Road.

Seventy-seven acres of surface disturbance would also be required for utility features including two water pipelines, an above-ground power transmission line and associated staging areas (as further described below). The total combined project disturbance footprint would be 465 acres; with approximately 57 acres either currently developed or disturbed.

The Proposed Project would impact 408 acres of native plant communities and associated wildlife habitats. Primary vehicle access to the proposed power plant site would be via either Colusa Road, which would be minimally graded and paved, or Perimeter Road. Existing roads provide much of the vehicular access needs associated with the Proposed Project's linear utility features, with any new vehicle access addressed in the surface disturbance acreage specified above.

The new linear utility features of the Proposed Project (Appendix 1, Map 2) would include installation of the following:

- One new 4.3 mile-length, 230 kV, above-ground electric transmission line which would connect to the existing High Desert Power Plant (HDPP) transmission path;
- One new 5.7 mile-length, 230 kV, above-ground electric transmission line in an existing utility right-of-way (ROW) corridor, involving the installation of new electric lines on existing transmission tower structures and installation of three new transmission towers;
- One new 11 mile-length, 230 kV, above-ground electric transmission line in an existing utility ROW and relocation of a 6.6 mile-length, 115 kV, above-ground electrical transmission line within the same existing utility ROW;
- One 1.5 mile-length reclaimed water supply pipeline, connecting the proposed power plant site to the Victorville Wastewater Reclamation Authority (VVWRA) facility;
- One 1.4-25 mile-length sanitary wastewater pipeline, connecting the proposed power plant site to an existing sewer main;
- One natural gas supply pipeline; and
- One backup water supply pipeline.

The natural gas and backup water supply pipelines interconnect with existing pipelines in roadways located adjacent to the proposed power plant site. Potable water required by the Proposed Project would be provided via an onsite well.

The reclaimed water and sanitary wastewater pipelines would be installed together within a shared 50 foot-width ROW trench, located adjacent to the northernmost portion of the proposed electrical transmission line in Segment 1. The construction footprint within unshared ROW areas of the pipeline would be 25 feet-wide. These utility components are also described separately in detail in the Project Description (Section 3.2) of the AFC's Biological Technical

Report. A representation of the orientation and layout of all Proposed Project facilities is provided in AFC Appendix 1, Map 2. Construction activities in support of the Proposed Project are currently scheduled to commence during the summer of 2008, with commercial operation currently scheduled to begin in the summer of 2010.

Heavy equipment anticipated for use in construction would include bulldozers, excavators, backhoes, cranes, scrapers, dump trucks, water trucks, and tractor trailers. Light duty personal vehicles would also be used in access road travel. Impacts to California streambeds and "Waters of the United States" would be avoided in all aspects of the Proposed Project.

Upon completion of construction activities, temporary surface disturbance areas would be revegetated in accordance with a Project Revegetation and Restoration Plan. This plan is to be completed prior to commencement of surface-disturbing activities and is to entail native plant and cacti salvage; associated post-construction "vertical mulching" utilizing salvaged shrubs/cacti; Joshua tree relocation; and hand-broadcast seeding of native plants. Salvaged plant material would either be stored onsite in temporary surface disturbance areas or cared for at an offsite nursery, until such time as needed for revegetation purposes.

Other natural resource impact minimization and special status species mitigation measures have been incorporated into the Proposed Project. These measures include but are not limited to pre-construction clearance surveys; Desert Tortoise translocation; offsite habitat impact compensation and monitoring of all construction, road grading and paving activities; as well as other measures. A comprehensive discussion of proposed impact minimization and mitigation is provided in Section 11 of this document.

6.0 PROPOSED PROJECT AREA

6.1 General Location and Description

The Proposed Project would be located primarily within the northwestern portion of Victorville, California (Township 6 North, Range 5 West, Sections 2 and 11, in part, San Bernardino Base Meridian, Helendale and Victorville Northwest U.S. Geological Survey 7.5 Minute Topographic Quadrangles). Portions of the Proposed Action (i.e., utility feature Segments 2 and 3) also traverse Hesperia, California jurisdictional lands within Victor Valley (See Appendix 1, Map 1).

Regionally, the Proposed Project would be located in the West Mojave Desert adjacent to the north-facing foothills of the San Bernardino Mountains; an area of diverse geologic features and plant communities. The Mojave River is the signature hydrologic feature of the region. Varying-size washes drain the hill, bajada and valley terrain located in proximity to the Mojave River. The river supports riparian (streamside) vegetation in some of its mid-stream reaches and flows past the Proposed Project area.

Temperatures in the region often exceed 100˚F in the summer, with low humidity exhibited. Fall and winter temperatures can fall below 32˚F. Mean annual rainfall is 5.60 inches with the bulk

of rainfall occurring during winter months. Below-average rainfall occurred in the 2005-06 rainfall period. As a result, little annual plant growth occurred in the spring of 2006.

Flat to slightly hilly terrain generally characterizes the majority of the Proposed Project area. The highest elevation of the Proposed Project area would be 3,720 feet above mean sea level (MSL), at the southern terminus of proposed utility feature Segment 3 where it connects to the existing Lugo Electric Substation. The Proposed Project's lowest elevation site would be located at 2,600 feet above MSL, in the vicinity of where the proposed reclaimed-water pipeline would enter the VVWRA plant. The lowest elevation on the proposed power plant site itself would be 2,730 feet above MSL, adjacent to its eastern boundary. Unimproved dirt roads and trails occur throughout the area of the proposed power plant site; along the proposed pipeline routes; and along utility feature Segment 1.

The western edge of the Mojave River is located in proximity to the eastern edge of the proposed power plant site (see Section 8.1 below). Above-ground water flow occurs in this reach of the river, but this flow becomes sub-surface at a short distance from the Proposed Project area. Portions of proposed utility feature Segment 1 intersect with numerous ephemeral washes, which drain eastward into the Mojave River. Numerous small wash drainages were also found to occur within the area proposed for placement of utility feature Segment 2; all of which drain eastward into the Mojave River. Several small wash drainages and Oro Grande Wash are also located in proximity to proposed utility feature Segment 3.

6.2 Existing Land Uses

Open space land best characterizes existing land uses in the immediate vicinity of the proposed power plant site, staging areas, and linear utility feature Segment 1. A limited number of disturbed surface areas supporting structures are present in this locality. The remainder of the area supports a Mojave Creosote Bush Scrub native plant community as described by Holland (1986).

The SCLA and High Desert Power Project (HDPP), along with the VVWRA water treatment facility, are the prominent developments occurring in proximity to the Proposed Project area. A small number of paved roads, along with an unpaved road network, provide vehicular access to the few houses occurring on this east bank of the Mojave River.

Two petroleum pipelines operated by Kinder Morgan Energy Partners extend from the north to the High Desert Power Plant, through the Proposed Project area. These pipelines occur just west and south of the proposed power plant site. An electrical transmission line occurs at the southern edge of the proposed power plant.

7.0 ASSESSMENT METHODS

7.1 Literature Review

Prior to conducting surveys to characterize the area potentially affected by the Proposed Project, a literature review was performed to identify special status biological resources known from the vicinity. This literature review included an analysis of the California Natural Diversity Data Base (CNDDB) per a RAREFIND Program application (CDFG 2003); an overview of the *Soil Survey of San Bernardino County, California, Mojave River Area, California* (SCS 1986); a review the California Native Plant Society's (2001) *Rare and Endangered Vascular Plants of California*; and pertinent documents from the AMEC library.

The CNDDB analysis included all elements within the Adelanto, Baldy Mesa, Helendale, Hesperia, Silverwood Lake, Victorville and Victorville, California, U.S. Geological Survey (USGS) 7.5 minute quadrangles. The AMEC library review included a review of other biological surveys from the general vicinity (i.e., RBF Consulting [2005], Tierra Madre Consultants [1992], Tom Dodson & Associates [2003 & 2005]) and species accounts incorporated into the West Mojave Plan (BLM 2005a). Scientific nomenclature for this report follows standard reference sources including:

- Holland (1986) to characterize plant communities;
- Hickman (1993) and Munz (1974) to characterize flora;
- Stebbins (1985, 2003) to characterize amphibians and reptiles;
- American Ornithologists Union (1998) to characterize birds; and
- Laudenslayer, Grenfell and Zeiner (1991) to characterize mammals.

7.2 Field Surveys

Field surveys were conducted throughout the 338 acres proposed for power plant construction. In addition, field surveys were undertaken on one adjacent 30-acre construction staging area located north of Colusa Road/west of Helendale Road; and on another adjacent 20-acre staging area located south of Colusa Road/east of Helendale Road. Approximately 185 acres of linear corridor for linear segments were surveyed, including the 77-acre impact area, were also surveyed. The total combined field survey effort encompassed approximately 573 acres (not including Zone of Influence and buffer zone surveys); with approximately 57 of these acres either currently developed or disturbed (See Appendix 1, Map 1).

7.2.1 Biological Resources and Habitat Assessment

A general biological assessment, involving a habitat condition assessment and wildlife inventory, was conducted throughout the entire Proposed Project area.

Vegetation mapping, rare plant surveys, and a delineation of federal and state jurisdictional waters were completed during these efforts (See Appendix 1, Maps 6 and 7). These surveys involved several transects spaced no more than 30 feet apart. A Zone of Influence (ZOI)

assessment was similarly conducted at intervals of 100 feet; 300 feet; 600 feet; 1,000 feet; 1,200 feet; 2,400' feet and one mile from the edge of proposed surface-disturbing activities.

These assessment surveys were conducted at various dates during February through May and November through December 2006; as well as during January 2007. This work was conducted by AMEC Biologists John Green, Dave Kajtaniak, Nathan T. Moorhatch, Stephen J. Myers, Nick Ricono, Chris Rodriguez, Daryl Trumbo, and Michael D. Wilcox; and sub-consultant Biologist Ted Rado. All flora and fauna observed was recorded in field notes and are included as Appendices 4 and 5.

Observed special status biological resources were mapped using handheld Global Positioning Systems (GPS) equipment and later transferred to a geographic information system (GIS) ESRI ArcView 9.1 format (See Appendix 1, Map 8). Unknown plant species were collected for subsequent identification by Andrew C. Sanders of the University of California at Riverside (UCR) Herbarium.

7.2.2 Focused Surveys for Desert Tortoise (*Gopherus agassizii*)

Focused Desert Tortoise surveys were conducted over the entire Proposed Project footprint in accordance with the "*Field Survey Protocol for Any Non Federal Action That May Occur within the Range of the Desert Tortoise*" (FWS 1992). A detailed overview of the Desert Tortoise survey protocol is provided in the AFC Biological Technical Report.

The portion of the proposed water reclamation pipeline alignment that would occur on land managed by the VVWRA was not surveyed, as Desert Tortoise clearance surveys have previously been completed and perimeter exclusion fencing installed (Tom Dodson Associates 2003).

Surveys were undertaken at various dates in March through May, November and December of 2006; as well as in January 2007. These surveys were conducted by AMEC Biologists John Green, Dave Kajtaniak, Nathan T. Moorhatch, Stephen J. Myers, Chris Rodriguez, and Michael D. Wilcox; and by sub-consulting Biologist Ted Rado. The Biological Technical Report in the AFC provides a table of the daily field survey data (i.e., dates, times, weather variables, etc.)

Belt transects of 30 feet in width were walked throughout the Action Area (i.e., power plant site, the two construction staging areas, all of Segment 1, areas of Segment 2 proposed for disturbance, and all of Segment 3 of the proposed electrical transmission line). Desert Tortoise sign (i.e., live tortoises, burrows, scat, carcasses and shell fragments) encountered during these belt transect efforts was documented on appropriate survey forms, photographed and mapped using handheld GPS equipment (See Appendix 1, Map 10).

Desert Woodrat (*Neotoma lepida*) middens and animal burrows were carefully inspected for presence of the species. ZOI surveys were conducted at transect intervals of 100 feet; 300 feet; 600 feet; 1,200feet; and 2,400 feet from the edge of proposed surface disturbance.

7.2.3 Focused Surveys for Mohave Ground Squirrel (*Spermophilus mohavensis*)

Surveys for the MGS were conducted in accordance with the latest MGS Survey Guidelines (guidelines), dated January 2003 (CDFG 2003b). Appendix 9 of the AFC Biological Resources Technical Report (*Focused Survey for the Mohave Ground Squirrel for the Victorville 2 Hybrid Power Project*) contains a description of these guidelines.

Focused visual and diurnal small mammal trapping grid surveys were conducted by authorized Biologists, Stephen J. Myers, Ted Rado, Ryan Young, Stephen J. Montgomery and Christine Halley. Each authorized Biologist holds a Memoranda of Understanding (MOU) with CDFG to conduct trapping surveys according to approved protocol. CDFG was consulted regarding trapping grid placement. Trapping areas included the proposed power plant site and two primary construction staging areas, as well as a portion of proposed utility feature Segment 1.

The focused visual surveys consisted of walking the proposed trapping areas prior to conducting approved small mammal trapping work. Three trapping grids, consisting of 100 traps (10 rows of 10 traps), were utilized for the proposed power plant site. Two linear grids, consisting of 100 traps (four rows of 25 traps), were utilized for the northern portion of proposed utility feature Segment 1. One trapping grid was used for each proposed construction staging area.

Sherman® live-traps of 12 inch-length were used and spaced 35 meters apart. Trapping bait consisted of a mixture of rolled oats, birdseed, and peanut butter. Each grid was trapped for a minimum of five consecutive days. In all, three 5-day trapping surveys were performed; one during each of the following periods: March 15 through April 30, May 1 through 31, and June 15 through July 15, 2006.

Traps were shaded with cardboard, opened one hour after sunrise and closed one hour before sunset. Ambient air temperatures occurring one (1) foot above the ground surface was closely monitored. Traps were closed when this temperature exceeded 90º F and remained closed until the temperature dropped below 90º F. Associated reporting forms were completed daily by the field biologists.

7.2.4 Surveys for Burrowing Owl (*Athene cunicularia*)

Focused surveys for Burrowing Owl were conducted within the proposed power plant area, the two associated construction staging areas, as well as the northern portion of proposed utility feature Segment 1. These surveys were conducted by AMEC Biologists Dave Kajtaniak, Stephen J. Myers, and Michael D. Wilcox in July through August 2006. Map 3 in Appendix 1 depicts the boundaries of the Burrowing Owl survey areas.

Survey work was conducted during early morning and late afternoon hours, in accordance with protocol established by the "*Staff Report on Burrowing Owl Mitigation* (CDFG 1995). Surveys were conducted using transects spaced 100 feet or less apart. Buffer zone transects were also conducted out to 500 feet from the edge of the survey sites. Binoculars were used to scan fences, posts, and other structures that might be used as perches by this species. Additionally, animal burrows were examined for Burrowing Owl sign (i.e. feathers, whitewash, and/or pellets).

All Burrowing Owl sign and burrows suitable for Burrowing Owl nesting was mapped using handheld GPS equipment (See Appendix 1, Map 11).

8.0 AFFECTED ENVIRONMENT

8.1 California Streambeds and Federal Waters

California Streambeds are defined (Title 14, California Code of Regulations, Section 1.72) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation".

However, for the purposes of enforcing Sections 1600-07 of the California Fish and Game Code, the term "stream" can include intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, "blue-line" streams and watercourses with subsurface flows (CDFG 1994).

As a physical system, a California streambed not only includes water on an at least intermittent or ephemeral basis, but also a bed or channel, a bank and/or levee, in-stream features and various floodplains. Biologic components may include all aquatic animals and riparian vegetation as well as amphibians, reptiles, invertebrates, and terrestrial species which derive benefits from the stream system (CDFG 1994).

Federal Waters ("Waters of the United States"), as it applies to the jurisdictional limits of the authority of the USACE under the Clean Water Act are:

1. all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
    a. Which are or could be used by interstate travelers for recreational or other purposes;
    b. From which fish or shellfish are or could be taken; or
    c. Which could be used for industrial purposes by industries in interstate commerce (33 Code of Federal Regulations Part 328, USACE 2004).

Portions of proposed utility feature Segment 1 intersect with 40 small to moderate-sized ephemeral washes, which drain eastward into the Mojave River (see Appendix 1, Map 7). Ten (10) small wash drainages were fond to occur within the area proposed for placement of utility feature Segment 2; all of which drain eastward into the Mojave River. Five (5) small wash drainages, including Oro Grande Wash, were also delineated in the area proposed for placement of utility feature Segment 3.

These washes likewise flow into the Mojave River and are thus considered tributaries to this river, at least in a 50-100 year flood event. These washes also meet established criteria for California Streambeds (CDFG 1994). Similarly, the Mojave River is considered a federal "Water of the United States" (pers. comm. Geraldo Salas, Los Angeles District Office USACE 2006).

The western edge of the Mojave River is located approximately 0.5 mile east of the eastern edge of the proposed power plant site. At its closest point, the proposed reclaimed-water supply pipeline would be located within 50 feet of the river's edge. Above-ground water flow occurs in this reach of the river, but becomes sub-surface at a short distance downstream from the Proposed Project area.

8.2 Plant Communities

Native plant communities common to upland areas of the Proposed Project include Mojave Creosote Bush Scrub, Desert Saltbush Scrub, Rabbitbrush Scrub and Mojavean Juniper Woodland and Scrub (Holland 1986). A complete list of the 116 plant species identified throughout all portions of the Proposed Project area is provided in Appendix 4.

The proposed power plant itself would be located in a Mojave Creosote Bush Scrub plant community with dominant plant species including Creosote Bush (*Larrea tridentata*), White Bursage (Ambrosia *dumosa*) and Cheesebush (*Hymenoclea salsola*). Cacti (*Opuntia* ssp.) and Joshua Tree (*Yucca brevifolia*) are sparsely scattered across this area (Appendix 1, Map 6).

Desert Saltbush Scrub, Rabbitbrush Scrub and Mojavean Juniper Woodland and Scrub plant communities occur in various portions of the Proposed Project's linear utility feature Segments 1, 2 and 3 (Appendix 1, Map 6).

The dominant plant in Desert Saltbush Scrub included Allscale (*Atriplex polycarpa*), with Four-winged Saltbush (*Atriplex canescens*), Shadscale (*Atriplex confertifolia*), Mojave Saltbush (*Atriplex spinifera*) and infrequent Joshua trees found in association. Rubber Rabbitbrush (*Chrysothamnus nauseosus*) formed nearly monotypic stands in the Rabbitbrush Scrub plant community observed. The dominant plants recorded in the Mojavean Juniper Woodland and Scrub plant communities included California Juniper (*Juniperus californica*), Rubber Rabbitbrush, Joshua tree and Nevada Joint Fir (*Ephedra nevadensis*).

In addition to the four native plant communities listed above, Non-native Grassland occurs in part of the proposed power plant area, as do disturbed and developed lands. Dominant plant species observed within these areas include Short-pod Mustard (*Hirschfeldia incana*), Checkered Fiddleneck (*Amsinckia tesselata*), Red Brome (*Bromus madritensis* ssp. *rubens*), Mediterranean Splitgrass (*Schismus barbatus*), and Storksbill (*Erodium cicutarium*).

Native plant communities associated with the proximal reach of the Mojave River include Mojave Riparian Forest, Southern Willow Scrub and Mojave Wash Scrub (Holland 1986). Gooding's Black Willow (*Salix gooddingii*), Fremont Cottonwood (*Populus fremontii*), Screwbean Mesquite (*Prosopis pubescens*), Cattails (*Typha* spp.) and Mulefat (*Baccharis salicifolia*) are but

a few of the many riparian plants occurring in these plant communities. Non-vegetated sandy riverbed also occurs in this locale (Appendix 1, Map 6).

No plant species protected under the California Native Plant Act (CNPA) are known to occur within the Proposed Project area. However, six or more Joshua Trees may not be harvested or transported on public highways per the CNPA, except under a permit issued by the San Bernardino County Agricultural Commissioner. Further, Title 8 of the San Bernardino County Code requires transplantation of removed Joshua Trees. Both the Cities of Victorville and Hesperia also have local ordinances requiring permits for Joshua Tree removal.

8.3 Special Status Species

8.3.1 Summarized Results of Literature Review

The literature review identified 27 state and federally listed species, candidate species, and "Species of Concern" known to occur within a ten mile radius of the Proposed Project. These special status species included two amphibians, three reptiles, 19 birds, and three mammals.

Seven of these species are federally-listed as "Threatened" or "Endangered"; six are state listed as "Threatened" or "Endangered"; and 20 have been designated as "Special Concern Species"[1]. Twenty-nine listed, "Protected", "Special Concern" or other special status species have been reported from a ten mile-radius of the Proposed Project area (Table 1).

However, only two of the special status species listed above are known from the immediate area of the Proposed Action area (Desert Tortoise, Burrowing Owl). The Mojave Ground Squirrel is also assumed to occur; though it has not been observed or trapped in the affected area proximity to date. In addition, both the Le Conte's Thrasher and Loggerhead Shrike are considered to have a high potential of nesting within the immediate Proposed Project area, as these species were observed on portions of the site.

Four avian species are known to occasionally forage over habitats common to the Proposed Project area during both migratory and nesting seasons (Cooper's Hawk, Northern Harrier, Prairie Falcon, Golden Eagle). However, no suitable nesting habitat is present for these four bird species in the Proposed Project area.

Three species (Southwestern Pond Turtle, San Diego Coast Horned Lizard, Mojave River Vole) are considered to have a very low to low occurrence potential as suitable habitat for these species is limited to very small sites located adjacent to the Proposed Project area; with little mobility outside of these locales expected. One avian species (Gray Vireo) has a very low to low occurrence potential as its very particular migratory and nesting habitat is limited to a small portion of the Proposed Project area.

[1] Several of these species were both state and federally listed.

Seven avian species are known, or have the potential to utilize habitat limited to the Mojave River during nesting, migratory and breeding seasons (Southwestern Willow Flycatcher, Cooper's Hawk, Yellow Warbler, Western Yellow-billed Cuckoo, Summer Tanager, Yellow-breasted Chat, Least Bell's Vireo, and Long-eared Owl). Four species are known to utilize habitats common to the Mojave River during migratory seasons only (Bald Eagle, Swainson's Hawk, Vaux's Swift, White-faced Ibis).

Table 1. State and Federal Special Status Species Occurring within Ten Miles of the Proposed Project.

Species	Protective Status (F=Federal, C=California)	Habitat	Occurrence Probability
Amphibians			
Arroyo Toad *Bufo californicus*	F: Endangered C: Special Concern	High-order streams, rivers, drainages; with sandy banks/bottoms.	**Absent** (presumed extinct from Mojave River).
California Red-legged Frog *Rana (aurora) draytonii*	F: Threatened C: Special Concern	Aquatic habitats with deep pools.	**Absent** (presumed extinct from Mojave River).
Reptiles			
Desert Tortoise *Gopherus agassizi*	F: Threatened C: Threatened; Protected Reptile	Various desert habitats, Creosote bush scrub, Saltbush scrub, flats, hillsides and arroyos.	**Occurs** (Live tortoises, burrows, scat observed).
San Diego Coast Horned Lizard *Phrynosoma coronatum blainvillii*	F: none C: Special Concern	Many scrub and woodland habitats, grasslands; loose, often sandy soils.	**Low** (for southern-most portion of linear utility feature Segment 3).
Southwestern Pond Turtle *Actinemys marmorata pallida*	F: none C: Special Concern; Protected Reptile	Permanent waters in varied habitats. Some burrowing occurs away from wetlands.	**Low** (known to occur at VVWRA Treatment Plant ponds and within adjacent Mojave River).
Birds			
Bald Eagle *Haliaeetus leucocephalus*	F: Threatened (proposed to be delisted); Bald Eagle Protection Act (BEPA) C: Endangered; Protected Raptor	Nests in coniferous forests and on cliff faces. Winters at deep inland lakes and reservoirs; often migrates along stream corridors.	Nesting: **Absent**. Foraging: **Low** (occurs in adjacent Mojave River during migration).
Burrowing Owl *Athene cunicularia*	F: Bird of Conservation Concern (BCC); MBTA C: Protected Raptor	Nests in burrows made by other animals and burrow-like structures adjacent to grasslands, scrub habitats, urban and agricultural areas.	Nesting: **Occurs** (observed within 300' of Proposed Action. Foraging: **Occurs**.
Cooper's Hawk *Accipter cooperii*	F: Migratory Bird Treaty Act (MBTA) C: Special Concern (nesting only)	Nests in riparian woodlands and forests; forages in a variety of habitats, usually in proximity to riparian habitats.	Nesting: **Absent** (habitat lacking), known from Mojave River. Foraging: **Occurs**.

Table 1. State and Federal Special Status Species Occurring within Ten Miles of the Proposed Project. (continued)

Species	Protective Status (F=Federal, C=California)	Habitat	Occurrence Probability
Golden Eagle *Aquila chrysaetos*	F: BEPA, BCC, MBTA C: Protected Raptor	Nests in coniferous forests/cliff faces. Forages in open country and desert scrub.	Nesting: **Absent**. Foraging: **Occurs**.
Gray Vireo *Vireo vicinior*	F: MBTA C: Special Concern	Occurs in pinyon-juniper woodland, Mojave Juniper Scrub, chamise and redshank chaparral.	Nesting: **Low** Foraging: **Low** (see above).
Least Bell's Vireo *Vireo bellii pusillus*	F: Endangered (nesting); MBTA C: Endangered (nesting)	Requires willow riparian woodlands for nesting and foraging.	Nesting: **Absent** (habitat lacking); known to nest in Mojave River. Foraging: **Low**.
Le Conte's Thrasher *Toxostoma lecontei*	F: BCC; MBTA C: Special Concern	Uses a variety of arid habitats, often in open, sparsely vegetated areas; often nests in cactus.	Nesting: **Moderate**. Foraging: **Occurs.**
Loggerhead Shrike *Lanius ludovicianus*	F: MBTA C: Special Concern	Nests in open habitats with small trees or large shrubs, desert scrub; winters in open habitats.	Nesting: **High**. Foraging: **Occurs**.
Long-eared Owl *Asio otus*	F: MBTA C: Special Concern	Riparian habitats, live oak stands, mesquite and desert willow thickets for nesting.	Nesting: **Absent** (habitat lacking), may nest in Mojave River. Foraging: **Low**.
Northern Harrier *Circus cyaneus*	F: MBTA C: Special Concern (nesting only); Protected Raptor	Nests in marshes; forages over grasslands and desert scrub.	Nesting: **Absent** (habitat lacking), may nest in Mojave River. Foraging: **Occurs**.
Osprey *Pandion haliaetus*	F: MBTA C: Special Concern; Protected Raptor	Nests and forages in wetlands and open water; migrates along stream corridors.	Nesting: **Absent** (habitat lacking). Foraging: **Low** (occurs in adjacent Mojave River during migration).

Table 1. State and Federal Special Status Species Occurring within Ten Miles of the Proposed Project. (continued)

Species	Protective Status (F=Federal, C=California)	Habitat	Occurrence Probability
Prairie Falcon *Falco mexicanus*	F: BCC, MBTA C: Special Concern (nesting only); Protected Raptor	Nests in cliffs; forages over open terrain, desert scrub, agricultural areas.	Nesting: **Absent**. Foraging: **Occurs**.
Southwestern Willow Flycatcher *Empidonax trailii extimus*	F: Endangered (subspecies); MBTA C: Endangered (full species)	Nests and forages in riparian woodlands; often migrates along stream corridors.	Nesting: **Absent** (habitat lacking; migrates and may nest in adjacent Mojave River). Foraging: **Low**.
Summer Tanager *Piranga rubra*	F: MBTA C: Special Concern (nesting only)	Nests and forages in mature riparian forest and woodland.	Nesting: **Absent** (habitat lacking), may nest in adjacent Mojave River. Foraging: **Low.**
Swainson's Hawk *Buteo swainsoni*	F: BCC; MBTA C: Threatened (nesting only); Protected Raptor	Grasslands, plains, agricultural areas. Nests in tall trees (including Joshua trees) near waterways.	Nesting: **Absent** (not observed). Foraging: **Low** (known to forage in adjacent Mojave River during migration only).
Tricolored Blackbird *Agelaius tricolor*	F: MBTA C: Special Concern	Marshes for nesting; forages in fields and scrub habitats.	Nesting: **Absent** (habitat lacking). Foraging: **Absent**.
Vaux's Swift *Chaetura vauxi*	F: MBTA C: special concern (nesting only)	Nests in tree trunks; forages over openings in forest and along stream courses.	Nesting: **Absent** (out of breeding range). Foraging: **Occurs** (during migration).
Western Yellow-billed Cuckoo *Coccyzus americanus occidentalis*	F: MBTA; Migratory Nongame Bird of Management Concern C: Endangered	Nests in cottonwood-willow forest; known to nest at Kern River, Prado Basin, Colorado River.	Nesting: **Absent** (habitat lacking); may nest in adjacent Mojave River. Foraging: **Very Low** (habitat lacking).
White-faced Ibis *Plegadis chihi*	F: MBTA C: Special Concern	Occurs in freshwater marsh with dense emergent vegetation for breeding.	Nesting: **Absent** (habitat lacking). Foraging: **Low** (migrates along Mojave River).

Table 1. State and Federal Special Status Species Occurring within Ten Miles of the Proposed Project. (continued)

Species	Protective Status (F=Federal, C=California)	Habitat	Occurrence Probability
Yellow Warbler *Dendroica petechia*	F: MBTA C: Special Concern (nesting only)	Nests in riparian forest and woodland; nests along Mojave River, Santa Ana River, Kern River, and many others in southern California.	Nesting: **Absent** (habitat lacking); nests in adjacent Mojave River. Foraging: **Low** (nests in Mojave River).
Yellow-breasted Chat *Icteria virens*	F: MBTA C: Special Concern (nesting only)	Occurs in Riparian Forest and woodland.	Nesting: **Absent** (habitat lacking), nests in Mojave River. Foraging: **Low.**
Mammals			
Mohave Ground Squirrel *Spermophilus mohavensis*	F: none C: Threatened	Creosote Bush Scrub, Saltbush Scrub, and Grasslands.	**Assumed Present in Proposed Project area**. Focused surveys negative to date.
Mojave River Vole *Microtus californicus mohavensis*	F: none C: Special Concern	Damp bottomland of the Mojave River.	**Very Low** (habitat lacking); occurs in adjacent Mojave River.
Pallid San Diego Pocket Mouse *Chaetodipus fallax pallidus*	F: none C: Special Concern	Occurs in washes, desert scrub, Pinyon-Juniper Woodlands.	**Unknown**.

KEY TO TABLE 1

F: Federal (Endangered, Threatened, Candidate, Migratory Bird Treaty Act [MBTA])
C: California (Endangered, Threatened, Protected, Special Concern, California Fish and Game Code [F&G Code])

United States Bird Conservation (USBC): Watch List:
This list includes the Partners in Flight (PIF) Watch List, the United States Shorebird Conservation Plan Watch List, and the Waterbird Conservation for the Americas Watch List. This combined watch list is available through the American Bird Conservancy at: **http://www.abcbirds.org/watchlist/index.htm**. Information on Partners in Flight is available at: **http://www.partnersinflight.org/**. Information on the United States Shorebird Conservation Plan is available at: **http://shorebirdplan.fws.gov/.** Information on the North American Waterbird Conservation Plan is available at: **http://www.pwrc.usgs.gov/nacwcp/testarea/nacwcp/pubs/continentalplan.cfm.**

American Bird Conservancy (ABC): Green List:
The American Bird Conservancy Green List contains all the highest priority birds for conservation in the continental United States and Canada. It builds on the species assessments conducted for many years by Partners in Flight (PIF) for land birds and expands it to include shorebirds, waterbirds and waterfowl. The list is available at: **http://www.abcbirds.org/greenlist.htm** .

Definitions of occurrence probability:

Occurs: Observed on the site by AMEC biologists, or recorded on-site by other qualified biologists.

High:	Observed in similar habitat in region by qualified biologists, or habitat on the site is a type often utilized by the species and the site is within the known range of the species.
Moderate:	Reported sightings in surrounding region, or site is within the known range of the species and habitat on the site is a type occasionally used by the species.
Low:	Site is within the known range of the species but habitat on the site is rarely occupied by the species.
Absent:	A focused study failed to detect the species, no suitable habitat is present, or the location is outside the species range
Unknown:	Distribution and habitat use has not been clearly determined.

The occurrence likelihood of the Pallid San Diego Pocket Mouse is unknown, but remains possible due to a previously recorded location in proximity to the Proposed Project area. Three other species (Arroyo Toad, California Red-legged Frog, Tricolored Blackbird) are considered absent from the Proposed Project area, due to the extirpation of the species or to a lack of suitable nesting/migratory habitat. These latter three species are included in Table 3 below, but will not be addressed further in this document.

Project-specific data relative to these species is briefly outlined below. Detailed information on each of the species listed above can be found in the AFC Biological Technical Report.

8.3.2 Special Status Species Accounts

8.3.3 Desert Tortoise (*Gopherus agassizii*)

The Mojave population of the Desert Tortoise in California is state and federally listed as "Threatened". This species is known to utilize Creosote Bush Scrub, Saltbush Scrub, Joshua Tree Woodland and Mixed Mojave Scrub plant communities; as well as a variety of terrain types, including alluvial fans, valleys, rocky hillsides and washes. The latter terrain appears to provide habitat crucial to this species for foraging in dry years and in social pursuits.

Burrows are typically located at or near the base of shrubs, in caliche soil bank areas or underneath boulders/rocks. Desert Tortoises are known to utilize an average of 7-12 burrows at any given time (BLM 2005), with more than one animal known to share a single burrow on occasion. Home range size varies, with sex, age, season, population density or availability of resources (FWS 1994); but is generally between 10-450 acres.

Primary threats to the species include habitat loss and degradation; communicable disease and contaminants; Common Raven (*Corvus corax*), domestic dog and other animal predation on young Desert Tortoises; as well as transportation corridors and vehicle use. Poaching, vandalism and wildfire are also considered substantial threats to Desert Tortoise populations and habitats, respectfully. In addition to the outright loss of considerable Desert Tortoise habitat associated with relatively recent urban/residential development in the Mojave Desert, expanding off-road vehicle use, past livestock grazing and military training maneuvers, as well as increasing wildfire, have degraded suitable habitat for the species over large areas.

Mycoplasmosis, a highly contagious respiratory tract disease, has caused severe population crashes in portions of the West Mojave Desert. *Mycoplasma agassizzi*, the organism thought responsible for virulent strains of this disease, precipitates several secondary disease conditions which often bring about Desert Tortoise death.

Food and nesting substrate subsidization benefitting the Common Raven has also resulted in low Desert Tortoise population recruitment in many localized areas of the West Mojave Desert.

Focused Desert Tortoise (*Gopherus agassizii*) Surveys

Desert Tortoises were found throughout portions of the Proposed Project area (Appendix 1, Map 10). Two live animals were identified within the proposed disturbance footprint of the Proposed Project area and four Desert Tortoises were observed within the adjacent ZOI. Thirty-nine Desert Tortoise burrows, 29 scat and five carcasses (four adults and one hatchling), were recorded in the Proposed Project area and adjacent ZOI. The majority of the Proposed Project area is considered suitable habitat for the species.

In addition, eight live Desert Tortoises were reported (Tom Dodson Associates 2003) as occurring in the area addressed in the SCLA Specific Plan Amendment and Rail Service Project and within the VVWRA facility which overlaps a portion of the Proposed Project area.

No evidence of Common Raven predation within the Proposed Project area was observed. Live tortoises observed did not exhibit any obvious signs of disease (i.e., discharge, swollen eyes). However, blood samples of each animal would need to be analyzed in order to determine if these animals test positive for disease antibodies.

Adjacent BLM-managed public land has been designated Category III Desert Tortoise Habitat with an estimated 1984 density of 0 to 20 Desert Tortoises per square mile (BLM 2005). Photographs of representative habitat and species' sign observed in the Proposed Project area are presented in Appendix 2 of the AFC Biological Technical Report. Completed survey data forms are presented in Appendix 6 of the AFC Biological Technical Report.

8.3.4 Burrowing Owl (*Athene cunicularia*)

This diurnal to crepuscular raptor is currently designated a CSC species by the CDFG and managed as a Bird of Conservation Concern (BCC) by the FWS. This species is associated with grasslands and other arid open terrain, including Creosote Bush Scrub, in much of the western United States.

Burrowing Owls are opportunistic in their selection of burrows, typically utilizing the burrows of small mammals (e.g., kit fox), but also use Desert Tortoise burrows, drain pipes, culverts, and other suitable cavities at or below ground level. Due to the characteristic fossorial habits of Burrowing Owls, nest burrows are a critical component of their habitat.

In southern California, Burrowing Owls are not only found in undisturbed natural areas, but also fallow agricultural fields, margins of active agricultural areas, livestock farms, airports, and vacant lots. In spite of their apparent tolerance to human activities, Burrowing Owl populations in California are clearly declining (CDFG 1995). The declines in burrowing owl populations are attributed to loss and degradation of habitat; ongoing residential and commercial development; and to rodent control programs.

Focused Burrowing Owl (*Athene cunicularia*) Surveys

As depicted in Appendix 1, Map 11, evidence of the species (i.e., burrows exhibiting whitewash, feathers, pellets, etc.) in addition to live Burrowing Owls, were observed throughout portions of the Proposed Project area.

The species was also observed within the Proposed Project's 500-feet buffer zone; as well as within the 2,400-feet ZOI focused survey work conducted for other species (i.e., Mohave Ground Squirrel and Desert Tortoise). At least four live Burrowing Owls were observed occupying separate burrow locations in and around the Proposed Project area during these surveys.

One individual was recorded 900 feet northwest of the ZOI encompassing the northwest corner of the proposed western construction staging area. Another was recorded in the buffer zone of utility feature Segment 1, approximately 300 feet southwest of the ROW. The two other Burrowing Owls were observed within an area of utility feature Segment 2.

One of these birds was located outside the existing transmission line corridor, approximately 120 feet away from one of the proposed transmission line stringing/pulling areas. The other was located within the existing transmission corridor, approximately 220 feet away from the centerline of the proposed new transmission line.

Although most of these Burrowing Owls were observed outside the Proposed Project disturbance footprint, three were found within the 500-foot buffer zone area as defined by the "*Burrowing Owl Consortium Survey Guidelines*". One Burrowing Owl carcass/remains was also recorded within proposed utility feature Segment 1.

At least forty (40) small mammal burrows, thirty-six (36) Kit Fox (*Vulpes macrotis*) colony burrows, and thirty-nine (39) Desert Tortoise burrows were observed within the Proposed Project area and ZOI. These burrows provide substantial Burrowing Owl nesting opportunity and many exhibit sign of the species' previous use.

8.3.5 Mohave Ground Squirrel (*Spermophilus mohavensis*)

State listed as "Threatened", the Mohave Ground Squirrel is restricted to the western Mojave Desert. The species historically occurred from near Palmdale on the southwest, to Lucerne Valley in the southeast; northwest to Olancha, and northeast to the Avawatz Mountains (Gustafson 1993). There are a few recent records of the species occurring in the southern portion of its range encompassing Palmdale-Victorville. However, a juvenile of the species was captured in the Victorville area in July 2005. Urbanization and other degradation impacts to its desert habitats have led to its (probable) near-extirpation from substantial portions of the Victor Valley.

Mohave Ground Squirrels are active only seasonally, spending much of the year in torpidity underground; emerging to feed following winter and spring rains. It feeds on the leaves and

seeds of forbs and shrubs, with perennial shrubs forming a large part of the diet, especially when annual forbs are not available. Plant communities used by the species include Mojave Creosote Bush Scrub, Saltbush Scrub and Joshua Tree Woodland. Washes and relatively flat terrain appear to be preferred, but Mohave Ground Squirrel has also been documented to occur on gentle to moderate slopes.

The species has been recorded as occurring on or near the proposed southern laydown/staging area in 1987 (CNDDB 2006). Two visual sightings of Mohave Ground Squirrel were also reported in 2003 from the vicinity, perhaps even on the overlapping portion of the Proposed Project area, by Biologists conducting surveys for the SCLA Specific Plan Amendment and Rail Service Project (Tom Dodson Associates 2004). In 2004, the species was captured two miles west-southwest of the Proposed Project area (S. Montgomery pers. comm.; T. Moore pers. comm.), adjacent to U.S. Highway 395.

The CNDDB (CDFG 2006) also provides other locality records for Mohave Ground Squirrel occurring in proximity to proposed utility feature Segments 2 and 3 (Appendix 1, Map 4).

Focused Mohave Ground Squirrel (*Spermophilus mohavensis*) Surveys

No Mohave Ground Squirrels were captured or observed within the Proposed Project area during focused surveys conducted in 2006. However, only the proposed power plant site, two adjacent construction staging areas, and a portion of utility feature Segment 1 were trapped at this time. The remainder of utility feature Segment 1, as well as utility feature Segments 2 and 3 were not surveyed or trapped. As noted earlier, the Project proponent has elected to assume presence of the species within the Proposed Action area.

8.3.6 Le Conte's Thrasher (*Toxostoma lecontei*)

This uncommon to rare resident of desert scrub habitats has been designated a CSC species by the CDFG. Within the West Mojave Desert, Le Conte's Thrasher is known to occur in the Antelope Valley north to eastern Kern County. In the southern portion of the West Mojave Desert, the species occurs throughout Joshua Tree National Park and west along the northern bases of the San Bernardino and San Gabriel Mountains.

Open desert with scattered shrubs and sandy and/or alkaline soil are preferred by the Le Conte's Thrasher. Creosote Bush Scrub and Joshua Tree Woodland plant communities are favored by this species in the western Mojave Desert. The species' nests are typically placed in a cactus, thorny shrub, or small tree; selected to offer protection from predators and the sun.

At least two Le Conte's Thrashers were observed in two locations along proposed utility feature Segment 1 (see Appendix 1, Map 8). Suitable nesting habitat is present throughout much of the Proposed Project area. This species was also reported in the immediate vicinity of the proposed power plant area, during biological field survey work for the SCLA Specific Plan Amendment and Rail Service Project EIR (Tom Dodson & Associates 2003).

8.3.7 Loggerhead Shrike (*Lanius ludovicianus*)

This species has been designated a CSC species by the CDFG and a BCC by the FWS. It is a highly voracious predator of insects and small vertebrates. Loggerhead Shrikes nest in trees and shrubs throughout most of the U.S. and portions of southern Canada.

It has declined throughout much of its range, particularly in Canada, as well as the Gulf States and Midwest. A variety of factors have impacted this species, including habitat loss and pesticide use in breeding and wintering habitats.

Creosote Bush Scrub and Joshua Tree Woodland plant communities are favored by the species within the western Mojave Desert. Joshua Trees are occasionally used as nesting substrate. Populations occupying inland southern California areas appear to be relatively stable despite declines documented elsewhere in the nation.

Loggerhead Shrikes were observed within the Proposed Project area by AMEC biologists on several occasions throughout the spring and summer months. As the species appears to be resident within the Proposed Project area and suitable nesting substrate occurs throughout the Proposed Project area, nesting is considered likely.

8.3.8 Cooper's Hawk (*Accipiter cooperi*)

This migratory species is a Protected raptor in California and has been designated a CSC species by the CDFG. The Breeding Bird Survey conducted between 1980 and 1996 documented an approximate 7.5% decline in this species statewide (Stephenson and Calcarone 1999).

Cooper's Hawk typically nests in wooded areas, often near streams. The species primarily preys on smaller bird species. It typically forages over open and residential landscapes located adjacent to stream courses.

The species was observed flying over the Proposed Project area on several occasions during biological surveys.

Although suitable nesting habitat is not present within the Proposed Project area, this species is known to nest in the adjacent Mojave River riparian habitat. Cooper's Hawk populations are known to increase in the Victor Valley in winter months when migratory birds arrive from northerly latitudes. A corresponding increase in bird foraging within uplands occurring adjacent to the Mojave River is expected to occur during this season.

8.3.9 Northern Harrier (*Circus cyaneus*)

This low-flying raptor commonly known from marshes, has been designated a CSC species by the CDFG and is protected by the State of California. Like most of the nations' migratory birds, it is federally protected under the MBTA. The species generally seeks low perches and seldom

soars high except during migration and during their acrobatic courtship displays. Males of the species are known to migrate later in the fall and earlier in the spring, than females.

Prey includes small mammals and amphibians. Nesting habitat generally supports dense emergent vegetation. Foraging in Creosote Bush Scrub habitats located adjacent to stream courses is common during both the nesting and migration seasons.

8.3.10 Prairie Falcon (*Falco mexicanus*)

As a migratory bird species commonly known from dry open country, Prairie Falcons are also afforded federal protection under the MBTA. This CSC species is also a state-protected raptor. Small numbers of the species winter throughout the breeding range.

It preys on birds and small mammals, which are often glimpsed from the wing while soaring.

Cliff faces are required for nesting purposes; where high nest fidelity is exhibited. Foraging habitat includes Creosote Bush Scrub plant communities and foothill areas.

8.3.11 Golden Eagle (*Aquila chrysaetos*)

A migratory bird species, Golden Eagles are afforded federal protection under the MBTA and are federally protected under the Bald Eagle Protection Act (BEPA) of 1940. This species is also a CSC species designated by CDFG and is a state-protected raptor.

This large soaring bird of open country and forests preys on small mammals, rabbits (*Lepus* spp.), snakes, birds and carrion. Cliffs and/or large coniferous trees are required for nesting. Foraging habitat includes Creosote Bush Scrub plant communities and foothill areas.

8.3.12 Southwestern Pond Turtle (*Actinemys marmorata pallida*)

This cryptic reptile of wetland habitats has been designated a species of special concern by the CDFG and is a Protected species in California.

Historically, the Southwestern Pond Turtle occurred in a wide variety of permanent and intermittent aquatic habitats within southern California. Currently, it occurs in greatly reduced numbers within this range, or is completely extirpated. Reasons for the species' decline include various water diversion projects; grazing; vehicle related mortality; vandalism; predation; loss, degradation and fragmentation of wetland/immediately adjacent upland habitats; exploitation by the pet trade, and drought (FWS 1993).

The Southwestern Pond Turtle is found in ponds, lakes, marshes, vernal/ephemeral pools, sinkhole ponds, rivers, streams, estuaries, and saltwater;as well as woodland, grassland, and open forest habitats (Holland 1991, Zeiner et. al 1988, Stebbins 1985). In addition, the species may also be found in watercourses altered by humans such as irrigation ditches, canals, reservoirs, excavated farm ponds, mill ponds, and sewage treatment plants (Holland 1991).

These "human-modified" aquatic habitats are usually in close proximity to natural watercourses where the turtles occur. Aquatic habitats favored by the Southwestern Pond Turtle usually contain Watercress (*Rorippa* spp.), Cattail, Waterlily (*Nymphaea* spp.), and other aquatic vegetation.

Basking sites in close proximity to water which providing quick, easy escape from predators and aiding in thermoregulation, are an essential habitat requirement of the species. Basking sites commonly used include partially submerged logs, rocks, cattail mats, mud banks, wooden planks, or other human-generated debris (Stebbins 1985, Holland 1991). In addition to the presence of basking sites, an open canopy (i.e. areas with few trees and little shade) is generally preferred. This allows for maximum basking opportunities to aid in thermoregulation.

Adults can travel, burrow, lay eggs and overwinter in upland areas situated in proximity to wetland sites. Hatchling and juveniles require more specialized habitats, such as shallow water/wetbanks with dense vegetation (e.g. Reeds [*Juncus* spp.], Sedges [*Carex* spp.], Cattail, and Tules [*Scirpus* spp.]) which offers cover from predators such as fishes, bullfrogs, snakes, wading birds, and mammals (Holland 1991, Federal Register 1993, Ziener et. al 1988).

The Southwestern Pond Turtle has been reported from several locations along the Mojave River (CDFG 2006). This includes one 2004 record from "*a waste water treatment plant 0.7 miles west of Highway 18, 6 miles north-northwest of Victorville*".

This record places the species at the VVWRA treatment plant, presumably within one of the sewer treatment ponds. This locality is situated immediately adjacent to where a portion of utility feature Segment 1 (i.e., reclaimed water pipeline) is proposed for installation (see Appendix 1, Maps 2 and 4).

No focused surveys for the Southwestern Pond Turtle were conducted for the Proposed Project. The reclaimed water pipeline proposed for installation would be located entirely within a compacted perimeter access road situated outside the immediate VVWRA sewage pond area.

8.3.13 San Diego Coast Horned Lizard (*Phrynosoma coronatum blainvillii*)

This cryptic lizard has been designated a CSC species. Populations are declining due to loss, degradation and fragmentation of suitable habitat, extensive collecting, and introduction of the Argentine Ant (*Linepithema humile* [formerly *Iridomyrmex humilis*]), which can out-compete native Harvester Ant species (*Pogonomyrmex* sp.) eaten by Horned Lizards.

The species occurs throughout southern California, west of the desert interior and Cascade-Sierran highlands, ranging south through Baja California, Mexico (Stebbins 1985). Its range extends from sea level to about 1,800 m. (6,000 ft.) in southern California Mountains (Zeiner et. al 1988). The San Diego Coast Horned Lizard is found in a variety of habitats including coastal sage scrub, chaparral, broad-leaved woodlands, washes, grasslands as well as within Pinyon Juniper plant communities. Habitat requirements include the presence of Harvester Ants (the

species primary diet); loose sandy soil where it buries itself; cover (rocks or brush) to escape from predators; and sunny/warm basking sites (Stebbins 1985, Sherbrooke 1981).

Although not observed during general biological surveys, one record for the species places it 0.5 miles west of Oro Grande Railroad Station; located approximately one mile south of a portion of the Proposed Project area. The West Mojave Plan species account states that this population is considered extirpated (Jennings and Hayes, 1994).

Typically, the species is associated with cismontane habitats. Populations are known from the Mojave Desert along the base of the San Gabriel and San Bernardino Mountains, the Antelope Valley California Poppy State Reserve and Joshua Tree National Park (Jennings and Hayes 1994). The species has been recorded from the vicinity of the southern-most portions of proposed utility feature Segment 3 (see Appendix 1, Map 4).

8.3.14 Mojave River Vole (*Microtus californicus mohavensis*)

This small mammal is managed as a CSC by the CDFG. This subspecies of the California Vole (*Microtus californicus*) is restricted in range to the Mojave River between Victorville/Apple Valley and Helendale. Its habitat is the moist, grassy understory of associated riparian woodlands, freshwater marsh, meadows, as well as irrigated pastures located in proximity.

The Mojave River Vole feeds on grasses, green vegetation and roots. This species was not observed during general biological surveys. There is a very low to low potential for occurrence in a very limited portion of utility feature Segment 1 (see Appendix 1, Map 4).

8.3.15 Gray Vireo (*Vireo vicinior*)

This uncommon, undergrowth vireo has been designated a CSC species by the CDFG. It is a local, summer resident in arid Pinyon-Juniper Woodland and Chamise Redshank Chaparral plant communities (Holland 1986). The species has been reported from 2000-6500 feet in mountains of the eastern Mojave Desert; on the northeastern slopes of the San Bernardino Mountains; as well as the San Jacinto Mountains; and Laguna Mountains.

The Gray Vireo was not observed within the Proposed Project area during general biological surveys. Focused surveys, however, were not conducted for this species. There is a very low to low potential for this species to nest in the Juniper Woodland and Scrub plant community occurring in the southern portion of proposed utility feature Segment 3.

8.3.16 Yellow Warbler (*Dendroica petechia*)

The Yellow Warbler, while nesting, has been designated as a CSC species. It is also federally protected under the MBTA. This species is typically found in riparian habitats during avian nesting season, where it seeks out insects and some berries. During migration, it routinely visits woodlands, forests, and shrub habitats (CDFG 2005).

The species was not observed during any biological surveys, nor is there requisite nesting habitat for this species within the Proposed Project area. Suitable habitat for this species does occur in the adjacent Mojave River and there is a potential for it to travel through the Proposed Project area during foraging/migration.

8.3.17 Summer Tanager (*Piranga rubra*)

An insectivorous, neotropical migrant, this species has also been designated a CSC species. It resides in densely vegetated thickets and is most commonly associated with riparian plant communities in southern California. Summer Tanagers typically perch on the highest treetops and eat primarily flying insects, which it catches on the wing, and to a lesser extent, fruit.

The Mojave River provides extensive nesting habitat for this species. Summer Tanagers are thought to be declining due to habitat loss, primarily associated with deforestation and urban development.

The species was not observed within the Proposed Project Area. Although suitable habitat for this species occurs in the adjacent Mojave River, no suitable nesting, foraging or migratory use habitat exists in the Proposed Project area.

8.3.18 Yellow-breasted Chat (*Icteria virens*)

An insectivorous, neotropical migrant, this member of the Warbler Family has been designated a CSC species. It resides in densely vegetated thickets and is most commonly associated with riparian plant communities in southern California. Yellow-breasted Chat is declining due to brood parasitism by Brown-headed Cowbirds (*Molothrus ater*) as well as habitat loss, primarily associated with deforestation and urban development.

The species nests fairly commonly along the Mojave River from Victorville to Helendale (as many as 25 nesting pairs, S. Myers pers. comm.). Although suitable habitat for this species occurs in the adjacent Mojave River, no suitable nesting, foraging or migratory use habitat exists in the Proposed Project area.

8.3.19 Least Bell's Vireo (*Vireo bellii pusillus*)

This species is state and federally listed as "Endangered". It forages, nests and migrates in willow and/or mulefat-dominated riparian scrub habitats along permanent or nearly permanent streams (Grinnell and Miller 1944, Goldwasser 1978, Franzreb 1987, Garrett and Dunn 1981).

Least Bells Vireo was formerly widespread and common throughout low-lying riparian habitats in southern California, but is now restricted to a limited number of locations. Nest parasitism by the Brown-headed Cowbird and habitat loss has contributed to this species' significant population declines. Critical habitat has been designated for the species, which is located approximately 26 miles south of the Proposed Action area.

Least Bells Vireo was not observed in the Proposed Project area during biological field surveys, nor is it expected to occur. Although suitable habitat for this species occurs in the adjacent Mojave River, no suitable nesting, foraging or migratory use habitat exists in the Proposed Project area.

8.3.20 Long-eared Owl (*Asio otus*)

As a migratory bird species commonly known from dry open country, Long-eared Owls are also afforded federal protection under the MBTA. This CSC species is also a state-protected raptor.

The generally silent owl species inhabits thick woods and hunts rodents, amphibians, reptiles, fish and insects at night over open fields. By day it roosts in a tree, usually close to the trunk. Long-eared Owls are known to utilize Desert Willow (*Chilopsis linearis*), Mesquite (*Prosopis* spp.) and thick Willow (*Salix* spp.) growths in the Mojave River vicinity. It is also known from washes in the vicinity which support dense vegetation thickets. The species uses abandoned nests of other species to raise their young. Flocks, which often winter in Mexico, sometimes roost together.

8.3.21 Bald Eagle (*Haliaeetus leucocephalus*)

A state listed-Endangered and federally listed-Threatened species, Bald Eagles are afforded high levels of state and federal protection. Proposed for federal status delisting, Bald Eagles are also protected under the BEPA and MBTA.

The species inhabits riverine, lacustrine and coastal habitats, where they eat primarily fish and carrion. The species builds large stick nests in trees (usually coniferous), with high nest fidelity exhibited. Migration flight often follows interior river corridors.

Bald Eagles often follow the Mojave River corridor in their migratory flight. The species is known to winter at Silverwood and Big Bear Lake near the headwaters of the Mojave River. However, the Proposed Project area does not afford any nesting habitat and only very limited foraging opportunity for migrating Bald Eagles.

8.3.22 Swainson's Hawk (*Buteo swainsoni*)

State listed as "Threatened" in California, the Swainson's Hawk is also federally protected under the MBTA. This soaring hawk often migrates with flocks of Turkey Vultures (*Cathartes aura*) along the Mojave River.

The species is known from savannas, prairies, deserts, open pine-oak woodlands and cultivated lands with scattered trees. It feeds on rabbits, lizards, frogs, toads, snakes and birds.

Occasionally the species is also known to feed heavily on insects, particularly in its South American Pampas wintering grounds. Swainson's Hawks are threatened with habitat loss, pesticide poisoning and shooting.

Swainson's Hawks build large twig nests in trees and sometimes on cliffs. The species exhibits moderate site fidelity, but even minor nest disturbance can cause nest desertion. It is thought to have once nested in the Mojave Desert. However, the species is currently believed only to migrate through the Mojave River region.

8.3.23 Osprey (*Pandion haliaetus*)

The Osprey is a state-protected raptor and has been designated a CSC species. As such, it is afforded protection under California Fish and Game Code Sections 3503, 3503.5, 3513, and 3800. Federally, this migratory species is protected under the MBTA.

Ospreys inhabit riverine, lacustrine and coastal habitats, where they eat primarily fish. The species builds large stick nests in trees (usually coniferous), rock outcrops, on high cliffs and on human structures; with high nest fidelity exhibited. Migration flight often follows interior river corridors.

Ospreys were observed flying over the Mojave River and adjacent VVWRA facility on several occasions during general biological surveys. In the Victor Valley, this species is known as an uncommon migrant. The Proposed Project area does not afford any nesting or foraging opportunities for the species.

8.3.24 Vaux's Swift (*Chaetura vauxi*)

Designated a CSC species, the Vaux's Swift is also federally protected under the MBTA. The species is known to winter from Central Mexico south to Venezuela. The species inhabits woodlands near lakes and rivers, where it feeds on flying insects. It nests in hollow tees and occasionally in chimneys. Post-breeding flocks, with birds sometime numbering in the hundreds, commonly roost together in chimneys. The species is considered fairly rare in southern California.

8.3.25 Southwestern Willow Flycatcher (*Empidonax trailii extimus*)

This species is state and federally listed as Endangered. It similarly forages, nests and migrates in willow-dominated riparian scrub habitats along permanent or nearly permanent streams.

This subspecies of the Willow Flycatcher (*E. t. trailii*) was formerly considered a common summer resident in southern California's lowland willow thickets (Grinnell and Miller 1944). Nest parasitism by the Brown-headed Cowbird and habitat loss has contributed to this species' significant population declines (Garrett and Dunn 1981).

Critical habitat has been designated for the species. The Mojave Management Unit of this critical habitat is located within the Mojave River within approximately 150 feet of portions of proposed utility feature Segments 1 and 2 (Appendix 1, Map 12).

The Southwestern Willow Flycatcher was not observed in the Proposed Project area during biological field surveys, nor is it expected to occur. Although suitable habitat for this species occurs in the adjacent Mojave River, no suitable nesting, foraging or migratory use habitat exists in the Proposed Project area.

8.3.26 Western Yellow-billed Cuckoo (*Coccyzus americanus occidentalis*)

An insectivorous, neotropical migrant, this species is state listed as "Endangered" and a candidate for federal listing west of the Rocky Mountains. While it is relatively common east of the Rocky Mountains, there is concern for loss/degradation of dense riparian habitat suitable for Western Yellow-billed Cuckoo's use in the West.

The species is known to require large riparian habitat blocks fro nesting. It is often found in Cottonwood (*Populus fremontii*)/Gooding's Black Willlow (*Salix gooddingii*) riparian galleries, where it feeds on insects (particularly caterpillars), bird eggs, frogs, lizards and fruit. Dense understory foliage appears to be an important nest habitat feature for this species.

There is a 1978 record of this species from the Mojave River, approximately 11 miles southeast of the Proposed Project area (CNDDB 2006). The species appears to have been detected in the same area several times throughout the late 1980s and early 1990s (S. Myers pers. comm.).

The Western Yellow-billed Cuckoo was not observed in the Proposed Project area during biological field surveys, nor is it expected to occur. Although marginally suitable habitat for this species occurs in the adjacent Mojave River, no suitable nesting, foraging or migratory use habitat exists in the Proposed Project area.

8.3.27 White-faced Ibis (*Plegadis chihi*)

A wading bird of fresh emergent wetland, shallow lacustrine waters, wet meadows, and irrigated croplands, this species has been designated as a CSC species by the CDFG. White-faced Ibis nest in densely-vegetated, emergent freshwater wetlands where it feeds on insects and small vertebrates. The White-faced Ibis has ceased nesting in many areas where it once did, likely as a result of marsh loss in the state (CDFG 2005).

The species was not observed on, or in the vicinity of the Proposed Project, during any of the biological field surveys conducted for the Proposed Project. However, White-faced Ibis has been reported from the Mojave River during biological field surveys conducted for the SCLA Specific Plan Amendment and Rail Service Project EIR (Tom Dodson Associates 2003).

Although suitable habitat for this species occurs in the adjacent Mojave River, no nesting, foraging and migratory flight habitat for this species is present within the Proposed Action area.

8.3.28 Pallid San Diego Pocket Mouse (*Chaetodipus fallax pallidus*)

This small mammal has been designated a CSC species, but little is known of its natural history. The species is thought to be associated with open, weedy sand areas of the low desert and foothills in the Lower/Upper Sonoran life zone of southwestern California (Ingles 1965).

The Pallid San Diego Pocket Mouse occurs primarily on the margins of the western Mojave Desert and the northern slopes of the San Bernardino and San Gabriel Mountains. A record from nearby Oro Grande appears in the literature (Hall 1981, CNDDB 2006). Comprehensive nocturnal trapping to detect this species was not performed for the Proposed Project.

9.0 ENVIRONMENTAL CONSEQUENCES OF THE PROPOSED PROJECT

9.1 Temporary and Permanent Impacts

Implementation of the Proposed Project would directly impact 408 acres of native plant communities (Creosote Bush Scrub, Saltbush Scrub, and Mojavean Juniper Woodland and Scrub) that are considered suitable habitat for the Desert Tortoise, Mohave Ground Squirrel, Burrowing Owl, Le Conte's Thrasher, and Loggerhead Shrike. A portion of this habitat is known to be occupied by small numbers of Desert Tortoise.

Some of this acreage has been assumed by the Proposed Project proponent as occupied by unknown numbers of the Mohave Ground Squirrel, although no Mohave Ground Squirrels have been sighted or trapped in the Proposed Project area.

In addition, this habitat is thought to be used periodically by small numbers of Burrowing Owl, Le Conte's Thrasher and Loggerhead Shrike.

The habitat of these species would be temporarily impacted in some areas and permanently lost in some areas, as the result of the Proposed Project. Habitat impacts would include the removal of native soils and vegetation, as a result of Proposed Project site grading, construction (i.e., power plant, transmission line towers, and pipelines), and equipment staging/storage. A number of Joshua Trees would be lost if not transplanted. Due to the lengthy time period required for unassisted and/or facilitated habitat revegetation to meet pre-disturbance values in the West Mojave Desert, temporary plant community impacts are considered similar to permanent plant community impacts in this analysis.

Fifty-four (54) acres of disturbed/developed land and three acres of Non-native Grassland would also be temporarily affected or permanently removed. However, this acreage is considered to be of low habitat value for the Desert Tortoise, Mohave Ground Squirrel, Burrowing Owl, Le Conte's Thrasher and Loggerhead Shrike.

The amount of each plant community and disturbed habitat that would be directly affected within the Proposed Project area is presented in Tables 2 and 3 below. Use of heavy equipment, operation of motorized vehicles, and other surface disturbance associated with the

Table 2. Temporary Impacts per Affected Plant Community and Proposed Project Component.

Vegetation Community	Power Plant Site	West Staging Area	South Staging Area	Linear Utility Feature Segments			TOTAL
				1	2	3	
Creosote Bush Scrub	0 acres	0 acres	0 acres	9 acres	2.2 acres	31.8 acres	43 acres
Saltbush Scrub	0 acres	0 acres	0 acres	0.2 acres	0 acres	0 acres	0.2 acres
Pinyon-Juniper Woodland	0 acres	0 acres	0 acres	0 acres	0 acres	23.2 acres	23.2 acres
Non-native Grassland	0 acres	0 acres	0 acres	0 acres	0 acres	0 acres	0 acres
Rabbitbrush Scrub	0 acres	0 acres	0 acres	0 acres	0 acres	0 acres	0 acres
Disturbed/developed areas	0 acres	0 acres	0 acres	0 acres	0 acres	0 acres	0 acres
Total	0 acres	0 acres	0 acres	9.2 acres	2.2 acres	55 acres	66.4 acres

Table 3. Permanent Impacts per Affected Plant Community and Proposed Project Component.

Vegetation Community	Power Plant Site	West Staging Area	South Staging Area	Linear Utility Feature Segments			TOTAL
				1	2	3	
Creosote Bush Scrub	285 acres	30 acres	20 acres	6.7 acres	0.13 acres	0.13 acres	341.96 acres
Saltbush Scrub	0 acres	0 acres	0 acres	<0.01 acres	0 acres	0 acres	<0.01 acres
Pinyon-Juniper Woodland	0 acres	0 acres	0 acres	0 acres	0 acres	0.17 acres	0.17 acres
Non-native Grassland	3 acres	0 acres	0 acres	0 acres	0 acres	0 acres	3 acres
Rabbitbrush Scrub	0 acres	0 acres	0 acres	0 acres	0 acres	0 acres	0 acres
Disturbed/developed areas	50 acres	0 acres	0 acres	3.6 acres	0 acres	0 acres	53.6 acres
Total	338 acres	30 acres	20 acres	10.31 acres	0.13 acres	0.3 acres	398.74 acres

Proposed Project has the potential for incidental take of Desert Tortoises, Mohave Ground Squirrels (if present), Burrowing Owls, Le Conte's Thrasher/Loggerhead Shrike/Gray Vireo nestlings, as well as other migratory bird nestlings. This incidental take, i.e., animal

harassment, harm or mortality, could result from general surface disturbance (e.g., earth movement, vegetation removal), heavy machinery operation, vehicle collisions with undetected animals and/or the crushing of animals within occupied burrows.

Various activities, such as heavy equipment operation and vehicle use, also have the potential to generate disturbance offsite, adjacent to the Proposed Project area during the initial construction phase. Some bird species may abandon nests if nearby noise levels are excessive.

Dust generated by construction activities has the potential to drift off the Proposed Project site and settle on adjacent vegetation, potentially impacting plant reproduction and overall habitat suitability for certain wildlife species, including the Desert Tortoise and Mohave Ground Squirrel. This offsite impact is considered a potential direct effect of the Proposed Action, but is difficult to quantify.

In general, initial Proposed Project construction activities would result in the temporary reduction of wildlife use on adjacent lands, as the result of construction dust, lighting and noise. Wildlife use of these adjacent lands would be expected to return to pre-construction levels following the completion of proposed construction activities.

Increased traffic on access roads associated with the Proposed Project both during the initial construction phase and during routine operations and maintenance poses the potential for increased vehicle-related wildlife mortality. This impact enhances food provisioning opportunities for the Common Raven and other potential predators of the Desert Tortoise, Mojave Ground Squirrel, and Burrowing Owl.

The temporary/permanent loss of approximately 408 acres of Desert Tortoise habitat and the potential "take" of a federally listed animal (Desert Tortoise) constitutes a "may affect" determination of effect with regard to the ESA. As such, ESA Section 7 consultation and incidental take authorization are required. The temporary/permanent loss of this same 408 acres supporting Mohave Ground Squirrel habitat and the potential "take" of state-listed animals (Desert Tortoise and Mohave Ground Squirrel), also necessitates CESA Section 2081 incidental take permitting.

The removal of two to six Desert Tortoises from harms way during the Proposed Project is considered likely, as two adult animals were documented within the footprint of the Proposed Project area and four additional Desert Tortoises were observed adjacent to this locality. Other hatchling and/or juvenile Desert Tortoises could also be found during clearance surveys of the affected property, which would necessitate additional incidental take authorization to remove these animals from harms way. All Desert Tortoises onsite would require handling and translocation to a pre-determined offsite location approved by involved regulatory agencies.

An unknown number of Mohave Ground Squirrels (if present) and Burrowing Owls may similarly need to be removed from harms way during the Proposed Project, to avoid direct impacts potentially resulting in mortality of individual animals. While techniques exist to determine

occupancy of burrows with regard to Burrowing Owl, it is more difficult to ascertain with complete certainty relative to Mohave Ground Squirrel.

As the Arroyo Toad is considered extirpated from the Mojave River and no impacts are anticipated in this locality, no effects to this federally listed amphibian species are anticipated as the result of the Proposed Project.

Likewise, as the California Red-legged Frog is considered extirpated from the Mojave River, no effects to this federally listed species are anticipated.

The federally listed-Threatened/state listed Endangered Bald Eagle, which migrates in small numbers along the Mojave River, is also unlikely to be affected by the Proposed Project. Similarly, no effects to the state listed-Threatened Swainson's Hawk, which also migrates along the Mojave River, are anticipated.

No effects to the federally listed-Endangered Southwestern Willow Flycatcher are anticipated. The species has not been reported as nesting from the immediate Mojave River area and no surface disturbance would occur in the Mojave River riparian habitat. Further, the species' migration travels are likely to remain in this immediate river corridor.

However, the habitat characteristics of this proximal Mojave River reach for the state and federally listed-Endangered Least Bell's Vireo and state listed-Endangered Western Yellow-billed Cuckoo are considered fair for species' nesting purposes. Least Bell's Vireo has also been reported as nesting a short distance upstream from this river locale, and Western Yellow-billed Cuckoos are known from a downstream location. While no habitat disturbance in this river habitat would occur as the result of the Proposed Project, there is a low potential for construction-related noise disturbance to affect this species along a small portion of the proposed utility feature Segment 1. Migratory use impacts are unlikely.

Accordingly, there is a low likelihood that the Proposed Project may affect, but is not likely to adversely affect, the state/federally listed-Endangered Least Bell's Vireo; and the state listed-Endangered Western Yellow-billed Cuckoo.

Direct impacts to other bird species potentially nesting within the adjacent Mojave River (i.e., Yellow Warbler, Summer Tanager, Cooper's Hawk, Long-eared Owl, etc.) could also occur as the result of proposed construction activities, as portions of proposed utility feature Segment 1 are located in close proximity. Although this potential consequence is considered extremely low, if loud noise (i.e., heavy equipment operation associated with proposed utility feature Segment 1 installation) were to occur during the nesting season (February 15 through August 31), a small potential for nest disturbance impact in occupied avian habitat does exist. Avoidance of construction activities within the areas in close proximity to the Mojave River riparian zone would result in a no affect determination. If avoidance of the nesting season cannot be achieved, close biological monitoring of affected habitats during noise-generating construction activities could, however, detect this potential impact in time to remedy adverse effects to bird nesting.

No effects to migratory travel by White-faced Ibis, Osprey or Vaux's Swift, Burrowing Owls, Le Conte's Thrasher, Loggerhead Shrike or Gray Vireo are anticipated as the result of the Proposed Project. Similarly, there is a very low likelihood of impacts to Mojave River Vole as the result of the Proposed Project, since no suitable habitat for the species would be impacted and mobility of this species outside of moist bottomlands is very rare.

A slightly higher potential for impacts to the Southwestern Pond Turtle exists relative to installation of a water pipeline in proposed utility feature Segment 1. Terrestrial travel by this native turtle is known to occur and consequently, proposed pipeline installation activities and vehicle travel in proximity to the VVWRA ponds has the potential to result in crushing mortality of this species. Close biological monitoring of affected habitats during these construction activities and vehicle travel could, however, detect this potential impact in time to avoid species injury/mortality.

A small potential for impacts to San Diego Coast Horned Lizard and Pallid San Diego Pocket Mouse also exists relative to portions of the Proposed Project area. Pre-disturbance clearance of areas where heavy equipment construction would be used could minimize the severity of this impact relative to San Diego Coast Horned Lizards, but is unlikely to successfully mitigate potential impacts to sub-surface-dwelling Pallid San Diego Pocket Mice.

9.2 Indirect Impacts

In addition to outright vegetation removal in some portions of the Proposed Project area, the operation of heavy equipment and vehicle use may also indirectly affect the Desert Tortoise, possibly Mojave Ground Squirrel (if present), Le Conte's Thrasher, San Diego Coast Horned Lizard and possibly San Diego Pocket Mouse habitat in a variety of ways. These vehicle use/equipment operation indirect impacts include the potential modification of soil-water uptake ability and drainage patterns near washes. Vehicle use and equipment parking/staging could also contribute to the alteration of plant species composition adjacent to existing/planned roads and staging areas used in the proposed Project. A resulting change of annual plant surface cover could reduce the value of these species' habitat in some areas.

The introduction of noxious and/or non-native plant species also sometimes occurs along roadsides. These non-native plants often provide little or reduced nutritional value to native herbivores and can out-compete native plants in some situations. Thus, an increase in area roads and/or vehicle use could potentially increase the chance of non-native plant introduction and/or spread.

Over time, some non-native plants can spread from these roadsides, out-compete valuable native forage and reduce habitat values at a distance from the affected roadway. Non-native grass species, when established, can also alter natural wildfire regimes by increasing fuel connectivity and/or ladder fuel loads, influencing wildfire severity and periodicity. Although no recent wildfire evidence was observed in the area, a high potential for wildfire in the region was noted in the several wildlife surveys undertaken for the Proposed Project. Any creation of potential wildfire sources, fuel storage and/or increases in human presence within the area as a

result of structure attraction, would add to the general threat of wildfire ignition in the affected area.

Project operations are anticipated to generate varying levels of dust, lighting and ambient noise adjacent to the proposed power plant. Periodic maintenance and operation of proposed utility features are also expected to generate small degrees of dust, lighting and ambient noise.

Potential indirect impacts to habitats located adjacent to the Proposed Project could also occur if onsite drainage or fluid discharge occurs as a result of inadequate controls or containment. Improperly directed precipitation drainage could similarly result in eroded soils and sedimentation. Such impacts can sometimes adversely affect offsite vegetation, water courses and even the underlying water aquifer. Appropriate facility drainage and storm-water containment design, as well as planning for miscellaneous fluid discharge, can reduce the severity of these potential indirect impacts.

New structures associated with the Proposed Project (i.e., transmission line towers, tall buildings, cooling towers) could indirectly create nesting/perching/shading habitat favorable to the Common Raven; a known predator of hatchling and juvenile Desert Tortoises.

These structures may also create other perching and nesting opportunities for other raptors as well; which could potentially prey upon Mohave Ground Squirrels, Burrowing Owls, Le Conte's Thrashers and/or Loggerhead Shrike. Further, proposed Project operations are likely to produce varying levels of trash or other food items which could subsidize and/or attract scavengers like the Common Raven and Coyote (*Canis latrans*). Such scavenger provisioning/attraction could indirectly increase the predation rate upon the above species.

9.3 Cumulative Impacts

Impacts associated with the Proposed Project, when considered individually, may not be considered significant. However, when considered collectively with other past, present, and future actions in the region, impacts of the Proposed Project may contribute incrementally to the loss of occupied/suitable habitat or individual special-status species.

The Cities of Victorville and adjacent Adelanto, like many other areas of the western Mojave Desert, are currently experiencing rapid development and growth. For example, the development of a 1,600-acre intermodal railway logistics facility located at the SCLA is being planned that would involve the conversion of considerable undeveloped acreage to developed lands in the immediate VV2 Project vicinity. Extensive housing has recently been constructed to the east and south of the Proposed Project area and this rapid development is continuing.

The expansion and possible relocation of portions of U.S. Highway 395, located east of the Proposed Project area, are also currently being planned. Public lands occurring to the north of the Proposed Project area have been identified as disposal acreage to facilitate Land Tenure Adjustment objectives associated with long-term bioregional planning. These lands, once placed into private ownership, are anticipated to be developed. Across the Mojave River from

the Proposed Project area in the town of Ore Grande, the TXI Cement Plant is also currently conducting extensive retrofitting and expansion.

Due to the high levels of human activity in the area, habitat loss, degradation, and fragmentation were considered significant issues in the BLM's recently adopted West Mojave Plan, a long-term bioregional planning document. The VV2 Project would contribute to the ongoing conversion of undeveloped lands to developed acreage in this region and thus reduce the amount of available habitat for a number of special-status species, including the Desert Tortoise, Mohave Ground Squirrel and Burrowing Owl. The loss of this onsite habitat would be fully mitigated, however, according to regulatory agency guidelines and conform to the long-term biological reserve design identified in the West Mojave Plan.

10.0 PROPOSED IMPACT MINIMIZATION AND MITIGATION

10.1 Conservation Measures

To minimize anticipated special status species' impacts, several conservation measures have been incorporated into the Proposed Project. These include:

- The completion of pre-construction and 100%-clearance surveys for Desert Tortoise in accordance with "*Procedures for Endangered Species Act Compliance for the Mojave Desert Tortoise*" (FWS 1992). All resulting cleared areas would be either fenced or closely monitored by qualified biologists to preclude Desert Tortoise re-entry into these construction areas.

- The translocation of all Desert Tortoises found within the disturbance footprint of the Proposed Project to suitable offsite habitat. This translocation would be completed by Authorized Biologists as allowed for in the corresponding Biological Opinion incidental take statement issued by the FWS. All translocation would be completed in accordance with a project-specific translocation plan to agency-approved acreage and in accordance with FWS and CDFG handling protocol.

- The completion of 30-day pre-construction and 100%-clearance Burrowing Owl surveys by qualified biologists, in accordance with CDFG guidelines. Suitable but confirmed-unoccupied burrows occurring within these cleared areas would be collapsed to prevent Burrowing Owl use of these construction areas. Resulting protection recommendations prescribed as an outcome of these surveys would also be implemented prior to any ground or vegetation disturbance taking place within the Proposed Project area.

- The relocation of all Burrowing Owls found within the disturbance footprint of the Proposed Project to suitable offsite habitat. This relocation, if necessary, would be conducted by qualified biologists possessing a requisite Memoranda of Understanding (MOU) with the CDFG to conduct such action. All relocation would be to agency-approved acreage and in accordance with CDFG-approved handling guidelines.

- Concurrent with the Desert Tortoise and Burrowing Owl pre-construction surveys, visual surveys for Mojave Ground Squirrel will also be conducted (if the surveys are conducted at the appropriate time of year). If Mojave Ground Squirrels are detected on or near the site at that time, CDFG will be notified immediately.

- The completion of all construction activities in that portion of the Proposed Project area located immediately adjacent to Mojave River riparian habitat (i.e., reclaimed water pipeline within proposed utility feature Segment 1) outside the primary nesting season for riparian-nesting bird species (i.e., February 15 through August 31).

- The employment of qualified Biological Resource Monitors to assist with minimizing resource damage during construction. These monitors would be required to ensure compliance with FWS- and CDFG-issued Conditions of Approval, mitigation measures, and Proposed Project permits.

- The monitoring of all Proposed Project surface-disturbing actions in undisturbed lands. Each piece of heavy equipment simultaneously traversing habitat in the Project area would be assigned a Biological Resource Monitor. Regulatory approval compliance reports would be submitted to the agencies overseeing the Proposed Project on a regular basis.

- The presentation of an environmental awareness training course to all Proposed Project personnel prior conducting onsite work. These personnel would be required to sign and date an attendance sheet confirming this training was completed.

- Compensation for the loss of habitat suitable for the Desert Tortoise, MGS and Burrowing Owl impacted by the Proposed Project. The specific amount of compensation acreage to be acquired and managed would be determined in negotiations with, and approved by, FWS and CDFG. The location of these compensation lands would conform generally to the long-term conservation design specified in the bioregional West Mojave Plan. An implementation agreement with a mitigation banking and conservation land management entity approved by FWS and CDFG would be finalized to ensure appropriate compensation habitat was acquired and managed over the long-term for the benefit of the Desert Tortoise, MGS and Burrowing Owl.

10.2 General Impact Minimization Measures

The following general measures are proposed to minimize potential adverse impacts to the Desert Tortoise, MGS, Burrowing Owl, Le Conte's Thrasher, Loggerhead Shrike, Southwestern Pond Turtle, San Diego Coast Horned lizard, Southwestern Willow Flycatcher, Least Bell's Vireo, Western Yellow-billed Cuckoo and migrating/nesting avian species occurring in the vicinity of the Proposed Project area. Implementation of these measures would substantially reduce the potential for direct impacts to these species, as well as minimize adverse impacts to native vegetation and general wildlife of the affected area.

1) All Proposed Project construction, operation, maintenance and/or termination actions would comply with applicable state and federal laws.

2) All work activities would be restricted to specifically-approved and clearly marked areas.

3) A Field Contact Representative (FCR) would be designated to oversee and be responsible for compliance with conditions of Proposed Project approval. This FCR would be easily accessible during all project activities and would have the authority to halt all project activities that are in violation of Proposed Project approval conditions.

4) Only water or gravel placement would be employed to control fugitive dust emissions. Construction and maintenance vehicles would observe a 15-mile per hour speed limit on all unpaved roads in the Proposed Project area to reduce fugitive dust emissions.

5) Prior to mobilization of construction activities on site, all vehicles and equipment would be inspected to ensure these vehicles and equipment are operating correctly and free of fluid leaks. Equipment would be inspected daily to make sure that there are no fluid discharges.

6) All personnel working during the construction, operation or maintenance of the Proposed Project would be required to attend an Environmental Awareness and Project Approval Compliance Training. This training would be presented by a qualified biologist familiar with the Desert Tortoise, Mohave Ground Squirrel, Burrowing Owl, and other special-status species with potential to occur within the Proposed Project area.

7) A fact sheet summarizing the life histories and legal status' (including the definition and penalties for "take," and the terms and conditions of all permits) of the Desert Tortoise, Mohave Ground Squirrel, and Burrowing Owl would be provided to all Project personnel upon Environmental Awareness Training attendance. The fact sheet would also describe the protocol for reporting the death, injury, or harassment of the special status species listed above.

8) The Environmental Awareness Training would advise all employees, contractors, and subcontractors regarding the methods for minimizing the potential "take" of Desert Tortoise, Mohave Ground Squirrel, and Burrowing Owl (i.e. checking under all vehicles before moving them, complying with delineated construction limits, and minimizing surface disturbance). Personnel working onsite would also be briefed on appropriate protocol to follow in reporting and cleaning up all potentially hazardous material such as petroleum and radiator fluid spills, as well as procedures to follow in reporting wildfire sightings and/or motorists stranded in the immediate vicinity of the Proposed Project.

10.3 Surface Disturbance Revegetation

Upon completion of proposed power plant construction, the adjacent 50 acres used for proposed construction staging/laydown areas would be revegetated. In addition, all Joshua

Trees occurring within the surface disturbance footprint of all areas of the Proposed Project would be transplanted into appropriate habitat along the perimeter of the proposed power plant; into the proposed construction staging areas; or other identified locations within the Proposed Project area. Further, following the proposed construction of new transmission line towers (275) and installation of the two water pipelines, revegetation of all related construction staging/assembly areas would be completed.

All revegetation would be conducted according to a Proposed Project-specific Surface Disturbance Revegetation Plan prepared subject to applicable agency approvals. Techniques used in these revegetation efforts would be detailed in this proposed plan and are anticipated to include the following methods: 1) "vertical mulching", entailing the placement of previously salvaged shrubs, cacti, Joshua Trees and rocks/vegetative debris into areas where the soil has been disturbed; 2) the raking out of vehicle tracks; and 3) broadcasting of hand-collected, native seed stock from the immediate vicinity of the Proposed Project area.

All proposed revegetation efforts would be monitored by a qualified biologist to minimize impacts upon special status species potentially occurring in the vicinity of the Proposed Project. The establishment of planted vegetation and stabilization progress of "vertical mulching" material placement would be monitored at a time period specified in the Surface Disturbance Revegetation Plan.

10.4 Desert Tortoise (*Gopherus agassizii*) Mitigation Measures

The following mitigation measures are commonly applied in activities with the potential to affect the Desert Tortoise. Each measure has been modified to most aptly apply to the Proposed Project and collectively, have been designed to fully mitigate adverse impacts to this species.

1) The designated FCR would oversee and be responsible for compliance with conditions of Project approval. This FCR would be on site or easily accessible during all project activities and would have the authority to halt all project activities that are in violation of conditions of Project approval.

2) In accordance with "*Procedures for Endangered Species Act Compliance for the Mojave Desert Tortoise*" (FWS 1992), an Authorized Desert Tortoise Biologist (Authorized Biologist) should possess a bachelor's degree in biology, ecology, wildlife biology, herpetology, or closely related fields.

   The Authorized Biologist must have demonstrated prior field experience using accepted resource agency techniques to survey for Desert Tortoises and their sign. As a guideline, an Authorized Biologist should have 60 field days of experience. In addition, the biologist shall have the ability to recognize and accurately record survey results.

3) Construction and maintenance personnel in non-Desert Tortoise exclusion fenced areas would be required to inspect for the species under vehicles prior to moving the vehicle. If a Desert Tortoise is found beneath a vehicle, it would not be moved until

the desert tortoise had left of its own accord. All Desert Tortoise observations would be reported to the Authorized Biologist, and subsequently, to the FCR.

4) If a Desert Tortoise is in imminent danger with immediate death or injury likely (such as from an approaching vehicle or equipment), and the affected animal has been given the opportunity to move but has withdrawn in its shell and is not moving, an approved authorized biologist or environmental monitor may capture the Desert Tortoise and place it in a clean cardboard box or similar container.

5) Upon locating or receiving a report of a dead/injured Desert Tortoise in the Proposed Project Area, the FCR or appointed agent would be required to immediately notify the local CDFG and FWS representatives.

6) All burrows found during clearance surveys, whether occupied or vacant, would be excavated by the Authorized Biologist and collapsed or blocked to prevent Desert Tortoise re-entry. All burrows would be excavated with hand tools to allow removal of Desert Tortoises or their eggs. All Desert Tortoise handling/excavations, including nests, would be conducted by the Authorized Biologist in accordance with FWS-approved protocol (Desert Tortoise Council 1999).

7) All Desert Tortoises and their eggs within long-term impact areas would be relocated offsite 300 feet to 2 miles into adjacent undisturbed habitat. Tortoises found above ground would be placed under a bush in the shade. A Desert Tortoise located in a burrow would be placed in an existing unoccupied burrow of the same size and orientation as the one from which it was taken. If a suitable natural burrow is unavailable or the occupancy status of the burrow is in question, the Authorized Biologist would construct one of the same size/orientation as the one from which it was removed, using the protocol for burrow construction in Section B-5-f (Desert Tortoise Council 1999).

8) Any Desert Tortoise found within one hour of nightfall would be placed in a separate clean cardboard box and held in a cool, predator-free location. The box would be covered and kept upright at all times to minimize stress to the tortoise. Each box would be used only once and then disposed of properly. The Desert Tortoise would be released the next day in the same area from which it was collected and using the procedures described above.

9) Each Desert Tortoise would be handled with new disposable latex gloves. After use, the gloves would be properly discarded and a fresh set used for each subsequent tortoise handling.

10) The Authorized Biologist would be onsite during the periods when Desert Tortoises are expected to be active, to ensure construction activities are in compliance with an issued biological opinion and to ensure that any Desert Tortoises wandering on to the construction site via unfenced areas would not be inadvertently harmed.

11) The Authorized Biologist would be responsible for : (a) enforcing a litter-control program; (b) ensuring that desert tortoise exclusion fences are maintained where applicable; (c) ensuring that Desert Tortoise habitat disturbance is restricted to authorized areas; (d) ensuring that all equipment and materials were stored within the boundaries of previously disturbed areas; (e) ensuring that all vehicles associated with construction activities remain within the proposed construction zones; and (f) ensuring compliance with the terms and conditions of the issued biological opinion.

12) Desert Tortoises would be handled according to FWS-approved protocol (Desert Tortoise Council 1999).

13) Desert Tortoises would be treated in a manner to ensure that they do not overheat, exhibit signs of overheating (e.g., gaping, foaming at the mouth, etc.), or are placed in a situation where they can not maintain surface and core temperatures necessary to their well-being.

14) Desert Tortoises would be kept shaded at all times until it is safe to release them.

15) No Desert Tortoise would be captured, moved, transported, or purposely caused to leave its burrow for whatever reason when the ambient temperature is above 95°F (35°C). Ambient air temperature would be measured in the shade, protected from the wind, at a height of 2 inches (5 cm) above the ground surface.

    If the ambient air temperature exceeds 95°F (35°C) during handling or processing, Desert Tortoises would be kept shaded in an environment that does not exceed 95°F (35°C), and the animals would not be released until ambient air temperature declines to below 95°F (35°C).

16) Project activities that might endanger a Desert Tortoise would cease if the species is found in an active work area. Project activities could resume after the Authorized Biologist removed the Desert Tortoise from danger of after the animal had moved to a safe area on its own volition.

17) Any Common Raven nesting incidence encountered during construction, operation or maintenance of the Project would be reported to the appropriate authorities. The integrity of this resource would be maintained pending subsequent investigation and direction by these authorities. Common Raven nest removal from proposed facilities, when determined necessary in consultation with the FWS, would occur during the inactive nesting season.

10.5 Mohave Ground Squirrel (*Spermophilus mohavensis*) Mitigation Measures

The following mitigation measures are commonly applied in activities with the potential to affect the MGS. Each measure has been modified to most aptly apply to the Proposed Project and collectively, have been designed to fully mitigate adverse impacts to this species.

1) Before initiating ground-disturbing activities, a representative (Designated Representative) responsible for communications with the CDFG and for overseeing compliance with an acquired CESA Incidental Take Permit would be designated. The CDFG would be notified in writing prior to commencement of ground-disturbing activities of the representative's name, business address, and telephone number, and would be notified in writing if a substitute representative is designated.

2) Before initiating ground-disturbing activities, a biologist (Designated Biologist) knowledgeable and experienced in the biology and natural history of the Covered Species would be designated to monitor construction activities in areas of Mohave Ground Squirrel habitat to help avoid the take of individual animals and to minimize habitat disturbance. The CDFG would be notified in writing prior commencement of ground-disturbing activities of the Designated Biologist's name, business address, and telephone number. The Designated Biologist would be subject to the approval by the CDFG.

3) Similar to the desert tortoise awareness training, an orientation program for all project personnel who will work on-site during project implementation and construction would be prepared and presented. The program would consist of a brief presentation from the Designated Biologist. It would include a discussion of the biology of the Mohave Ground Squirrel, the habitat needs of these species, their status under the California ESA, and the management measures provided in the associated incidental take permit. A fact sheet containing this information would also be prepared and distributed to personnel working onsite. Upon completion of the orientation, employees would sign a form stating that they attended the program and understand all protection measures. These forms would then be filed at City of Victorville offices, to be made available to the CDFG upon request.

4) A trash abatement program would be initiated during pre-construction phases of The Project, and would continue through the duration of the Project. Trash and food items would be contained in closed (common raven-proof) containers and removed regularly (at least once a week) to avoid attracting opportunistic predators such as ravens, coyotes, and feral dogs.

5) The CDFG would be notified relative to compliance with all pre-construction Conditions of Approval before any ground-disturbing activities are initiated. Compliance inspections would be conducted at least once a week during construction activities to assess compliance with all construction-phase impact minimization and mitigation measures, especially those requiring creation and maintenance of exclusion zones.

6) Every month for the duration of construction activities, the CDFG would be provided with a written Compliance Report to communicate observations made during compliance monitoring, as well as all other relevant information obtained by monitoring personnel.

7) An Annual Status Report would be provided to the CDFG no later than January 31st of every year, beginning with issuance of the CESA incidental take permit and continuing for the life of the Project.

   Each Status Report would include, at a minimum: 1) a general description of the status of the project, including actual or projected completion dates, if known; 2) a copy of this table with notes showing the current implementation status of each mitigation measure; and 3) an assessment of the effectiveness of each mitigation measure in minimizing Project impacts.

8) The CDFG would be immediately notified in writing if any of the mitigation measures specified in the CESA incidental take permit were not implemented during the period indicated for their application.

9) All observations of Mohave Ground Squirrel and their sign during Project activities would be conveyed to the Designated Representative or Biologist. This information would be included in monthly compliance reports to the CDFG.

10) The Designated Biologist would have authority to immediately stop any activity that is not in compliance with the issued CESA incidental take permit, and to order any reasonable measure to avoid the take of Mohave Ground Squirrel.

11) Work personnel would access the Project area using existing routes and would not cross Mohave Ground Squirrel habitat outside of the Project area. To the extent possible, previously disturbed areas within the Project area would be used for temporary storage areas, material laydown sites, and any other surface-disturbing activities. If construction of offsite routes of travel would be required, the CDFG would be contacted prior to carrying out such an activity.

12) Any fuel or hazardous waste leaks or spills would be stopped and repaired immediately, as well as cleaned up at the time of occurrence.

    The storage and handling of hazardous materials would be excluded from the construction zone and any unused or leftover hazardous products would be properly disposed of offsite.

13) All Project-related parking and equipment storage would be confined to the Project area. Off-site Mohave Ground Squirrel habitat would not be used for parking or equipment storage. Project-related vehicle traffic would be restricted to established roads, staging, and parking areas. Signs or posting stakes, flags, and/or rope, cord or fencing would be installed as necessary to minimize the disturbance of Mohave Ground Squirrel habitat. Vehicle speeds would not exceed 20 mph in order to avoid Mohave Ground Squirrels potentially on roads or traveling through the Project area.

14) If a Mohave Ground Squirrel was found in a burrow during Project-related activities, it would be immediately relocated to a burrow at a protected off-site location approved by

the CDFG's Regional Representative. The Mohave Ground Squirrel would only be relocated by a qualified biologist to a relocation burrow prepared according to CDFG guidelines.

15) If a Mohave Ground Squirrel was injured as a result of Project-related activities, it would be immediately taken to a CDFG-approved wildlife rehabilitation facility. Any costs associated with the care or treatment of such injured Mohave Ground Squirrels would be borne by the Project. The CDFG would be notified immediately unless the incident occurred outside of normal business hours. In that event the CDFG would be notified no later than 12:00 noon on the next business day. Notification to the CDFG would be via telephone or email, followed by a written incident report.

16) Agency notification of take would include the date, time, location and circumstances of the incident, and the name of the facility to which the animal was taken.

17) If a Mohave Ground Squirrel was killed by project-related activities during construction, or if a Mohave Ground Squirrel was otherwise found dead, a written report would be sent to the CDFG within two (2) calendar days. The report would include the date, time of the finding or incident, location of the carcass, and the circumstances.

18) To remedy a violation of issued incidental take permit conditions (including but not limited to failure to comply with reporting, monitoring, or habitat acquisition obligations) or to prevent the illegal take of an endangered, threatened, or candidate species, any stop-work order issued by the CDFG would be complied with immediately upon receipt thereof.

19) Upon Project construction completion, all associated refuse, including, but not limited to, broken equipment, wrapping material, cords, cables, strapping, buckets, metal or plastic containers, and boxes would be removed from the site and properly disposed of.

20) No later than 45 days after completion of the Project construction activities, including completion of all mitigation measures, a Final Mitigation Report would be provided to the CDFG. This report would be prepared by the Designated Biologist and would include, at a minimum: 1) a table with notes showing when each of the incidental take permit mitigation measures was implemented; 2) all available information about project-related incidental take of species named in the incidental take permit; 3) information about other Project impacts on the Mohave Ground Squirrel; 4) construction dates; 5) an assessment of the effectiveness of each mitigation measure in minimizing Project impacts; 6) recommendations on how mitigation measures might be changed to more effectively minimize and mitigate the impacts of future projects on the Mohave Ground Squirrel.

10.6 Burrowing Owl (*Athene cunicularia*) Mitigation Measures

The following mitigation measures are commonly applied in activities with the potential to affect the Burrowing Owl. Each measure has been modified to most aptly apply to the Proposed Project and collectively, have been designed to fully mitigate adverse impacts to this species.

1) Occupied burrows would not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist approved by the CDFG verifies through non-invasive methods that either: (1) the birds have not begun egg-laying and incubation; or (2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

2) A buffer zone of 75 meters around an active nest should be established, appropriately flagged and monitored by a qualified biologist.

3) When destruction of occupied burrows is unavoidable, existing unsuitable burrows would be enhanced (enlarged or cleared of debris) or new burrows created (by installing artificial burrows) at a ratio of 2:1 on the protected lands site.

4) If Burrowing Owls must be moved away from the disturbance area, passive relocation techniques would be used rather than actual avian trapping. At least one or more weeks would be necessary to accomplish this and allow the birds to acclimate to alternate burrows.

5) The Project would provide funding for long-term management and monitoring of the protected lands acquired for burrowing owl impacts. This monitoring would include an annual report submittal to the CDFG.

10.7 Southwestern Pond Turtle (*Actinemys marmorata pallida*) Mitigation Measures

The following mitigation measures are commonly applied in activities with the potential to affect the Southwestern Pond Turtle. Each measure has been modified to most aptly apply to the Proposed Project and collectively, have been designed to fully mitigate adverse impacts to this species.

1) Before initiating ground-disturbing activities or vehicle travel in the vicinity of the VVWRA ponds, a qualified biologist would survey existing roads to ensure individual Southwestern Pond Turtles would not be at risk from vehicle or equipment use. At-risk animals would be moved to adjacent habitat, out of harms way.

2) All construction-related activities in the area along the VVWRA treatment ponds would be confined to existing perimeter roads. Treatment ponds, their embankments, and any and all plant communities in this specific area would be avoided during proposed water pipeline installation.

3) A biological resources monitor familiar with the Southwestern Pond Turtle would be

present for all activities involving operation of heavy equipment or ground disturbance in this area. The monitor would conduct daily clearance surveys along the pertinent work areas to further ensure individual Southwestern Pond Turtles would not be impacted. At-risk animals would be moved to adjacent habitat, out of harms way.

10.8 San Diego Coast Horned Lizard (*Phrynosoma coronatum blainvillii*) Mitigation Measures

The following mitigation measures are commonly applied in activities with the potential to affect the San Diego Coast Horned Lizard. Each measure has been modified to most aptly apply to the Proposed Project and collectively, have been designed to fully mitigate adverse impacts to this species.

1) Before initiating ground-disturbing activities or vehicle travel in the vicinity of suitable sparse vegetation habitat potentially occupied by this species, a qualified biologist would survey existing roads to ensure individual San Diego Coast Horned Lizards would not be at risk from vehicle or equipment use. At-risk animals would be moved to adjacent habitat, out of harms way.

10.9 Mojave River Vole (*Microtus californicus mohavensis*) Mitigation Measures

The following mitigation measures are commonly applied in activities with the potential to affect the Mojave River Vole. Each measure has been modified to most aptly apply to the Proposed Project and collectively, have been designed to fully mitigate adverse impacts to this species.

1) Before initiating ground-disturbing activities or vehicle travel in the vicinity of the VVWRA ponds or in proximity to the Mojave River, a qualified biologist would survey existing roads to ensure individual Mojave River Voles would not be at risk from vehicle or equipment use. Should at-risk animals be identified, Proposed Project work would be halted until the animal leaves on its own accord.

10.10 Onsite Nesting and Migratory Bird Mitigation Measures

The following mitigation measures are commonly applied in activities with the potential to affect avian species addressed under the Migratory Bird Treaty Act (MBTA). Each measure has been modified to most aptly apply to the disturbance footprint of the Proposed Project. Collectively, these measures have been designed to fully mitigate adverse impacts to both nesting and migratory birds identified in active work areas.

1) Prior to any proposed vegetation removal or site grading within the avian nesting season (February 1 through August 31), a bird nest survey would be conducted by a qualified biologist. If no nests are found, construction would proceed. If nests are found, impact avoidance measures would be required until such time as the fledgling bird(s) have left the nest.

2) Prior to any proposed vegetation removal or site grading in avian migratory seasons

(February through April; July through October), an avian presence survey would be conducted by a qualified biologist. If no vulnerable migratory bird use is detected, construction would proceed. If migratory birds are found and determined to be at-risk, Proposed Project work would be halted until the bird(s) are no longer present.

10.11 Offsite Nesting and Migratory Bird Mitigation Measures

Project activities occurring in close proximity to the Mojave River corridor, such as portions of Segment 1, would be scheduled to avoid the avian nesting season (February 15 through August 31) of the identified special status riparian-nesting species (i.e., Cooper's Hawk, Yellow Warbler, Summer Tanager, etc.).

During migratory seasons (February through April; July through October), qualified biological monitors would be present during proposed construction work in these areas to further no disturbance impacts to these species occur as the result of the Proposed Project. Should it be determined that any special status bird species identified herein are at risk during migratory travel, precipitating Project activities would be halted in the area until the potentially-affected bird(s) have left at-risk areas.

11.0 CONCLUSION

General biological surveys and biotic inventories, including focused surveys for the state and federally listed-Threatened Desert Tortoise, state listed-Threatened Mohave Ground Squirrel and state-Protected Burrowing Owl were conducted throughout the affected area of the Proposed Project and zone of influence. These efforts detected the Desert Tortoise, Burrowing Owl and various migratory bird species (i.e., Le Conte's Thrasher, Loggerhead Shrike, Cooper's Hawk, etc.) both on and adjacent to the Proposed Project area. Although focused small mammal trapping did not detect the Mohave Ground Squirrel, the Project proponent has elected to assume presence of this species based on the presence of potentially suitable habitat in the Proposed Project area.

Implementation of the proposed Proposed Project would result in permanent and temporary direct impacts to 408 acres of suitable Desert Tortoise and Mohave Ground Squirrel habitat.. In addition, a subset of this Proposed Project acreage is used periodically by at least three Burrowing Owls, an unknown number of Le Conte's Thrasher and Loggerhead Shrike, as well as other migratory bird species. A temporary, as well as permanent loss of avian habitat would also be expected as a result of the Proposed Project. Impact minimization measures have been proposed, in addition to surface disturbance revegetation, species-specific mitigation measures and affected habitat compensation.

This BA is intended to facilitate ESA Section 7 consultation between the EPA and the FWS relative to the Proposed Project's impacts to the Desert Tortoise. It is also intended to facilitate CESA Section 2081 incidental "take" permitting by the CDFG relative to the Desert Tortoise and Mohave Ground Squirrel. The resulting ESA Section 7 Biological Opinion and federal incidental take statement; as well as the resulting CESA Section 2081 incidental "take" permit, would be

required for authorization of the Proposed Project. Terms and conditions outlined in these documents would be binding and are anticipated to fully mitigate all anticipated biological resource impacts to a less than significant level.

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13.0 DOCUMENT PREPARERS

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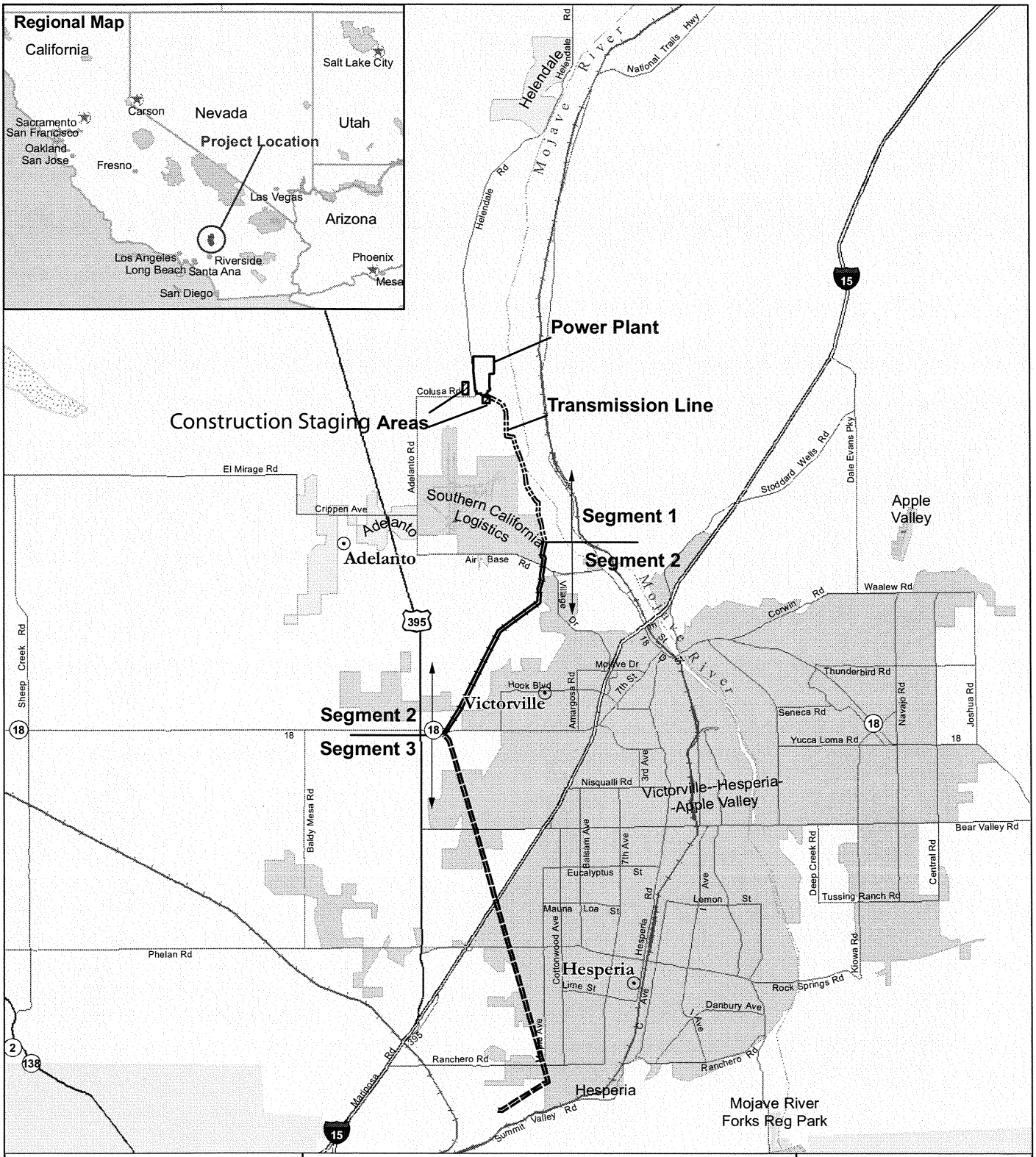
APPENDIX 1

Victorville 2 Hybrid Power Project

MAPS FOR THE VICTORVILLE 2 HYBRID POWER PROJECT



Legend

Transmission Line
- Segment 1
- Segment 2
- Segment 3
- Power Plant
- Laydown Area

Base Data
- Major Cities
- Limited Access
- Highway
- Major Road
- Railroads
- Rivers and Streams

Victorville 2 Hybrid Power Project
Location & Vicinity
Map 1- Sheet 1 of 1

0 1.5 3 6 Miles

Map Note

Data Source:
AMEC - Project Boundary
ESRI - Places, Streets, Railroad Rivers and Streams
Projection: State Plane (Zone 5), NAD83, Feet
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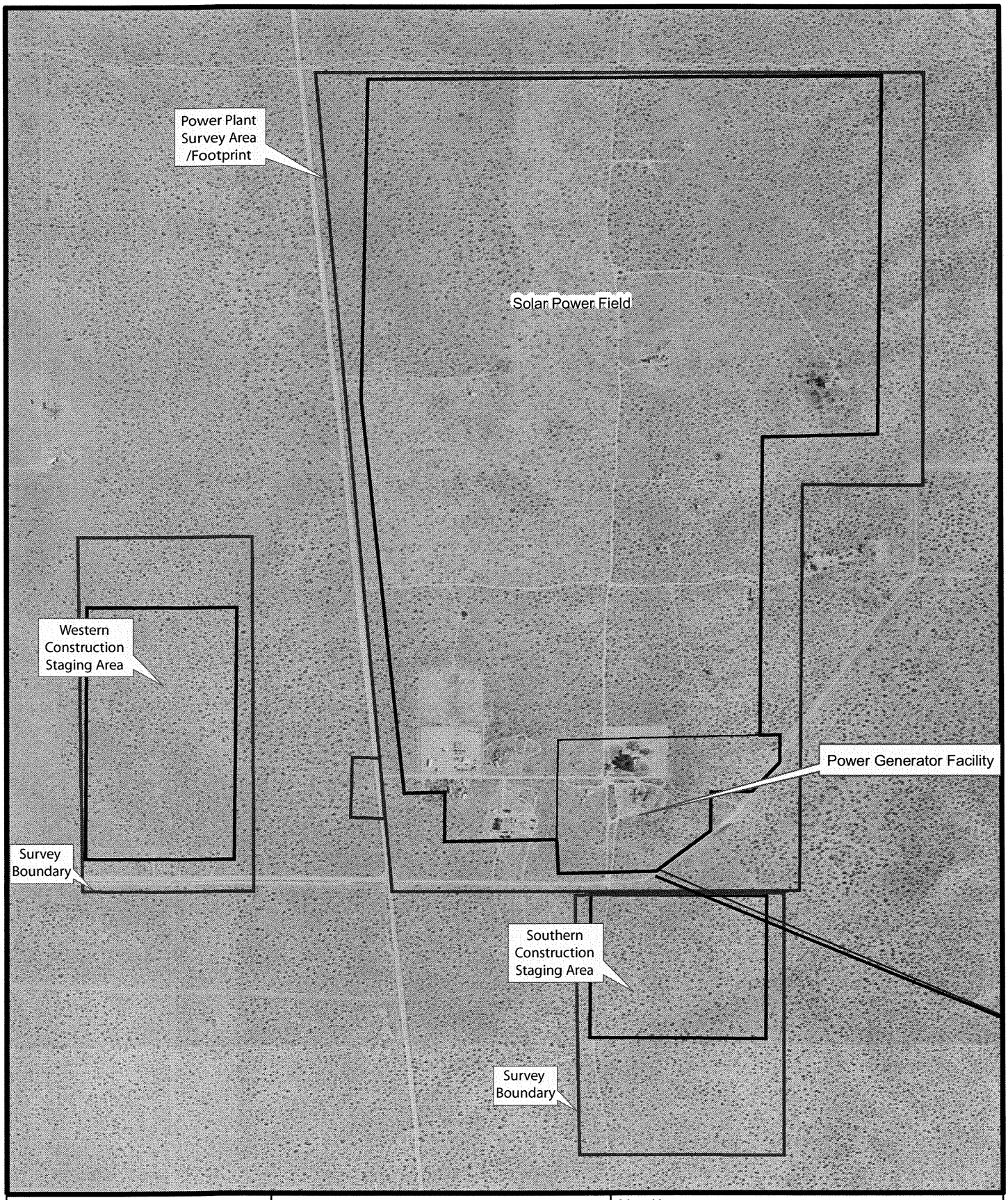

Legend

Reclaimed Water & Sanitary Waste Water

Transmission Line

Victorville 2 Hybrid Power Project

VV2 Site Plan

Map 2- Sheet 1 of 1

0 230 460 920 1,380 1,840

Feet

Map Notes

Base Data:
ENSR-transmission, power plant & "laydown" areas
Projection: NAD 83
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Date: 02/09/07

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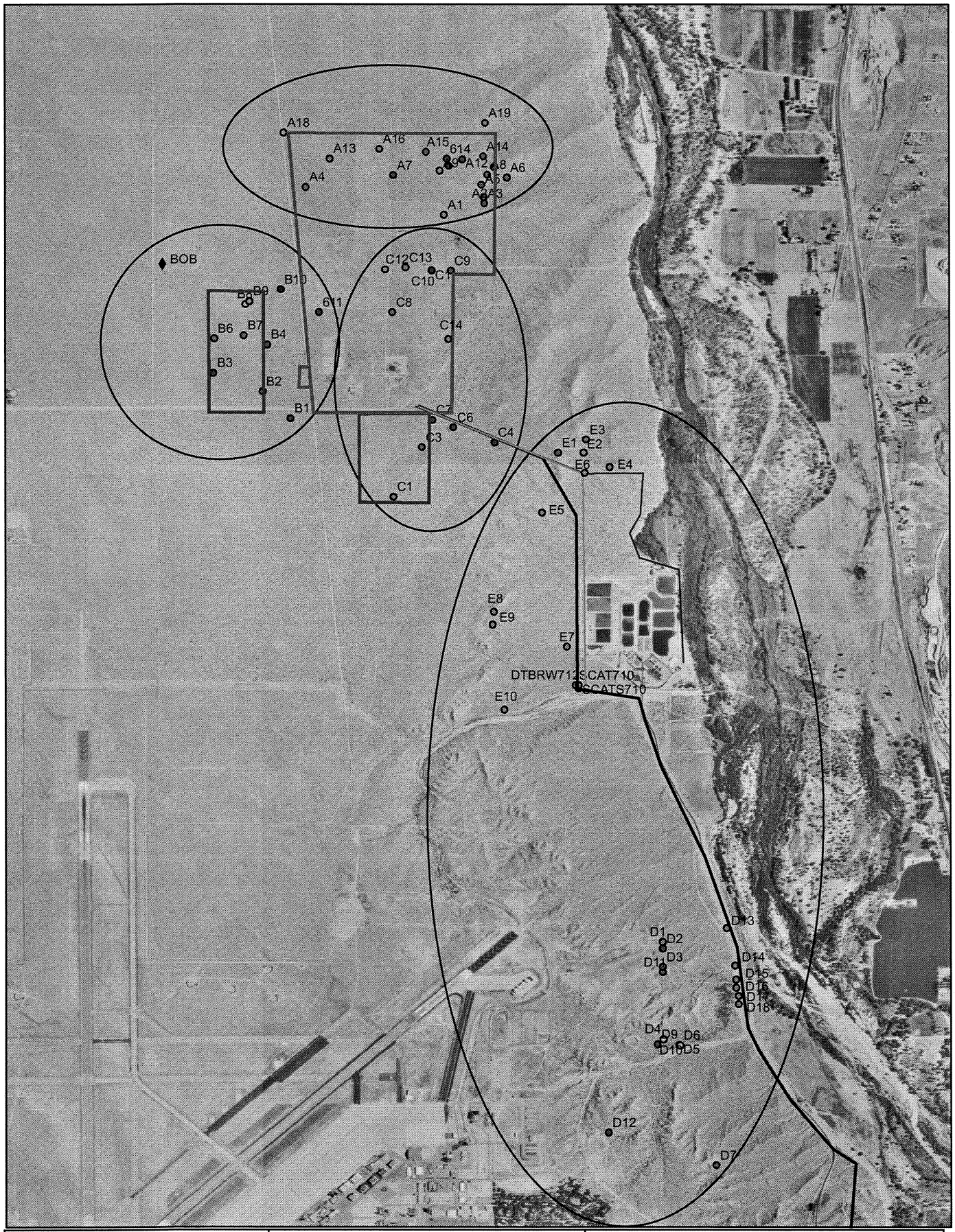

Legend

A, B, C, D, E — Survey Zones

Victorville 2 Hybrid Power Project

Burrowing Owl Survey Areas
Power plant Site & Segment 1
Map 3- Sheet 1 of 1

0 — 3,200
Feet

Map Notes

Base Data:
ENSR-transmission, power plant & "laydown" areas
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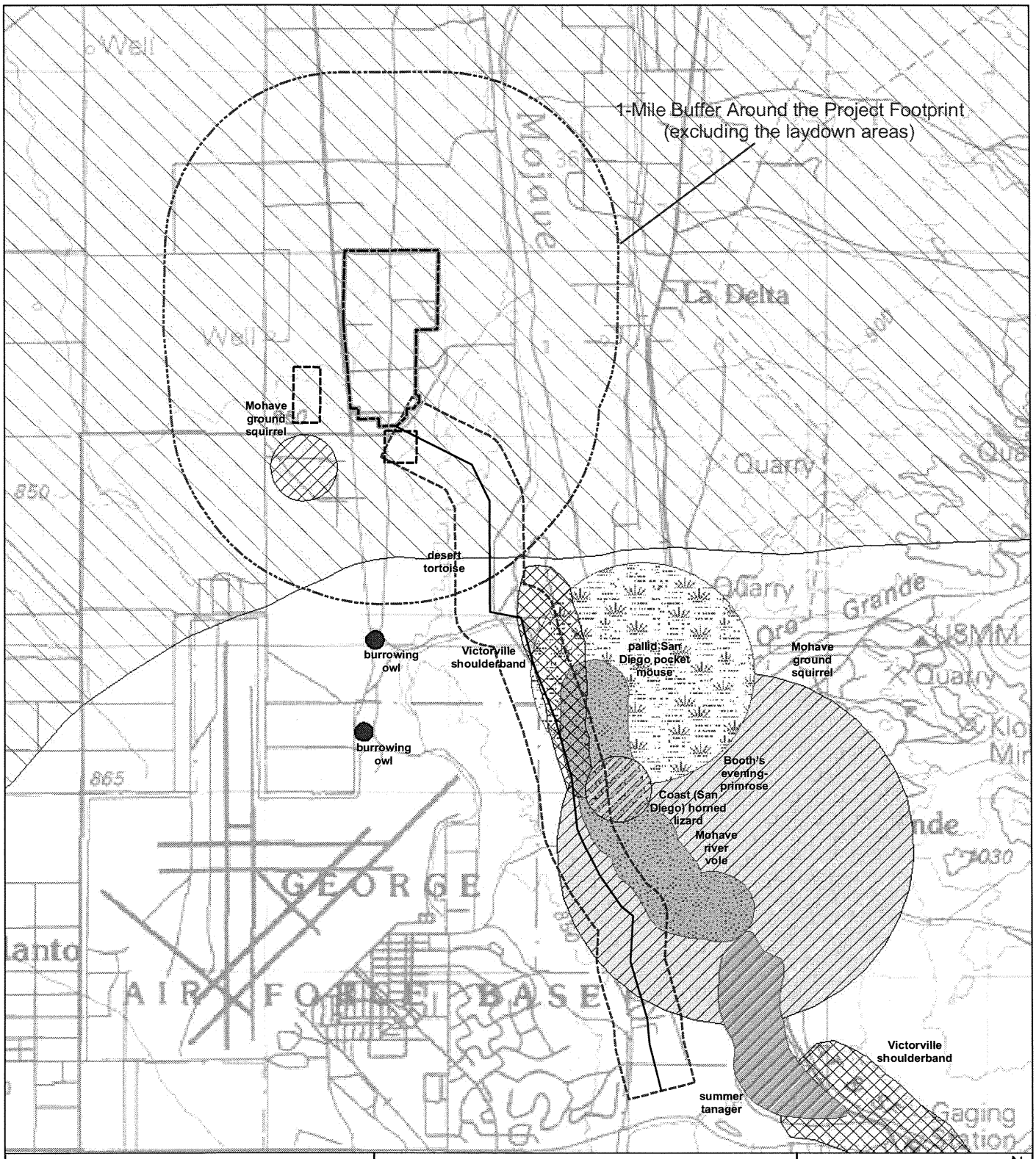

Legend

- Segment 1 Centerline
- Power Plant
- Construction Staging Areas
- 1000-Foot Boundary

Historical Occurrence (CNDDB)

- Booth's evening-primrose
- Burrowing owl
- Desert tortoise
- Coast (San Diego) horned lizard
- Mohave ground squirrel
- Mohave river vole
- Victorville shoulderband
- Summer tanager
- Pallid San Diego pocket mouse
- Small-flowered androstephium

Victorville 2 Hybrid Power Project
Plant Site and Segment 1

CNDDB Reported Sensitive Biological Resources

Map 4- Sheet 1 of 3

0 3,000 6,000 12,000 18,000 24,000 Feet

Map Notes

Base Data:
ENSR - Transmission Line, Poles
DFG - CNDDB (2006)
Projection: State Plane (Zone 5), NAD83, Feet
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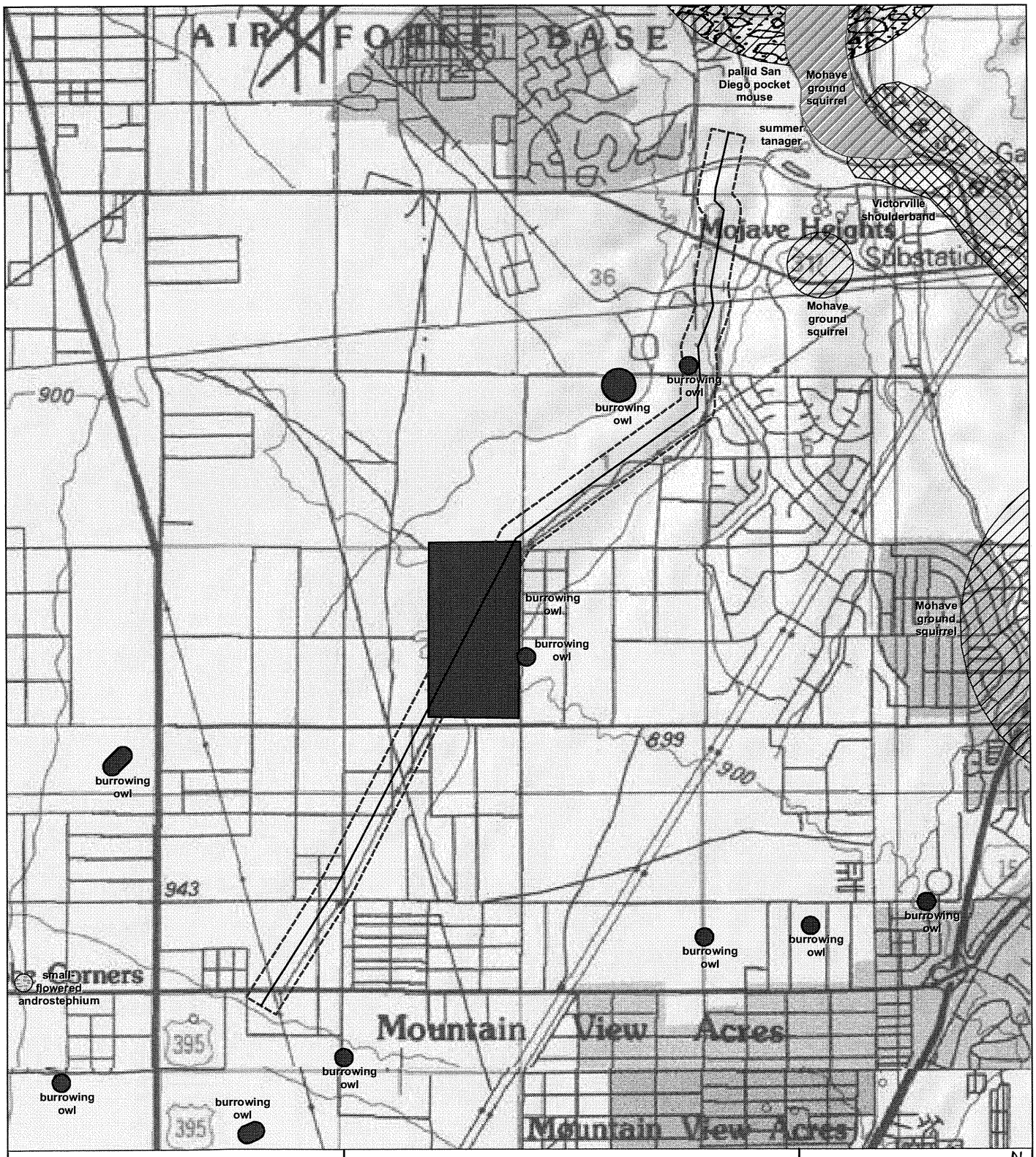

Legend

- Segment 2 Centerline
- 1000-Foot Boundary

Historical Occurrence (CNDDB)

- Mohave ground squirrel
- Victorville shoulderband
- Pallid San Diego pocket mouse
- Small-flowered androstephium
- Burrowing owl
- Summer tanager

Victorville 2 Hybrid Power Project
Segment 2

CNDDB Reported Sensitive Biological Resources

Map 4- Sheet 2 of 3

0 3,000 6,000 12,000 18,000 24,000 Feet

Map Notes

Base Data:
ENSR - Transmission Line, Poles
DFG - CNDDB (2006)
Projection: State Plane (Zone 5), NAD83, Feet
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Date: 02\16\2007

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Legend

- Segment 3 Centerline
- 1000-Foot Boundary

Historical Occurrence (CNDDB)

- Booth's evening-primrose
- Coast (San Diego) horned lizard
- Cooper's hawk
- Le Conte's thrasher
- Mohave ground squirrel
- Yellow warbler
- Gray vireo
- Sagebrush loeflingia
- Short-joint beavertail
- Burrowing owl

Victorville 2 Hybrid Power Project
Segment 3

CNDDB Reported Sensitive Biological Resources

Map 4- Sheet 3 of 3

0 4,000 8,000 16,000 Feet

Map Notes

Base Data:
ENSR - Transmission Line
DFG - CNDDB (2006)
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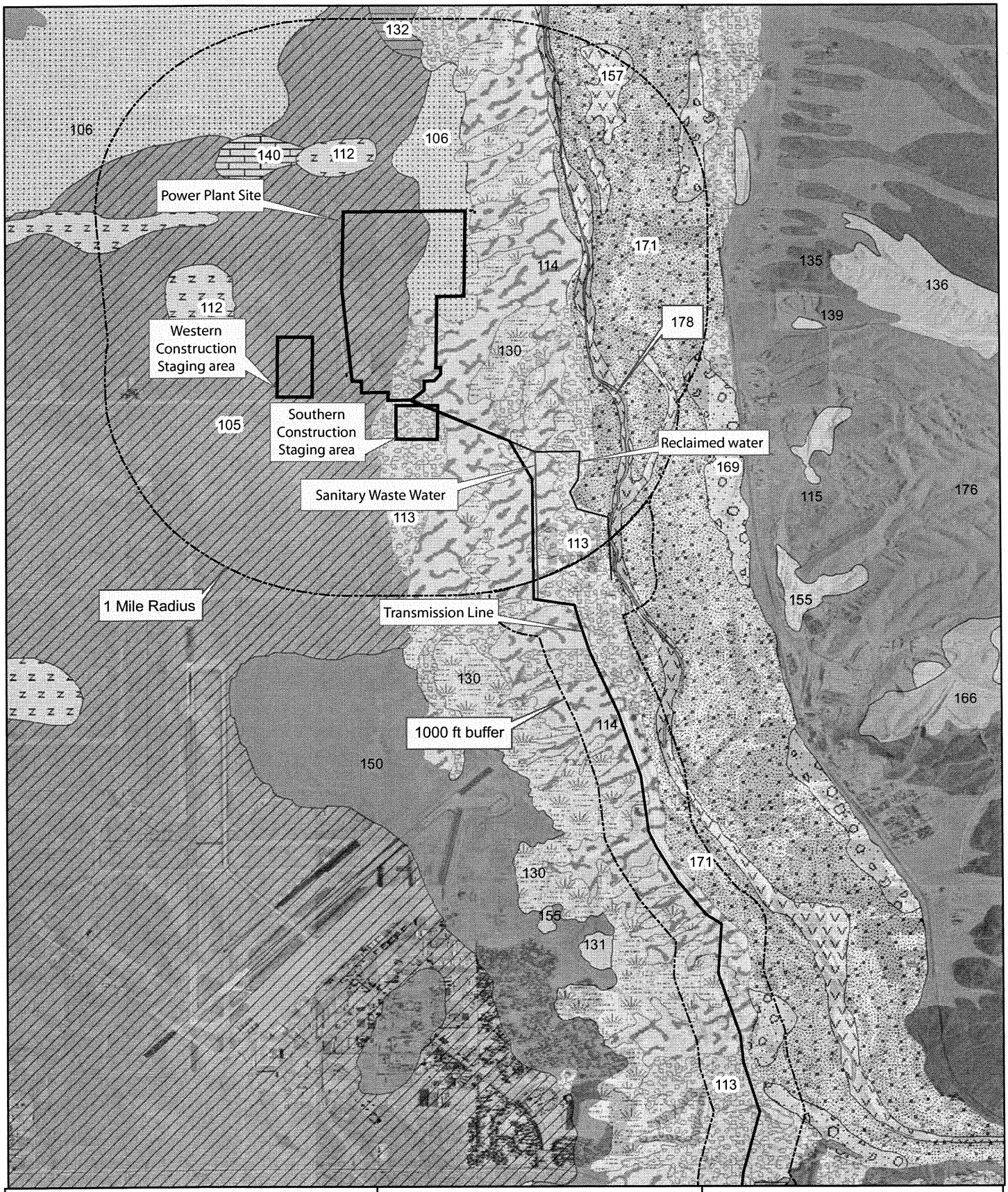

Legend

171 VILLA LOAMY SAND
178 WATER
157 RIVERWASH
140 LAVIC LOAMY FINE SAND
132 HELENDALE LOAMY SAND, 2 TO 5 % SLOPES
130 HAPLARGIDS-CALCIORTHIDS COMPLEX, 15 TO 50 % SLOPES
114 CAJON SAND, 9 TO 15 % SLOPES
113 CAJON SAND, 2 TO 9 % SLOPES
105 BRYMAN LOAMY FINE SAND, 0 TO 2 % SLOPES
106 BRYMAN LOAMY FINE SAND, 2 TO 5 % SLOPES
169 VICTORVILLE SANDY LOAM
112 CAJON SAND, 0 TO 2 % SLOPES

Victorville 2 Hybrid Power Project

Soils

Map 5- Sheet 1 of 5

0 2,000 4,000 6,000 8,000 Feet

Base Data:
ENSR-transmission, power plant & "laydown" areas
Projection: NAD 83
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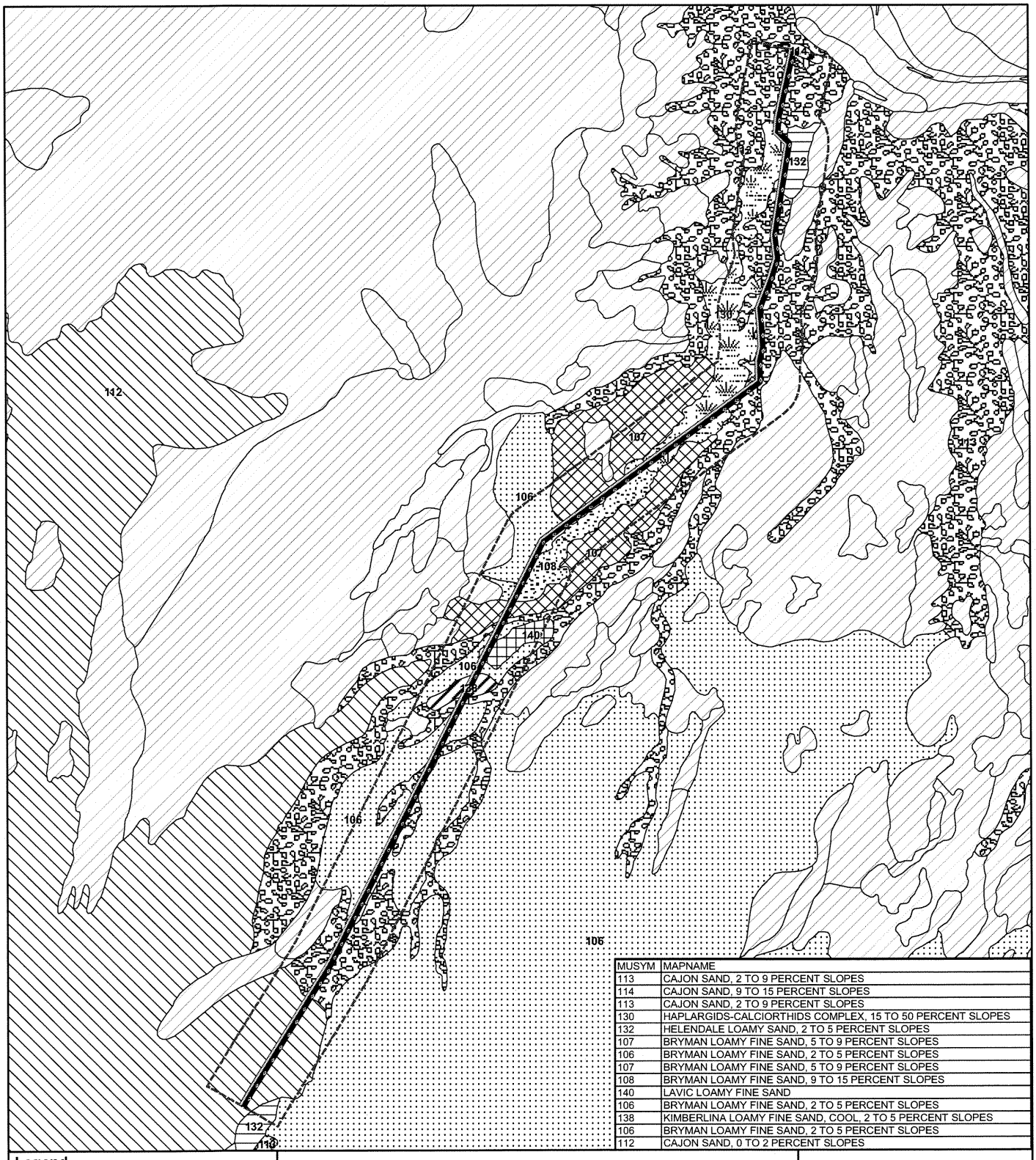

MUSYM	MAPNAME
113	CAJON SAND, 2 TO 9 PERCENT SLOPES
114	CAJON SAND, 9 TO 15 PERCENT SLOPES
113	CAJON SAND, 2 TO 9 PERCENT SLOPES
130	HAPLARGIDS-CALCIORTHIDS COMPLEX, 15 TO 50 PERCENT SLOPES
132	HELENDALE LOAMY SAND, 2 TO 5 PERCENT SLOPES
107	BRYMAN LOAMY FINE SAND, 5 TO 9 PERCENT SLOPES
106	BRYMAN LOAMY FINE SAND, 2 TO 5 PERCENT SLOPES
107	BRYMAN LOAMY FINE SAND, 5 TO 9 PERCENT SLOPES
108	BRYMAN LOAMY FINE SAND, 9 TO 15 PERCENT SLOPES
140	LAVIC LOAMY FINE SAND
106	BRYMAN LOAMY FINE SAND, 2 TO 5 PERCENT SLOPES
138	KIMBERLINA LOAMY FINE SAND, COOL, 2 TO 5 PERCENT SLOPES
106	BRYMAN LOAMY FINE SAND, 2 TO 5 PERCENT SLOPES
112	CAJON SAND, 0 TO 2 PERCENT SLOPES

Legend

Segment 2

1000-Foot Boundary

Soils

105
106
107
108
112
113
114
130
132
134
138
140
178

**Indicated Soils that intersect with the Segment.

Victorville 2 Hybrid Power Project
Soils
Map 5- Sheet 2 of 3

0 1,250 2,500 5,000 7,500 10,000 Feet

Map Notes

Base Data:
STATSGO - Soils
ENSR - Segment 2, Poles
Projection: State Plane (Zone 6), NAD83, Feet
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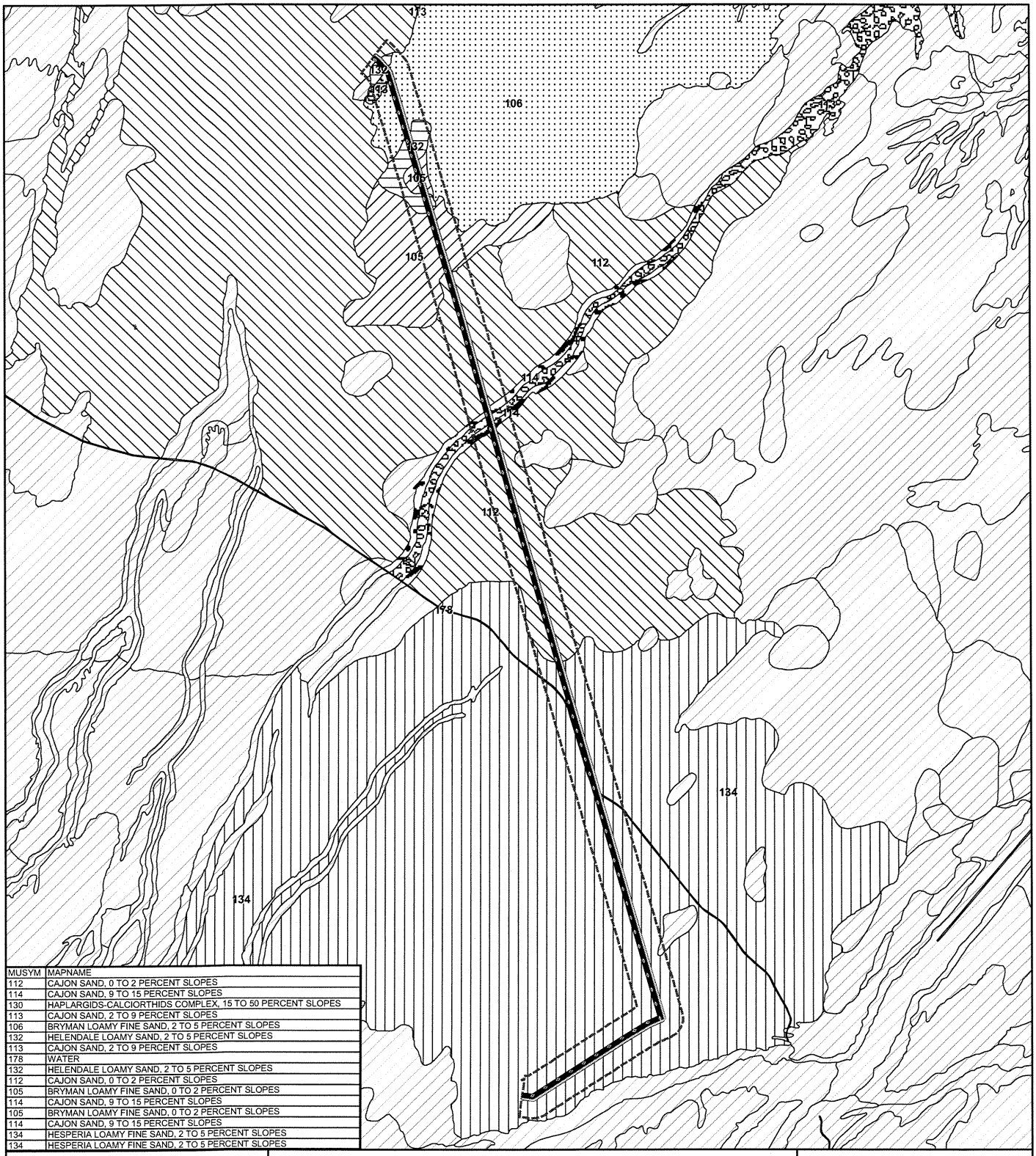

MUSYM	MAPNAME
112	CAJON SAND, 0 TO 2 PERCENT SLOPES
114	CAJON SAND, 9 TO 15 PERCENT SLOPES
130	HAPLARGIDS-CALCIORTHIDS COMPLEX, 15 TO 50 PERCENT SLOPES
113	CAJON SAND, 2 TO 9 PERCENT SLOPES
106	BRYMAN LOAMY FINE SAND, 2 TO 5 PERCENT SLOPES
132	HELENDALE LOAMY SAND, 2 TO 5 PERCENT SLOPES
113	CAJON SAND, 2 TO 9 PERCENT SLOPES
178	WATER
132	HELENDALE LOAMY SAND, 2 TO 5 PERCENT SLOPES
112	CAJON SAND, 0 TO 2 PERCENT SLOPES
105	BRYMAN LOAMY FINE SAND, 0 TO 2 PERCENT SLOPES
114	CAJON SAND, 9 TO 15 PERCENT SLOPES
105	BRYMAN LOAMY FINE SAND, 0 TO 2 PERCENT SLOPES
114	CAJON SAND, 9 TO 15 PERCENT SLOPES
134	HESPERIA LOAMY FINE SAND, 2 TO 5 PERCENT SLOPES
134	HESPERIA LOAMY FINE SAND, 2 TO 5 PERCENT SLOPES

Legend

Segment 3

1000-Foot Boundary

Soils

105
106
107
108
112
113
114
130
132
134
138
140
178

**Indicated Soils that intersect with the Segment.

Victorville 2 Hybrid Power Project
Soils
Map 5 - Sheet 3 of 3

0 2,550 5,100 10,200 15,300 20,400 Feet

Map Notes

Base Data:
STATSGO - Soils
Projection: State Plane (Zone 6), NAD83, Feet
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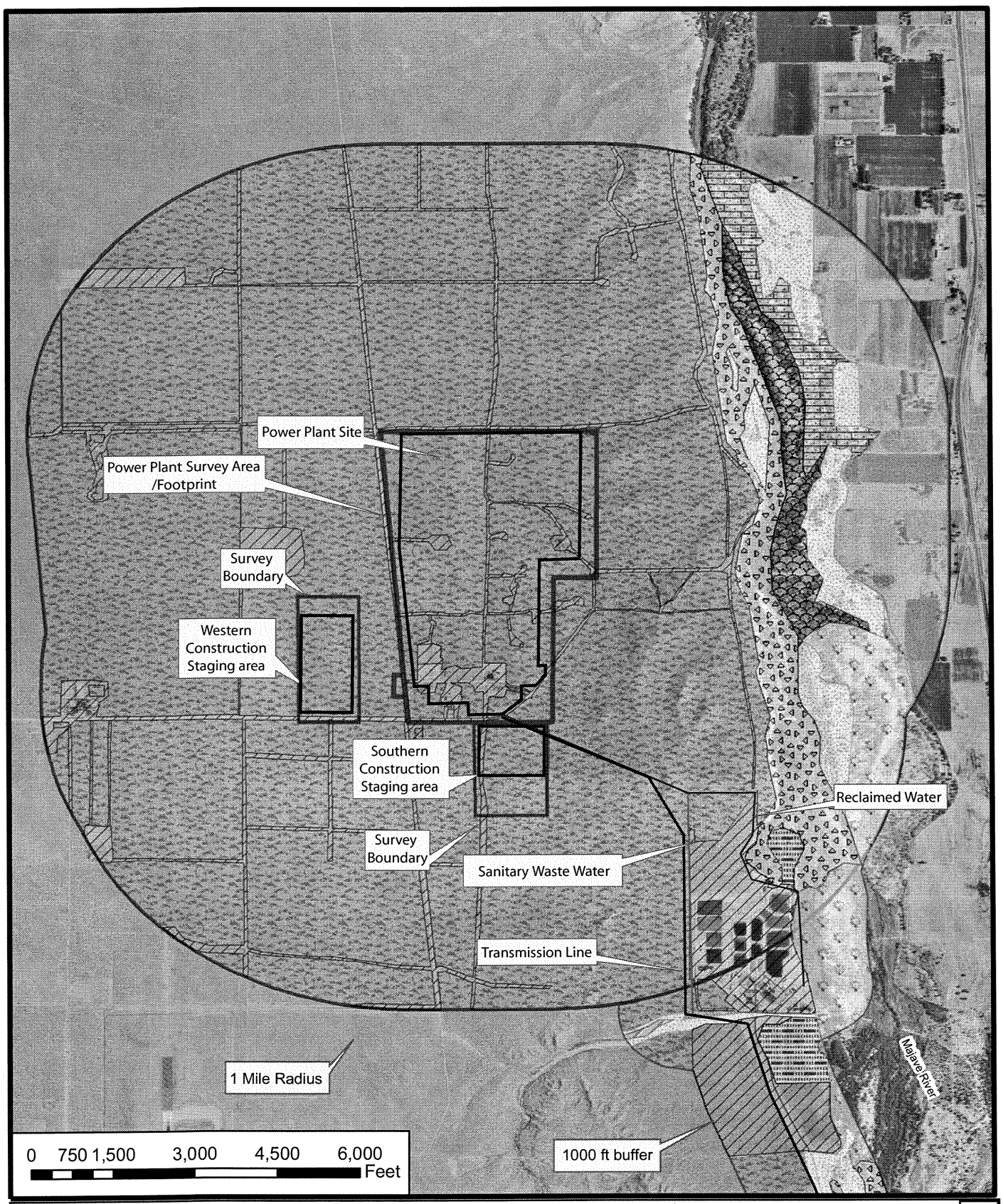

Map 6: Victorville 2 Hybrid Power Plant: Vegetation Communities-Power Plant & Upper Segment 1

Sheet 1 of 6

- Mojave creosote bush scrub
- Southern willow scrub
- Mojave riparian forest
- Open cottonwood-willow woodland
- Desert saltbush scrub
- Open sandy riverbed
- Agricultural area
- Cottonwood forest
- Disturbed/Developed
- Mojave desert wash scrub

Map Notes

Base Data:
ENSR-transmission, power plant & "laydown" areas
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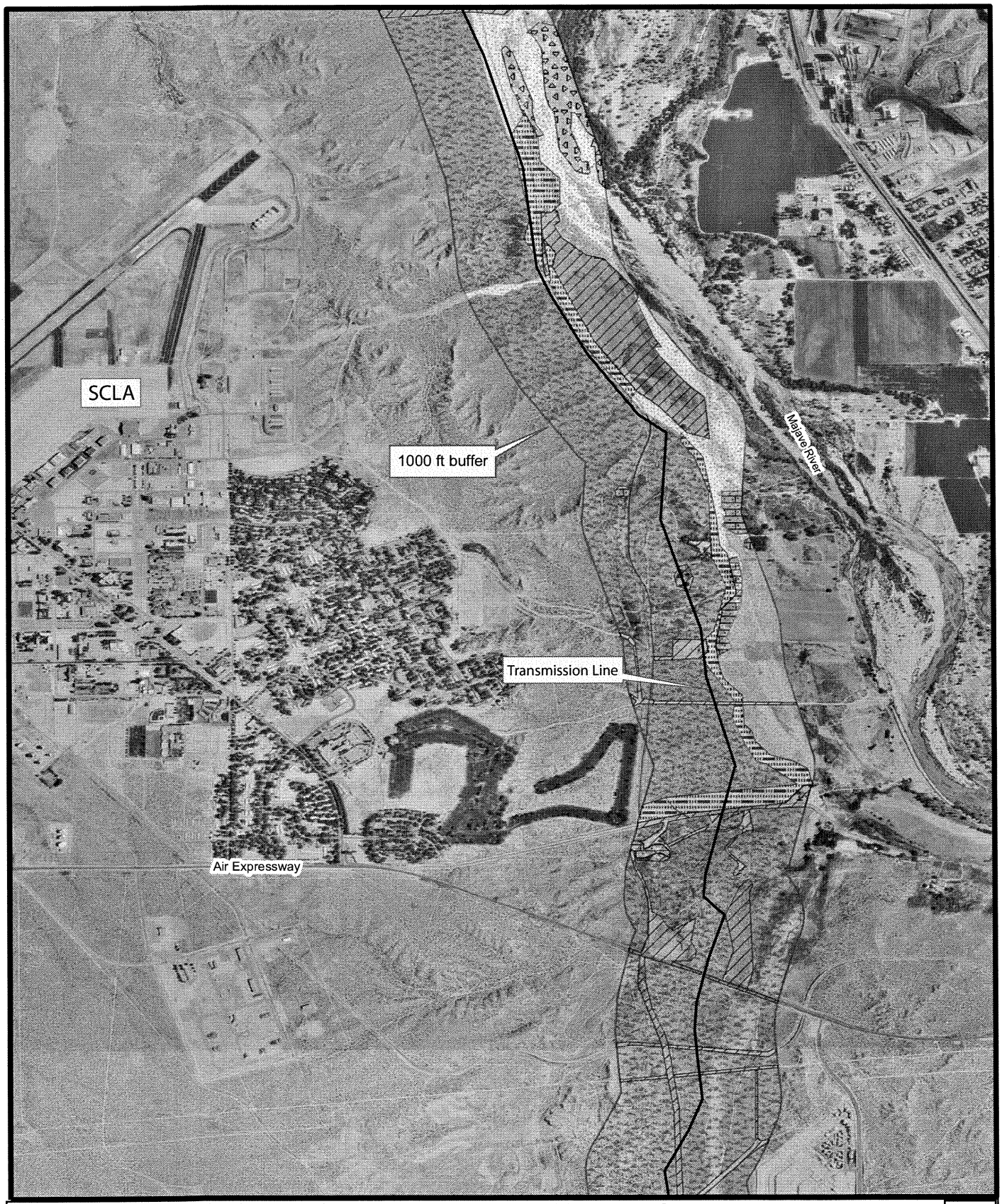

Map 6: Victorville 2 Hybrid Power Plant: Vegetation Communities-Lower Segment 1

Sheet 2 of 6

- Mojave creosote bush scrub
- Southern willow scrub
- Open cottonwood-willow woodland
- Agricultural area
- Desert saltbush scrub
- Disturbed/Developed
- Open sandy riverbed

0 650 1,300 2,600 3,900 5,200 Feet

Map Notes

Base Data:
ENSR-transmission, power plant & "laydown" areas
Projection: NAD 83
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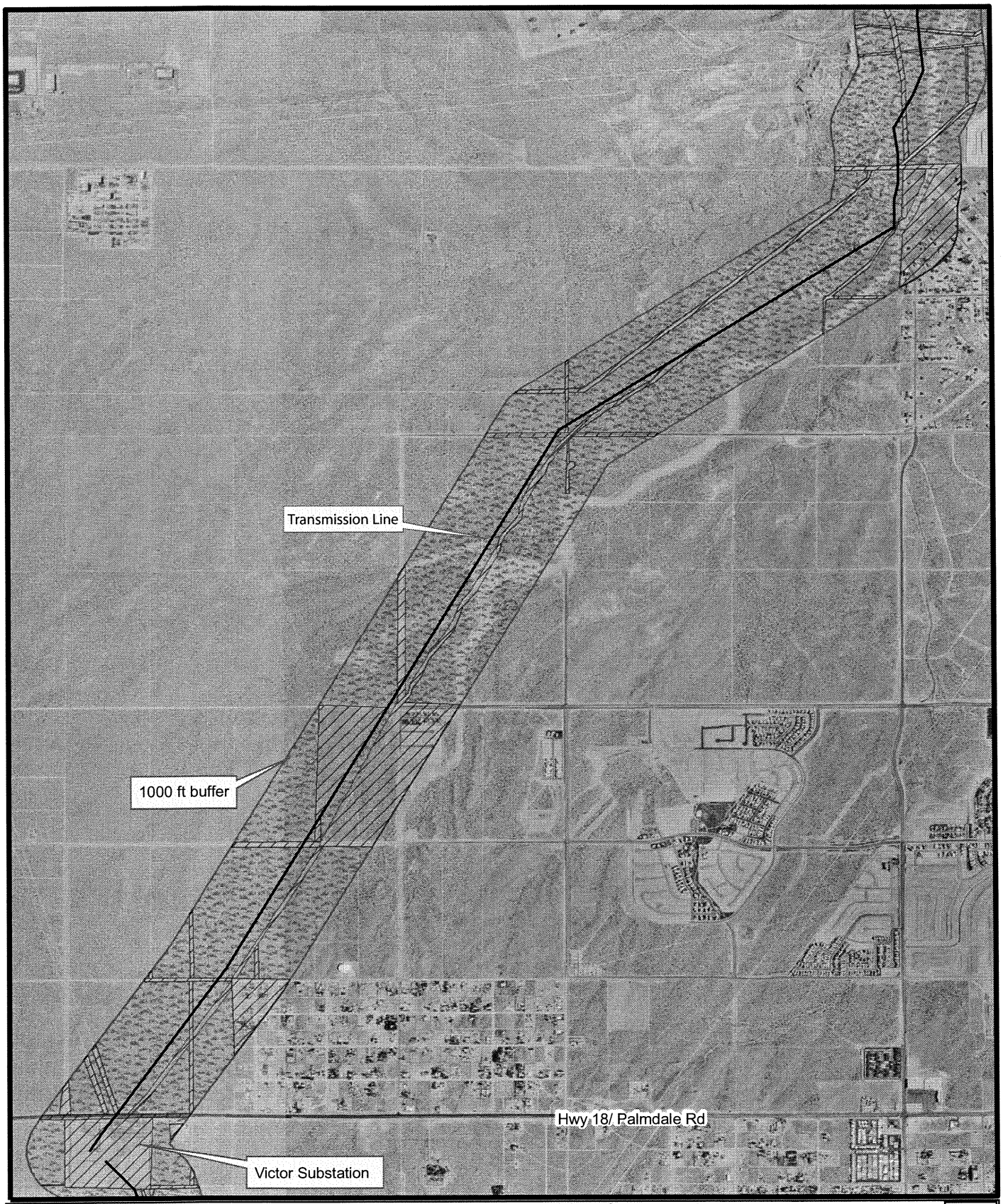

Map 6: Victorville 2 Hybrid Power Plant: Vegetation Communities- Segment 2

Sheet 3 of 6

Mojave creosote bush scrub

Disturbed/Developed

0 800 1,600 3,200 4,800 6,400 Feet

Map Notes

Base Data:
ENSR-transmission, power plant & "laydown" areas
Projection: NAD 83
Path: S:\active projects\Victorville 2 Power Plant 6554000228\graphics\final
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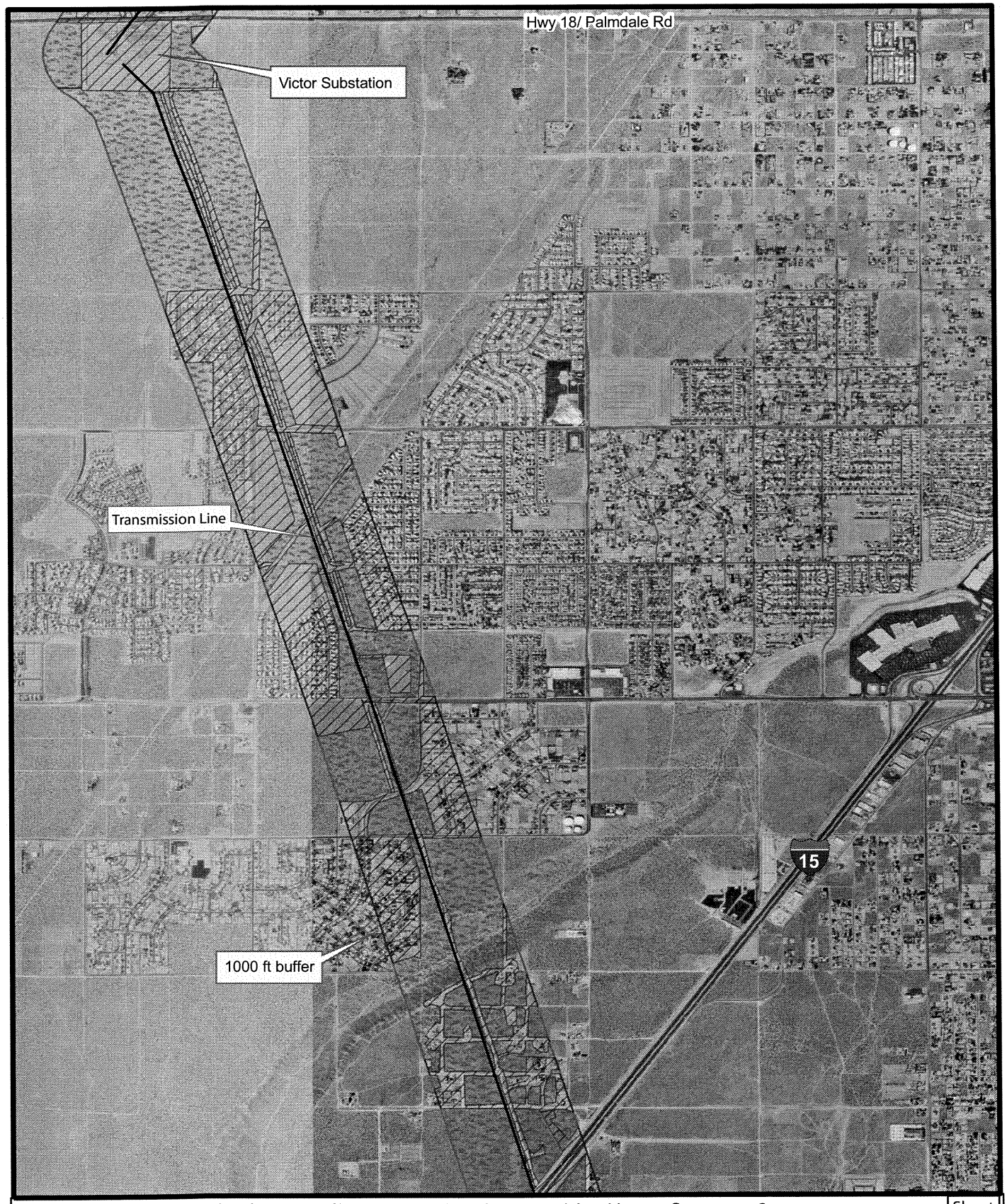

Map 6: Victorville 2 Hybrid Power Plant: Vegetation Communities-Upper Segment 3

Sheet 4 of 6

Mojave creosote bush scrub

Disturbed/Developed

0 800 1,600 3,200 4,800 6,400 Feet

Map Notes

Base Data:
ENSR-transmission, power plant & "laydown" areas
Projection: NAD 83
Path: S:\active projects\Victorville 2 Power Plant 6554000228\graphics\final
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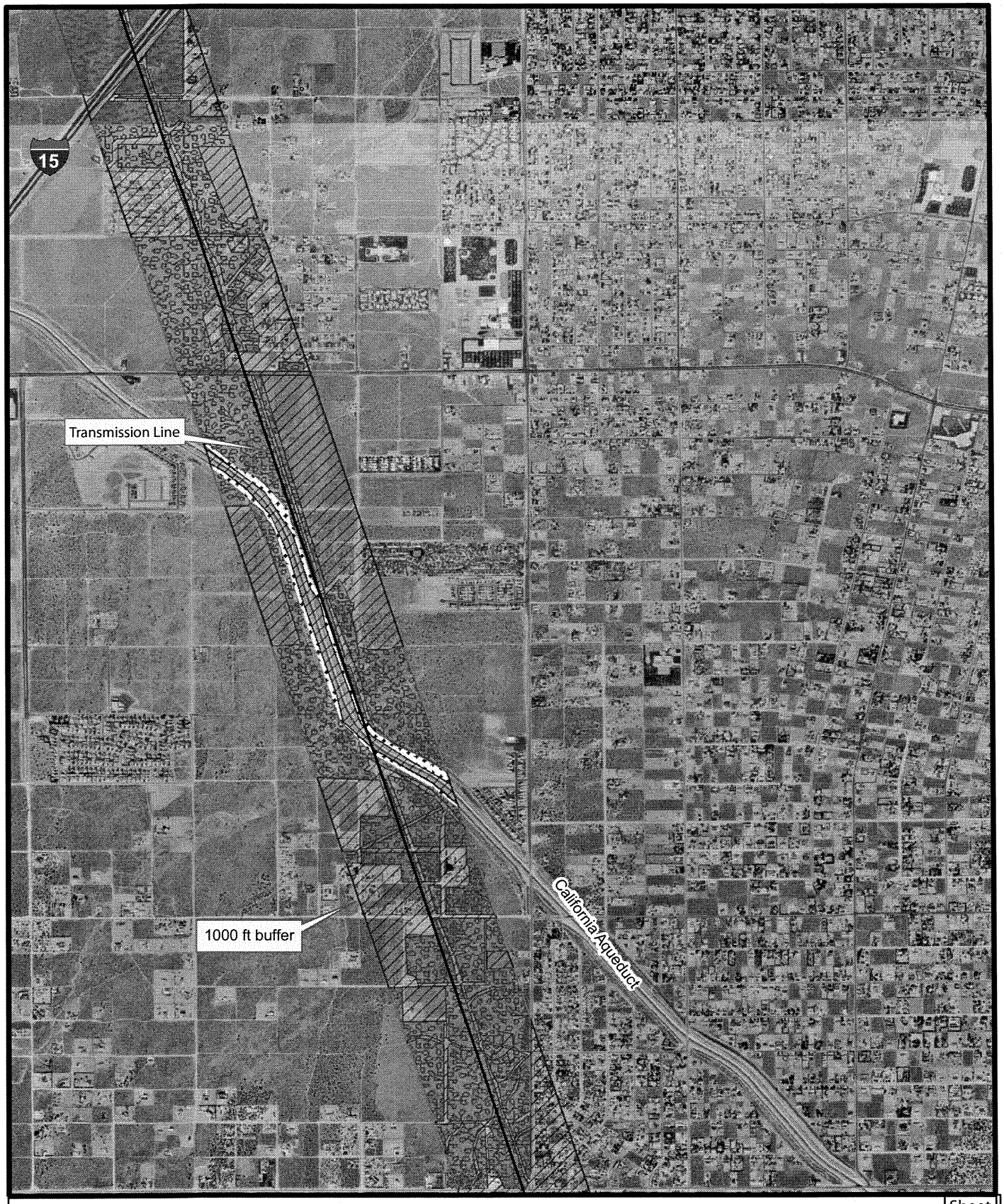

Map 6: Victorville 2 Hybrid Power Plant: Vegetation Communities- Mid Segment 3

Sheet 5 of 6

- Mojave creosote bush scrub
- Mojavean juniper woodland & scrub
- Rabbitbush scrub
- Disturbed/Developed

0 800 1,600 3,200 4,800 6,400 Feet

Map Notes

Base Data:
ENSR-transmission, power plant & "laydown" areas
Projection: NAD 83
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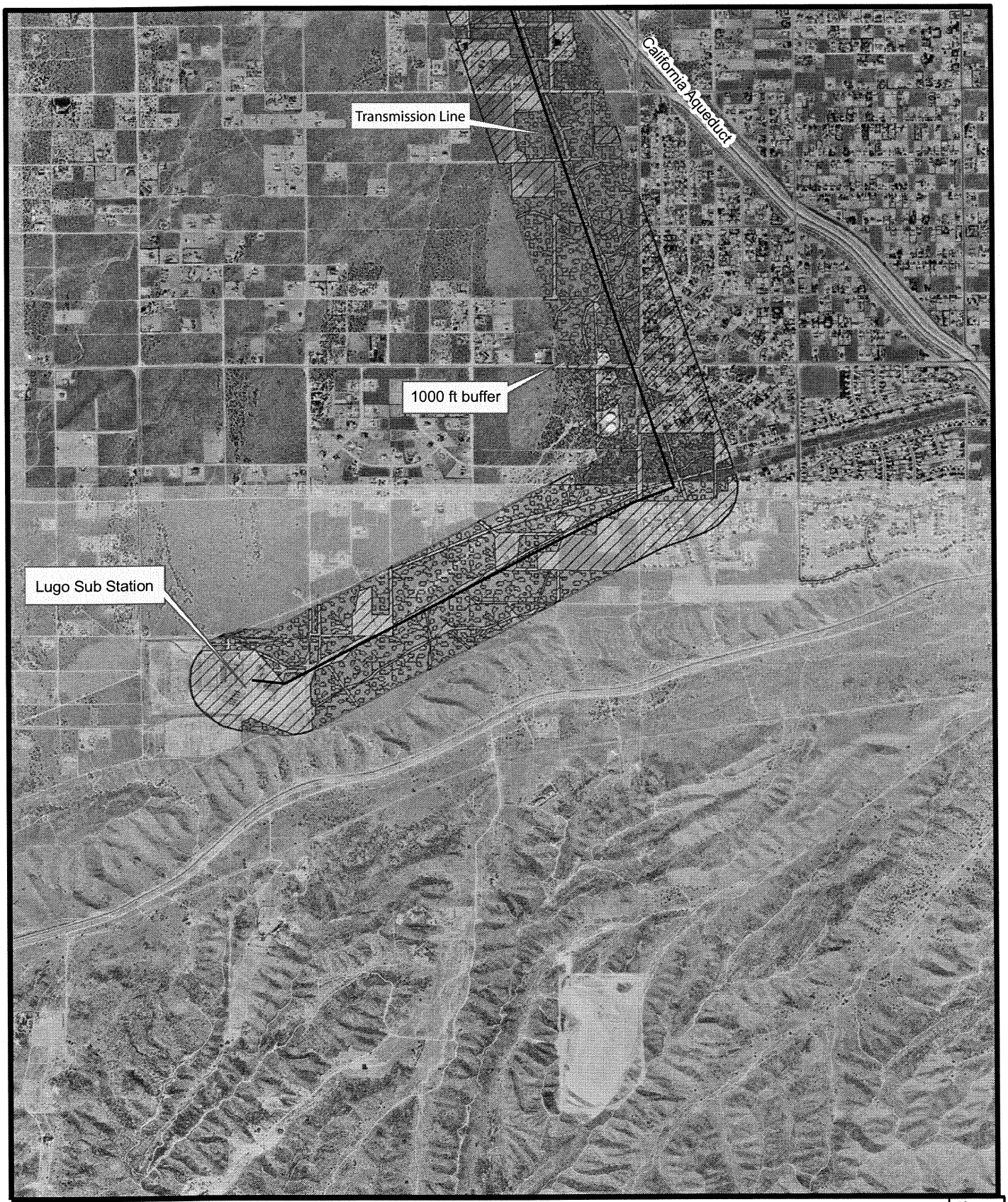

Map 6: Victorville 2 Hybrid Power Plant: Vegetation Communities- Lower Segment 3

Sheet 6 of 6

Mojavean juniper woodland & scrub

Disturbed/Developed

0 800 1,600 3,200 4,800 6,400 Feet

Map Notes

Base Data:
ENSR-transmission, power plant & "laydown" areas
Projection: NAD 83
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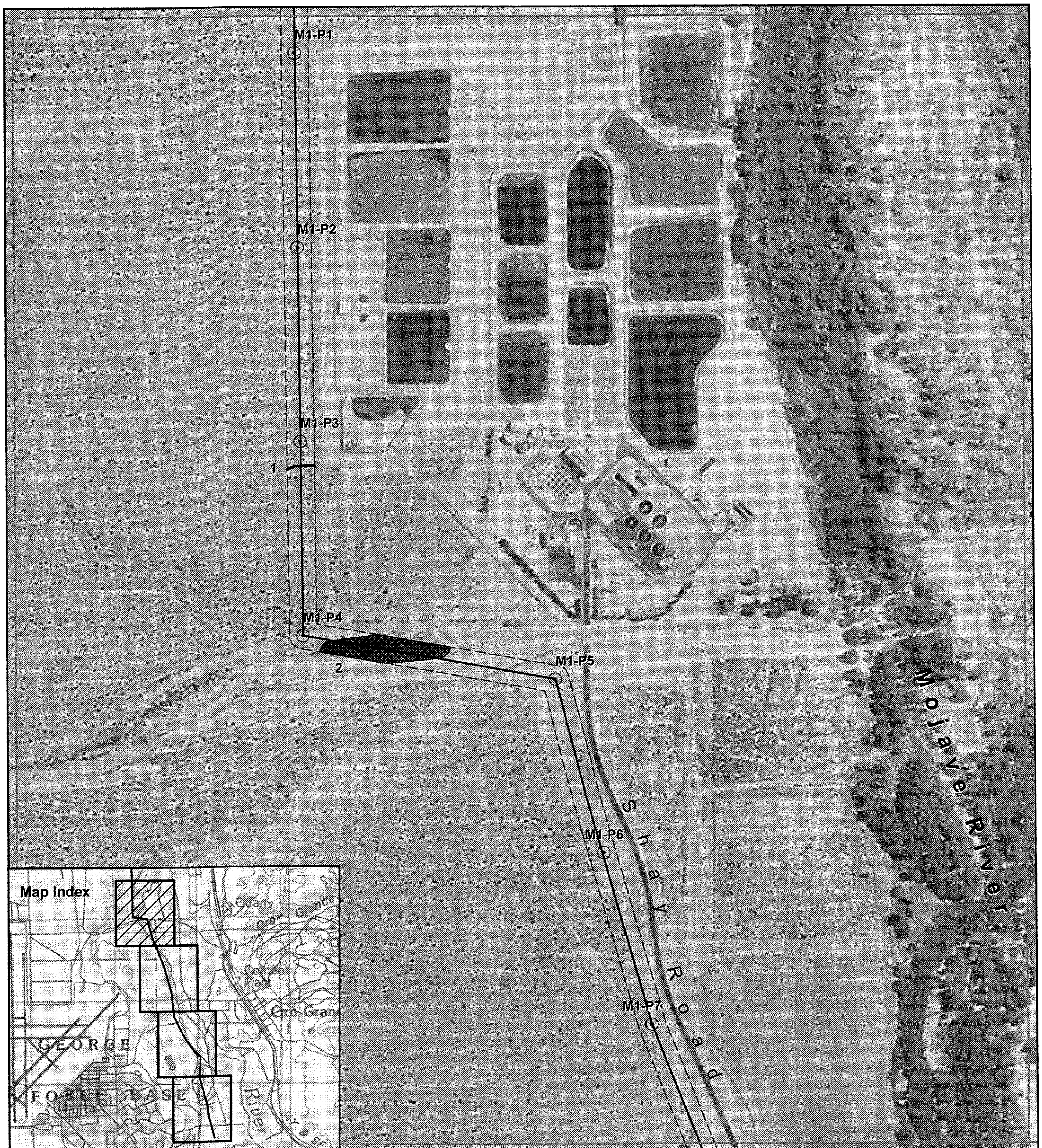

Legend

- Project Transmission Line Pole Locations (Segment 1)
- Segment 1 Centerline
- Waters of the State Only
- Waters of the U.S. and Waters of the State
- Study Boundary
- Map Index

Victorville 2 Hybrid Power Project Jurisdictional Areas
Segment 1
Map 7 Sheet 1 of 14

1 inch equals 500 feet

0 125 250 500 750 1,000 Feet

Map Notes

Base Data:
AMEC - Preliminary Determination of Jurisdictional Waters; Study Boundary
Projection: State Plane (Zone 6), NAD83, Feet
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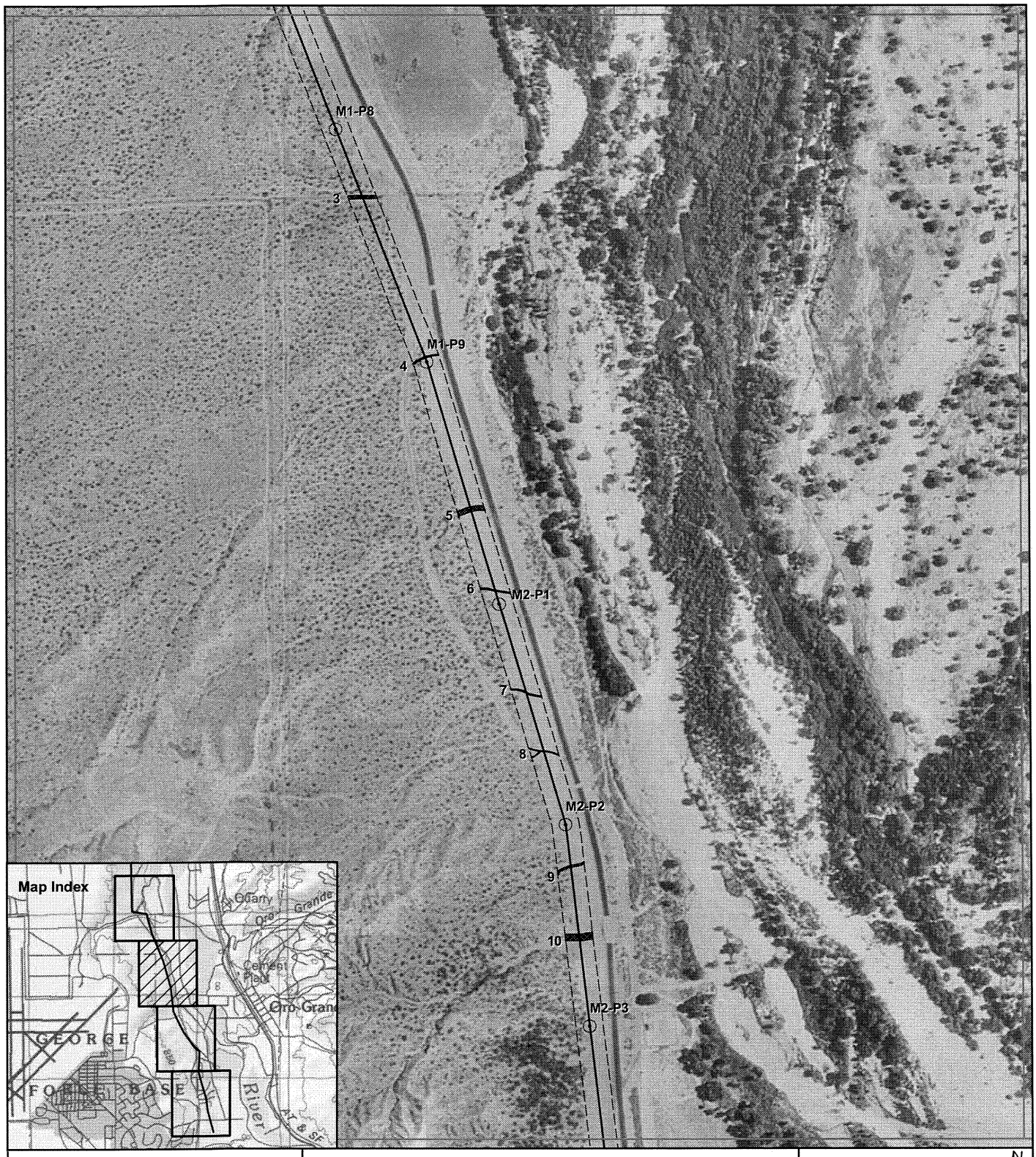

Legend

- Project Transmission Line Pole Locations (Segment 1)
- Segment 1 Centerline
- Waters of the State Only
- Waters of the U.S. and Waters of the State
- Study Boundary
- Map Index

Victorville 2 Hybrid Power Project
Jurisdictional Areas
Segment 1

Map 7 Sheet 2 of 14

1 inch equals 500 feet

0 125 250 500 750 1,000 Feet

Map Notes

Base Data:
AMEC - Preliminary Determination of Jurisdictional Waters; Study Boundary
Projection: State Plane (Zone 6), NAD83, Feet
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Date: 02\16\2007

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Legend

- Project Transmission Line Pole Locations (Segment 1)
- Segment 1 Centerline
- Waters of the State Only
- Waters of the U.S. and Waters of the State
- Study Boundary
- Map Index

Victorville 2 Hybrid Power Project
Jurisdictional Areas
Segment 1

Map 7 Sheet 3 of 14

1 inch equals 500 feet

0 125 250 500 750 1,000 Feet

Map Notes

Base Data:
AMEC - Preliminary Determination of Jurisdictional Waters; Study Boundary
Projection: State Plane (Zone 6), NAD83, Feet
Path: w:\sd06\biology\victorville_wetland\mxd\drainage_seg1.mxd
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M3-P4
31
M3-P5
M3-P6
32
33
M3-P7
34
35
36
M3-P8
37
38
M4-P1
39
40
M1-T5
Map Index
Legend
Project Transmission Line Pole Locations (Segment 1)
Segment 1 Centerline
Waters of the State Only
Waters of the U.S. and Waters of the State
Study Boundary
Map Index
Victorville 2 Hybrid Power Project
Jurisdictional Areas
Segment 1
Map 7 Sheet 4 of 14
1 inch equals 500 feet
0 125 250 500 750 1,000
Feet
Map Notes
Base Data:
AMEC - Preliminary Determination of Jurisdictional Waters; Study Boundary
Projection: State Plane (Zone 6), NAD83, Feet
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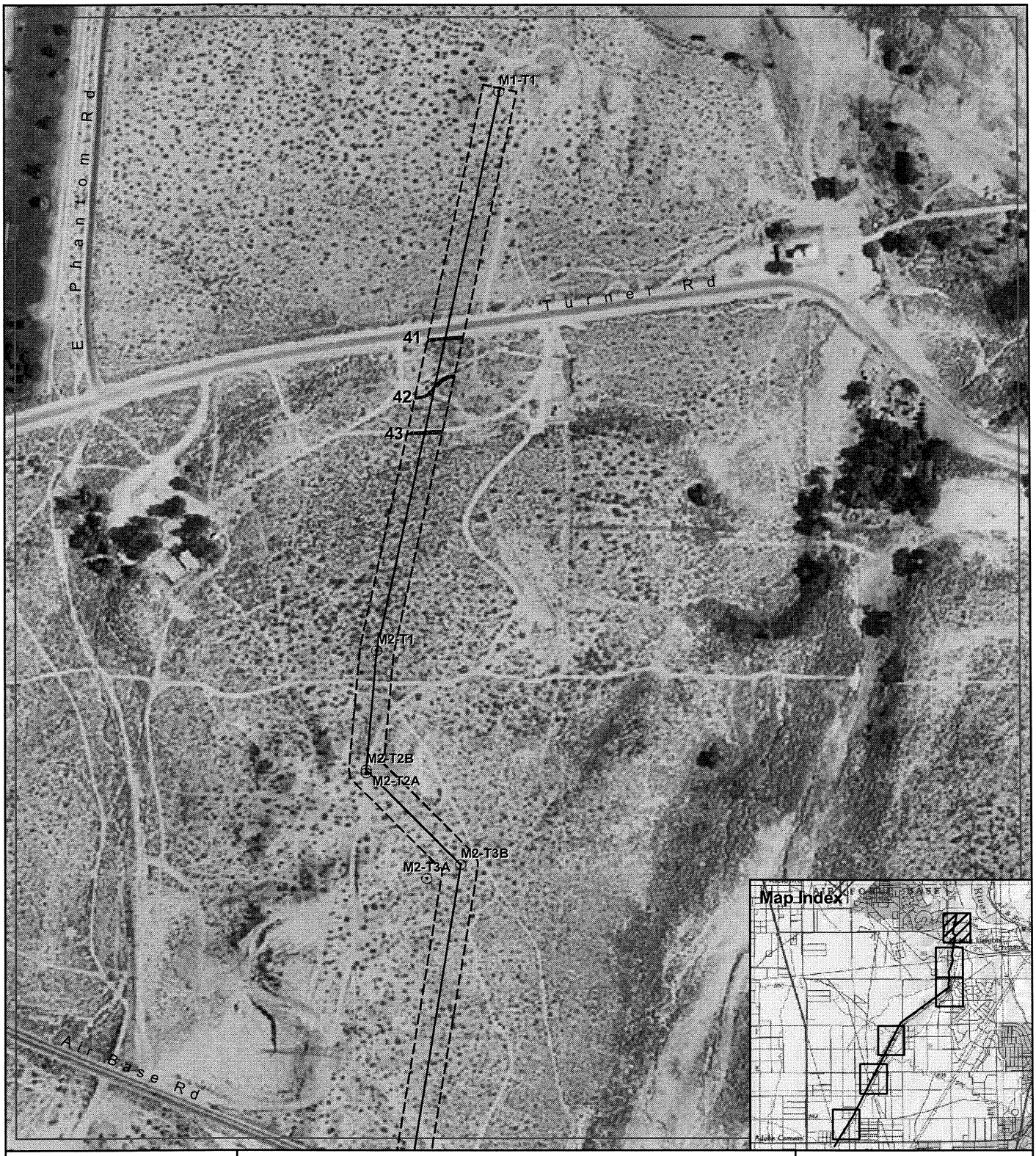

Legend

- Project Transmission Line Pole Locations (Segment 2)
- Segment 2 Centerline
- Waters of the U.S and Waters of the State
- Study Boundary
- Map Index

Victorville 2 Hybrid Power Project
Jurisdictional Areas
Segment 2

Map 7 Sheet 5 of 14

1 inch equals 400 feet

0 100 200 400 600 800 Feet

Map Notes

Base Data:
AMEC - Preliminary Determination of Jurisdictional Waters
Projection: State Plane, California 405 NAD83, Feet
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Date: 02\16\2007

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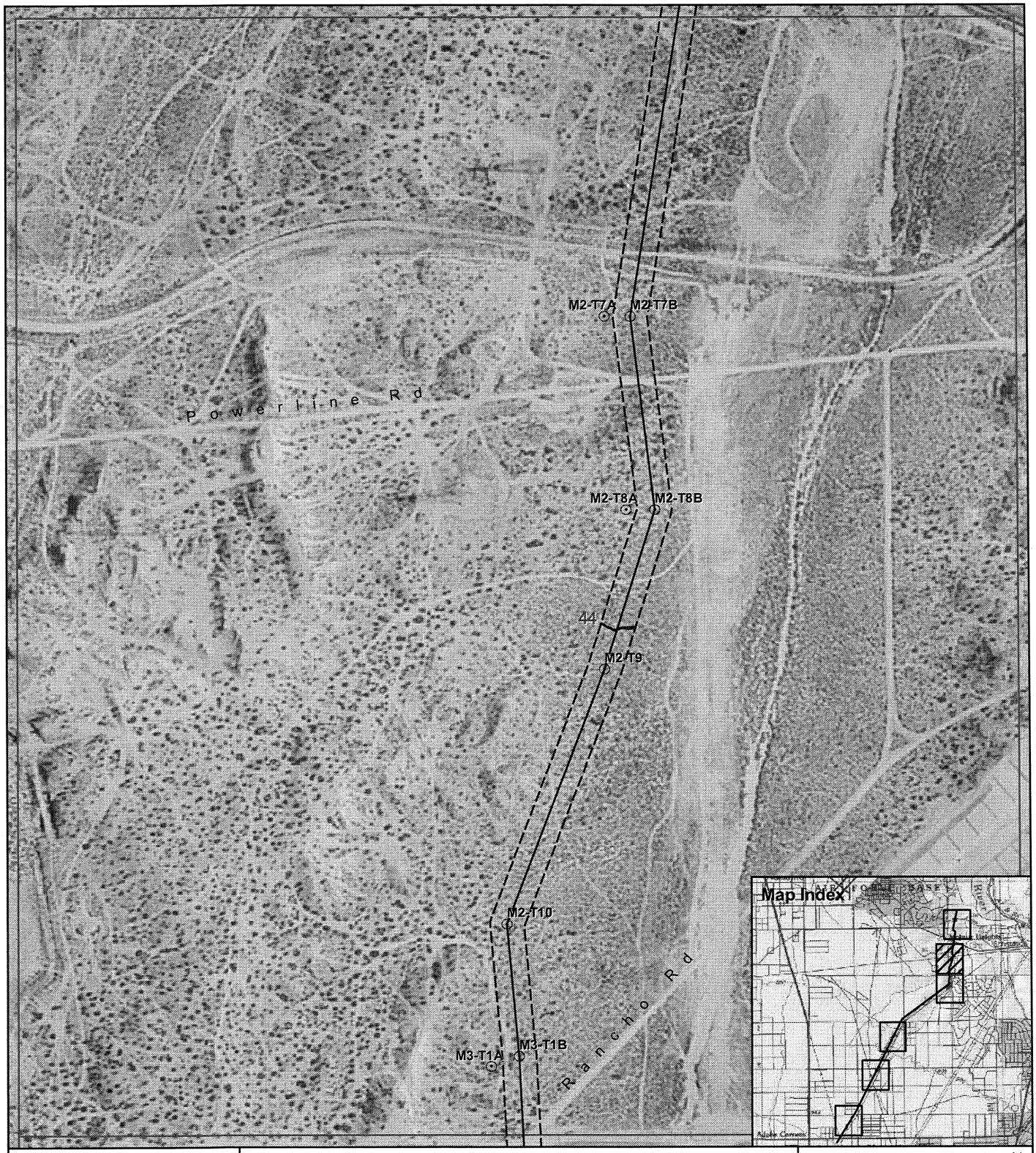
amec



Legend

- Project Transmission Line Pole Locations (Segment 2)
- Segment 2 Centerline
- Waters of the U.S and Waters of the State
- Study Boundary
- Map Index

Victorville 2 Hybrid Power Project
Jurisdictional Areas
Segment 2
Map 7 Sheet 6 of 14

1 inch equals 400 feet

0 100 200 400 600 800 Feet

Map Notes

Base Data:
AMEC - Preliminary Determination of Jurisdictional Waters
Projection: State Plane, California 405 NAD83, Feet
Path: w:\sd06\biology\victorville_wetland\mxd\drainage_seg2.mxd
Date: 02\16\2007

N

amec

Legend

- Project Transmission Line Pole Locations (Segment 2)
- Segment 2 Centerline
- Waters of the U.S and Waters of the State
- Study Boundary
- Map Index

Victorville 2 Hybrid Power Project
Jurisdictional Areas
Segment 2

Map 7 Sheet 7 of 14

1 inch equals 400 feet

0 100 200 400 600 800 Feet

Map Notes

Base Data:
AMEC - Preliminary Determination of Jurisdictional Waters
Projection: State Plane, California 405 NAD83, Feet
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Date: 02\16\2007

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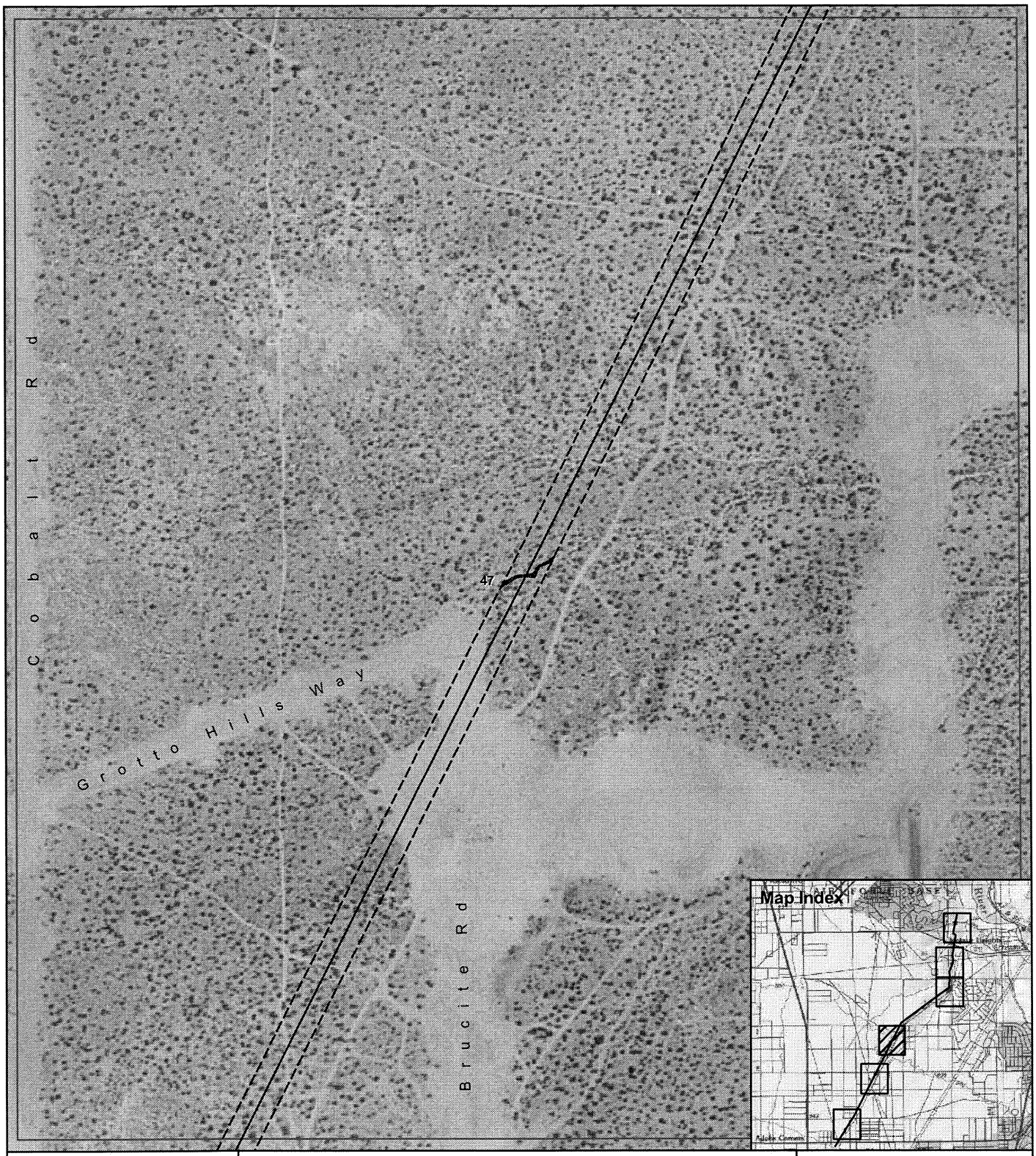

Legend

- Project Transmission Line Pole Locations (Segment 2)
- Segment 2 Centerline
- Waters of the U.S and Waters of the State
- Study Boundary
- Map Index

Victorville 2 Hybrid Power Project
Jurisdictional Areas
Segment 2
Map 7 Sheet 8 of 14

1 inch equals 400 feet

0 100 200 400 600 800 Feet

Map Notes

Base Data:
AMEC - Preliminary Determination of Jurisdictional Waters
Projection: State Plane, California 405 NAD83, Feet
Path: w:\sd06\biology\victorville_wetland\mxd\drainage_seg2.mxd
Date: 02\16\2007

N

amec

Legend

- Project Transmission Line Pole Locations (Segment 2)
- Segment 2 Centerline
- Waters of the U.S and Waters of the State
- Study Boundary
- Map Index

Victorville 2 Hybrid Power Project
Jurisdictional Areas
Segment 2
Map 7 Sheet 9 of 14

1 inch equals 400 feet

0 100 200 400 600 800 Feet

Map Notes

Base Data:
AMEC - Preliminary Determination of Jurisdictional Waters
Projection: State Plane, California 405 NAD83, Feet
Path: w:\sd06\biology\victorville_wetland\mxd\drainage_seg2.mxd
Date: 02\16\2007

N

amec

Legend

- Project Transmission Line Pole Locations (Segment 2)
- Segment 2 Centerline
- Waters of the U.S and Waters of the State
- Study Boundary
- Map Index

Victorville 2 Hybrid Power Project
Jurisdictional Areas
Segment 2
Map 7 Sheet 10 of 14

1 inch equals 400 feet

0 100 200 400 600 800 Feet

Map Notes

Base Data:
AMEC - Preliminary Determination of Jurisdictional Waters
Projection: State Plane, California 405 NAD83, Feet
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Date: 02\16\2007

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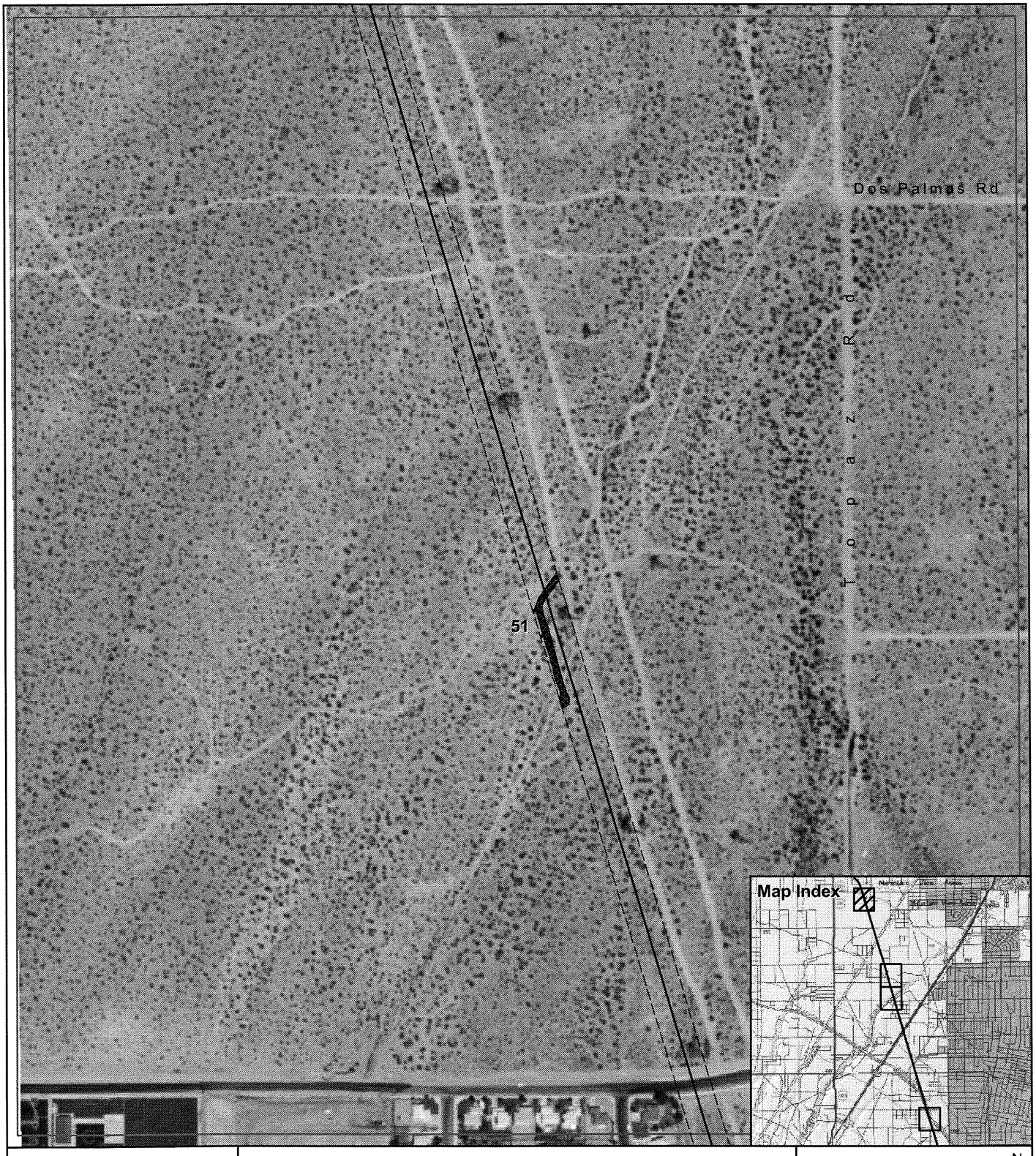

Legend

- Segment 3 Centerline
- Water of the U.S and Water of the State
- Study Boundary
- Map Index

Victorville 2 Hybrid Power Project
Jurisdictional Areas
Segment 3

Map 7 Sheet 11 of 14

1 inch equals 400 feet

0 100 200 400 600 800 Feet

Map Notes

Base Data:
AMEC - Preliminary Determination of Jurisdictional Waters
Projection: State Plane, California 405 NAD83, Feet
Path: w:\sd06\biology\victorville_wetland\mxd\drainage_seg3.mxd
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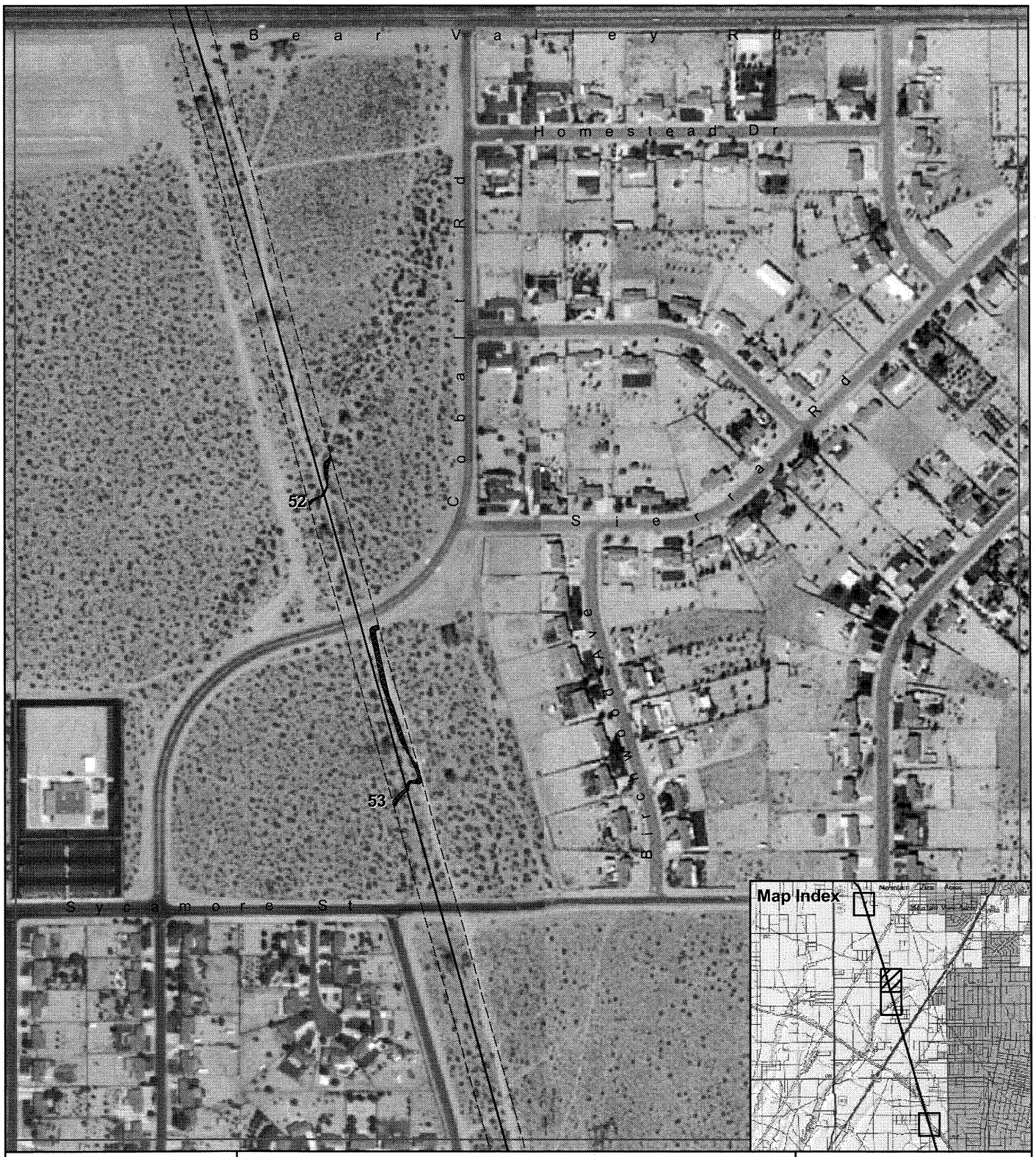

Legend

- Segment 3 Centerline
- Water of the U.S and Water of the State
- Study Boundary
- Map Index

Victorville 2 Hybrid Power Project
Jurisdictional Areas
Segment 3

Map 7 Sheet 12 of 14

1 inch equals 400 feet

0 100 200 400 600 800 Feet

Map Notes

Base Data:
AMEC - Preliminary Determination of Jurisdictional Waters
Projection: State Plane, California 405 NAD83, Feet
Path: w:\sd06\biology\victorville_wetland\mxd\drainage_seg3.mxd
Date: 02\16\2007

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amec

Legend

- Segment 3 Centerline
- Water of the U.S and Water of the State
- Study Boundary
- Map Index

Victorville 2 Hybrid Power Project
Jurisdictional Areas
Segment 3

Map 7 Sheet 13 of 14

1 inch equals 400 feet

0 100 200 400 600 800 Feet

Map Notes

Base Data:
AMEC - Preliminary Determination of Jurisdictional Waters
Projection: State Plane, California 405 NAD83, Feet
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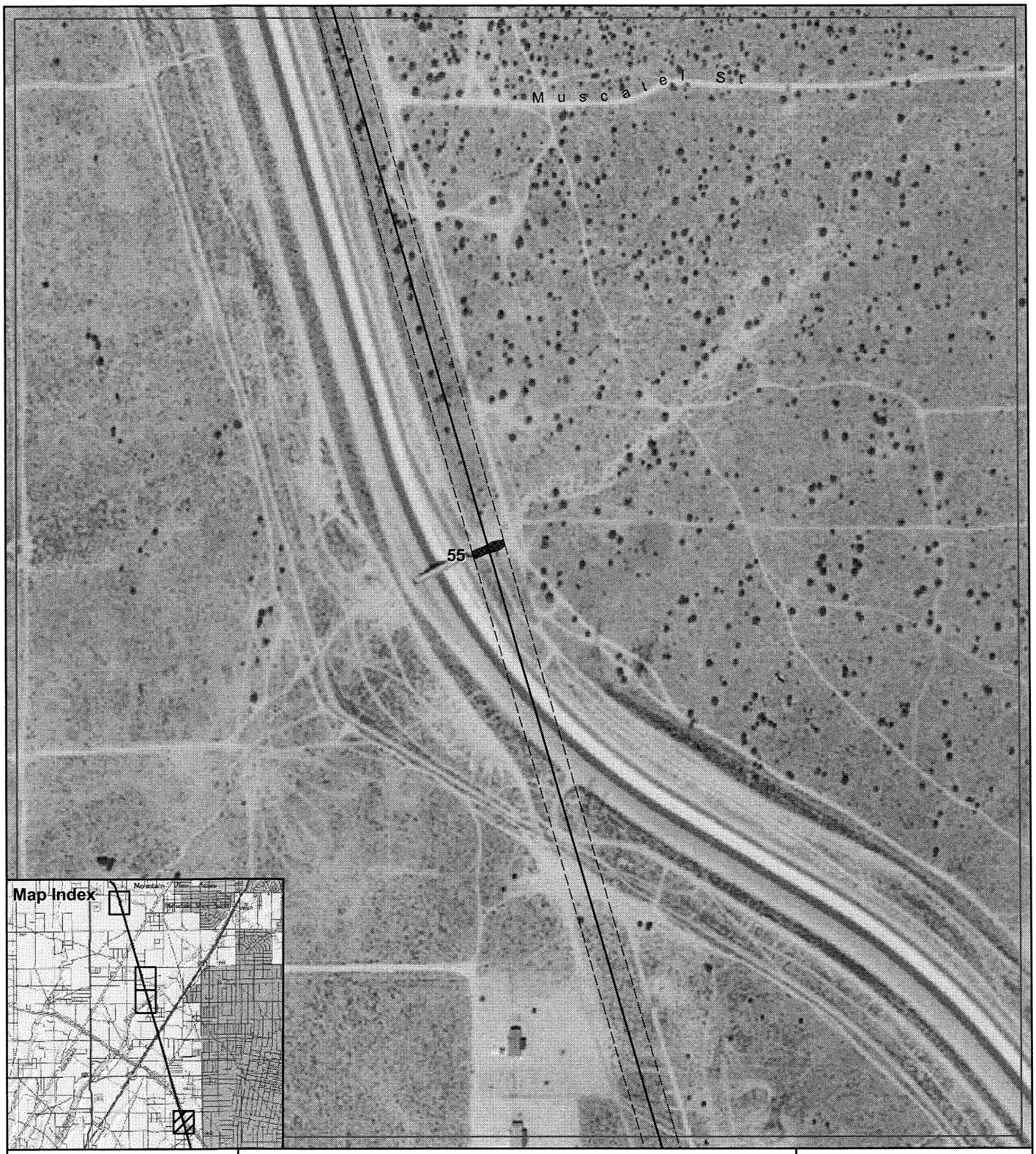

Legend

- Segment 3 Centerline
- Water of the U.S and Water of the State
- Study Boundary
- Map Index

Victorville 2 Hybrid Power Project
Jurisdictional Areas
Segment 3

Map 7 Sheet 14 of 14

1 inch equals 400 feet

0 100 200 400 600 800 Feet

Map Notes

Base Data:
AMEC - Preliminary Determination of Jurisdictional Waters
Projection: State Plane, California 405 NAD83, Feet
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Date: 02\16\2007

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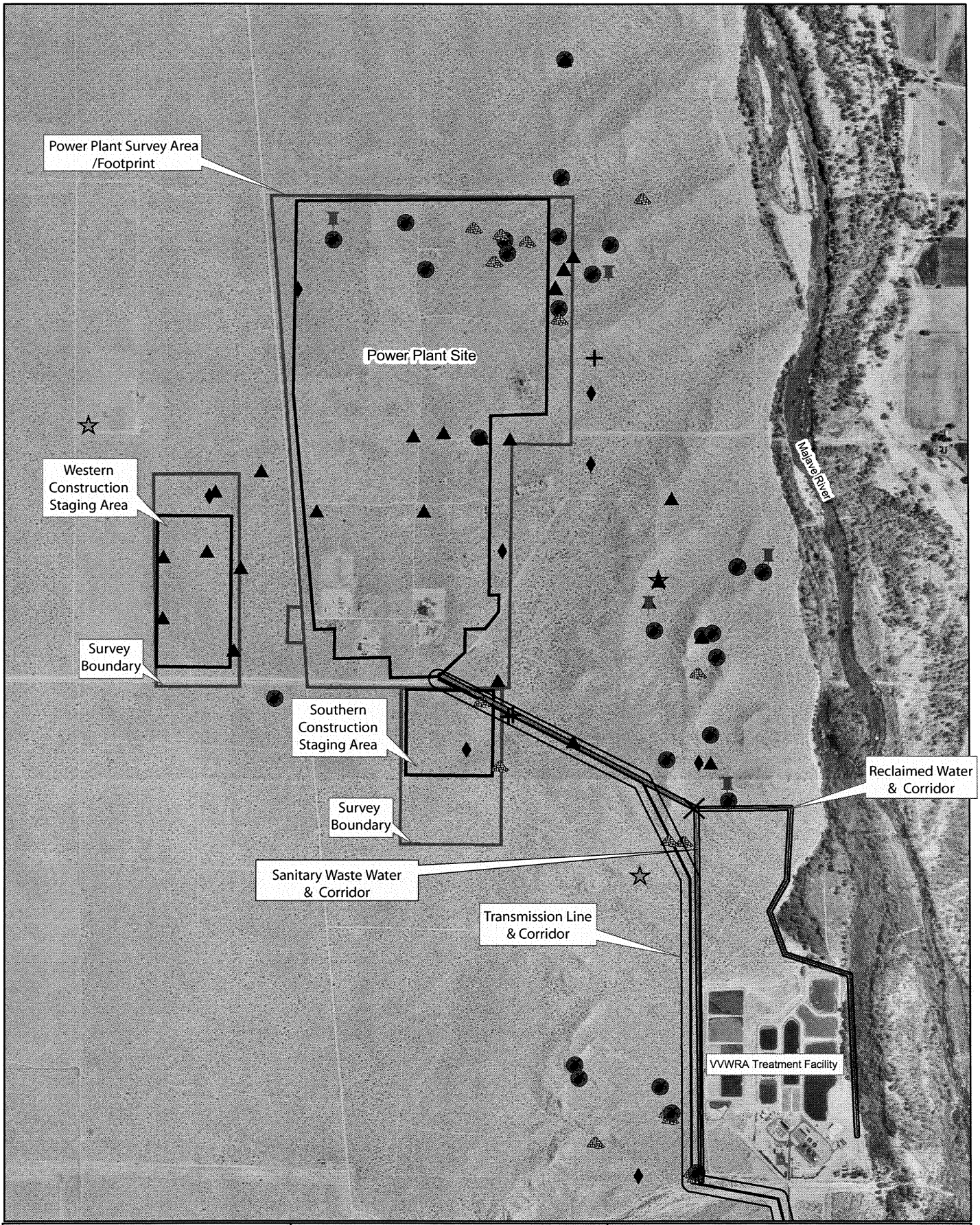

Legend

- Live desert tortise
- Desert tortise burrow
- Desert tortise scat
- Desert tortise carcass
- Burroing owl carcass
- Burrowing owl burrow
- Kit fox colony/ burrow
- Live Burrowing owl

Victorville 2 Hybrid Power Plant

All Sensitive Species
Power plant Site & Upper Segment 1
Map 8- Sheet 1 of 4

0 375 750 1,500 2,250 3,000 Feet

Map Notes
Base Data:
ENSR-transmission, power plant & "laydown" areas
Projection: NAD 83
Path: S:\active projects\Victorville 2 Power Plant 6554000228\graphics\final
Date: 02/05/07

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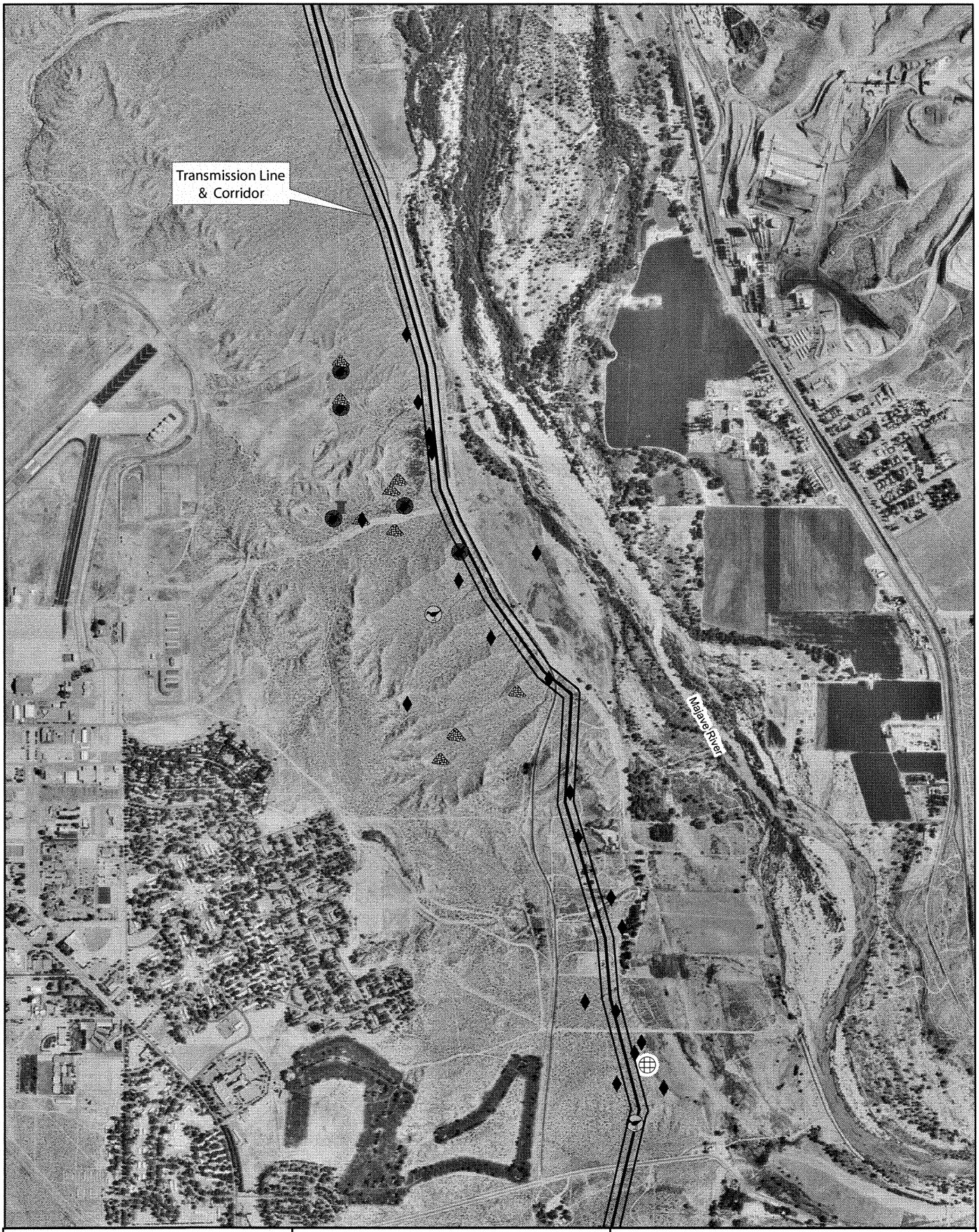
amec



Legend

- Live desert tortise
- LeConte's thrash
- Desert tortise burrow
- Desert tortise scat
- Raptor nest
- Burrowing owl burrow

Victorville 2 Hybrid Power Plant

All Sensitive Species
Lower Segment 1
Map 8- Sheet 2 of 4

0 420 840 1,680 2,520 3,360 Feet

Map Notes

Base Data:
ENSR-transmission, power plant & "laydown" areas
Projection: NAD 83
Path: S:\active projects\Victorville 2 Power Plant 6554000228\graphics\final
Date: 02/06/07

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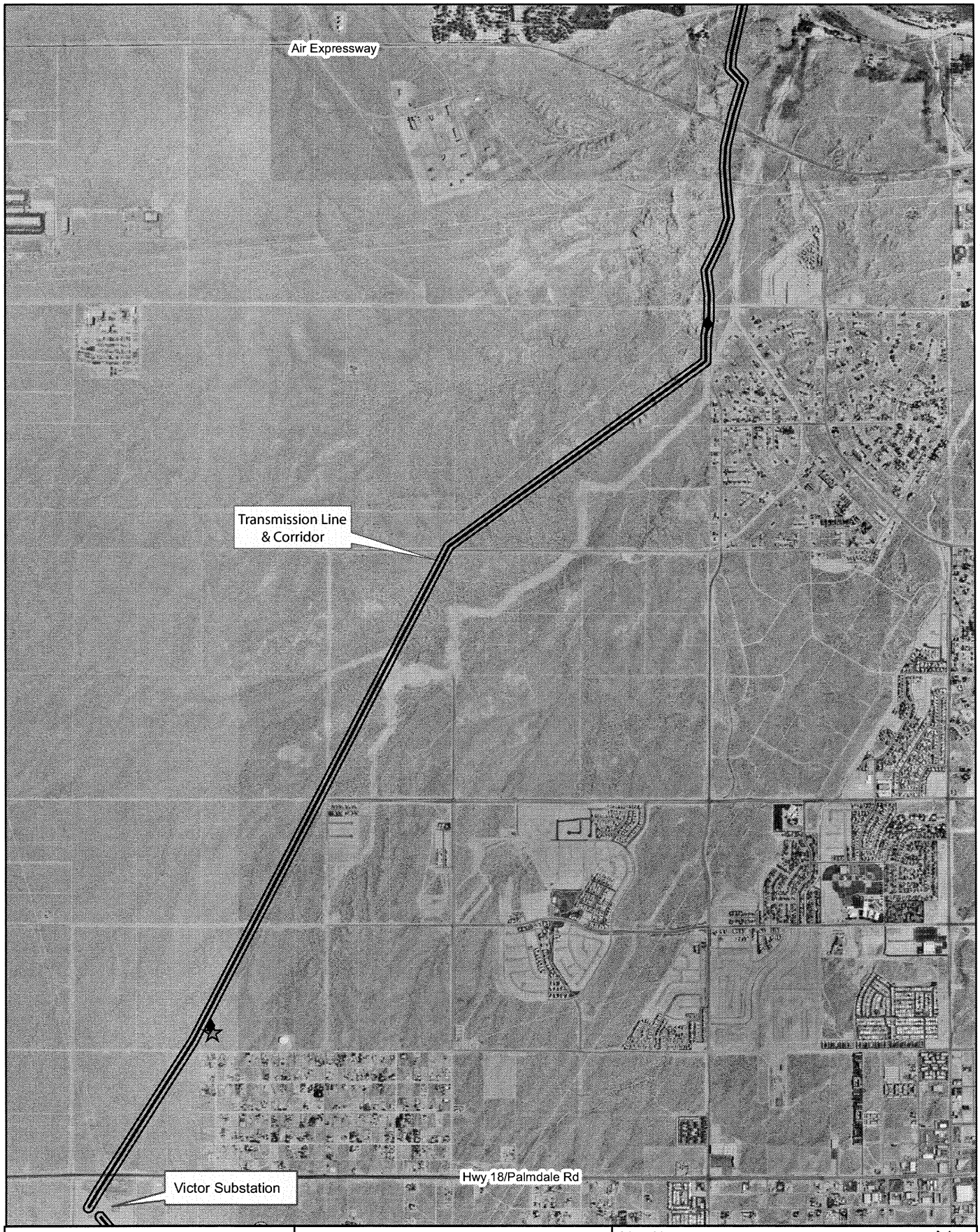

Legend

- Burrowing owl burrow
- Live burrowing owl

Victorville 2 Hybrid Power Plant

All Sensitive Species
Segment 2
Map 8- Sheet 3 of 4

0 700 1,400 2,800 4,200 5,600 Feet

Map Notes

Base Data:
ENSR-transmission, power plant & "laydown" areas
Projection: NAD 83
Path: S:\active projects\Victorville 2 Power Plant 6554000228\graphics\final
Date: 02/06/07

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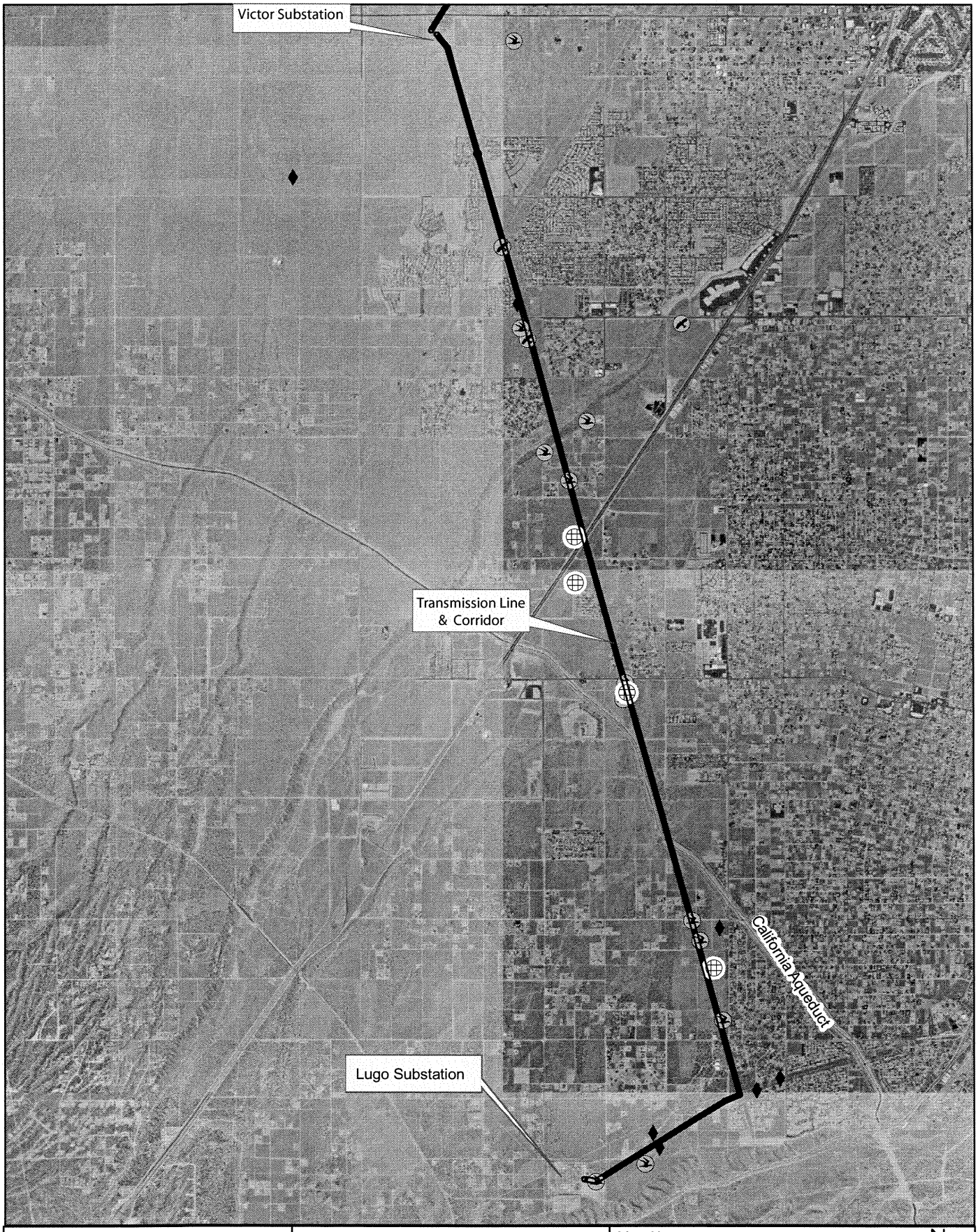
amec



Legend

- Burrowing owl burrow
- Raptor nest
- Loggerhead shrike
- Praire falcon

Victorville 2 Hybrid Power Plant

All Sensitive Species
Segment 3
Map 8- Sheet 4 of 4

0 1,450 2,900 5,800 8,700 11,600 Feet

Map Notes

Base Data:
ENSR-transmission, power plant & "laydown" areas
Projection: NAD 83
Path: S:\active projects\Victorville 2 Power Plant 6554000228\graphics\final
Date: 02/05/07

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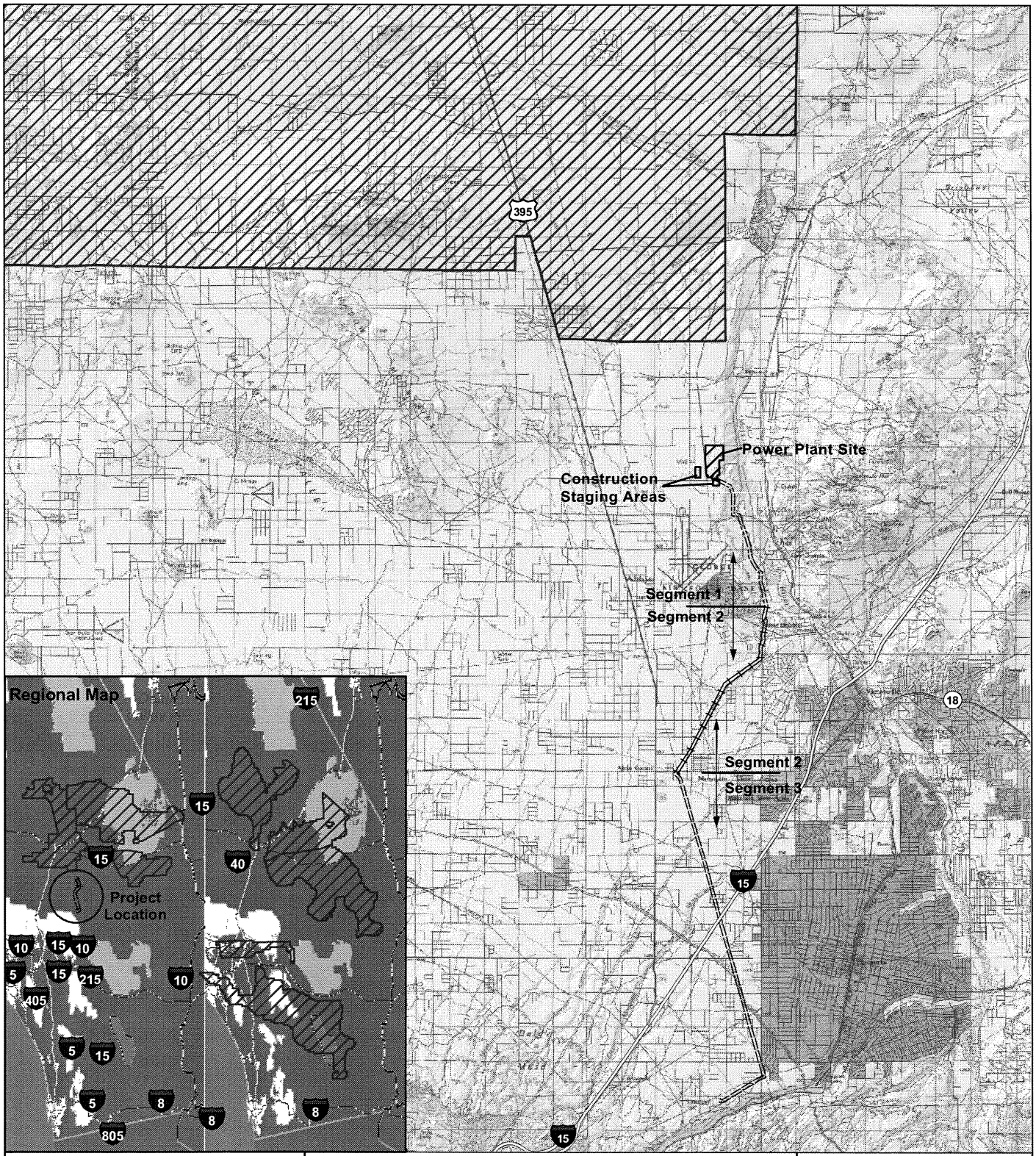

Legend

- Critical habitat for desert tortoise
- Power Plant Site
- Construction Staging areas

Transmission Line

- Segment 1
- Segment 2
- Segment 3

Victorville 2 Hybrid Power Project
Designated Critical Habitat for Desert Tortoise

Map 9 Sheet 1 of 1

0 3,000 6,000 12,000 18,000 24,000 Feet

Map Notes

Base Data:
ENSR - Transmission Line
USFW - Critical Habitat Final
Projection: State Plane (Zone 5), NAD83, Feet
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Date: 02\13\2007

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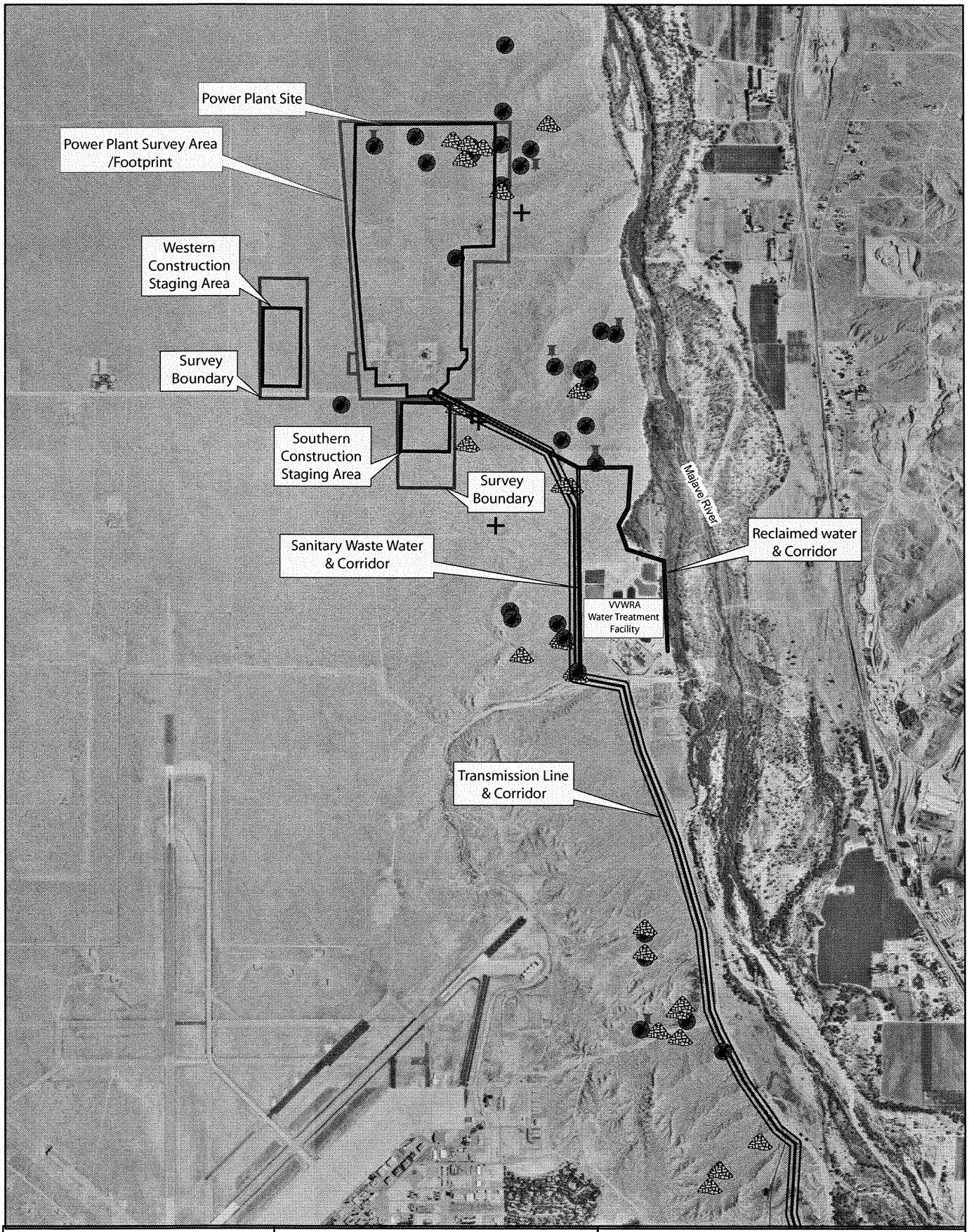

Legend

- Live desert tortise
- DT burrow
- DT scat
- DT carcass

Victorville 2 Hybrid Power Project

Desert Tortise Sign Observed
Power Plant Site & Upper Segment 1
Map 10- Sheet 1 of 1

0 600 1,200 2,400 3,600 4,800 Feet

Map Notes

Base Data:
ENSR-transmission, power plant & "laydown" areas
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Date: 02/09/07

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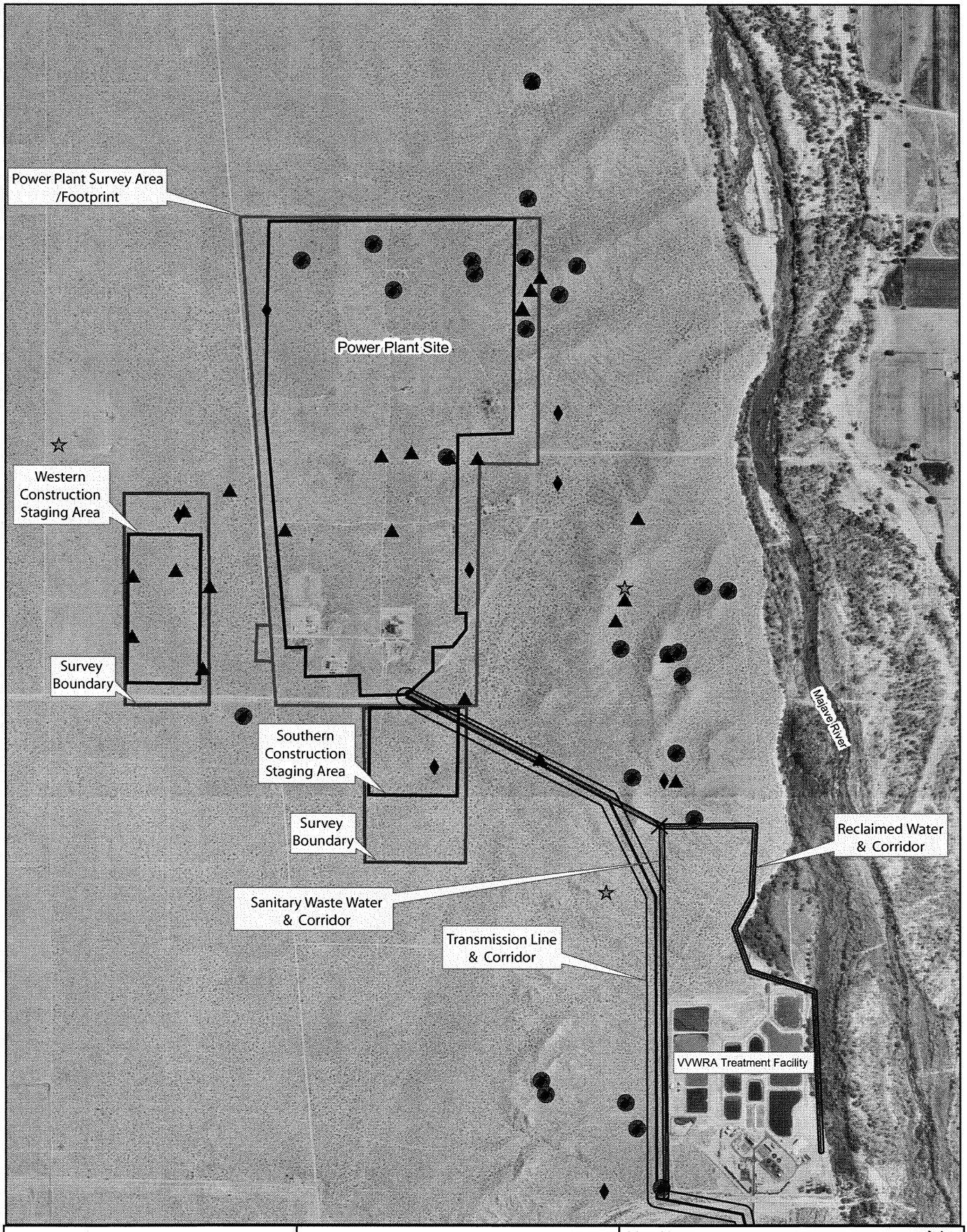

Legend

- Live Burrowing owl
- Burrowing owl carcass
- Burrowing owl burrow
- Kit fox colony/burrow
- Desert tortise burrow

Victorville 2 Hybrid Power Project

Burrowing Owl Sign & Potential Burrows Observed
Power plant Site & Upper Segment 1
Map 11- Sheet 1 of 5

0 355 710 1,420 2,130 2,840 Feet

Map Notes

Base Data:
ENSR-transmission, power plant & "laydown" areas
Projection: NAD 83
Path: S:\active projects\Victorville 2 Power Plant 6554000228\graphics\final
Date: 02/09/07

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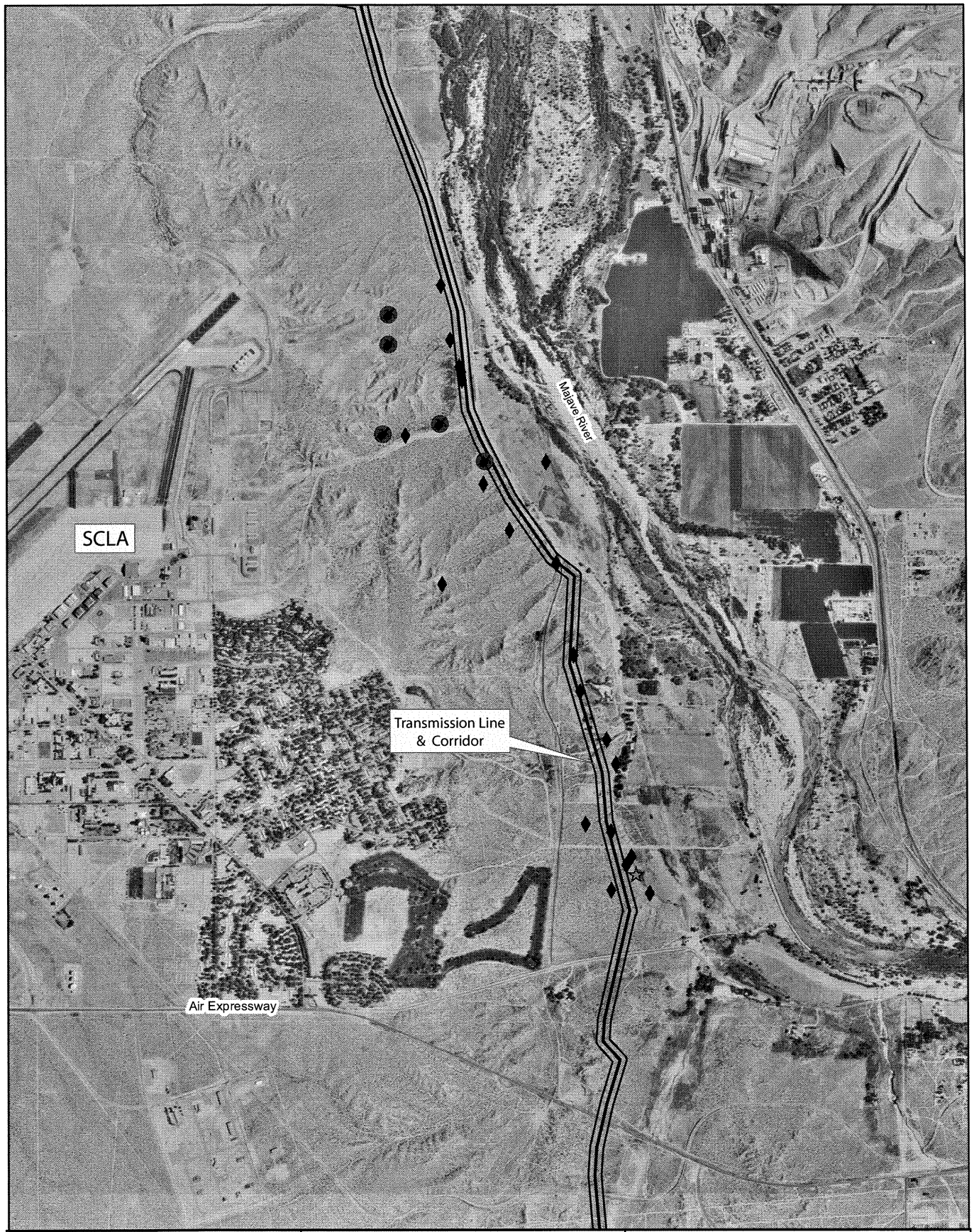

Legend

- Live burrowing owl
- Burrowing owl burrow
- Desert tortise burrow

Victorville 2 Hybrid Power Project

Burrowing Owl Sign &
Potential Burrows Observed
Lower Segment 1
Map 11- Sheet 2 of 5

0 500 1,000 2,000 3,000 4,000 Feet

Map Notes

Base Data:
ENSR-transmission, power plant & "laydown" areas
Projection: NAD 83
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Date: 02/09/07

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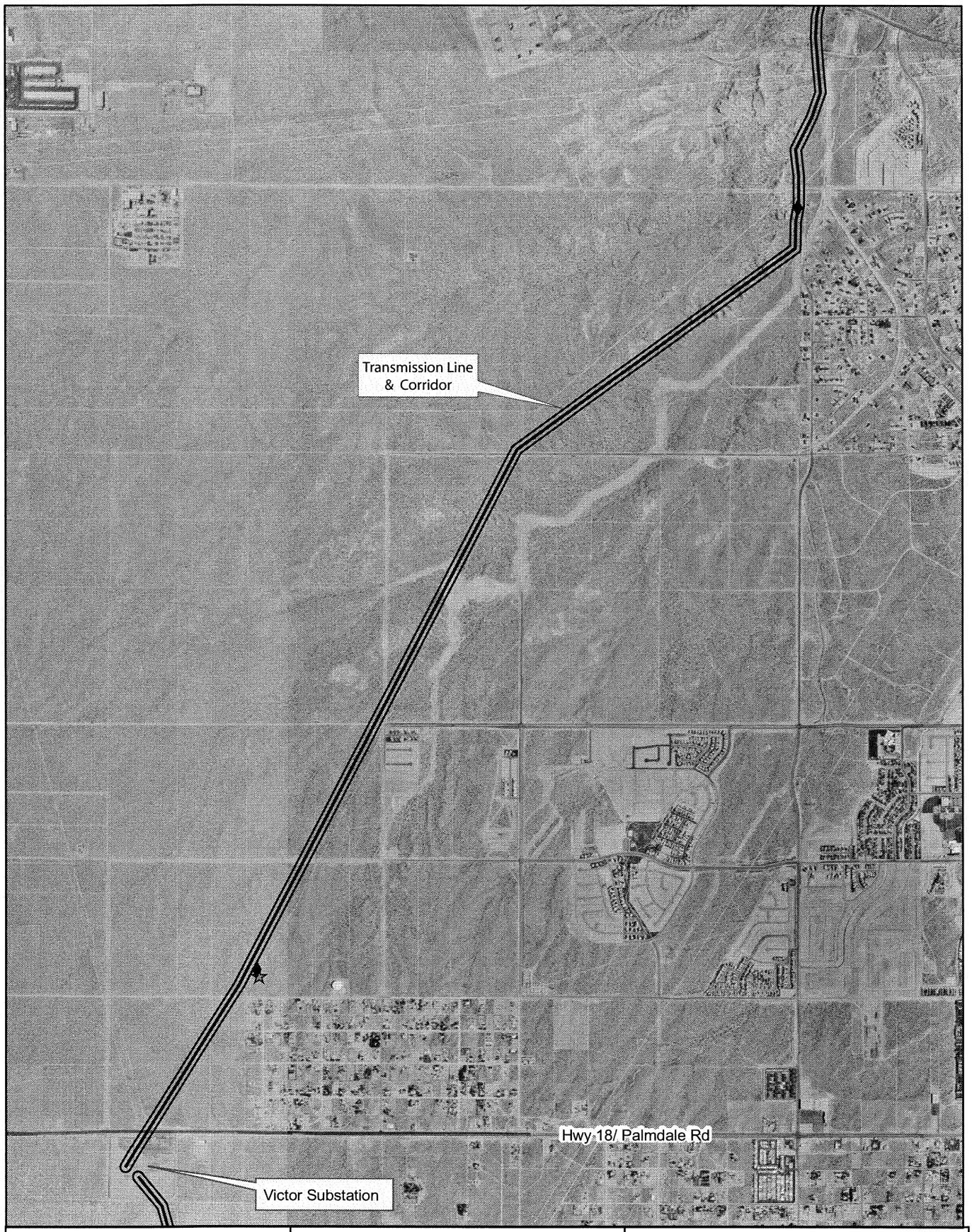

Legend

- Live burrowing owl
- Burrowing owl burrow

Victorville 2 Hybrid Power Project

Burrowing Owl Sign &
Potential Burrows Observed
Segment 2
Map 11- Sheet 3 of 5

0 700 1,400 2,800 4,200 5,600
Feet

Map Notes

Base Data:
ENSR-transmission, power plant & "laydown" areas
Projection: NAD 83
Path: S:\active projects\Victorville 2 Power Plant
6554000228\graphics\final
Date: 02/09/07

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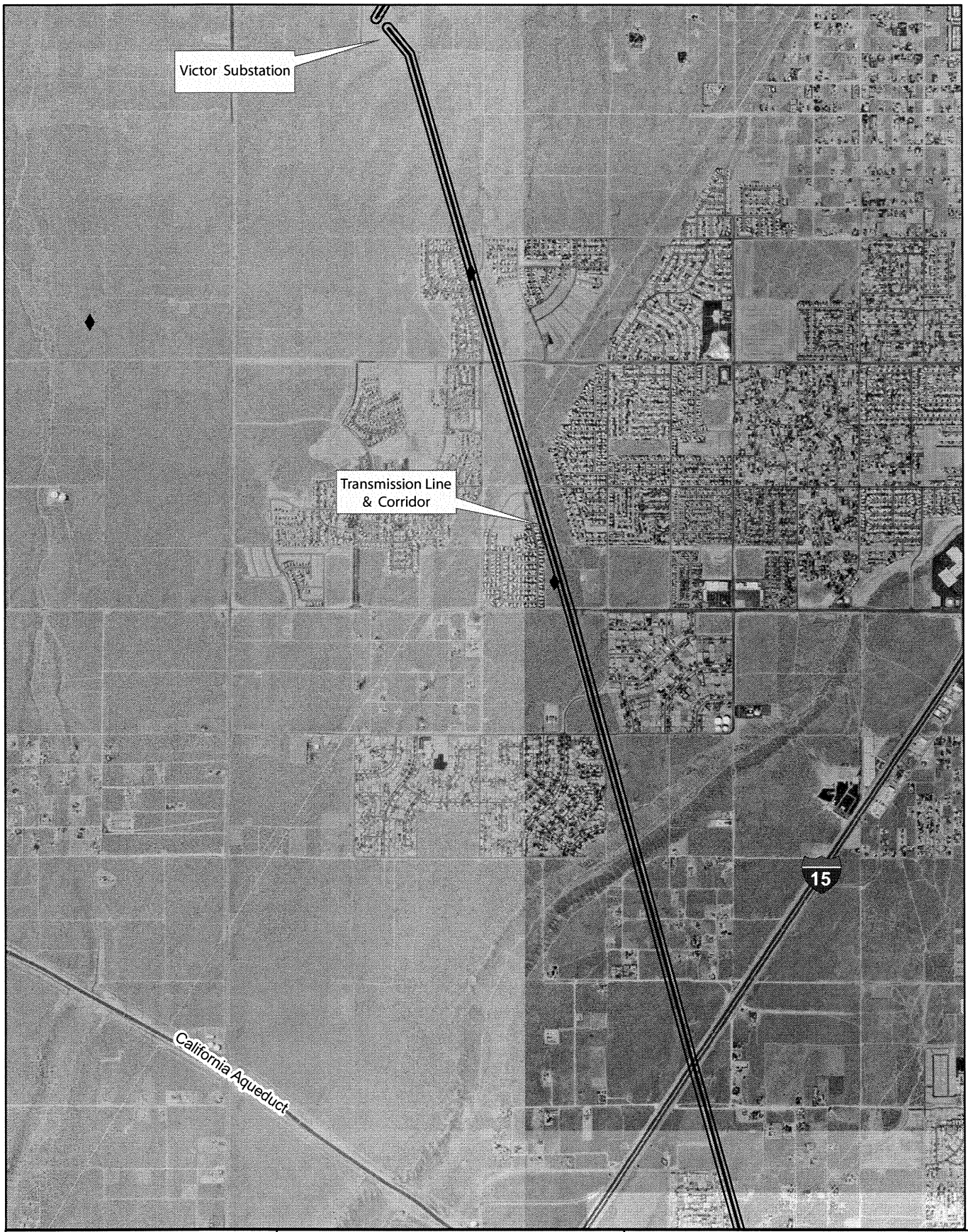


Legend

♦ Burrowing owl burrow

Victorville 2 Hybrid Power Project

Burrowing Owl Sign & Potential Burrows Observed
Upper Segment 3
Map 11- Sheet 4 of 5

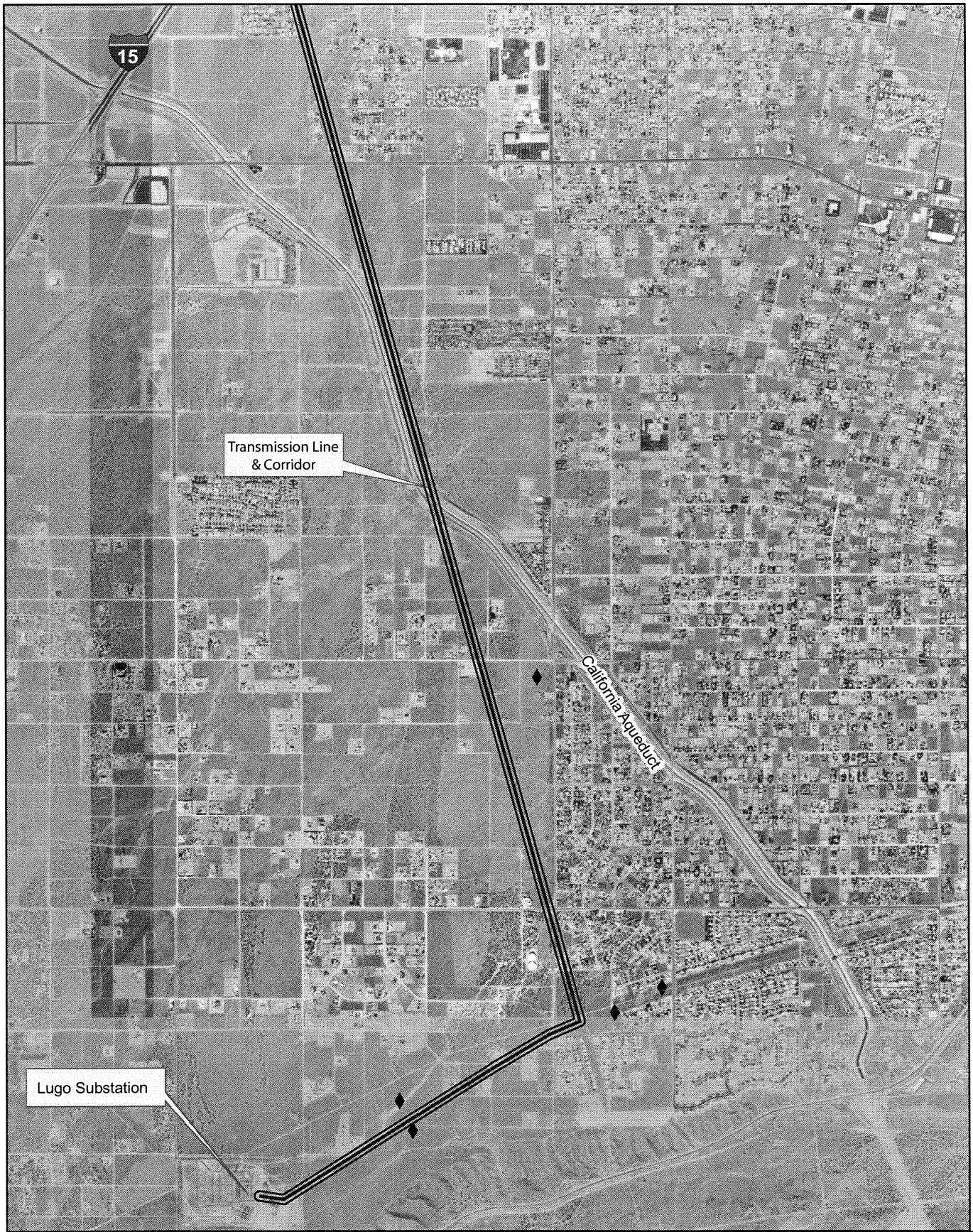
0 800 1,600 3,200 4,800 6,400 Feet

Map Notes

Base Data:
ENSR-transmission, power plant & "laydown" areas
Projection: NAD 83
Path: S:\active projects\Victorville 2 Power Plant 6554000228\graphics\final
Date: 02/09/07

N

amec



Legend

♦ Burrowing owl burrow

Victorville 2 Hybrid Power Project

Burrowing Owl Sign & Potential Burrows Observed

Lower Segment 3

Map 11- Sheet 5 of 5

0 800 1,600 3,200 4,800 6,400 Feet

Map Notes

Base Data:
ENSR-transmission, power plant & "laydown" areas
Projection: NAD 83
Path: S:\active projects\Victorville 2 Power Plant 6554000228\graphics\final
Date: 02/09/07

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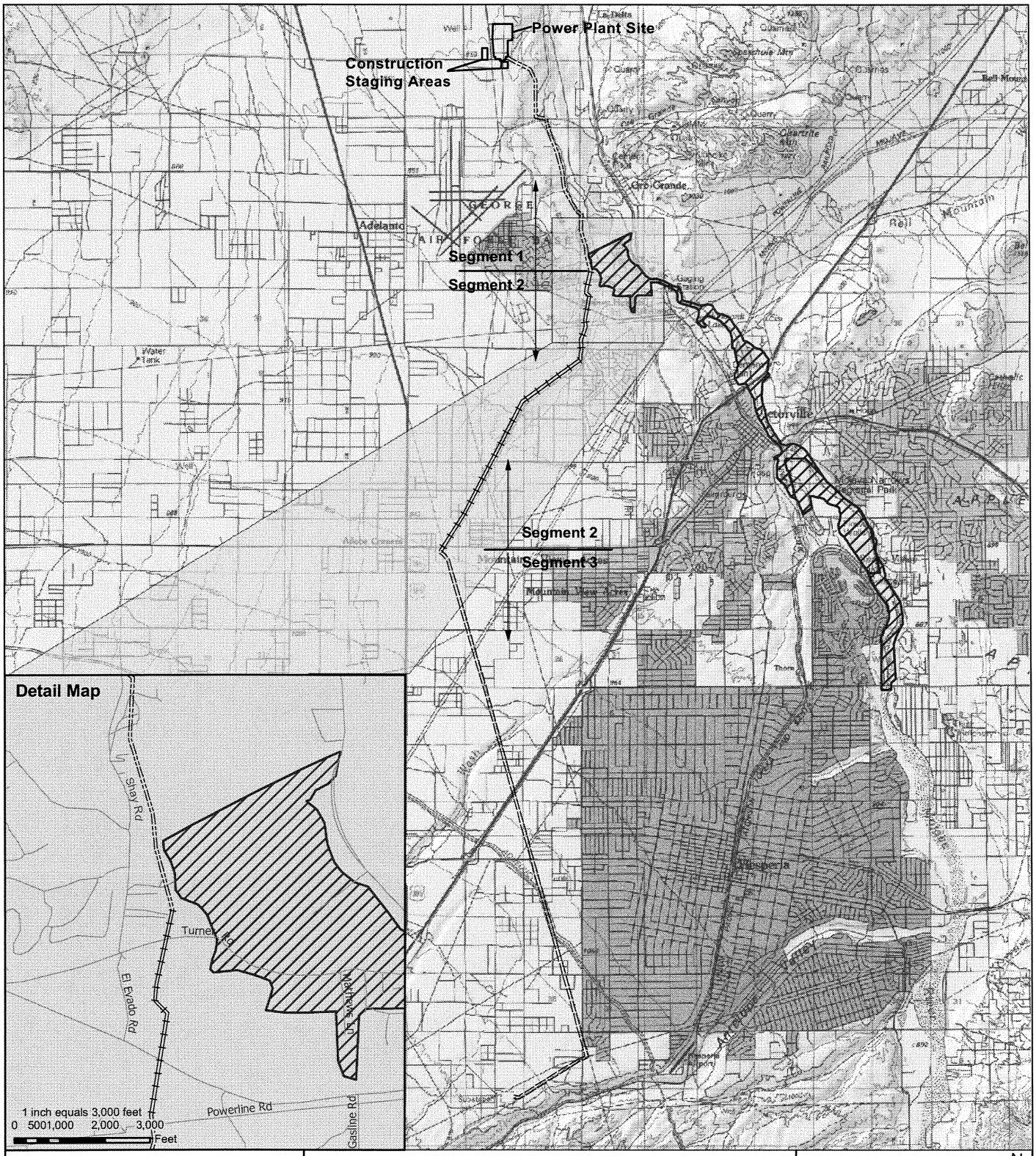

Legend

Transmission Line

- Segment 1
- Segment 2
- Segment 3
- Critical habitat for southwestern willow flycatcher

Victorville 2 Hybrid Power Project
Designated Critcal Habitat for Southwestern Willow Flycatcher

Map 12- Sheet 1 of 1

0 3,000 6,000 12,000 18,000 24,000 Feet

Map Notes

Base Data:
ENSR - Transmission Line
USFW - Critical Habitat (2005)
Projection: State Plane (Zone 5), NAD83, Feet
Path: w:\sd06\biology\victorville_wetland\mxd\ch_swwf.mxd
Date: 02\09\2007

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APPENDIX 2

Victorville 2 Hybrid Power Project

REPRESENTATIVE SITE PHOTOS FOR THE VICTORVILLE 2 HYBRID POWER PROJECT

Victorville 2 Hybrid Power Project: Representative Photos

Figure 1. Representative Mojave Creosote Bush Scrub vegetation community present on power plant site.

Figure 2. Representative Mojave Creosote Bush Scrub vegetation community present on power plant site.

Victorville 2 Hybrid Power Project: Representative Photos

Figure 3. Habitat typical of west construction staging area. View facing northwest.

Figure 4. Habitat typical of south construction staging area. View facing southeast.

Victorville 2 Hybrid Power Project: Representative Photos

Figure 5. Representative Mojave Creosote Bush Scrub vegetation community along Segment 1. View facing south.

Figure 6. Representative Mojave Creosote Bush Scrub vegetation community present along Segment 1. View facing south; VVWRA facility in background to left, SCLA in distant background on horizon.

Victorville 2 Hybrid Power Project: Representative Photos

Figure 7. Representative Mojave Creosote Bush Scrub vegetation community present along Segment 2 with in drainage 5. View facing north.

Figure 8. Representative Mojave Creosote Bush Scrub vegetation community present along Segment 2.

Victorville 2 Hybrid Power Project: Representative Photos

Figure 9. Representative Mojave Creosote Bush Scrub & Mojavean Juniper Woodland & Scrub vegetation community present along Segment 3. View facing north.

Figure 10. Representative Mojave Creosote Bush Scrub vegetation community and jurisdictional drainage present along segment 3. View facing north.

Victorville 2 Hybrid Power Project: Representative Photos

Figure 11. Representative example of onsite jurisdictional area (Drainage #9) with in Segment 1.

Figure 12. Representative example of onsite jurisdictional area (Drainage #6) with in Segment 1.

Victorville 2 Hybrid Power Project: Representative Photos

Figure 13. Representative example of onsite jurisdictional area (Drainage #4) with in Segment 2. View facing east.

Figure 14. Representative example of onsite jurisdictional area (Drainage #1) with in Segment 2. View facing west.

Victorville 2 Hybrid Power Project: Representative Photos

Figure 15**.** Representative example of onsite jurisdictional area (Drainage #2) with in Segment 3. View facing west.

Figure 16**.** Representative example of onsite jurisdictional area (Oro Granda wash) with in Segment 3. View facing east.

Victorville 2 Hybrid Power Project: Representative Photos

Figure 17. Adult Desert Tortoise on power plant site. View facing north.

Figure 18. Close-up of Desert Tortoise above.

Victorville 2 Hybrid Power Project: Representative Photos

Figure 19. Adult Desert Tortoise in burrow entrance located adjacent to a portion of Segment 1 reclaimed water line.

Figure 20. Adult Desert Tortoise carcass observed along north end of Segment 1.

Victorville 2 Hybrid Power Project: Representative Photos

Figure 21. Representative adult Desert Tortoise burrow located within Segment 1.

Figure 22. Desert Tortoise rock shelter present within ZOI of Segment 1, Tortoise scat present on apron. View facing east.

Victorville 2 Hybrid Power Project: Representative Photos

Figure 23. Representative Kit Fox burrow.

Figure 24. Representative Kit Fox colony.

Victorville 2 Hybrid Power Project: Representative Photos

Figure 25. Carcass of Burrowing Owl observed on Segment 1.

Figure 26. Representative Burrowing Owl burrow located within 100' of north edge of power plant site.

Victorville 2 Hybrid Power Project: Representative Photos

Figure 28. Representative Burrowing Owl burrow located within ZOI of western construction staging area.

Figure 29. Close-up view of Burrowing Owl burrow above. Whitewash and pellets evident.

APPENDIX 3

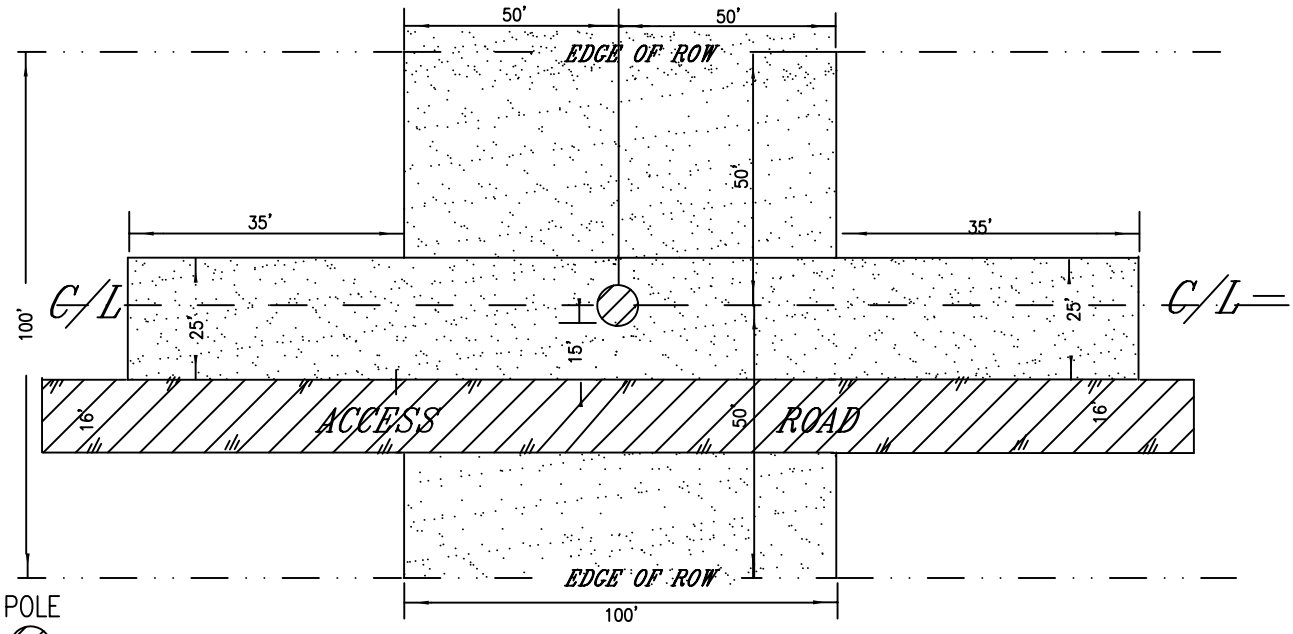
Victorville 2 Hybrid Power Project

ELECTRICAL TRANSMISSION LINE TOWER DISTURBANCE DRAWINGS AND FIGURES

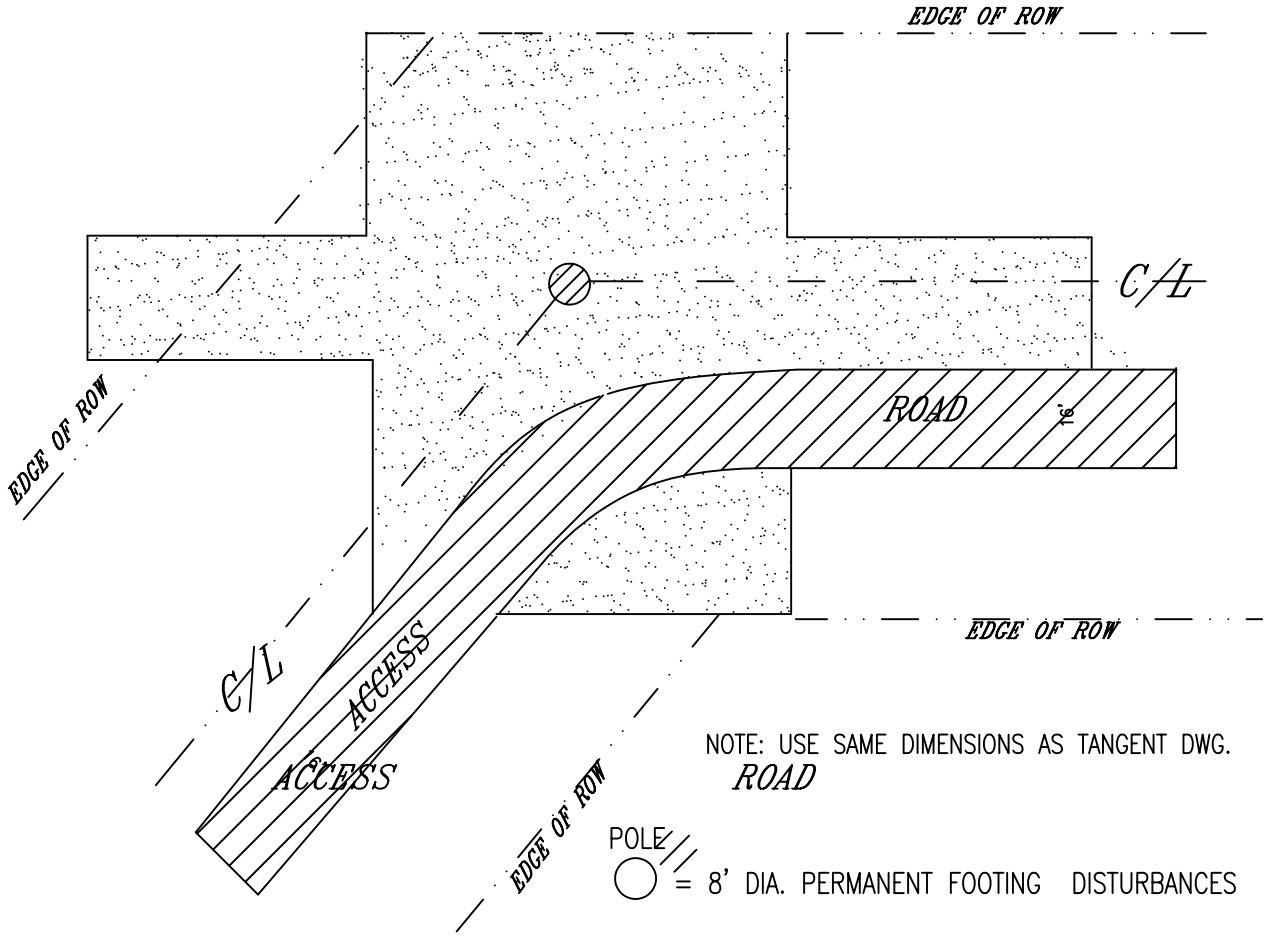
PLAN VIEW

VICTOR–VICTORVILLE NO. 2 220KV

TYPICAL TANGENT POLE DISTURBANCES



TYPICAL DISTURBANCES AT ANGLE POINTS

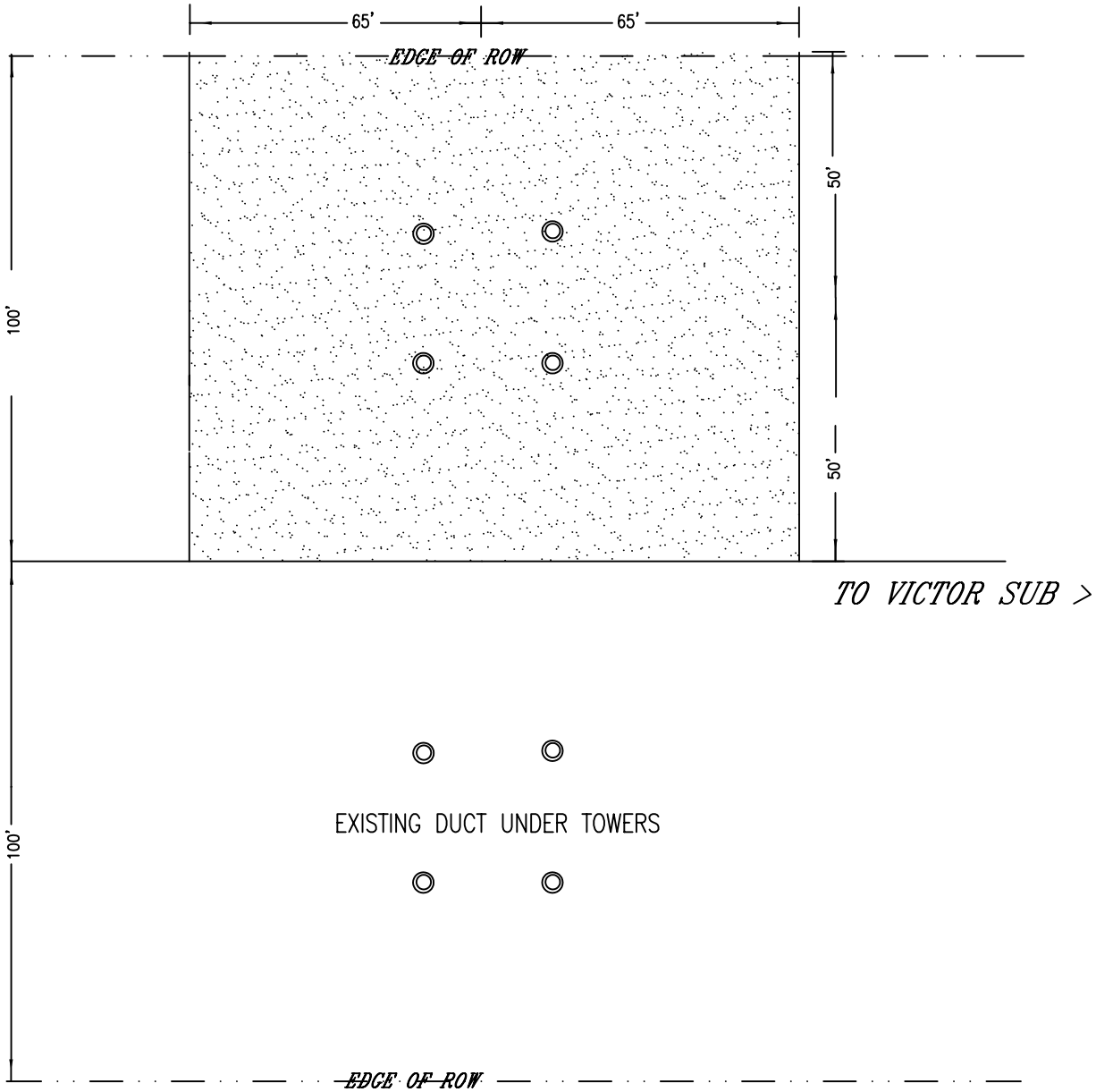


PLAN VIEW

VV2 T– VICTOR 220KV
SEGMENT 2

TYPICAL TOWER DISTURBANCES

DUCT UNDER TOWERS



PERMANENT DISTURBANCES
FOOTINGS ONLY

= PROPOSED TOWER FOOTPRINT (4 FOOTINGS) X 3' DIA. = 12' X PR² = 114 SQ FT OF TOTAL DISTURBANCE PER TOWER X 3 NEW TWRS = 684 SQ. FT. OR NEGLIGIBLE ACREAGE OF PERMANENT DISTURBANCES

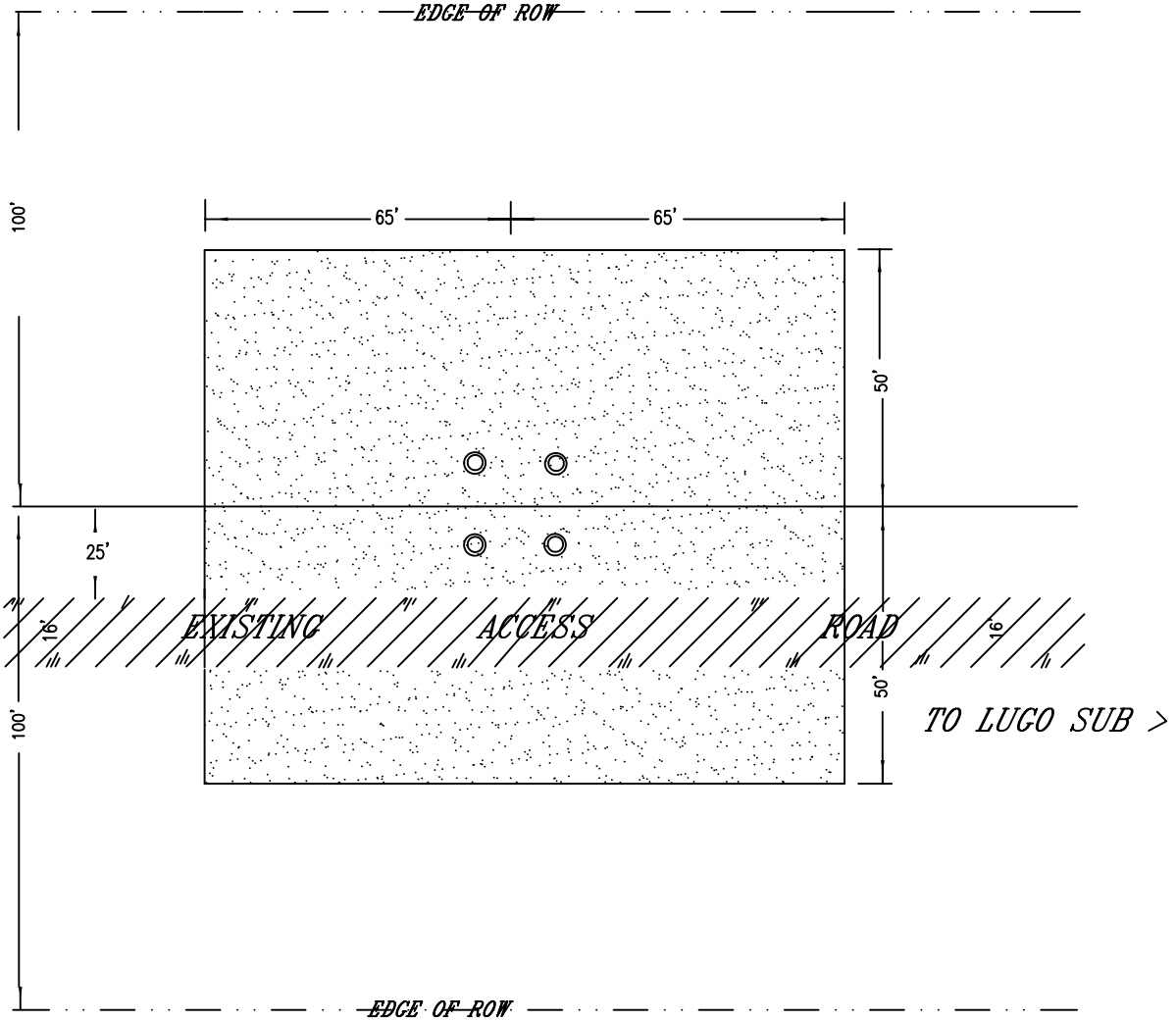
TEMPORARY DISTURBANCES

PLAN VIEW

VICTOR–LUGO NO. 3 220KV
SEGMENT 3

TYPICAL TOWER DISTURBANCES

VICTOR ROW TO LUGO SUB



PERMANENT DISTURBANCES FOOTINGS ONLY

= PROPOSED TOWER FOOTPRINT (4 FOOTINGS) X 3' DIA. = 12' X PR² =
114 SQ FT OF TOTAL DISTURBANCE PER TOWER X 14 NEW TWRS = 1596
SQ. FT. OR .3 ACRE OF PERMANENT DISTURBANCES

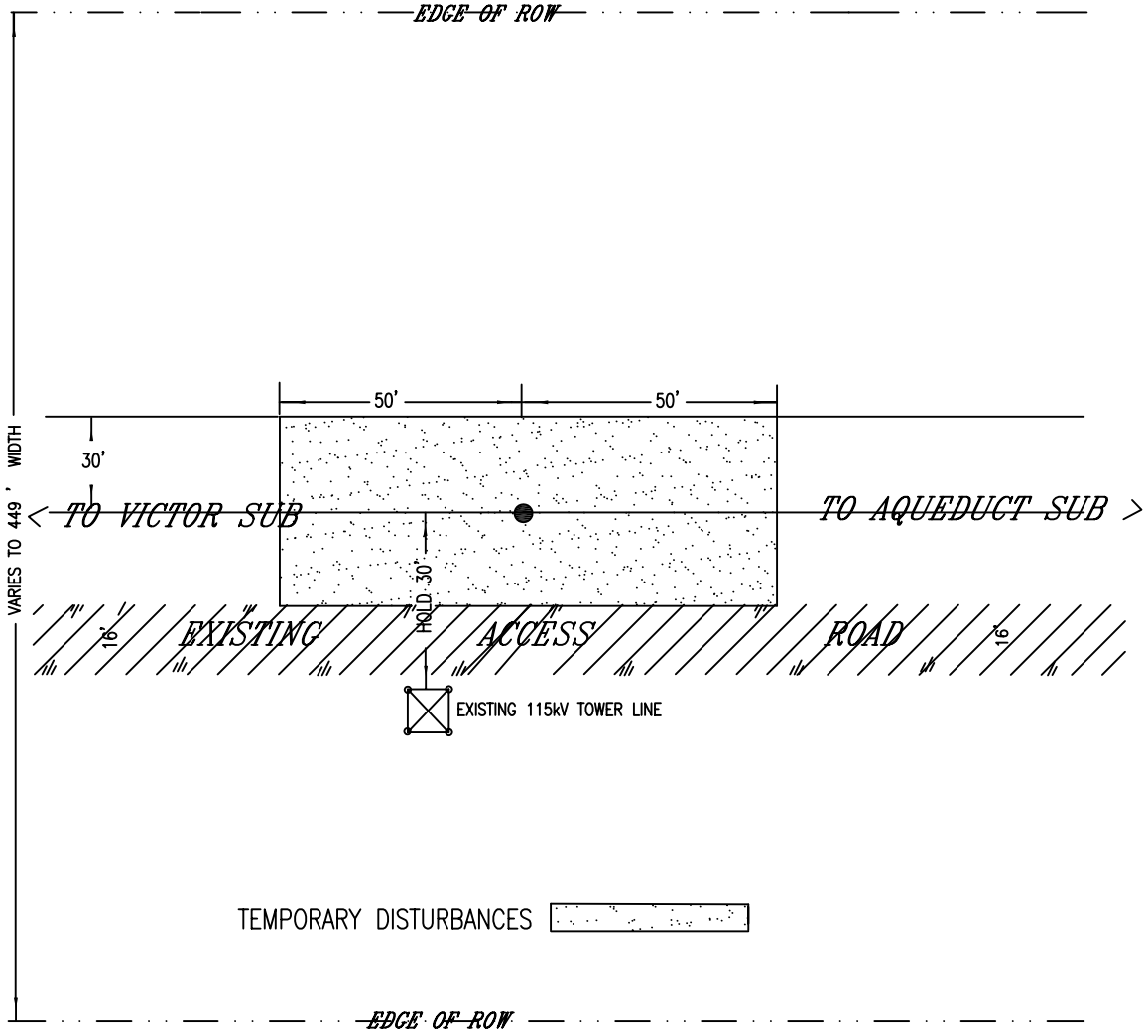
TEMPORARY DISTURBANCES

PLAN VIEW

PROPOSED RELOCATION
VICTOR–AQUEDUCT–PHELAN 115KV T/L
SEGMENT 3

TYPICAL POLE DISTURBANCES

VICTOR SUB SOUTH AQUEDUCT SUB



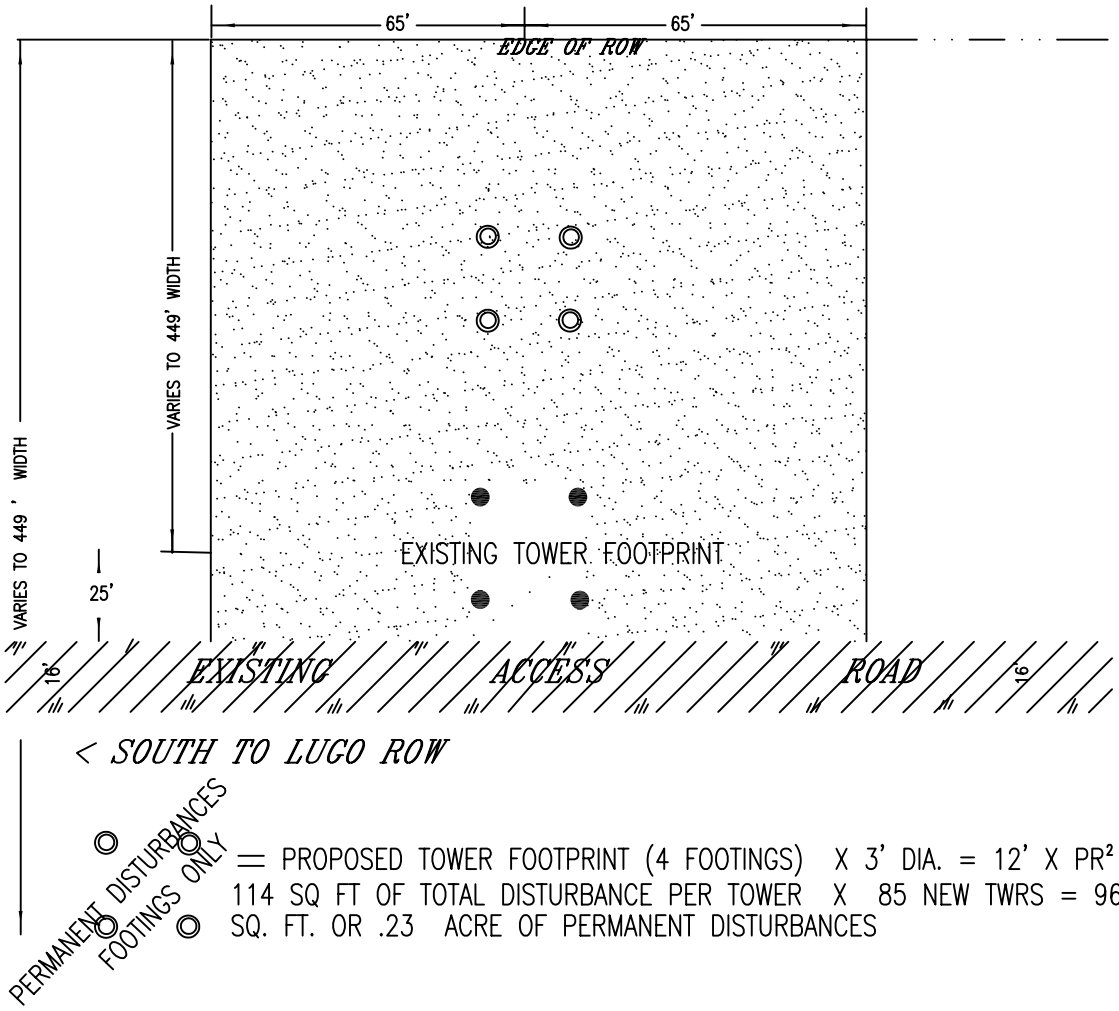
● = PROPOSED POLE FOOTPRINT 2' DIA. X PR^2 = 6.3 SQ FT./POLE
X 21 POLES/MILE X 6.6 MILES = 875 SQ. FT. OF DISTURBANCE
SQ. OR .02 ACRE OF PERMANENT DISTURBANCES

PLAN VIEW

VICTOR–LUGO NO. 3 220KV
SEGMENT 3

TYPICAL TOWER DISTURBANCES

S/O VICTOR TO LUGO ROW



= PROPOSED TOWER FOOTPRINT (4 FOOTINGS) X 3' DIA. = 12' X PR² = 114 SQ FT OF TOTAL DISTURBANCE PER TOWER X 85 NEW TWRS = 9690 SQ. FT. OR .23 ACRE OF PERMANENT DISTURBANCES

TEMPORARY DISTURBANCES

APPENDIX 4

Victorville 2 Hybrid Power Project

OBSERVED PLANT SPECIES LIST FOR THE VICTORVILLE 2 HYBRID POWER PROJECT

APPENDIX 4

Vascular Plants Observed on Victorville 2 Hybrid Power Project, City of Victorville, San Bernardino County, California

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This list reports only the plants observed on this site by this study. Other species may have been overlooked or undetectable due to their growing/activity season. Plants were identified from keys, descriptions and drawings in Hickman (ed.) 1993, and Munz 1974. Some specimens were identified or confirmed by Andrew C. Sanders (UC Riverside Herbarium). Unless noted otherwise, nomenclature and systematics follows Hickman (ed.) 1993.

SYMBOLS AND ABBREVIATIONS:

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*	Non-native (introduced) species.
**	Sensitive species (see text).
cf.	Uncertain identification, but plant specimen "compares favorably" to named species (from Latin *confer*: compare [with]).
sp.	Identified only to genus; species unknown (plural = spp.).

CONIFERAE	CONE BEARING PLANTS
GNETAE	JOINT FIRS
Cupressaceae *Juniperus californica*	**Cypress Family** California juniper
Ephedraceae *Ephedra nevadensis*	**Ephedra Family** Nevada joint fir
ANGIOSPERMAE DICOTYLEDONEAE	DICOT FLOWERING PLANTS
Amaranthaceae *Amaranthus* sp.	**Amaranth Family** Identified to genus only
Apiaceae *Lomatium mohavense*	**Carrot Family** Mojave lomatium
Asteraceae	**Sunflower Family**

Acamptopappus sphaerocephalus	rayless goldenhead
Ambrosia acanthicarpa	burweed
Ambrosia dumosa	burrobush
Artemisia tridentate	big sagebrush
Aster subulatus	No common name
Brickellia cf. desertorum	No common name
Chaenactis fremontii	desert pincushion
Chrysothamnus nauseosus	rabbitbrush
Conyza canadensis	horseweed
Ericameria cooperi	Cooper's goldenbush
Ericameria linearifolia	interior goldenbush
Eriophyllum wallacei	Wallace's woolly daisy
Filago sp.	Identified to genus only
* *Gnaphalium luteoalbum*	No common name
Gutierrezia sp.	Identified to genus only
Helianthus annus	annual sunflower
Heterotheca grandiflora	telegraph weed
Hymenoclea salsola	cheesebush
* *Lactuca serriola*	Prickly Lettuce
Lessingia lemmonii	No common name
Malacothrix glabrata	desert dandelion
Senecio flaccidus	No common name
* *Sonchus oleraceus*	common sow thistle
Stephanomeria exigua	No common name
Tetradymia stenolepis	Mojave cottonthorn
Tetradymia cf. spinosa or *axillaris*	Identified to genus, uncertain species
Bignoniaceae	**Bignonia Family**
Chilopsis linearis	desert willow
Boraginaceae	**Borage Family**
Amsinckia tessellata	checkered fiddleneck
Cryptantha micrantha var. *micrantha*	purple-root cryptantha
Cryptantha pterocarya	wingnut cryptantha
Pectocarya linearis	pectocarya
Pectocarya penicillata	sleeping combseed
Pectocarya platycarpa	broadfruit combseed
Brassicaceae	**Mustard Family**
**Brassica tournifortii*	Sahara mustard
Descurainia pinnata	tansy mustard
**Hirschfeldia incana*	short-pod mustard
**Sisymbrium altissimum*	tumble mustard
Streptanthella longirostris	longbeak streptanthella

Cactaceae	**Cactus Family**
Opuntia basilaris	beavertail cactus
Opuntia echinocarpa	silver cholla
**Opuntia ficus-indica*	Indian fig
Opuntia ramossissima	pencil cholla
Caryophyllaceae	**Pink Family**
Loeflingia squarrosa	No common name
Chenopodiaceae	**Goosefoot Family**
Atriplex canescens	four-winged saltbush
Atriplex confertifolia	shadscale
Atriplex polycarpa	all scale
**Atriplex semibaccata*	Australian saltbush
Atriplex spinifera	spine scale
Krascheninnikovia lanata	winter fat
**Salsola tragus*	Russian thistle
Cusctaceae	**Dodder Family**
Cuscuta denticulata	dodder
Euphorbiaceae	**Spurge Family**
Chamaesyce albomarginata	rattlesnake spurge
Croton californica	California croton
Eremocarpus setigerus	dove weed
Stillingia linearifolia	narrow-leaved stillingia
Fabaceae	**Pea Family**
Astragalus lentiginosus var. *fremontii*	freckled milkvetch
Lotus scoparius	California broom
Geraniaceae	**Geranium Family**
**Erodium cicutarium*	red-stemmed filaree
Hydrophyllaceae	**Waterleaf Family**
Eriodictyon trichocalyx	No common name
Nama demissum	desert nama
Lamiaceae	**Mint Family**
**Marrubium vulgare*	horehound
Salazaria mexicana	paperbag bush
Salvia carduacea	thistle-sage
Salvia columbariae	chia
Salvia dorrii	desert sage, purple sage

Loasaceae	**Loasa Family**
Petalonyx thurberi	sandpaper plant
Malvaceae	**Mallow Family**
Eremalche exilis	white mallow
Nyctaginaceae	**Four O' Clock Family**
Abronia pognantha	Mojave sand verbena
Abronia villosa	desert sand verbena
Mirabilis bigelovii	wishbone bush
Onagraceae	**Evening Primrose Family**
Camissonia boothii ssp. *desertorum*	desert sun cup
Camissonia brevipes	yellow cups
Camissonia campestris	Mojave sun cup
Camissonia claviformis	brown-eyed primrose
Camissonia pallida	white evening primrose
Oenothera deltoides	devil's lantern
Oenothera primaveris	desert evening primrose
Papaveraceae	**Poppy Family**
Dendromecon rigida	bush poppy
Eschscholtzia minutiflora	little gold poppy
Polemoniaceae	**Phlox Family**
Eriastrum sapphirinum	sapphire woollystar
Loeseliastrum matthewsii	desert calico
Polygonaceae	**Buckwheat Family**
Chorizanthe brevicornu	brittle spineflower
Chorizanthe thurberi	Thurber's spineflower
Eriogonum convilleanum	No common name
Eriogonum davidsonii	No common name
Eriogonum fasciculatum	California buckwheat
Eriogomun inflatum	desert trumpet
Eriogonum plumatella	flat-topped buckwheat
Rumex hymenosepalus	wild-rhubarb
Rhamnaceae	**Buckthorn Family**
Rhamnus ilicifolia	holly-leaf redberry
Rosaceae	**Rose Family**
Prunus fasciculata	desert almond
Salicaceae	**Willow Family**

Populus fremontii	Fremont cottonwood
Salix exigua	narrow-leaved willow
Scrophulariaceae	**Figwort Family**
Castilleja sp.	Identified to genus only
Solanaceae	**Nightshade Family**
Datura wrightii	Jimson weed
Lycium andersonii	Anderson desert-thorn
Lycium cooperi	peach-thorn
* *Nicotiana glauca*	tree tobacco
Solanum sp.	Identified to genus only
Tamaricaceae	**Tamarix Family**
**Tamarix ramosissima*	salt cedar, tamarix
Ulmaceae	**Elm Family**
**Ulmus pumila*	Siberian elm
Viscaceae	**Mistletoe Family**
Phoradendron densum	dense mistletoe
Zygophyllaceae	**Caltrop Family**
Larrea tridentata	creosote bush
MONOCOTYLEDONEAE	**MONOCOT FLOWERING PLANTS**
Liliaceae	**Lily Family**
Yucca brevifolia	Joshua tree
Poaceae	**Grass Family**
Achnatherum hymenoides	Indian ricegrass
Achnatherum speciosum	desert needlegrass
**Bromus diandrus*	rip-cut grass
**Bromus madritensis* var. *rubens*	red brome
**Bromus tectorum*	cheat grass
**Cynodon dactylon*	Bermuda grass
Elymus elmoides	squirreltail
**Schismus barbatus*	Mediterranean schismus

APPENDIX 5

Victorville 2 Hybrid Power Project

OBSERVED VERTEBRATE SPECIES LIST FOR THE VICTORVILLE 2 HYBRID POWER PROJECT

APPENDIX 5

Vertebrates Observed on Victorville 2 Hybrid Power Project,
City of Victorville, San Bernardino County, California

This list reports only plants and animals observed on or adjacent to the site while conducting field activities (i.e., surveys and monitoring) for this Project. Other species may have been overlooked or undetectable due to their activity season.

Nomenclature and taxonomy for fauna observed on site follows Stebbins (1985) and Collins (1990) for herpetofauna, American Ornithologists' Union Checklist (1983 and supplements) for avifauna, and Laudenslayer *et al.* (1991) for mammals.

SYMBOLS AND ABBREVIATIONS:

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* Non-native (introduced) species.
** Sensitive species (see text).
cf. Uncertain identification, but plant specimen "compares favorably" to named species (from Latin *confer*: compare [with]).
sp. Identified only to genus; species unknown (plural = spp.).

HERPETOFAUNA	REPTILES & AMPHIBIANS
TESTUDINES	**TURTLES**
Testudinidae	**Land Tortoises**
***Gopherus agassizii*	desert tortoise
SQUAMATA	**LIZARDS & SNAKES**
Crotaphytidae	**Collared and Leopard Lizards**
Crotaphytus wislizenii	long-nosed leopard lizard
Iguanidae	**Iguanids**
Sceloporus magister	desert spiny lizard
Sceloporus occidentalis	western fence lizard
Uta stansburiana	side-blotched lizard
Phrynosomatidae	**Spiny Lizards & Relatives**
Callisaurus draconoides	zebra-tailed lizard

Phrynosoma platyrhinos	desert horned Lizard
Teiidae	**Whiptails & Racerunners**
Aspidoscelis (Cnemidophorus) tigris tigris	Great Basin whiptail
Xantusiidae	**Night Lizards**
Xantusia vigilis	Yucca night lizard
Coluberidae	**Colubrids**
Arizona elegans	glossy snake
Masticophis flagellum piceus	coachwhip
Pituophis catenifer deserticola	Great Basin gopher snake
Viperidae	**Vipers**
Crotalus cerastes	sidewinder
Crotalus scutulatus	Mojave rattlesnake
AVIFAUNA	BIRDS
Anatidae	**Swans, Geese, and Ducks**
Aix sponsa	wood duck
Anas strepera	gadwall
Anas americana	American wigeon
Anas platyrhynchos	mallard
Anas cyanoptera	cinnamon teal
Anas clypeata	northern shoveler
Anas crecca	green-winged teal
Aythya americana	redhead
Aythya collaris	ring-necked duck
Aythya affinis	lesser scaup
Bucephala albeola	bufflehead
Oxyura jamaicensis	ruddy duck
Odontophoridae	**New World Quail**
Callipepla californica	California quail
Podicipedidae	**Grebes**
Podilymbus podiceps	pied-billed grebe
Podiceps nigricollis	eared grebe
Ardeidae	**Herons and Egrets**
Ardea alba	great egret
Cathartidae	**Vultures**

Cathartes aura	turkey vulture
Accipitridae	**Hawks, Old World Vultures, Harriers**
****Pandion haliaetus**	osprey
****Circus cyaneus**	northern harrier
Buteo jamaicenisis	red-tailed hawk
****Buteo swainsoni**	Swainson's hawk
****Haliaeetus leucocephalus**	bald eagle
Accipiter striatus	sharp-shinned hawk
****Accipter cooperii**	Cooper's hawk
Falconidae	**Caracaras and Falcons**
****Falco mexicanus**	prairie falcon
Falco sparverius	American kestrel
Rallidae	**Rails, Gallinules, and Coots**
Fulica americana	American coot
Charadriidae	**Plovers and Relatives**
Charadrius vociferus	killdeer
Recurvirostridae	**Stilts and Avocets**
Himantopus mexicanus	black-necked stilt
Scolopacidae	**Sandpipers**
Tringa melanoleuca	greater yellowlegs
Actitis macularius	spotted sandpiper
Calidris mauri	western sandpiper
Calidris minutilla	least sandpiper
Laridae	**Skuas, Gulls, Terns, and Skimmers**
Larus delawarensis	ring-billed gull
Larus californicus	California gull
Columbidae	**Pigeons and Doves**
Columba livia	rock pigeon
Zenaida macroura	mourning dove
Cuculidae	**Cuckoos, Roadrunners, and Anis**
Geococcyx californianus	greater roadrunner
Strigidae	**Typical Owls**
****Athene cunicularia**	burrowing owl

Tytonidae	**Barn Owls**
Tyto alba	barn owl
Caprimulgidae	**Goatsuckers**
Chordeiles acutipennis	lesser nighthawk
Apodidae	**Swifts**
***Chaetura vauxi*	Vaux's swift
Aeronautes saxatalis	white-throated swift
Trochilidae	**Hummingbirds**
Archilochus alexandri	black-chinned hummingbird
Calypte anna	Anna's hummingbird
***Calypte costae*	Costa's hummingbird
***Selasphorus rufus*	rufous hummingbird
Picidae	**Woodpeckers and Allies**
***Picoides nuttallii*	Nuttall's woodpecker
Picoides pubescens	downy woodpecker
Picoides scalaris	ladder-backed woodpecker
Colaptes auratus	Northern Flicker
Tyrannidae	**Tyrant Flycatchers**
Contopus sordidulus	western wood-pewee
Empidonax hammondii	Hammond's flycatcher
Empidonax difficilis/occidentalis	"western" flycatcher
Sayornis nigricans	black phoebe
Sayornis saya	Say's phoebe
Myiarchus cinerascens	ash-throated flycatcher
Tyrannus vociferans	Cassin's kingbird
Tyrannus verticalis	western kingbird
Laniidae	**Shrikes**
***Lanius ludovicianus*	loggerhead shrike
Corvidae	**Jays, Magpies, and Crows**
Corvus corax	common raven
Alaudidae	**Larks**
Eremophila alpestris	horned lark
Hirundinidae	**Swallows**
Hirundo rustica	barn swallow
Petrochelidon pyrrhonota	cliff swallow
Stelgidopteryx serripennis	northern rough-winged swallow

Tachycineta bicolor	tree swallow
Tachycineta thalassina	violet-green swallow
Remizidae	**Verdin**
Auriparus flaviceps	verdin
Aegithalidae	**Long-tailed Tits and Bushtits**
Psaltriparus minimus	bushtit
Troglodytidae	**Wrens**
Campylorhynchus brunneicapillus	cactus wren
Thryomanes bewickii	Bewick's wren
Troglodytes aedon	house wren
Regulidae	**Kinglets**
Regulus calendula	ruby-crowned kinglet
Sylviidae	**Old World Warblers and Gnatcatchers**
Polioptila caerulea	blue-gray gnatcatcher
Turdidae	**Solitaires, Thrushes, and Allies**
Sialia mexicana	western bluebird
Catharus guttatus	hermit thrush
Mimidae	**Mockingbirds and Thrashers**
Mimus polyglottos	northern mockingbird
Oreoscoptes montanus	sage thrasher
** *Toxostoma lecontei*	Le Conte's thrasher
** *Toxostoma redivivum*	California thrasher
Sturnidae	**Starlings**
Sturnus vulgaris	European starling
Motacillidae	**Wagtails and Pipits**
Anthus rubescens	American pipit
Ptilogonatidae	**Silky-flycatchers**
Phainopepla nitens	phainopepla
Parulidae	**Wood-Warblers**
Vermivora celata	orange-crowned warbler
Dendroica coronata	yellow-rumped warbler
Dendroica nigrescens	black-throated gray warbler
** *Dendroica occidentalis*	hermit warbler
Geothlypis trichas	common yellowthroat

Wilsonia pusillla	Wilson's warbler
Thraupidae	**Tanagers**
Piranga ludoviciana	western tanager
Emberizidae	**Emberizines**
****Spizella passerina**	chipping sparrow
Chondestes grammacus	lark sparrow
****Spizella breweri**	Brewer's sparrow
Amphispiza belli	sage sparrow
Amphispiza bilineata	black-throated sparrow
Passerculus sandwichensis	savannah sparrow
Melospiza melodia	song sparrow
Zonotrichia leucophrys	white-crowned sparrow
*Zonotrichia atricapilla**	golden-crowned sparrow
Icteridae	**Blackbirds and Allies**
Agelaius phoeniceus	red-winged blackbird
Sturnella neglecta	western meadowlark
Euphagus cyanocephalus	Brewer's blackbird
Molothrus ater	brown-headed cowbird
Icterus bullockii	Bullock's oriole
Fringillidae	**Fringilline and Cardueline Finches**
Carpodacus mexicanus	house finch
Carduelis psaltria	lesser goldfinch
****Carduelis lawrencei**	Lawrence's goldfinch
Carduelis tristis	American goldfinch
Passeridae	**Old World Sparrows**
Passer domesticus	house sparrow
MAMMALS	
Leporidae	**Rabbits and Hares**
Lepus californicus	black-tailed jackrabbit
Sylvilagus audubonii	Audubon's cottontail
Sciuridae	**Squirrels**
Ammospermophilus leucurus	white-tailed antelope squirrel
Geomyidae	**Pocket Gophers**
Thomomys bottae	Botta's pocket gopher
Heteromyidae	**Hereromyid Rodents**

Perogmathus longimembris	little pocket mouse
Dipodomys merriami	Merriam's kangaroo rat
Dipodomys panamintinus	Panamint kangaroo rat
Muridae	**Rats, Mice, and Voles**
Neotoma lepida	desert woodrat
Onychomys torridus ramona	southern grasshopper mouse
Canidae	**Foxes, Wolves, Coyotes**
Canis latrans	coyote
Vulpes macrotis	kit fox