Draft
Environmental Impact Report

SCH# 2022110504

Volume 5

Appendices F.3 through L

BULLHEAD SOLAR PROJECT
by EDF Renewables, LLC *(PP22404)*

GPA No. 8, Map No. 214; CUP No. 48, Map No. 214;
CUP No. 49, Map No. 214; Ag Exclusion Map No. 214;
SPA No. 42, Map No. 231; SPA No. 43, Map 231;
ZCC No. 158, Map No. 231; CUP No. 121, Map No. 231;
CUP No. 122, Map No. 231; Vacation Public Access Easements 03 098 232,
Map No. 232; SPA No. 35, Map No. 232;
SPA No. 36, Map No. 232; ZCC No. 36, Map No. 232;
CUP No. 49, Map No. 232; CUP No. 50, Map No. 232.

Kern County
Planning and Natural Resources Department
Bakersfield, California

November 2023

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Kern County
Planning and Natural Resources Department
Bakersfield, California

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Appendices - Volume 5

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Built Environment Technical Report

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BULLHEAD SOLAR BUILT ENVIRONMENT PHASE II TECHNICAL REPORT

PREPARED FOR:

EDF Renewables
1999 Harrison Street, Suite 675
Oakland, CA 94612

PREPARED BY:

ICF
49 Discovery, Suite 250
Irvine, CA 92618

April 2023

ICF. 2023. *Bullhead Solar Built Environment Phase II Technical Report*. April. (104036.0.002.) Prepared for: EDF Renewables, Oakland, CA.

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Acronyms and Abbreviations

AC	alternating current
BESS	battery energy storage system
BigBeau	BigBeau Solar Project
CCR	California Code of Regulations
CDF	character-defining feature
CEQA	California Environmental Quality Act
CHL	California Historical Landmark
CUP	Conditional Use Permit
DC	direct current
DPR	Department of Parks and Recreation
EDFR	EDF Renewables
gen-tie	generation-tie
HVDC	High Voltage Direct Current
kV	kilovolt
LADWP	Los Angeles Department of Water and Power
MW	megawatt
NRHP	National Register of Historic Places
PDCI	Pacific Direct Current Intertie
PG&E	Pacific Gas and Electric Company
PRC	Public Resources Code
project	Bullhead Solar Project
PV	photovoltaic
SCE	Southern California Edison
SHPO	State Historic Preservation Office
SR-	State Route
USGS	U.S. Geological Survey

Chapter 1
Introduction

1.1 Introduction

EDF Renewables (EDFR) proposes the Bullhead Solar Project (project) to develop up to 270 megawatts (MW) (alternating current) of solar photovoltaic (PV) capacity derived from tracker technology and up to 270 MW of battery storage. The project includes solar development with associated PV panels, battery storage units, inverters, converters, generators, foundations, transformers, and optional generation-tie (gen-tie) routes to the Rosamond Switching Station and the Whirlwind Substation, only one of which would be constructed. The project also includes laydown yards, a meteorological station, a microwave/communication tower, a substation, and a battery energy storage system (BESS).

The project is generally located in southern Kern County (County), central California (Figure 1-1, Project Vicinity). The land is controlled via lease or fee-simple ownership (or in final negotiations thereof) by EDFR. The project site is south of the Tehachapi Mountains on lands that gradually slope downward from the northwest to the southeast. It is approximately 52 miles southeast of the city of Bakersfield, 19 miles south of the city of Tehachapi, 8 miles northwest of the community of Rosamond, and 2 miles north of the community of Willow Springs. Other communities in the vicinity of the project site include Mojave in Kern County and the cities of Lancaster, Palmdale, and Neenach in Los Angeles County, which are roughly 12 miles northeast, 17 miles southeast, 24 miles southeast, and 18 miles southwest of the project, respectively. Edwards Air Force Base is 22 miles east of the project's eastern boundary.

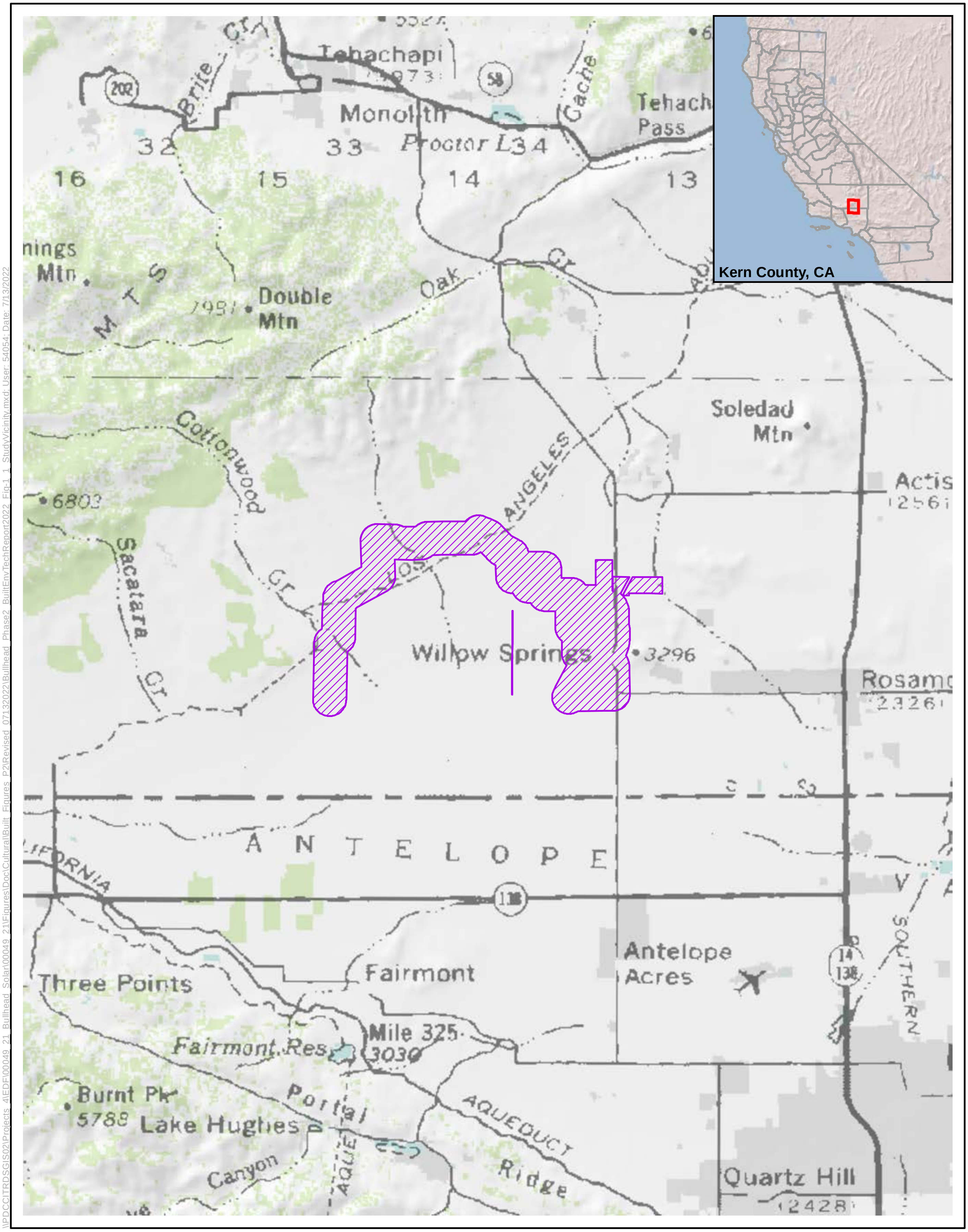
The project site is approximately 12 miles southwest of State Route (SR-) 58 and approximately 34 miles east of Interstate (I-) 5. SR-14 (Antelope Valley Freeway) is approximately 7 miles to the east of the site, and SR-138 (West Avenue D) is approximately 9 miles to the south in Los Angeles County. The project site is generally bounded by Favorito Avenue to the south, Champagne Avenue to the north, 110th Street West to the west, and 80th Street West to the east. The project site is bisected by Tehachapi Willow Springs Road.

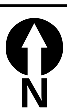
1.1.1 Purpose of the Report

This technical report supports the preparation of an environmental impact report for the project in accordance with the California Environmental Quality Act (CEQA) (California Public Resources Code [PRC] § 21000 *et. seq*., as amended) and implementing guidelines (California Code of Regulations [CCR], Title 14 § 15000 *et. seq*., 2007). In September 2021, ICF prepared a Phase I Cultural Resources Technical Report that addressed both archaeological resources and built environment resources for the project (ICF 2021). Consistent with a Phase I report, it reported the results of the reconnaissance survey and identified buildings and structures 45 years or older in the study area (Figure 1-2, Built Environment Study Area). Also consistent with a Phase I report, it did not include evaluations for California Register of Historical Resources (CRHR) eligibility.

The purpose of this Phase II report is to provide CRHR evaluations for built environment resources.[1] Department of Parks and Recreation (DPR) 523 Forms in Appendix B memorialize these evaluations. A separate Phase II report addresses the archaeological resources (ICF 2022).

[1] Property access limitations prevented recordation of all the resources identified in the Phase I report, as described further under Section 5.6, *Field Survey*.





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Source: USGS-ESRI Imagery, 2019

Legend

Built-Environment Study Area

Figure 1-1
Project Vicinity

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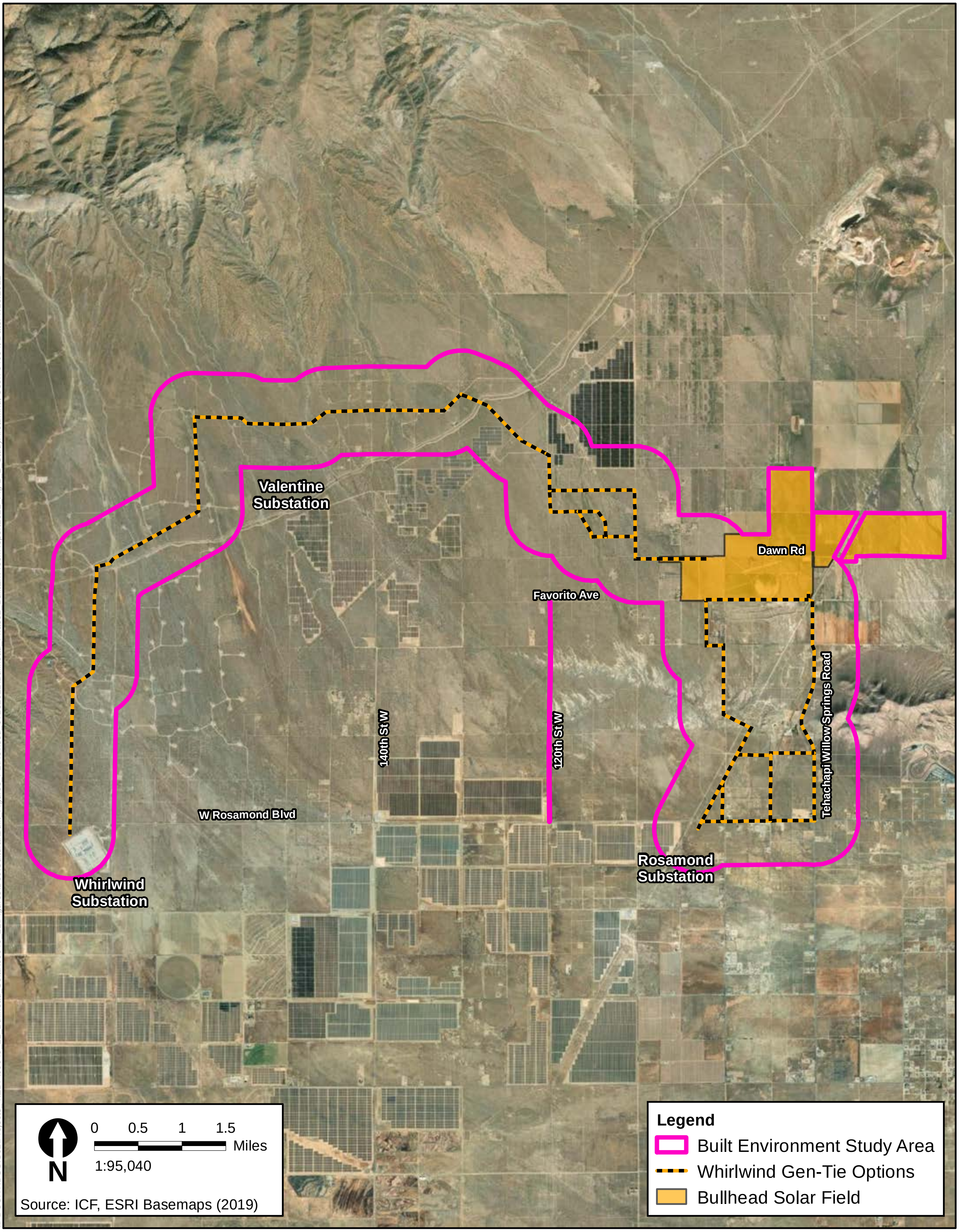

Figure 1-2
Built Environment Study Area

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Chapter 2
Project Description

EDFR proposes the project to develop up to 270 MW (alternating current or "AC") of solar PV capacity derived from tracker technology and up to 270 MW of battery storage. The project includes solar development with associated PV panels, inverters, converters, generators, foundations, transformers, and preferred and optional gen-tie routes to the Rosamond Switching Station and the Whirlwind Substations, only one of which would be constructed. The project also includes laydown yards, a meteorological station, a microwave/ communication tower, and a substation.

The proposed project encompasses a study area of approximately 1,359.50 acres of private land (Figure 1-1, Study Area). A larger study area has been provided for evaluation to ensure that all lands potentially affected by the proposed project are included in the analysis. Should the County Board of Supervisors approve the project, the County would issue Conditional Use Permits (CUPs) and other required approvals on land proposed for development of the solar facilities. The portion of the project subject to the CUPs comprises 1,349.3 acres; 10.19 acres are excluded from the CUP boundary, but are included in the solar field boundary for purposes of environmental analysis.

As shown on Figure 1-2, Built Environment Study Area, secondary access to the Bullhead site is provided via 120th Street West through the approved and adjacent BigBeau Solar Project (BigBeau). Approximately 422.4 acres of land permitted in connection with BigBeau will be developed around the same time as the proposed project, and those facilities will use the same interconnection infrastructure as the proposed project. The County Board of Supervisors approved BigBeau and certified an EIR for the project in June 2020. The environmental effects of developing on those lands were evaluated in the BigBeau EIR (SCH # 2019071059), which is hereby incorporated by reference. EDFR will comply with all mitigation measures and CUPs applicable to BigBeau for any development those lands.

The project's study area consists of a solar array area with three locations under consideration for the development of a substation and BESS. CUPs are required for the solar generation facilities (e.g., the panels) and associated generation equipment (i.e., inverters, substation, and batteries), as well as the communications tower. Therefore, these facilities will be located within the CUP boundary (1,348.1 acres). Several other project components do not require CUPs and would extend beyond the CUP boundary (but would be entirely within the study area). These components include access roads and gen-tie power lines (both collection and transmission). Figure 1-2 shows the project components.

EDFR is committed to creating a state-of-the-art solar energy project that would be constructed in a manner that minimizes environmental impacts to the greatest extent feasible. The proposed project includes four options for gen-tie routes, including two deviations to one option and one deviation to another. Gen-tie poles and circuits would vary in height to a maximum of 160 feet. Only one route would be constructed. Three project optional gen-tie routes—Rosamond Gen-Tie Options 1, 2, and 3, including one deviation identified as Rosamond Gen-Tie Option 3.1—would travel south from the project boundary and connect to the Rosamond Switching Station. The Rosamond Switching Station is planned to be constructed by the Los Angeles Department of Water and Power (LADWP) by December 2025. One optional project gen-tie route—Whirlwind Gen-Tie Option 1, including two deviation routes identified as Whirlwind Gen-Tie Option 1.1 and Whirlwind Gen-Tie Option 1.2—would cross underneath Southern California Edison's (SCE's) Tehachapi Renewable Transmission Project to the east of the project site and connect to the existing Whirlwind Substation. SCE's Tehachapi Renewable Transmission Project 220/500-kilovolt (kV) corridor travels through Whirlwind Gen-Tie Option 1 and connects SCE's Vincent Substation with SCE's Windhub Substation to the south and north of the project site, respectively. Many of the lands surrounding the site have either been approved for, or are in the planning stages of, development for solar or wind energy.

Chapter 3
Regulatory Setting

3.1 California Environmental Quality Act

CEQA requires public agencies to evaluate the implications of their project(s) on the environment. It includes significant historic resources as part of the environment. Public agencies must treat any cultural resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant (CCR Title 14 § 15064.5). A historic resource is considered significant if it meets the definition of *historical resource* or *unique archaeological resource*, as defined below.

3.1.1 Historical Resources

The term *historical resource* includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript that is historically or archaeologically significant or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California (PRC § 5020.1(j)). Historical resources may be designated as such through three different processes.

1. Official designation or recognition by a local government pursuant to local ordinance or resolution (PRC § 5020.1(k))
2. A local survey conducted pursuant to PRC Section 5024.1(g)
3. Listing in, or eligibility for listing in, the NRHP (PRC § 5024.1(d)(1))

The process for identifying historical resources typically is accomplished by applying the criteria for CRHR-listing (CCR Title 14 § 4852), which state that a historical resource must be significant at the local, state, or national level under one or more of the following four criteria:

1. It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. It is associated with the lives of persons important in our past.
3. It embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of a master, or possesses high artistic values.
4. It has yielded, or may be likely to yield, information important in prehistory or history.

To be considered a historical resource for the purpose of CEQA, the resource must also have *integrity*, which is the authenticity of a resource's physical identity, as evidenced by the survival of characteristics that existed during the resource's period of significance. Resources, therefore, must retain enough of their historic character or appearance to be recognizable as historical resources and convey the reasons for their significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. It must also be judged with reference to the particular criteria under which a resource is eligible for listing in the CRHR (CCR Title 14 § 4852(c)).

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Chapter 4
Environmental Setting

The study area is in Kern County at the northwestern edge of the Antelope Valley, southeast of the Tehachapi Mountain foothills and approximately 11 miles west of the Rosamond Hills. The project lies in proximity to the Rosamond and Willow Springs communities. The largely undeveloped study area is crossed by numerous unpaved roads, a recently constructed transmission line, and the Los Angeles Aqueduct. Some rural residential and agricultural structures are within the project area depicted in Figure 1-2.

4.1 Historic Context

After two previous expeditions, the Spanish entered California in 1769 to colonize the region. Military commander Gaspar de Portolá and Franciscan priest Junípero Serra led this contingent. Serra, who would become father-president of the California missions, founded Mission San Diego de Alcalá in July 1869. The following year, Portolá lead an overland expedition that traveled north from San Diego in search of Monterey Bay. En route, the Portolá expedition camped along the San Gabriel River near what would become the first San Gabriel Mission site and subsequently on the banks of the Los Angeles River in proximity to a Gabrielino village near what is now downtown Los Angeles. One of the travelers, Spanish missionary Father Juan Crespí, named the second site Nuestra Senora de la Reina de Los Angeles de la Porciuncula (Our Lady of the Queen of the Angels of Porciuncula), which would later become the location of the pueblo of Los Angeles (Engelhardt 1927:3; County of Los Angeles 2009).

In southern California, Spanish colonization efforts focused on areas south of the Transverse Ranges; the newcomers made limited forays into the Antelope Valley. The first European exploration of the Antelope Valley took place in 1772, when Captain Pedro Fages, the acting governor of Alta California, led a party into the region from San Diego while pursuing Spanish army deserters. Traveling from the east 4 years later, Father Francisco Garcés crossed the Mojave Desert and passed through the Antelope Valley. He stopped at Willow Springs, a convenient watering stop for travelers. No settlement or other travel by Europeans is known to have occurred in the western Antelope Valley until the 1820s (Hoover et al. 2002:125; ICF 2015:2.1).

In 1821, California became a territory of Mexico and remained so until the late 1840s. During the 1820s and 1830s, Mexico maintained a tenuous grip on California as increasing numbers of newcomers, many of them Americans, entered the territory by land or sea. Among these were fur trappers Jedediah Smith, Kit Carson, and Ewing Young, all of whom passed through the Antelope Valley. Day-to-day life did not change substantially during this period until secularization of the mission system, beginning in 1833. Although some large land grants were made to individuals prior to secularization, those made following secularization thoroughly redistributed the missions' large grazing holdings to officials, former soldiers, and some politically connected Anglo-American newcomers to the region. Provisions in Spanish law for ensuring that Native Americans would receive mission lands proved of little or no practical benefit to most of California's indigenous peoples during the secularization process (Bean and Rawls 2003:62–70; ICF 2015:2.1).

After secularization of the missions, economic necessity, or coercion, forced many among the region's Native American population to work on Mexican ranchos. Indigenous peoples living farther from rancho lands maintained their traditional ways of life for a longer period of time. As the ranchos multiplied and spread inland, more and more indigenous groups were forced to acculturate or move east, farther into the backcountry. Exploitation of native labor intensified during the Mexican period. These laborers were now on ranchos with grazing lands that encompassed their former territories. Economic production on the ranchos benefited Hispanic Californios and Euro-American newcomers to the region almost exclusively. Although many acculturated Native Americans who were ensconced within the rancho economy lived similarly to European peasants, a small number of Native Americans associated with the San Fernando Mission did petition for and receive modest land grants. Other Native Americans in southern California resisted acculturation, lived away from the ranchos, and limited their contact with Mexican society. Native Americans from the interior frequently raided ranchos during these decades (Bean and Rawls 2003:68; Johnson 1997:258–260; Sandos 1997:211–212, 216).

4.1.1 Antelope Valley

Euro-American settlement of the Antelope Valley did not occur until the later nineteenth century. Prior to that, the establishment of Fort Tejon, sheep and cattle grazing in the region, and the development of stage lines and roads to service the mines increased travel through the valley. The Butterfield Overland Mail began stagecoach operations through the region during the 1850s, with Willow Springs once again providing a stop for water. Beginning in the 1860s, a limited number of people began to settle near springs and other water resources. Mining activity in and around the valley brought some settlers and increased travel through the valley. By the end of the 1860s, four roads served the valley: Soledad Road; Mojave Road; a road through San Francisquito Canyon, used mainly by cattle owners and miners; and Fort Tejon Road (later Barrel Springs Road) (Gardiner 2002:13–14).

Water sources and railroad development led to the creation of the first communities in the vicinity of the project area. During the early 1870s, the Southern Pacific Railroad constructed a railroad line between Sacramento and Los Angeles via the San Joaquin and Antelope Valleys. Workers building south from Tehachapi Pass and north from Los Angeles completed the line at Lang Station in Soledad Canyon in 1876. Stations along the Southern Pacific line evolved into the project vicinity's first communities. Railroads subsequently constructed through the valley included the Atchison, Topeka & Santa Fe Railway; the Los Angeles & Independence Railroad; the Antelope Valley Line; and the Union Pacific (Lone Pine branch). Approximately 9 miles east and slightly south of the project area and named for the daughter of a Southern Pacific official, Rosamond was initially the largest of the valley's railroad station settlements.

Situated approximately 11 miles south of Rosamond, Lancaster is thought to have been named for a Southern Pacific employee (Gardiner 2002:14–15). There, a well completed in 1884 demonstrated the availability of groundwater. Langley Wicks, who had earlier attempted and failed to establish a Scottish colony at Willow Springs, purchased land and began to run real estate advertisements in English newspapers. Soon Lancaster had a post office, a hotel, newspapers, a school, and multiple churches. James P. Ward bought out Wicks in 1888 and grew the first alfalfa produced in the area, which he shipped to Los Angeles in 1890 (Gardiner 2002:14–15, 18–19).

Following the arrival of the railroad, the next major industrial-era development to shape the history of the western Antelope Valley was construction of the Los Angeles Aqueduct. Developed by LADWP and designed by engineer William Mulholland, the Los Angeles Aqueduct transported water more than 200 miles, from the Owens Valley south to Los Angeles. The City of Los Angeles began construction of the project in 1908 by creating more than 1,000 miles of new roads, pipelines, and electricity and telephone lines in preparation for construction of the aqueduct itself. Completed in 1913, the Los Angeles Aqueduct was the largest aqueduct in the world for a time, consisting of nearly 250 miles of canals, tunnels, siphons, and other water conveyance features. Because steel pipe had to be shipped from the east, its use was limited to 12 miles of the route where canyon-spanning siphons were constructed. The City of Los Angeles purchased 4,000 acres of clay- and limestone-rich land near the Mojave Desert town of Monolith and established a facility that produced 1,000 barrels of Portland cement per day for the project. The aqueduct system also included Haiwee, Fairmont, Bouquet Canyon, and Dry Canyon reservoirs, as well as two reservoirs in the San Fernando Valley where water from Owens Valley entered the local distribution system (Kahrl 1979:32; Schwarz 1991:18–20, 22–23).

Homesteaders frequently pursued mining and agriculture in the Antelope Valley region into the 1930s, although mining declined thereafter. In its place, the military rose in importance during World War II. The U.S. Army conducted flight training operations at War Eagle Field, south of Rosamond, while the U.S. Navy built an airfield and training facility in the town of Mojave. The federal government also established Muroc Army Airfield east of Rosamond. Later renamed Edwards Air Force Base, it continues to operate as a hub for U.S. test flights and aircraft development to this day (ICF 2015:2.2).

Willow Springs

Nineteenth Century

As one of only three natural oases in the Antelope Valley, Willow Springs was one of the most geographically significant watering holes in the Mojave Desert. Situated on the trail connecting the southern portion of the San Joaquin Valley and the desert area through the Tehachapi Pass, Willow Springs was the only source of surface water for people traveling between Desert Spring to the north and the San Gabriel Mountains to the south. It served as a source of water for Native Americans, explorers and emigrants, stagecoaches and freight teams, and bandits traveling through the Antelope Valley (Museum of Art and History 2021; *Tehachapi News* 1951:3).

Prior to the arrival of Europeans, Willow Springs served as an important stop for Native Americans undertaking migration or trading trips through the valley. Although deserters from the Spanish Cavalry probably traveled Native American trails that led there, Willow Springs first appeared in the historical record in 1776, when Padre Francesco Garces stopped there for water upon returning to Southern California from the San Joaquin Valley (Museum of Art and History 2021). During the mission era, runaway Native Americans drove their horses along the main trail and stopped for water first at Willow Springs before heading north to Desert Spring Indian Wells and into the desert (*Tehachapi News* 1951:3). Due to this activity, the old trail became known as the Indian Horsethief Trail (later known as the Walker Trail), as the springs also provided water for escaping horse thieves (Museum of Art and History 2021; *Tehachapi News* 1951:3).

Several other exploring parties visited Willow Springs during the mid-nineteenth century. In 1844, John C. Fremont recorded his stop at the springs and described resting under the spring's willow trees (Museum of Art and History 2021). In 1849, several small bands of lost Gold Rush 49ers such as the Manly-Jayhawk Party and the Bennet-Arcan Party stopped at Willow Springs to relieve their thirst after a difficult journey through Death Valley (*Tehachapi News* 1951:3; Museum of Art and History 2021).

Willow Springs became private property in 1862, when President Abraham Lincoln transferred the springs and surrounding lands from the public domain to General Edward Beale. That same year, Nelson Ward and his wife Adelia settled next to the springs. The Wards established a station and constructed an adobe boarding house for horse and mule teams. The increasingly busy station's boarding house became known as "Hotel de Rush," and some guests reportedly had to sleep at the bar (Museum of Art and History 2021). Between 1864 and 1872, Willow Springs functioned as a stage and freight station on the Los Angeles-Havilah stage lines. It also continued to serve as a general watering and resting place for entrepreneurs such as Remi Nadeau, who transported silver from the Cerro Gordo Mines, and freight teams associated with the development of the Death Valley borax deposits (Museum of Art and History 2021; *Tehachapi News* 1951:3).

After Nelson Ward's death, a couple named Riley took over the Willow Springs station. They operated the station until 1876, when introduction of the Southern Pacific Railroad line through the valley made long-distance stagecoach travel obsolete (Museum of Art and History 2021). In 1937, a plaque commemorating Willow Springs' designation as a California Historical Landmark (CHL) was placed on the approximate site of the old stage station. The concrete watering trough at the site of the station is a reminder of the days when horses, mules, and oxen were the sole means of transportation. The concrete trough replaced a wooden trough present at the site during the station's operation (*Bakersfield Californian* 1937:9).

Willow Springs is CHL No. 130. It was originally designated as a CHL in 1937 for its historical significance to early travel across the Antelope Valley as a watering hole and a stage station prior to completion of the Southern Pacific Railroad. A 1937 CHL plaque remains present on the west side of Manly Road approximately 1,000 feet north of the intersection of Manly Road and Truman Road. The Willow Springs CHL was rededicated in 1951 and registered as CHL No. 130, with an additional plaque installed approximately 750 feet northeast of the 1937 plaque, at the east end of the small portion of Manly Road aligned east-west through today's Willow Springs Company property. The 1951 plaque remains intact today (*Bakersfield Californian* 1937:9; *Tehachapi News* 1951:3).

After the stage and freighting traffic ceased, Willow Springs remained quiet for the next few decades. In 1900, an early Mojave Desert pioneer and local miner, Ezra M. Hamilton, bought the springs as well as surrounding acres and moved there with his family. The watering hole became a center of activity once again (Museum of Art and History 2021).

Hamilton Era

Ezra Hamilton arrived in Willow Springs in 1897, poor in both health and finances (*Bakersfield Morning Echo* 1904:4). After exploring the desert, Hamilton found traces of gold that he believed to be native to the area, and in 1897 he set up his own mine and five-stamp mill on the west slope of Tropico Hill, which is located midway between Willow Springs and Rosamond (*Bakersfield Californian* 1975:9; *Tehachapi News* 1914:1). The land proved so rich in ore that with just a small group of men Hamilton was able to mine $16,000 worth of gold in one week (*Bakersfield Morning Echo* 1904:4). The ore from the mine was also exceptionally high in grade, with some yields earning as much as $20,000 per ton. Hamilton's mine ended up producing more than a million dollars' worth of gold. (*Bakersfield Californian* 1938:5, 1975:9).

Soon after establishing the mine, Hamilton bought 160 acres in Willow Springs from General Beale's estate for $3,500 and made it his home. Willow Springs had an abundance of water for irrigation, which was key to its development and success (*Tehachapi News* 1914:1; *Bakersfield Californian* 1975:9). Although Hamilton considered using the water from the spring to run the mill for his gold mine, the natural landscape and tranquility of Willow Springs convinced him to set up a resort instead, which became "the 'social mecca' of the Antelope Valley" (*Bakersfield Californian* 1975:9, quoted; Museum of Art and History 2021). In 1904, Hamilton constructed 27 stone buildings, including: houses for himself, his family, and employees; a hotel consisting of a cluster of a dozen cottages; a cement-lined swimming bath; a "town hall" and a dance hall (possibly the same building); a post office; a trading post; and a restaurant. Makeshift greenhouses were also created to help stock the trading post and restaurant with produce. The resort's hotel cottages could accommodate up to 30 people and included amenities such as fresh ice, flush toilets, and electricity (Museum of Art and History 2021; *Bakersfield Morning Echo* 1904:4). Hamilton also furnished the cottages, which he rented to both travelers and convalescing or sick people for ten dollars a month. Hamilton promoted the dry climate of Willow Springs as healthy and beneficial to people suffering from weak lungs, and he promoted the waters of the springs as medicinal. Constructed of stone, the cottages were comfortable, although not fully finished. At the time of Willow Springs' development, the nearest trees stood about 12 miles away from the settlement, so Hamilton had wood hauled in for the houses' grates (*Bakersfield Morning Echo* 1905:2; *Bakersfield Morning Echo* 1904:4). A 1904 newspaper article described the development activity at Willow Springs: "everything about Willow Springs is being fitted up in the best manner, but there is no ostentation of wealth, and poor and rich are the recipients of the same genial hospitality" (*Bakersfield Morning Echo* 1904:4).

Under Hamilton's management, Willow Springs became the place for community gatherings. Traveling road shows would stop to provide entertaining performances in the auditorium, and churches frequently held their services there. Although his resort proved successful, Hamilton was determined to transform Willow Springs into the center of the surrounding rural community. The construction of the first school at Willow Springs was completed in 1904, and a year later Hamilton built a larger school at the property just a short distance away from the earlier one to accommodate more children. As Ezra Hamilton was the first resident of the Antelope Valley to own a car, Willow Springs also boasted the first automobile garage in the area, which Hamilton equipped with a gas pump (Museum of Art and History 2021). In 1904, there were about 50 permanent residents at Willow Springs, and Hamilton planned to build more cottages as more people moved to the area (*Bakersfield Morning Echo* 1904:4).

Hamilton died of heart failure in 1914 at age 81. At the time of his death, he was survived by his wife and three sons, who resided in Willow Springs and Rosamond (*Tehachapi News* 1914:1). Hamilton's estate—valued at $23,878.10 and consisting mainly of land in southern Kern County—was distributed to his widow Elsie E. Hamilton, Fred M. Hamilton, Truman W. Hamilton, and W. Lester Hamilton. Fred and Truman Hamilton inherited the hotel property, while Elsie Hamilton inherited the family home (*Bakersfield Morning Echo* 1916:2).

After Hamilton's death, his once-thriving resort passed on to his children, who sold the place 3 years later. Between 1918 and 1930, Willow Springs had a variety of owners until the Willow Springs Company—who carried on local mining operations—purchased the resort for its headquarters (Museum of Art and History 2021). Into the 1930s, Willow Springs remained what a newspaper described as "a thriving way station" that "offer[ed] gasoline to the traveler" (*Bakersfield Californian* 1937:9). In 1952, the Tehachapi earthquake destroyed some of the buildings at Hamilton's former property. However, Willow Springs endured. In the following years, the resort remained at least partly occupied. Although ownership changed hands several times, people continued to reside in the houses and cottages, and the restaurant continued to do business. During the mid-twentieth century, flight crews participating in the Bell-X-1 experimental flights at Edwards Airforce base resided at Willow Springs as tenants. Such tenants included Chalmers "Slick" Goodlin, the first person to fly the X-1, and Dick Frost, team test project manager for the X-1 program. Renowned female pilot Pancho Barnes also spent time at Willow Springs as a visitor. The restaurant closed at an unknown date. As one source states, since the restaurant closed "Willow Springs village has again fallen quiet, spare for the sound of cars racing nearby" at the racetrack located approximately 1.5 miles southeast of the former Hamilton property (Museum of Art and History 2021).

4.1.2 Mining and Oil Drilling

One of the most powerful economic magnets that drew settlers to the Antelope Valley was mining. Between 1880 and 1950, entrepreneurs explored and extracted minerals (e.g., copper, gold, silver), as well as oil, clay, mud, and borate. Numerous mining districts were established, including Kramer, Kramer Hills, El Paso, Mojave, Oro Grande, Randsburg, and Rosamond. Due to the proximity to residences, homestead claims frequently came into conflict with mineral claims, which required intervention by USGS and additional field surveys. Extensive mud-and-clay mining took place at the dry Rosamond Lake and other dry lakebeds, mainly to produce bentonite clay for refining petroleum products. Borax mining also flourished north and east of Rogers Dry Lake (Edwards Air Force Base 2009:126; Tetra Tech and Jones & Stokes 2004:52–53).

The most notable mining activity in the vicinity of the study area focused on gold. Ezra Hamilton, who owned the Los Angeles-based East Side Pottery Company, originally came to the Antelope Valley to mine clay but, to his good fortune, discovered gold in clay deposits. At Tropico Hill, east of Willow Springs Butte, Hamilton established the Lida Mine in the mid-1890s. Hamilton later sold the mine, and the resulting Tropico Mining Company operated successfully for many years and expanded to include a mill. Two Canadian-born brothers, Clifford and Cecil Burton, worked at the mine and mill and eventually acquired the operation (Hoover et al. 2002:135–136; Settle 1967:69; Varney 1990:73–74).

After the purchase of the Tropico Mine, mining activities began to increase in the area. The Burtons improved the mill and soon thereafter began to process ore from other mines, as well. During the 1930s, the price of gold increased dramatically. Approximately 400 mines sent ore to the Burtons' mill for processing. The brothers also extracted deeper Tropico Mine deposits to increase their profits. One such mine was the Cactus Queen, at Soledad Mountain, northeast of the study area. George Holmes had developed Soledad Mountain's Silver Queen (also known as the Gold Queen) mine during the boom of the 1930s. During that time, investors made approximately $6 million from the Silver Queen mine. Holmes eventually sold the mine to a South African interest for $3.5 million. Federal restrictions on mining activity during World War II and subsequent inflation ended the mining boom and forced the closure of the Burtons' Tropico operations, although intermittent mining activity has taken place there since, including at the Cactus Queen (Hoover et al. 2002:135–136; Settle 1967:69–71; Varney 1990:73–74).

The discovery of oil north of Muroc buoyed the hopes of petroleum speculators, who drilled wells in the vicinity of today's Edwards Air Force Base and other parts of the Antelope Valley. In 1922, the *International Petroleum Reporter* described drilling activities conducted north and northeast of Lancaster by the Great Angeles Oil Corporation, the Antelope Oil and Gas Company, and the LA–Kern Oil Syndicate. Test wells were drilled in the Willow Springs area during the early 1930s, as well. Drilling efforts in the central and western Antelope Valley ultimately proved far less successful than those undertaken in western Kern County, the latter of which generated an oil bonanza (*Bakersfield Californian* 1932, 1933; Edwards Air Force Base 2009:126; GLO 1935; *International Petroleum Reporter* 1922:45).

4.1.3 Los Angeles Aqueduct in the Mojave

The City of Los Angeles's construction of the Los Angeles Aqueduct was both a major endeavor and a turning point for the Antelope Valley. The aqueduct was, in large part, built by human labor. Along its route, the City of Los Angeles built temporary camps to house workers, managing personnel and livestock during construction. All told, "57 camps were established along the line of work, most of them in the mountains" (City of Los Angeles 1916:18). Camp sizes and the duration of their occupation varied along the route, depending on the construction needs specific to the adjacent area.

Construction of the aqueduct in the southwestern portion of the Mojave Division differed from that in other areas in a number of ways. Southern Pacific constructed a branch line from Mojave to the north, leaving the valley segment south of Mojave without railroad service. As a consequence, construction materials and labor camp provisions had to be hauled into the South Antelope Valley section of the Mojave Division, first by traction engines, which proved too expensive to maintain, and later by mule teams (City of Los Angeles 1911:35–36, 1916:90). The Bureau of the Los Angeles Aqueduct's 1911 annual report noted that water supply shortages in the Mojave Division occurred during the summer. To compensate for these shortages, "large, corrugated iron tanks" were built to store materials for concrete construction and well drilling along the aqueduct alignment west of Mojave (City of Los Angeles 1911:35–36).

Mojave Division work was characterized as "light work" compared with construction of massive siphons and tunnels through mountainous terrain. As a result, the aqueduct camps in the South Antelope Valley section had a more temporary character than the larger mountain camps. The desert camps in southwest Antelope Valley relocated along the aqueduct line, as required by the progress of construction (City of Los Angeles 1916:256). Aqueduct planners provisioned these camps with tents and buildings that were designed for impermanence (e.g., offices, dwellings, bunk houses), the latter of which "could be taken down in sections, loaded on wagons, and expeditiously erected again at some other point" (City of Los Angeles 1916:89).

Construction of the cut-and-cover tunnel through the southwestern Antelope Valley was completed by 1912. Steam shovels and other heavy pieces of equipment were transported to other segments of the aqueduct that were still under construction (City of Los Angeles 1916:21). The rest of the Los Angeles Aqueduct was completed in 1913 and today remains an important part of southern California water infrastructure (City of Los Angeles 1916:26).

4.1.4 Transmission Line Technology in Southern California

Although Europeans developed the first overhead electrical transmission lines as early as the 1870s, the so-called “white coal” of hydroelectric generation initiated and drove the evolution of transmission technology in California beginning in the 1890s. Constructed over 28 miles from Pomona to San Bernardino in 1891, the San Bernardino Light & Power Company’s 5-kV transmission line was Southern California’s first long-distance electrical transmission line. The following year, a 23-mile line completed between Riverside and Mill Creek operated as the first 10-kV commercial three-phase AC transmission line in the region. An advance beyond the Mill Creek system’s transmission capacity, an 11-kV commercial three-phase AC line began transmitting electricity from the Folsom Powerhouse 22 miles to Sacramento in 1895. Transmission technology improved at a rapid pace thereafter. By 1906, state-of-the-art insulator design supported voltage capacity up to 60 kV. Iron and sometimes steel lattice, tubular, or pipe poles carried electrical lines until the turn of the century. Thereafter, engineers increasingly opted for riveted steel lattice towers, which reduced labor costs, especially for higher-voltage lines (Becker et al. 2015:40–45; Williams 1997:176–177).

In 1907, E. M. Hewlett and H. W. Buck introduced the suspension insulator, which allowed long-distance transmission capacity to reach 100 kV. By 1909, three transmission lines could deliver as much as 100 kV of electricity at distances greater than 150 miles: Great Western Power’s Las Plumas line from Big Bend to Oakland (155 miles); Colorado Power Company’s Glenwood-Denver line (152 miles); and the Southern Power Company’s Great Falls, South Carolina-Durham, North Carolina line (210 miles). By 1912, Pacific Gas and Electric Company (PG&E) had completed a 100-kV line from its Drum Powerhouse in Placer County to Oakland (110 miles) (Hughes 1983:280, 282; Van Wormer and Dolan 1999:15).

First developed by the Pacific Light and Power Company, which completed a 241-mile 150-kV line to Los Angeles in 1913, the Big Creek hydroelectric power transmission system became the focal point of transmission technology advancement in the southern portion of California over the next decade. The Big Creek line set a new standard, with steel lattice towers 41 feet high incorporating cross arms approximately 34 feet wide, which engineers designed to carry conduit at average lengths of 660 feet between tower locations. Southern California Edison (SCE) acquired the Big Creek system in 1917 and began upgrading and building new lines with 220-kV capacity, which included augmenting existing towers to carry heavier loads. SCE engineers developed a larger version of the Big Creek tower model for the next major transmission line, the Vincent 220-kV Transmission Line. The new towers, although similar in appearance to the old Big Creek towers, had additional height and cross-bracing to support the structural load of the 220-kV wire spanning the 224-mile transmission alignment. SCE completed the Vincent line in 1926. In northern California, PG&E had completed a 202-mile, 220-kV line from its Pit River hydroelectric system to Sacramento 4 years earlier (Becker et al. 2015:49, quoted; Electrical West 1962:394; Van Wormer and Dolan 1999:15).

Benefitting from the advances in long distance transmission and tower design, the City of Los Angeles, through its newly formed Bureau of Power and Light, harnessed hydropower made available by construction of the Los Angeles Aqueduct from 1908 to 1913 to develop its own municipal electrical system. Bureau of Power and Light, later the LADWP, built an over 200-mile-long transmission line through the Owens Valley to carry power generated by multiple aqueduct hydroelectric plants, a new San Francisquito Power Plant No. 1 near Santa Clarita, and a Central Receiving Station (now Receiving Station A), northeast of downtown, as the first phases of a generation, transmission, and distribution network. The system initiated service in 1917, delivering electricity to the city over a 115-kV transmission line on steel lattice towers.

The development of Boulder Dam during the 1930s resulted in the next major advancement in long-distance electrical transmission. SCE constructed three single-circuit 220-kV lines, and LADWP built three single-circuit 287.5-kV lines to transmit power from Boulder Dam on the Colorado River to the Los Angeles area. These transmission systems began delivering power to the Los Angeles area in 1938. LADWP's line stretched 226 miles and carried power on towers ranging from 109- to 144-feet high, the largest in the world at the time of construction. Furthermore, LADWP's line carried "the highest commercial operating voltage in the world" and represented the "pinnacle of achievement in point to point high voltage power transmission" (Electrical West 1962:394; Van Wormer and Dolan 1999:13, quoted).

After World War II, the effort to connect the electrical systems of large regions fueled noteworthy advances in transmission technology. The largest interconnection effort in the Western United States was the Pacific Intertie Project, completed in the late 1960s. California-based SCE, PG&E, and LADWP joined with the Bonneville Power Administration and Portland General Electric to construct twin 500-kV AC lines and a single 800-kV direct current (DC) line from Washington state to southern California. Engineers developed new metal lattice tower configurations, insulator designs, and conductor technology to carry the heavier equipment, while minimizing cost over its 845-mile length. When complete, the Pacific Intertie was the first use of DC power transmission in the United States and the world's largest system in terms of length, voltage, and power capacity (Becker et al. 2015:51; Northwest Power Planning Council 2001; *Great Bend Tribune* 1964:18).

4.1.5 Homesteading and Agriculture

Beyond the Antelope Valley railroad stops that developed into towns and eventually into cities, most settlement in the region involved homesteading lands for ranching and agriculture. Ethno-religious groups, prohibitionists, and utopian socialists also established agricultural colonies in the region during the late nineteenth and early twentieth centuries. Some newcomers homesteaded lands with the primary goal of becoming successful ranchers or farmers, and other homesteaders undertook requisite improvement of lands strategically in an effort to supplement their mining endeavors (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53).

Homesteading claims in the western Antelope Valley region began primarily after 1900, a consequence of several factors. Having received transfers of significant land grants in 1903 from the federal government, the Southern Pacific Railroad launched heavy land-sale promotions during the 1910s, which attracted settlers from the east and Europe. Rising land prices in Los Angeles and other urbanizing areas of southern California enhanced the appeal of homesteading in the Antelope Valley for some southland residents. These factors, along with amendments to the Desert Land Act—which made provisions for absentee ownership, reduced irrigation, and cultivation requirements, and shrank requisite periods of residency—generated a boom in homesteading activity that lasted from the 1910s through the mid-1930s (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53–54). However, not all homesteads were successful. Numerous claims filed after 1910 were never patented because of homesteaders' failure to improve lands adequately. Although Southern Pacific Railroad and other Antelope Valley land promoters presented the region as exceptionally fertile, settlers often confronted difficult climatic conditions, including frequent high winds during multiple seasons, flooding, intermittent drought, and, at times, excruciating heat (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53–54).

Homesteading in the Antelope Valley largely came to an end in the 1930s. Prevailing drought conditions worsened locally and across the nation during that decade. In addition, the Great Depression made it increasingly difficult for prospective settlers to accumulate capital for necessary improvements. As a result, during that time, many Antelope Valley settlers abandoned their homesteads, and the longstanding emphasis on promoting private use and development gave way to a new emphasis on conservation and preservation by the National Park Service, U.S. Forest Service, and Bureau of Land Management. In 1935, the federal government stopped accepting new "homestead" or "desert lands" entries, although small, 5-acre homestead tracts could be purchased until 1950, and homesteaders with valid claims prior to 1935 could continue to improve their land (Tetra Tech and Jones & Stokes 2004:54).

Across the vicinity of the project, agricultural activity increased after World War II. From 1953 to 1956, land cultivated with crops in the Kern County portion of the Antelope Valley increased from 26,000 to more than 41,000 acres (with 23,732 acres irrigated), mostly in areas west of Rosamond and around Cantil. Alfalfa fields made up the majority of cultivated land across the larger Antelope Valley, followed by dry-land grains. During the 1950s, Antelope Valley farmers devoted limited acreage to irrigated forage crops, vegetables, almonds, apples, peaches, and other fruits. Field crops, such as alfalfa and grain, as well as irrigated pastureland, dominated agricultural activity in the Kern County portion of the Antelope Valley, accounting for 34,978 acres in 1957. Alfalfa fields for hay and seed made up 90 percent of that acreage. In terms of livestock, sheep grazing was the most prominent activity in the Kern County portion of the valley during the 1950s. At this time, agriculture accounted for 97 percent of Antelope Valley water use. Although groundwater depletion led some farmers to abandon acreage by the late 1950s, pumping for irrigation remained economically feasible in most of the valley's farming areas (DWR 1959:36–49).

The mainstay of agriculture in the project vicinity, Antelope Valley alfalfa production went into decline after the 1950s. Rising electricity costs for pumping depleted groundwater supplies and made alfalfa farming more difficult over time. Valley land planted in alfalfa declined from 38,525 acres in 1950 to 8,810 acres in 1987. Between 1953 and 1988, total groundwater pumped annually in the valley declined from 480,000 acre-feet to 69,000 acre-feet. Although land in the project vicinity continued to be cultivated during the 1970s, crop farming in the Rosamond and Willow Springs areas declined dramatically thereafter (DWR 1959:49; Templin et al. 1995:1–2, 7, 16, 64).

4.1.6 Agricultural Buildings

Kern County is one of the leading farm counties in the United States (Beeman 2016). Historically, ranching was the main form of agriculture in Kern County, but, more recently, fruits and vegetables have become important crops in the County (Beeman 2016). Important crops and commodities in Kern County include grapes, almonds, milk, citrus, cattle, pistachios, and carrots (Water Association of Kern County 2021). With the County's strong association with agriculture, there are many agricultural buildings in the county. Types of agricultural buildings include barns, storage silos, equipment sheds, and cattle housing.

An early barn type includes *transverse frame*. Transverse frame barns have front-gabled roofs and large, centered entries for horse-drawn vehicles, tractors, trucks, or other equipment to access the central passages. Storage of hay or other animal feed are often in second story lofts (Noble 1984: 6–7, 11–13). A common variant, the Midwest three-portal barn is a transverse frame farm with added shed roof-enclosed side aisles, each with front elevation (Noble 1984:13). After World War II, industrial-scale feed silos replaced the storage loft of many barns. One-story pole barns with walls formed of vertical metal poles and attached siding and low-pitched gabled roofs supported by steel-girder trusses became prevalent (Noble 1984:47; Noble & Cleek 1996:39). Recently, agricultural producers have developed simpler structures to provide shelter for livestock, stripping pole barns of their siding altogether in favor of open-sided structures consisting of steel columns that support low-pitched metal roofs. Such shelters can be large and extensive, creating a larger area of sheltered space.

Because of the practical and utilitarian use of agricultural buildings, they rarely have applied architectural styles. Agricultural buildings usually have a vernacular style with local materials, including wood frame and cladding. Some newer agriculture buildings have corrugated metal siding. If there are windows, they may include double-hung or fixed wood-frame sashes; fixed or operational steel-frame sashes, or horizontally sliding aluminum sashes. Many ancillary buildings incorporate one or more larger vehicle entries, often with roll-up metal doors, as well as pedestrian entries with single-leaf doors. Associated historic vernacular landscape features include irrigation features, feedlots, tanks, and pastureland (SurveyLA 2018a:43).

Post-War Retail Building

Post-World War II, architects and builders increasingly oriented buildings around the automobile. Instead of relying on Main Street commercial centers, developers and retail owners often opted to erect free-standing buildings on large parcels with easy automobile access. This new commercial building type appeared on parcels that could accommodate larger buildings and parking lots and often were along new commercial strips and freeway frontage roads. Architects and builders designed these new, free-standing buildings with moderate-to-deep setbacks in order to provide convenient automobile parking. In some examples, architects and builders arranged paved parking areas along the sides of these buildings, but not to the rear. This pattern of development created a pattern of voids and solids along the street and, as the scale of the buildings and adjoining parking lots increased, would become more pronounced (Prosser 2017:17).

Free-standing, post-war retail buildings came in a variety of forms and displayed varying degrees of Modernistic architectural styles. The type ranged from simple rectilinear buildings of concrete-block construction with flat primary façades, display windows, and little-to-no cladding, to elaborately designed buildings with large expanses of glass, multiple cladding materials, cantilevered canopies, dramatic roof lines, and eye-catching signage (Prosser 2017:16–17; Liebs 1995:30–31).

4.1.7 Gas and Service Stations

As automobile ownership increased in the early twentieth century, gas filling stations incorporated auto repair elements, adding grease pits, flat tire repairs, and replacement parts to their services. By the end of the 1920s, gas stations also incorporated a repair garage, creating the neighborhood service station (Liebs 1995:102). Early gas-and-service stations often featured two buildings, configured in an L- or U-shape, surrounding a central gasoline pump. However, this format proved to be short-lived. During the 1930s Depression, gas-and-service station builders condensed two buildings into one and situated pumps on the exterior. Owners soon sited pumps farther from the building in an effort to address vehicular circulation needs. Builders designed gasoline and service stations in popular architectural styles of the era, including Streamline Moderne and International styles. These styles allowed owners to display advertisements for services and goods to motorists through spacious garage bays and large storefront windows (Liebs 1995:102–106).

Starting in the 1950s, building designers re-introduced L-plans and varied the heights of buildings, with the service portion typically taller than the office portion. Builders continued the trend of designing buildings in popular styles and added Mid-Century Modern, Contemporary, and Ranch to the style palette. Modern styles included use of concrete blocks and multiple cladding materials, flat rooflines with extended overhangs, large canopies supported by thin metal posts, wide expanses of glass, and tall, stand-alone signage. Service stations with Ranch-style elements featured front-gabled, low-pitched rooflines with extended eaves, metal-framed windows, wood-and-brick cladding, and large canopies (Jones et al. 2016:7-3, 7-5, 7-8; Rotary Lift 2020). Shed stations with a canopy extending from the building across the driveway to the pump to provide shelter for fueling were common in commercial districts in urban areas. In rural areas, multi-use stations positioned pumps outside of stores, inns, and restaurants, often providing open areas for parking. Like shed-type stations, multi-use stations sometimes incorporated small buildings and canopies to shelter the filling area (Randl 2008:2).

Beginning in the late 1960s, auto repair became popular as an at-home hobby, decreasing the relevance of service stations. Specialty shops sold auto repair items for at-home repairs. This change in auto repair trends contributed to the decline of the gasoline and service station business. To adapt, some gasoline and service stations transitioned away from offering repairs to other services, such as convenience stores and other shops, restaurants or other food services, and offices, a concept known as *store with gas* or *dual fuel depot* (Liebs 1995:113–115).

4.1.8 Manufactured Homes

Manufactured homes, commonly known as trailer homes or mobile homes, represent a housing trend spurred by automobile tourism and travel at the turn of the twentieth century. Landowners developed campsites called auto courts or motor courts that allowed travelers to pitch tents or sleep in their cars. The camps provided an economical lodging option and welcome alternative to hotels, which were sometimes deemed too formal. This movement led to the design of prefabricated trailer homes in the 1930s, allowing travelers to essentially bring “homes” to the motor parks, rather than sleeping in tents or automobiles. Trailer homes were small (on average, 8 feet wide and 32 feet long) and typified as “one ‘room’ that served several functions and included transformable furniture” (Lawrence 2012:15), designed to allow for easy transport by hitching them to cars. Trailer homes relied heavily on metal construction materials. A typical trailer park had relatively compact, angled, parallel-parking spaces, which allowed the maximum number of homes to fit in the park at one time. Trailer parks often had a laundry room, toilets, showers, or other limited amenities onsite. During and after World War II, the government subsidized the construction of trailer camps to address a housing shortage. The efforts by the government to provide affordable and quickly assembled housing led to a more permanent version of the trailer home known as the *mobile home* (Lawrence 2012:12, 14, 15, 17, 18, 22; Fowler et al. 2016:4).

By the late 1960s, mobile homes had become a popular housing choice across the country. By that point, one-third of single-family dwellings in the United States were mobile homes, approximately 20 out of every 100 Californians lived in a mobile park in California alone, and six million Americans lived in them across the nation (Fowler et al. 2016:11). Features such as shutters and gable roofs, indoor bathrooms, increased electrical capabilities, and landscaping appeared on mobile homes, making them look and function more like suburban homes. Mobile homes increased in size (up to 14 feet wide and 34 feet long), and most had more than one section. Other changes and features include two stories, indoor bathrooms, fold-out porches, full-height doors, and jalousie and bay windows (Fowler et al. 2016:9, 11). Many mobile home designs contained corridors to separate the living spaces, and telescoped sections or awnings provided more living space. Mobile homes also included chassis and wheels, which allowed a professional to transport them to the site, but they no longer had the transient capability of trailer homes, due to their size and weight. Mobile home construction included wood composite, aluminum, or steel. Larger, rectangular lots replaced the angled parking spots to allow for larger homes and, depending on the arrangement of the homes, often provided more privacy. Camps soon included amenities such as swimming pools, playgrounds, and recreational facilities, which made these communities desirable and offered a more affordable price than conventional homeownership. Following the safety and construction standards published in 1976, the U.S. Department of Housing and Urban Development introduced the term *manufactured home* for mobile and trailer homes (Haney n.d.:2; Lawrence 2012:18–19; Fowler et al. 2016:9, 11).

Many trailer parks and mobile home parks still exist today. Most parks are specific to either trailer homes or mobile homes and can contain dozens to hundreds of homes. Simple street arrangements may be observed or more complex patterns, including radial street designs in some cases. Most will have one primary entrance to the park and be enclosed by a retaining wall. Although well-built, most manufactured home parks are vernacular, and professionals designed very few of these communities and homes. If well-maintained, manufactured homes can provide affordable housing even many years after being constructed and are said to be “the single most affordable type of housing available” (Haney n.d.:4; Lawrence 2012:36; Fowler et al. 2016:11,14).

4.1.9 Bungalow

A *bungalow* is a modest residential dwelling type whose primary design tenets are simplicity and economy. Designers applied the bungalow building type to popular styles of the period, including Spanish Colonial Revival, English Revival, American Colonial Revival, and Craftsman. The type was popular from the early twentieth century until World War II. *Bungalow* is a British adaptation of the Bengali word *bangala*, which refers to a seventeenth-century Indian hut. The components of a bungalow have evolved since British army tents, but still display simplicity, large, open spaces, and outdoor ventilation, elements that attracted Californians in the early twentieth century. In stark contrast to the ostentatious architecture of the preceding Victorian era, the bungalow’s “simplicity and artistry could harmonize in one affordable house” (Winter 1996:8).

Bungalows commonly feature all living spaces on one floor and built-in furniture, and, although they can vary in size, most are compact and have a low profile. They are simple and practical to construct and lack ornamentation (Winter 1996:8–10). The bungalow became available for purchase in highly marketed plan books and catalogues in a variety of styles and for shipment by railroad in a prefabricated format. Because of the efficiency and low cost, property developers were able to construct bungalow courts, or clusters of bungalows, on a single property, arranged sometimes around shared green, open space or with a driveway. Bungalows dipped in popularity following World War II, when an even more economical residential form took hold: the tract house (Winter 1996:6–10; Grimes 2016:8–11).

4.1.10 Quonset Hut

Quonset huts stemmed from a military need for prefabricated, easy to build, portable buildings. In 1916, World War I British officer Major Peter Norman Nissen patented the first iteration of what became the Quonset Hut. The Nissen Hut was a semi-cylindrical shelter constructed of corrugated steel cuts in strips and wrapped around a steel frame. The U.S. Navy recognized the adaptability of the structures and decided to manufacture their own version of the Nissen Hut during World War II. The U.S. Navy hired George A. Fuller and Company, a Chicago architectural firm, to design a better-functioning hut that would help solve the U.S. Navy's need for storage and housing. Their designs would become the Quonset Hut. Named after new naval base Quonset Point, in Rhode Island, the Navy had two specifications for the hut's design: arched in shape and easy to assemble/dissemble. The Fuller firm designed three iterations throughout World War II, each with two different size plans. The first hut, the T-Rib Quonset, proved heavy and hard to ship overseas. The second, the Quonset Redesign, included a better floorplan and new frame built with material from Stran-Steel, which helped to lighten the shipment of the hut materials and cost less to produce. The final redesign used new materials, including half-inch plywood and lighter siding that made the huts even lighter to ship and easier to assemble (SurveyLA 2015:1-4).

U.S. military contractors manufactured approximately 160,000 Quonset huts during World War II. Other manufacturers also produced Quonset huts for the civilian market during the war. The United States sold many surplus military huts to the public, which served a variety of purposes, including housing, barns, and restaurants (Survey LA 2015: 4). In a 1946 press release, Stran-Steel stated that its Quonset huts had been adapted for 257 different uses. Housing developers attempted to use Quonset huts to meet the pressing need for post-war housing throughout the country with modest success. The sloping sides of the frame made the floorplan smaller on the inside, and the huts reminded many veterans in need of housing of their time in the military, both leading to less interest in buying a Quonset hut (Washington State 2021).

4.1.11 Vernacular

Vernacular buildings typically include features that express the influence of a particular architectural style, but do not reflect an architect's or builder's intentional articulation of a specific architectural style. Vernacular structures are part of the common, everyday fabric of the built environment. Their purposes, functions, and aesthetic values and objectives play crucial roles in determining their design and construction.

Historically, vernacular architecture reflects the common building traditions, construction materials, culture, climate, and landscape of a particular nation, region, or place. During the industrial and post-industrial eras, modern forces, such as industrial fabrication, mass-production and distribution, consumer capitalism, and large-scale market conditions, influenced vernacular architecture more than place and tradition. Architectural historians Herbert Gottfried and Jan Jennings argue that during the late nineteenth and twentieth centuries, vernacular architecture continued to qualify as "practical" architecture, but also increasingly became an "industrial" or "manufactured" architecture, not to mention a "market" architecture "responsive to marketing pressure and to changes in fashion" (Gottfried and Jennings 2009:9–12).

4.1.12 Spanish Colonial Revival

At the end of World War I, American architects adopted ideas and techniques emphasized in Spanish architecture, specifically in the Andalusian region, to create a new architectural style. Starting in 1915, the Panama–California Exposition held in San Diego, California, popularized the emerging Spanish Colonial Revival architectural style. Architect Bertram Grosvenor Goodhue looked to Spanish Colonial buildings in Latin America for his design of the San Diego Exposition buildings. Goodhue's well-received designs led to adoption of Spanish Colonial Revival style across the southwestern states and Florida from 1915 to 1940 (McAlester 2015:521–522). Due to its ability to create an austere façade on an otherwise-unassuming building, Spanish Colonial Revival saw heightened popularity in California. Architects and builders found the new style flexible, allowing them to apply its various design features to simply built frames. As a result, designers regularly used it on residential, commercial, and institutional buildings (SurveyLA 2018b:14–15).

Spanish Colonial Revival exteriors incorporate asymmetrical façades with stucco walls and arched windows and doors. Most buildings designed in this style have multi-level roofs, clay-tile-clad, low-pitched, cross-gabled, side-gabled, hipped, or flat roofs. Spanish Colonial Revival buildings typically feature fenestration framed by spiraled wood or stucco columns, covered porches that overlook decorative-tiled courtyards, and towers. Common Spanish Colonial Revival elements include iron-and-wood window grilles, balconettes, and door knockers (McAlester 2015:521–525).

4.1.13 Ranch Style

Originally designed in California in the 1930s, Ranch houses drew inspiration from earlier Spanish Colonial haciendas and northern California farmhouses (SurveyLA 2015:5). The Ranch style gained popularity after World War II, due to Federal Housing Administration promotion and loan support. Architects designed and builders constructed Ranch residences across the United States (McAlester 2015:602–603). Developers constructed entire tracts in the style during the 1950s and 1960s (McAlester 2015:602–603). Typically, in post-World War II automobile-dependent suburbs where workers commuted to and from work in central business districts, the Ranch style maintained its popularity until circa 1975 (SurveyLA 2015:13–15 Non-tract examples of the style, such as those found in rural Kern County, are rarer and often simpler, with minimal applied architectural detail. Easily built and customizable, Ranch homes continued to be constructed across America because they blended effortlessly into the newly forming middle-class attitude and lifestyle (SurveyLA 2015:13–15).

Ranch houses typically feature horizontal, one-story massing, with either a gable or hip roof. Initially built with simple rectangular floor plans, by the 1950s, L-shaped floor plans with intersecting gable roofs became more popular (Gottfried and Jennings 2009:208–209). Developers built these homes on large tracts of land that allowed for spacious backyards and private outdoor living (McAlester 2015:602–603). Ranch-style homes feature an asymmetrical exterior, often elongating the look of the house by incorporating an attached front-facing garage. Substyles of the traditional Ranch plan include Contemporary, Cinderella, American Colonial, and Minimal. Elements of a Cinderella Ranch, otherwise known as Storybook Ranch, feature steep-pitched porch hoods and Swiss-Chalet inspired fascia and shutters that give the house an exaggerated fairytale look. In contrast, Minimal Ranch buildings have a more restrained exterior, including less variation in wall materials and simple footprints, and were commonly built within Federal Housing Administration design guidelines

(SurveyLA 2015:17–18). Key features include a large picture window, small porch, and recessed entry. Builders used a variety of resources, including stucco, brick, stone, and wood. They also incorporated planters or window boxes into the exterior design for emphasis (McAlester 2015:597–601).

Chapter 5
Methods

5.1 Introduction

The July 2022 *Phase II Cultural Resources Technical Report* defined the built environment study area and described the results of the reconnaissance survey. The report identified built environment resources needing evaluation for CRHR eligibility and those that require further survey before evaluation. This chapter describes the methods ICF architectural historians used to evaluate the built environment resources.

Twenty-six built environment resources are present in the study area. Although architectural historians could not access eight properties for intensive level survey of some resources, sufficient information to evaluate all 26 resources was obtained through aerial photography, property research, and observation from the public right-of-way. Refer to **Error! Reference source not f ound.** for summaries of available information for each resource.

5.2 Study Area

The Phase I Cultural Resources Technical Report defined the built environment study area as the archaeological study area, plus a 0.5-mile buffer around gen-tie routes to account for potential visual impacts on historical resources (ICF 2022:1-2). Please refer to Figure 1-2 for the study area figure.

5.3 Staffing

ICF architectural historians who conducted field survey for this project include Stephanie Hodal, Katrina Castaneda, Millie Mujica, and Margaret Roderick. Colleen Davis, Katrina Castaneda, and Hanna Winzenried authored this technical report. Colleen Davis provided quality control review.

DPR authors include Maureen McCoy, Winzenried, Inga Gudmundsson, Corey Lentz, Roderick, Hodal, Castaneda, Caitlin Greeley, Millie Mujica, and Timothy Yates. Jessica Feldman and Timothy Yates provided quality control review.

ICF architectural historians who meet the Secretary of the Interior Professional Qualifications Standards (36 CFR 61) include Hodal, Roderick, Davis, Winzenried, Lentz, Feldman, Mujica, and Yates. See Chapter 10, *Personnel*, for more detail.

5.4 Records Search and Other Previous Evaluations

On March 1, 2021, staff members at the Southern San Joaquin Valley Information Center conducted a review of all recorded built environment resources within 0.5 mile of the project site. Architectural historians confirmed that five previously recorded resources are present within the built environment study area (Table 5-1). As indicated in Table 5-1, two of the five have been previously evaluated and recommended ineligible for the National Register of Historic Places (NRHP) and the CRHR. Two of the five are historical resources under CEQA as a result of being listed in, or determined eligible for listing in, the NRHP and the CRHR: the SCE Vincent (Big Creek No. 3) 220-kV Transmission Line (P-15-017243) and the First Los Angeles Aqueduct (P-15-003549). One of the five is CHL No. 130, Willow Springs (P-15-000129).

ICF consulted the NRHP and documents and inventories from the State Historic Preservation Office (SHPO), including the CHLs, California Points of Historical Interest, listings of NRHP Properties, and the Built Environment Resources Directory.

Table 5-1. Previously Recorded Potential and Known Built Environment Resources in the Study Area

Primary Number	Year Built	Resource	Previous Evaluation[a]
P-15-018681	1950–1952	LADWP Owens Gorge 230-kV Transmission Line	POWER Engineers, Inc. Previously evaluated as not eligible for the NRHP or CRHR in 2014, due to a lack of integrity in the report *Cultural Resources Survey for the Barren Ridge-Haskell Canyon 230-kV Transmission Line, Los Angeles and Kern Counties, California.* No status code was assigned.
P-15-017243	1925–1927	SCE Vincent (Big Creek No. 3) 220-kV Transmission Line (Antelope–Magunden No. 2 220-kV Transmission Line today)	This resource is a Contributor to the historic district and has a status code 1D. SCE listed the Big Creek Hydroelectric System Historic District to the NRHP in 2016, automatically listing it to the CRHR.
P-20-003145	1949–1951	SCE Big Creek No. 4 220-kV Transmission Line) (Antelope–Mesa 500-kV Transmission Line today)	SCE evaluated as not eligible for the NRHP or CRHR in 2017 and assigned 6Y and 6Z status codes.
P-15-003549H	1907–1913	First Los Angeles Aqueduct	Various segments recorded multiple times. Found eligible for listing to the NRHP as part of a historic district in 1992 and 2006. This resource has a 2D2 status code.
P-15-000129, CHL No. 130	c. 1862	Willow Springs	The resource is the site of a former nineteenth century stage station. First designated as a CHL in 1937, the site was recorded in 1992 by Western Mojave Survey Association. It has never been evaluated for the NRHP or CRHR.

[a] *Status code* in this column refers to California Historical Resource Status Codes.
CHL = California Historic Landmark; CRHR = California Register of Historic Resources; kV = kilovolt; LADWP = Los Angeles Department of Water and Power; NRHP = National Register of Historic Places; SCE = Southern California Edison

5.5 Research

Qualified architectural historians conducted research using historic topographic maps, historic aerial photographs, AncestryLibrary.com, Newspapers.com, building permits accessed through the Kern County Building & Development, and Kern County Assessor data accessed through the subscription service ParcelQuest. Where the assessor data did not provide construction dates, architectural historians reviewed historical maps and identified an approximate construction date.

Qualified architectural historians examined historical maps, including USGS quadrangle maps and aerial photographs from Nationwide Environmental Title Research Online and University of California Santa Barbara FrameFinder. Qualified architectural historians reviewed the David Rumsey Historical Map Collection and the U.S. Department of the Interior Bureau of Land Management's General Land Office Records for information regarding historical property ownership. The County of Kern was not able to provide ownership or occupant history, and building permit records were limited to microfiched online records.

5.6 Field Survey

On June 8, 2021, Katrina Castaneda and Stephanie Hodal conducted a reconnaissance survey from the public right-of-way. To the extent possible and with limited visibility at several locations due to distant buildings and intervening vegetation, they observed and recorded built environment resources 45 years old or older with photographs and noted alterations. On December 28, 2021, qualified architectural historians Stephanie Hodal and Margaret Roderick conducted an additional survey of five resources to gather sufficient information to evaluate them. Millie Mujica and Margaret Roderick conducted a reconnaissance-level survey of the Willow Springs CHL and former Ezra Hamilton property at Willow Springs from the public right-of-way on March 24, 2023. These resources are predominantly located on private property that could not be accessed for intensive-level survey. Table 5-2 summarizes the evaluated resources.

ICF submitted letters to property owners in November 2021, requesting approximately 30 minutes of access to eight properties in order to adequately survey building exteriors and conduct evaluations for CRHR eligibility. No responses were received. Although ICF could not obtain property access to eight built environment properties, architectural historians were able to glean sufficient information from aerial photography, property research, and observation from the public right-of-way to evaluate them. **Error! Reference source not found.** summarizes these resources.

Table 5-2. Evaluated Built Environment Resources

Resource ID	Location/Name	Property Type	Year Built
01	6195 105th Street	Residential	1964
02	6149 105th Street	Residential	1968
03	APN 346-032-55-00-4 (no address available)	Agricultural	1968
04	8715 Favorito Avenue	Residential, Agricultural	1970
05	5488 Tehachapi–Willow Springs Road	Residential	1963
06	10145 Hamilton Road	Residential	1963

Resource ID	Location/Name	Property Type	Year Built
07	10085 Hamilton Road	Residential	1940
08	10057 Hamilton Road	Residential	1951
O9	Willow Springs CHL No. 130	Stage Station	c. 1862
10	3045 90th Street West #A&B	Residential	1956
11	9009 Rosamond Boulevard	Commercial, Residential	c. 1959
12	2973 95th Street	Residential	–
13	9580 West Rosamond Boulevard	Residential	1955
14	9650 West Rosamond Boulevard	Residential	c. 1963
15	9668 West Rosamond Boulevard	Residential	c. 1963
16	9714 West Rosamond Boulevard	Residential	1919
17	2860 100th Street	Residential	c. 1945
18	8738 Rosamond Boulevard	Residential	c. 1945
19	2655 95th Street (Quonset Hut)	Residential	c. 1950s–1960s
22	LADWP 500-kV Pacific Intertie Transmission Line	Transmission Line	c. 1965–1970
23	LADWP Owens Gorge 230-kV Transmission Line, P-15-018681	Transmission Line	1950–1952
24	Hamilton Property	Agricultural, Residential, Hotel, and Restaurant	c.1900–1914
25	First Los Angeles Aqueduct, P-15-003549H	Water, Engineering Feature	1907–1913
26	SCE Vincent (Big Creek No. 3) 220-kV Transmission Line, P-15-017243 (Antelope–Magunden No. 2 220-kV Transmission Line today)	Transmission Line	1925–1927
27	SCE Big Creek No. 4 220-kV Transmission Line, P-20-003145) (Antelope–Mesa 500-kV Transmission Line today)	Transmission Line	1949–1951
28	2655 95th Street (Mobile Homes)	Residential	c. 1963–1972

APN = Assessor's Parcel Number; kV = kilovolt; LADWP = Los Angeles Department of Water and Power; SCE = Southern California Edison

Chapter 6
Results

6.1 Introduction

Of the 26 resources recorded during field surveys, qualified architectural historians newly evaluated 22 resources and updated four previous evaluations. DPR Forms 523 for these 24 resources are in Appendix B.

Figure 6-1. and Appendix A depict the 26 resources.

6.2 Historical Resources (CRHR-Eligible)

Three resources are listed in or eligible for listing in the CRHR. Table 6-1 summarizes these findings. All of these resources were previously evaluated and listed in the CRHR and are therefore CEQA historical resources. ICF's architectural historians field-verified these resources and confirmed that their integrity is sufficient to convey their significance. Significance statements, character-defining features summaries, and integrity assessments within the study area are provided below. The three linear resources are depicted in Figure 6-1. Appendix B provides updated DPR forms.

Table 6-1. Historical Resources (CRHR-Eligible)

Resource ID	Location/Name	Year Built	Status Code	Eligible Criterion/a
22	LADWP 500-kV Pacific Intertie Transmission Line	1965–1970	2S2	1 and 3
25	First Los Angeles Aqueduct, P-15-003549H	1907–1913	2D2	1 and 2
26	SCE Vincent (Big Creek No. 3) 220-kV Transmission Line, P-15-017243 (Antelope–Magunden No. 2 220-kV Transmission Line today)	1925–1927	1D	1, 2, and 3

kV = kilovolt; LADWP = Los Angeles Department of Water and Power; SCE = Southern California Edison

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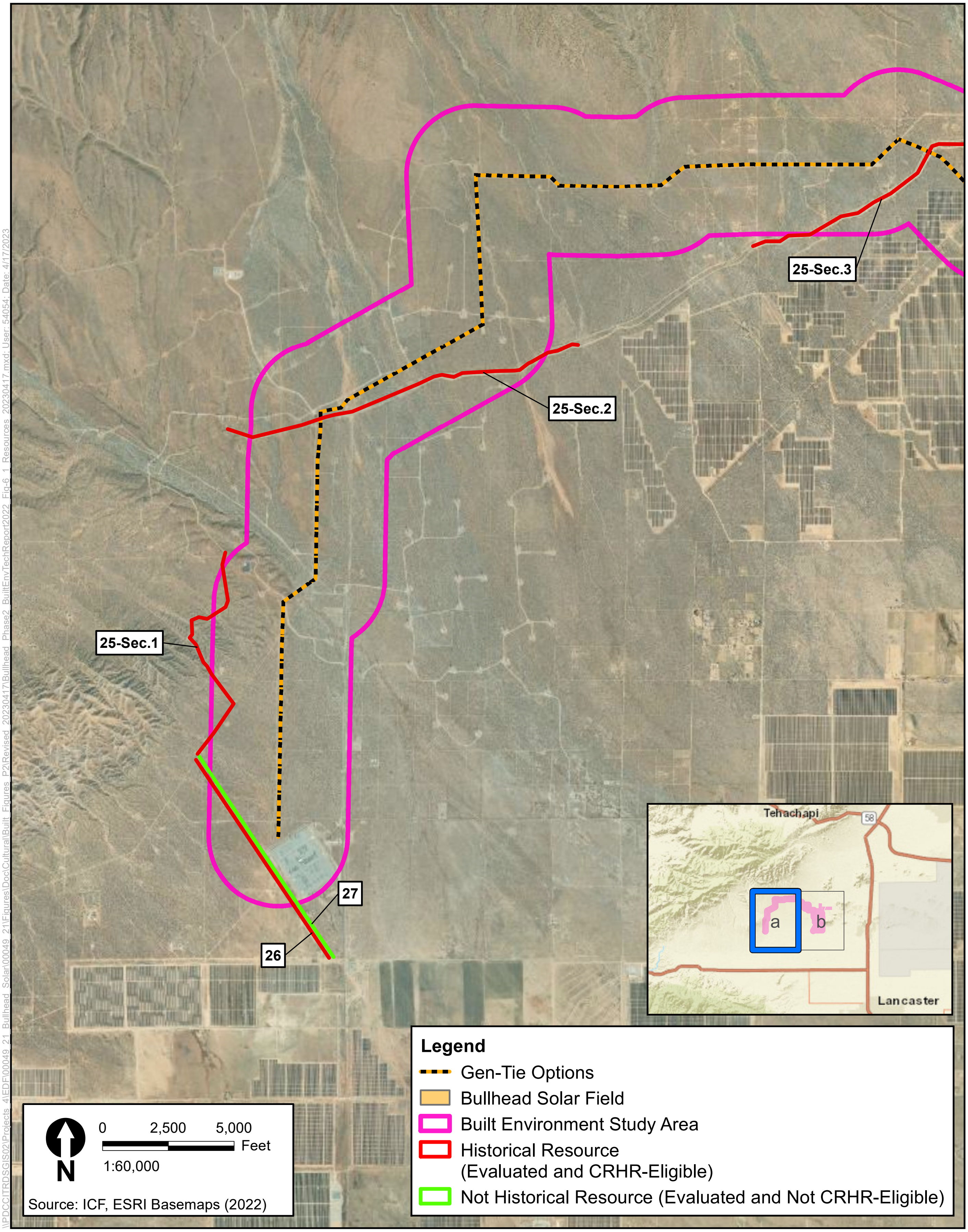

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Figure 6-1a
Built Environment Resources

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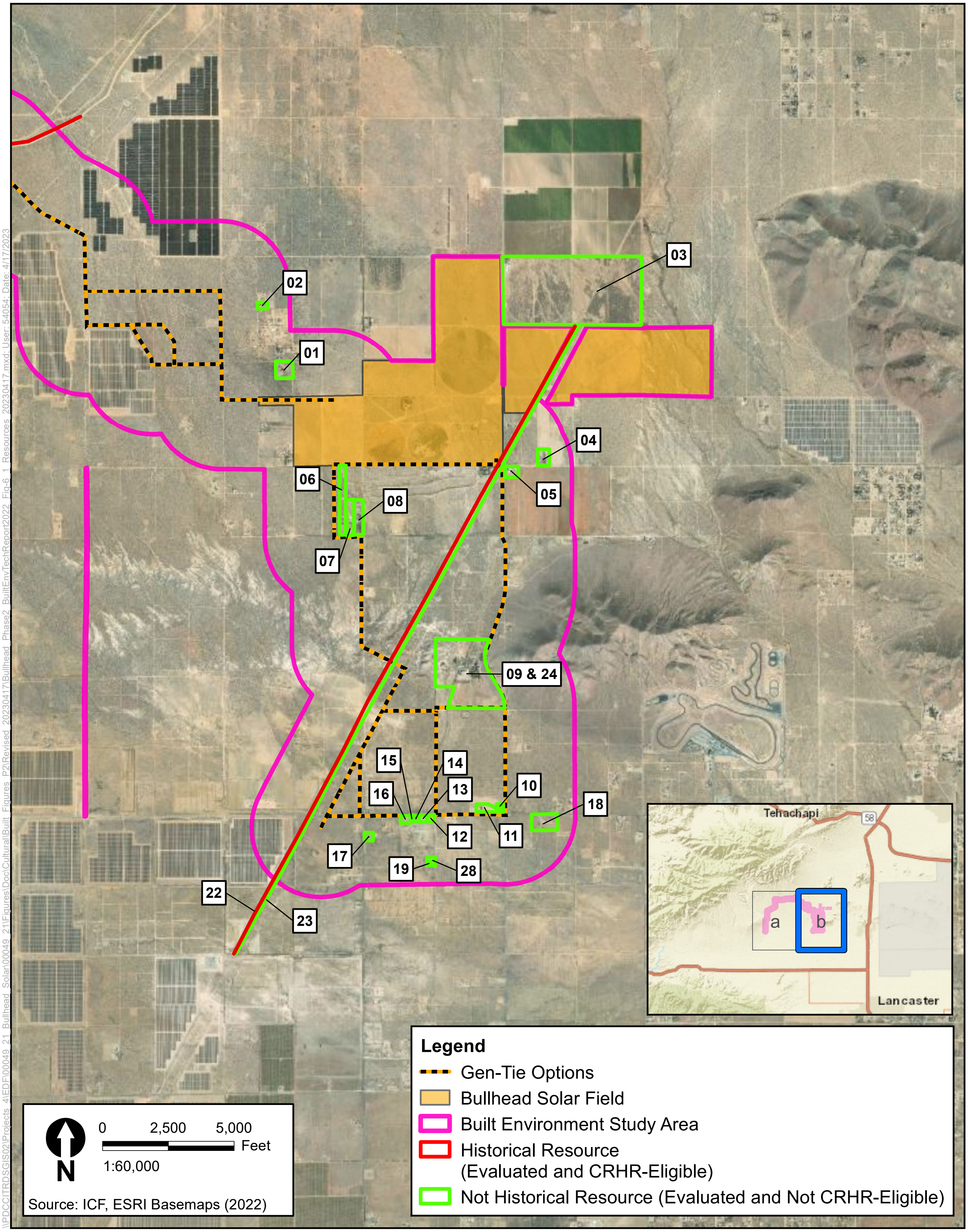

Figure 6-1b
Built Environment Resources

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6.2.1 Resource ID #22: LADWP 500-kV Pacific Intertie Transmission Line

This 5-mile section of the 845-mile long Pacific Direct Current Intertie (PDCI) runs from the northeast at McConnell Avenue, between Tehachapi Willow Springs Road and 80th Street West, to the southwest at Holiday Avenue between 110th Street West and 105th Street West. The PDCI is also known as the Celilo–Sylmar line. The subject section of the line occupies the west side of the LADWP Easement, an unpaved service road that serves as a corridor for two additional lines: the LADWP Owen's Gorge 230-kV transmission line, also known as Barren Ridge–Rinaldi in this segment, runs parallel to the Pacific DC Intertie on east side of the LADWP Easement; the LADWP Barren Ridge–Haskell Canyon transmission line runs east of and parallel to Barren Ridge–Rinaldi. Additional transmission and distribution lines cross or temporarily enter, parallel, and exit the corridor near Favorito Avenue, Rosamond Boulevard, and Leslie Avenue. The surrounding area is rural and sparsely populated, with few paved roads. The surrounding desert landscape features weathered loamy sand, silt, and clay soil and low scrub vegetation (Dibblee 1963:203).

This segment of the PDCI uses metal-lattice guyed and self-supporting towers. The guyed towers have a tall, slender, square body that supports a single cross-arm (Plate 6-1). The two-phase circuit suspends paired conductor cable on either side of the cross-arm; ground wires run on a parallel plane above the circuit, supported on the tips of the tower peak. The tower body tapers at its base, connecting to a square mounting plate bolted into a circular concrete footing. Guy wires anchored in concrete footings stabilize the columnar structure. The self-supporting towers, wide and square at their base, taper up to a narrow square body that supports a single cross-arm (Plate 6-2). As on the guyed tower, paired conductor cable is suspended from either side of the cross arm, and ground wires connect to the tower's peak. The self-supporting towers stand on four legs set into individual round concrete footings. Designed by the Bureau of Reclamation and the LADWP, the metal-lattice towers for the DC line were a new purpose-built form, with a small, light structure supporting equipment for two-phase power transmission. By using bundled conductors, the project engineers increased the acceptable spacing between towers, thereby reducing material and construction costs along the line. Character-defining features (CDFs) of the line include the two metal-lattice tower designs, the alignment within the right-of-way, the paired conductor cable that forms each two-phase circuit, and the paired ground wires.

Work on the PDCI began in 1965, including planning, surveying, and construction. Construction on the mercury-arc converter station at Celilo Substation in Oregon ran from 1965 to 1969, under the direction of the Bonneville Power Authority, and construction on the similar substation at Sylmar ran from 1966 to 1969, under the direction of the LADWP. The first tests on the system occurred in late 1969, and the circuit initiated service in May 1970. At its completion, PDCI was the longest High Voltage Direct Current (HVDC) transmission line in the world and the first long-distance HVDC transmission line in the United States (ElectricalWest 1965:41, 1968a:28, 1970:37; Lindseth 1965:70; Schneider 1970:20; Norwood 1981:246).

The evaluated segment of the PDCI retains integrity relative to its historic period of significance, the period of construction and initial operation, from 1965–1970. Furthermore, it is a contributing segment in the overall Pacific Northwest–Pacific Southwest Intertie system under the CRHR Criteria 1 and 3. The PDCI is significant under Criterion 1 because the DC component in the first transregional extra-high-voltage transmission grid in the country and for its integration of federal, municipal, and investor-owned transmission networks. The PDCI is significant under Criterion 3 for its development and design of HVDC transmission technology. The recorded segment is a historical resource for the purposes of CEQA.

On July 12, 2019, the California SHPO concurred that the Pacific Intertie was eligible for listing to the NRHP under criteria A and C, giving it a status code of 2S2.

Plate 6-1. Typical Guyed Tower of the LADWP Pacific Intertie 500-kV Transmission Line

Plate 6-2. Typical Self-Supporting Tower of the LADWP Pacific Intertie 500-kV Transmission Line

6.2.2 Resource ID #25: First Los Angeles Aqueduct, P-15-003549H

The First Los Angeles Aqueduct (P-15-003549H)

The portion that falls within the study area was part of the Aqueduct's first phase of construction, between 1907 and 1913. The larger aqueduct system beyond these segments spans 215 miles, carrying water from the Owens River into the San Fernando Valley and comprises concreted aqueducts, reservoirs, dams, siphons, and other features.

Julia Costello, Judith Marvin, and Judy Tordoff of Foothill Resources, Ltd., first recorded the resource in 1992. Although they did not provide a formal evaluation of the resource, they remarked that the

Los Angeles Aqueduct, along with construction camps, railroad spurs, pump sites, and other related features, could be eligible as an NRHP district. Developed by William Mulholland, Chief Engineer for the LADWP, on its completion, per the 1992 report, it was the third-largest engineering achievement of its time, after the New York City aqueduct system and the Panama Canal.

In 2006, a report on the Los Angeles Aqueduct similarly found it eligible for listing to the NRHP as the First Los Angeles Aqueduct Historical Archaeological District. In 2010, A. Fergusson, H. Calicher, R. Rolston, and N. Lawson of CH2M Hill remarked that this segment appears to be a contributing element to the entire resource's overall eligibility under CRHR Criterion 1 for its successful development of the City of Los Angeles and to the development of southern California and under Criterion 2 for its strong association to William Mulholland, whose large-scale engineering projects, such as the Aqueduct, shaped the city's development.

Three segments of the aqueduct traverse the study area for a total of 6.5 miles. All segments are subsurface and channelized at this location, belowground at Aqueduct Road (Plate 6-3). The primary CDF at these segments is the aqueduct's undisturbed, underground nature. Due to its concealed underground location and unchanged setting, this resource retains integrity. This resource qualifies as a historical resource under CEQA because of previous evaluations that found it eligible for the NRHP and has a 2S2/2D2 status code. It remains unclear whether the SHPO ever concurred with the previous NRHP evaluation of the Los Angeles Aqueduct, or if the resource is actually listed in the CRHR.

Plate 6-3. View of First Los Angeles Aqueduct (underground) facing north, photo taken east of 172nd Street West

6.2.4 Resource ID #26: SCE Vincent (Big Creek No. 3) 220 kV Transmission Line, P-15-017243

The 224-mile-long SCE Vincent (Big Creek No. 3) 220-kV Transmission Line (P-54-005027) qualifies as a historical resource under CEQA by virtue of its status as a contributor to the Big Creek Hydroelectric System Historic District. It was constructed between 1925 and 1927 and is known historically as the Big Creek No. 3 Transmission Line, today identified by SCE as the Antelope–Magunden No. 2 Transmission Line. The Big Creek Hydroelectric System Historic District was first determined eligible for listing in the NRHP in 1993. In 2016, SCE nominated the resource for the NRHP, and it was listed in the NRHP under Criteria A, B, and C for association with the electrification and industrialization of southern California and the Los Angeles region and innovative electrical engineering technology. As a contributor to a property listed in the NRHP, the Vincent 220-kV Transmission Line is automatically listed in the CRHR. It therefore has a 1D status code.

The portion within the study area spans 1.75 miles and has a northwest–southeast orientation, with its southeastern point at Holiday Avenue. CDFs at this segment include steel-lattice towers and the alignment within the study area. Plate 6-4 and Plate 6-5 depict portions of the resource.

Plate 6-4. Typical tower of SCE Vincent (Big Creek No. 3) 220-kV Transmission Line

Plate 6-5. View of two SCE Vincent (Big Creek No. 3) 220-kV Transmission Line towers, lefthand side of photograph, facing west

6.3 Not Historical Resources (CRHR-Ineligible)

Qualified architectural historians found 23 resources not eligible for listing to the CRHR, including the Willow Springs CHL No. 130, the site of a former nineteenth-century stage station. Unlike CHL Nos. 770 and above, CHL Nos. 1–769 are not automatically listed in the CRHR. They are considered culturally sensitive sites or places requiring evaluation to assess whether they constitute built environment resources with CRHR eligibility potential. Architectural historians conducted a reconnaissance survey sufficient to support a CRHR evaluation. They concluded that intact buildings and structures dating to the stage station's operation are not present at the site, and that the CHL is therefore not eligible for CRHR listing as a built environment resource. The CHL is also the site of several parcels containing buildings and structures developed as part of Ezra Hamilton's property beginning in circa 1900–1914. Architectural historians conducted a reconnaissance-level survey of the Hamilton property and evaluated it for CRHR eligibility. The former Hamilton property was found potentially significant under CRHR Criterion 3 for the presence of buildings and structures that could be considered important examples of a type, period, or method of construction. However, the former Hamilton property was determined to retain insufficient historic integrity to convey significance under Criterion 3 and was found ineligible for the CRHR. Table 6-2 lists the built environment resources found ineligible for the CRHR.

Table 6-2. Not Historical Resources (CRHR-Ineligible)

Resource ID	Location/Name	Property Type	Year Built
01	6195 105th Street	Residential	1964
02	6149 105th Street	Residential	1968
03	APN 346-032-55-00-4 (no address available)	Agricultural	1968
04	8715 Favorito Avenue	Residential, Agricultural	1970
05	5488 Tehachapi–Willow Springs Road	Residential	1963
06	10145 Hamilton Road	Residential	1963
07	10085 Hamilton Road	Residential	1940
08	10057 Hamilton Road	Residential	1951
09	Willow Springs CHL No. 130	Stage Stop	c. 1862
10	3045 90th Street West #A&B	Residential	1956
11	9009 Rosamond Boulevard	Commercial, Residential	c. 1959
12	2973 95th Street	Residential	c. 1959
13	9580 W. Rosamond Boulevard	Residential	1955
14	9650 West Rosamond Boulevard	Residential	c. 1963
15	9668 West Rosamond Boulevard	Residential	c. 1963
16	9714 West Rosamond Boulevard	Residential	1919
17	2860 100th Street	Residential	c. 1945
18	8738 Rosamond Boulevard	Residential	c. 1945
19	2655 95th Street (Quonset Hut and House)	Residential	c. 1950s–1960s
20	APN 358-211-06-00-04 (no address available)	Residential	c. 1963

Resource ID	Location/Name	Property Type	Year Built
23	LADWP Owens Gorge 230-kV Transmission Line, P-15-018681	Transmission Line	1950–1952
24	Hamilton Property	Agricultural, Residential, Hotel and Restaurant	c. 1900–1914
27	SCE Big Creek No. 4 220-kV Transmission Line, P-20-003145) (Antelope–Mesa 500-kV Transmission Line today)	Transmission Line	1949–1951
28	2655 95th Street (Mobile Homes)	Residential	c. 1963–1972

APN = Assessor's Parcel Number; kV = kilovolt; LADWP = Los Angeles Department of Water and Power; SCE = Southern California Edison

Chapter 7
Impact Analysis

7.1 Introduction

This chapter assesses the project's potential to result in impacts on built environment resources that qualify as historical resources under CEQA. A project can have a significant impact on a historical resource if it causes a substantial adverse change in the significance of a historical resource. A substantial adverse change can occur when physical demolition, destruction, relocation, or alteration of a historical resource or its immediate surroundings materially impairs the significance of the resource. Potential impacts on the three built environment resources in the study area that qualify as historical resources under CEQA are assessed below.

7.2 Resource ID #22: LADWP 500-kV Pacific Intertie Transmission Line

The proposed project would not damage or physically alter the steel lattice towers or the paired conductor cable ground wires and circuits that form the LADWP 500-kV Pacific Intertie Transmission Line. No element of the resource would be relocated in association with the project, and the transmission line would continue to function as a transmission line owned and operated by LADWP. Gen-tie options, including Rosamond Gen-Tie Options 1, 2, and 3, would introduce a new transmission line ranging in height up to a maximum of 160 feet near a limited portion of the LADWP 500-kV Pacific Intertie Transmission Line.

Implementation of one of these gen-tie options, including any subvariation option, would alter the immediate setting of the historical resource in limited areas. However, the subject transmission line exists within an easement containing multiple transmission lines, and the more recently constructed Windhub to Antelope 500-kV Transmission Line is aligned northward near the historical resource. Additional transmission lines and wind turbines located approximately 6 miles to the west are also visible from the LADWP 500-kV Pacific Intertie Transmission Line alignment. The overall high-desert setting of the majority of the LADWP 500-kV Pacific Intertie Transmission Line alignment across the entirety of the Antelope Valley would not be transformed by implementation of a Bullhead Solar gen-tie option in the vicinity of Willow Springs. Although altered by transmission line and renewable energy development since the construction of the LADWP 500-kV Pacific Intertie Transmission Line in the late 1960s, the setting of this historical resource would remain recognizable to a historical contemporary, such as someone who participated in resource's construction. Finally, viewsheds to the east and west are not high-ranking character-defining features that convey the LADWP 500-kV Pacific Intertie Transmission Line's historical and technological significance. For these reasons, impacts on the LADWP 500-kV Pacific Intertie Transmission Line from implementation of one of the gen-tie options would be less than significant.

7.3 Resource ID #25: First Los Angeles Aqueduct, P-15-003549H

The proposed project would not damage or physically alter the First Los Angeles Aqueduct, which consists entirely of a subsurface channelized structure within the study area. No portion of this underground linear resource would be relocated as part of the proposed project, and the aqueduct would continue to function as an underground water conveyance structure owned and operated by LADWP. The Whirlwind Gen-Tie Option 1, including segments that would be co-located on existing Antelope Valley Transmission Line poles, would be located within close to relatively close proximity to the aqueduct within portions of the western study area. The existing Windhub to Whirlwind 500-kV and Antelope Valley Transmission Lines and numerous wind turbines found within the study area have altered viewsheds from the aqueduct alignment to the northwest and southeast over the last 50 years. However, these viewsheds are not character-defining features that convey the significance of underground portions of the 215-mile-long aqueduct in the vicinity of the proposed project. The introduction of a new gen-tie line and the use of existing transmission line poles for portions of Whirlwind Gen-Tie Option 1 would have no impact on the First Los Angeles Aqueduct.

7.4 Resource ID #26: SCE Vincent (Big Creek No. 3) 220 kV Transmission Line, P-15-017243

The proposed project would not damage or physically alter any portion of the Vincent (Big Creek No. 3) 220-kV Transmission Line in the project vicinity, which SCE has renamed the Antelope–Magunden No. 2 Transmission Line. This transmission line's character-defining features include its steel lattice towers and original surviving alignment. None of the transmission line's towers would be relocated in association with the project. The Vincent (Big Creek No. 3) 220-kV Transmission Line would continue to function as a transmission line owned and operated by SCE.

Gen-tie Whirlwind Gen-Tie Option 1 would be aligned east of the Vincent (Big Creek No. 3) 220-kV Transmission Line, adjacent to and east of an existing transmission line constructed within the last 50 years. The nearest Vincent (Big Creek No. 3) 220-kV Transmission Line tower to Whirlwind Gen-Tie Option 1 is approximately 950 feet to the west. Additionally, the Vincent (Big Creek No. 3) 220-kV Transmission Line is aligned adjacent to (within 175 feet) of an additional transmission line constructed between 1965 and 1974, decades after the construction of the Vincent (Big Creek No. 3) 220-kV Transmission Line (USGS 1965c). Numerous wind turbines to the north and northeast have also altered viewsheds in the area. Given the nature of the historical resource's character-defining features (original towers and alignment), its overall length (224 miles), and the limited degree to which Whirlwind Gen-Tie Option 1 would alter a setting characterized by numerous existing transmission lines and wind turbines, the proposed project would have a less-than-significant impact on the Vincent (Big Creek No. 3) 220-kV Transmission Line.

Chapter 8
Conclusions and Recommendations

8.1 Formally Evaluate Built Environment Resources in the Study Area

ICF architectural historians identified a total of 26 built environment resources within the study area. Three of these qualify as historical resources under CEQA: the LADWP 500-kV Pacific Intertie Transmission Line; First Los Angeles Aqueduct, P-15-003549H; and the SCE Vincent (Big Creek No. 3) 220-kV Transmission Line, P-15-017243 (today's Antelope–Magunden No. 2 220-kV Transmission Line). Relevant project elements in the vicinity of these three historical resources were analyzed for potential impacts. Architectural historians have concluded that the project would have no impact on the First Los Angeles Aqueduct, and less-than-significant impacts on the LADWP 500-kV Pacific Intertie and SCE Vincent (Big Creek No. 3) 220-kV Transmission Lines. Twenty-three additional built environment resources were evaluated and found ineligible for the CRHR. Those 23 resources do not, therefore, qualify as historical resources for the purposes of CEQA. Neither additional analysis nor any mitigation involving built-environment cultural resources is recommended.

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Chapter 10
Personnel

Table 10-1 provides a complete list of the key contributors to this report and their respective roles.

Table 10-1. List of Key Contributors

Name	Qualifications	Role and Responsibilities
Technical Report Authors		
Tim Yates[1]	PhD	Author
Katrina Castaneda	N/A	Author
Hanna Winzenried[1]	MA	Author
Colleen Davis[1]	MA	Quality assurance/quality control, Author
Tamar Love Grande	MA	Editor and Publications Specialist
DPR Authors		
Inga Gudmundsson	N/A	Author
Hanna Winzenried[1]	MA	Author
Maureen McCoy[1]	MA	Author
Corey Lentz[1]	MA	Author
Caitlin Greeley	MA	Author
Margaret Roderick[1]	MA	Author
Stephanie Hodal[1]	MA	Author
Katrina Castaneda	N/A	Author
Jessica Feldman[1]	MA	Quality assurance/quality control
Field Crew		
Stephanie Hodal[1]	MA	Field technician
Katrina Castaneda	N/A	Field technician
Margaret Roderick[1]	MA	Field technician
Specialists		
Shane Sparks[2]	MA	GIS map and figure production
Melissa Cascella[2]	MA	Database production

[1] Federally qualified professional historian (36 Code of Federal Regulations 61).
[2] Federally qualified professional archaeologist (36 Code of Federal Regulations 61).

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Please note that the maps and DPR forms in the following appendices cover a larger study area effective prior to May 2022. However, the updated body of the *Bullhead Solar Built Environment Phase II Technical Report* (dated April 2023) addresses the resources associated with the refined project boundary.

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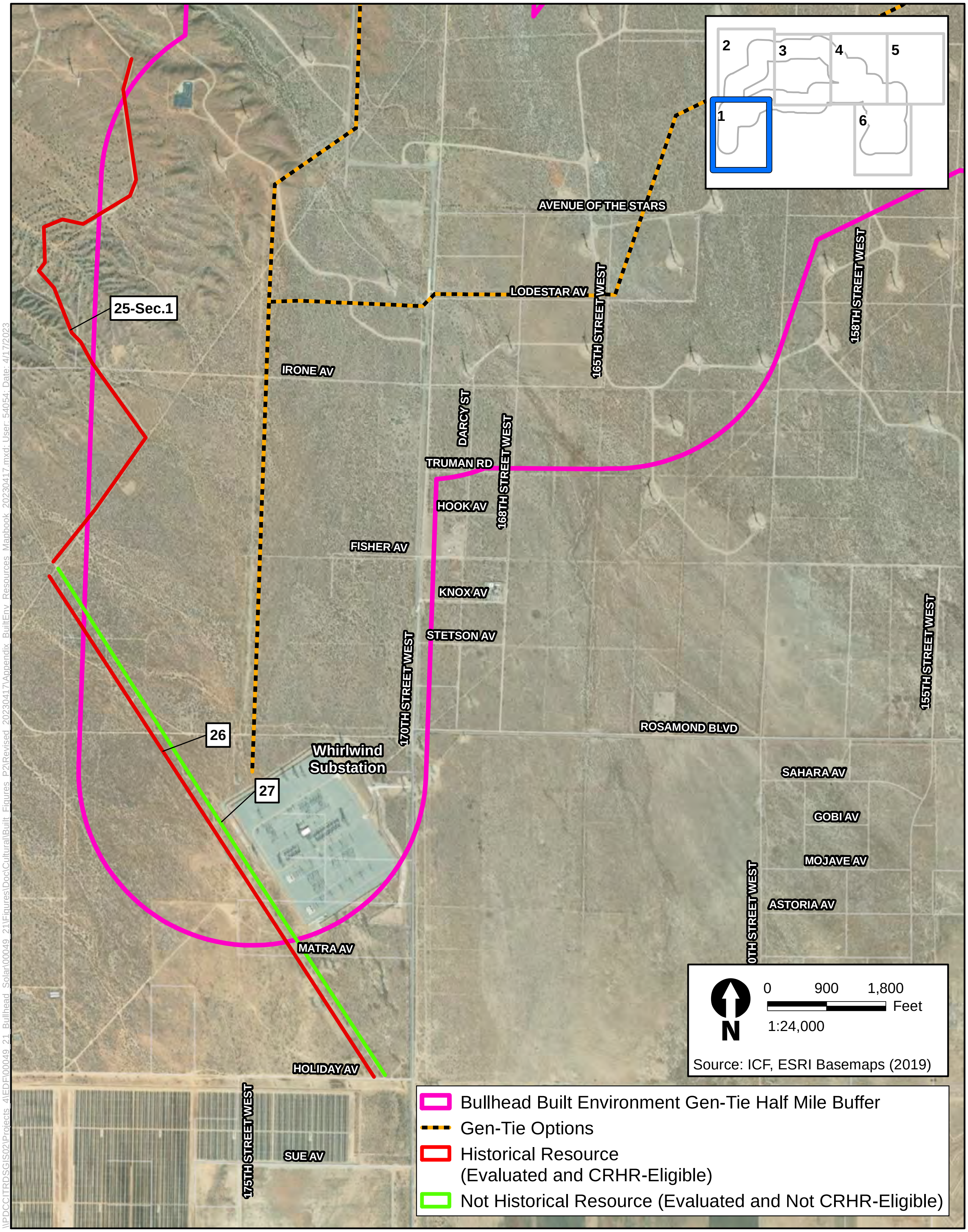
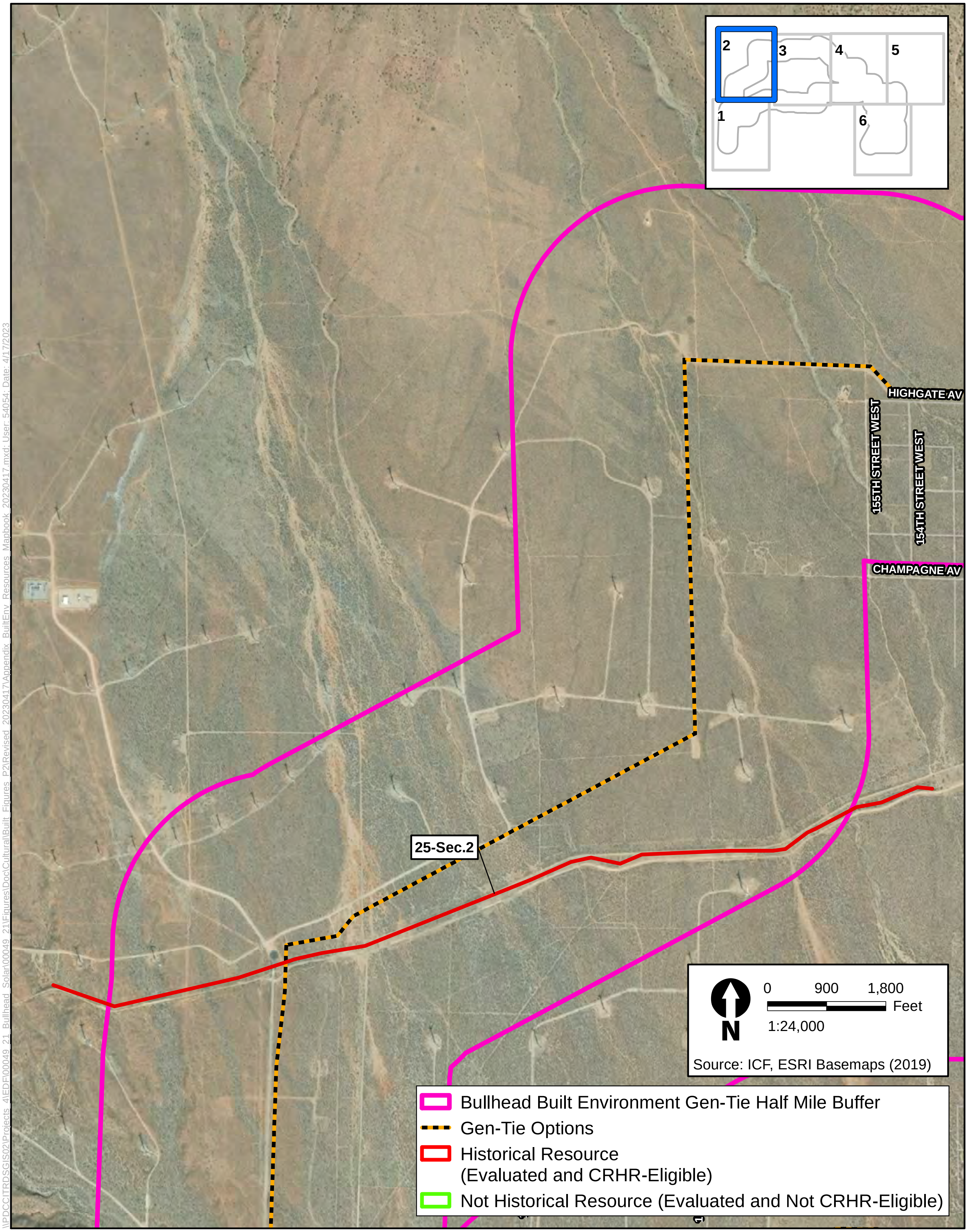
Appendix A

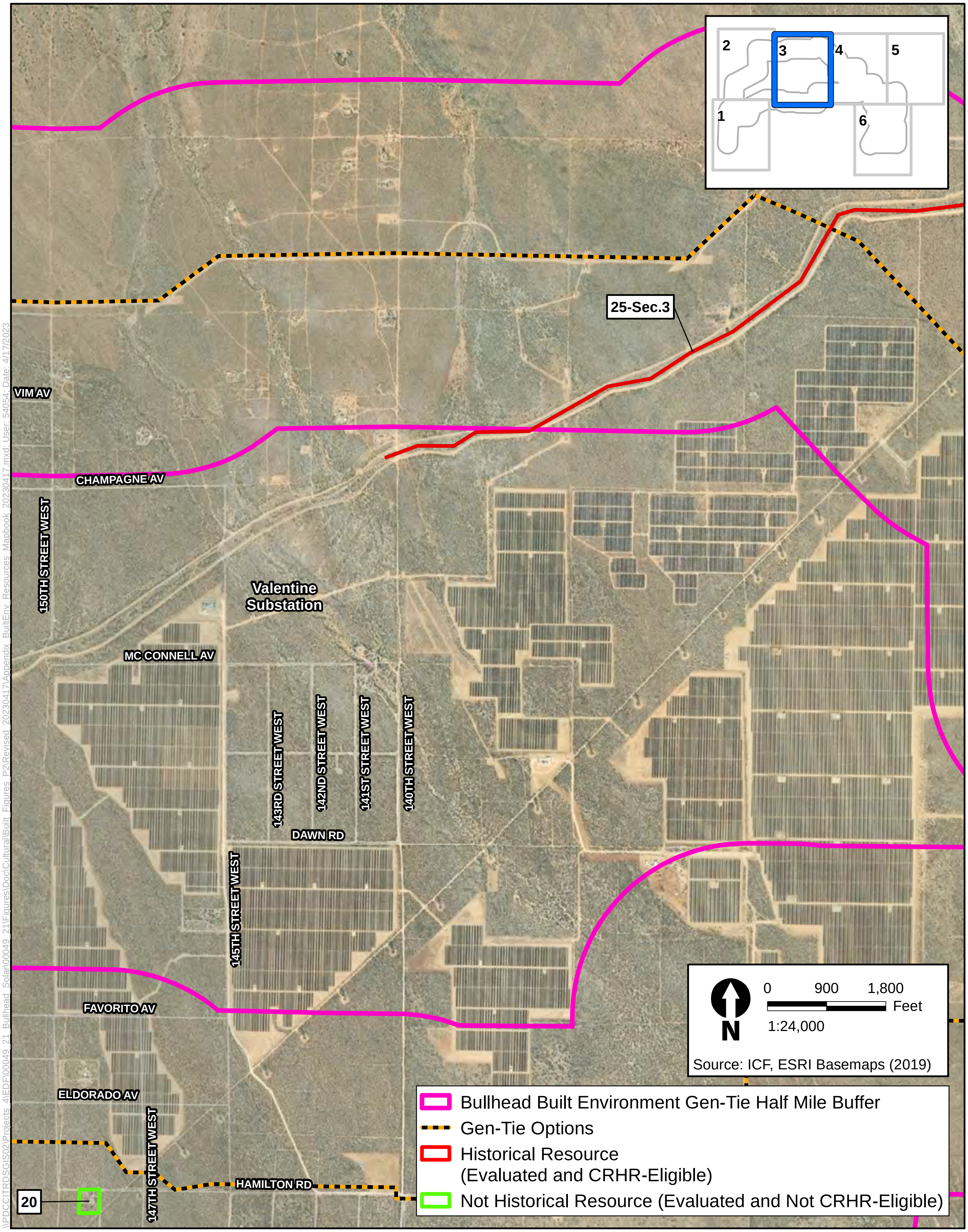
Built Environment Resources Map Book



Appendix A, Sheet 1
Built Environment Resources



Appendix A, Sheet 2
Built Environment Resources



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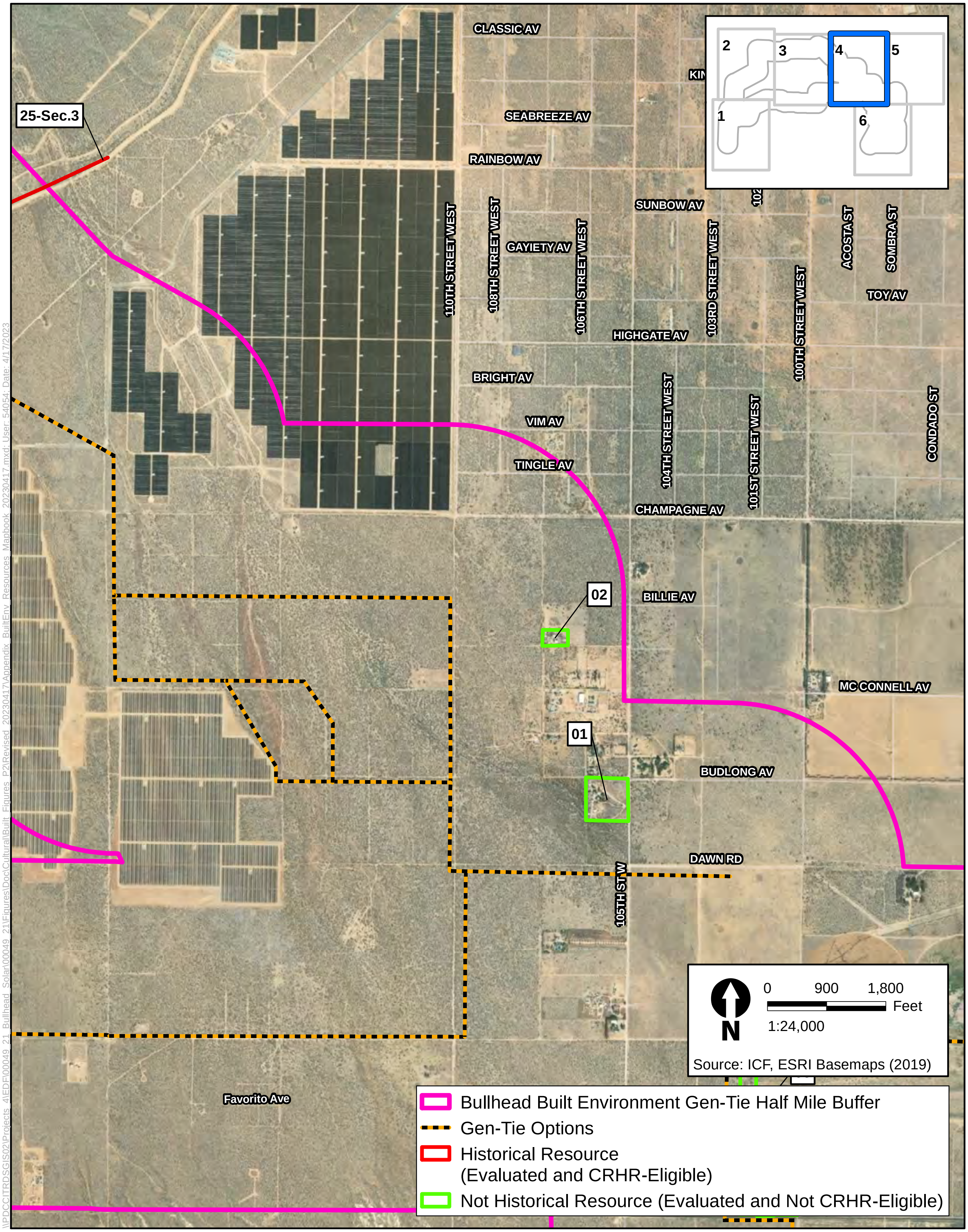

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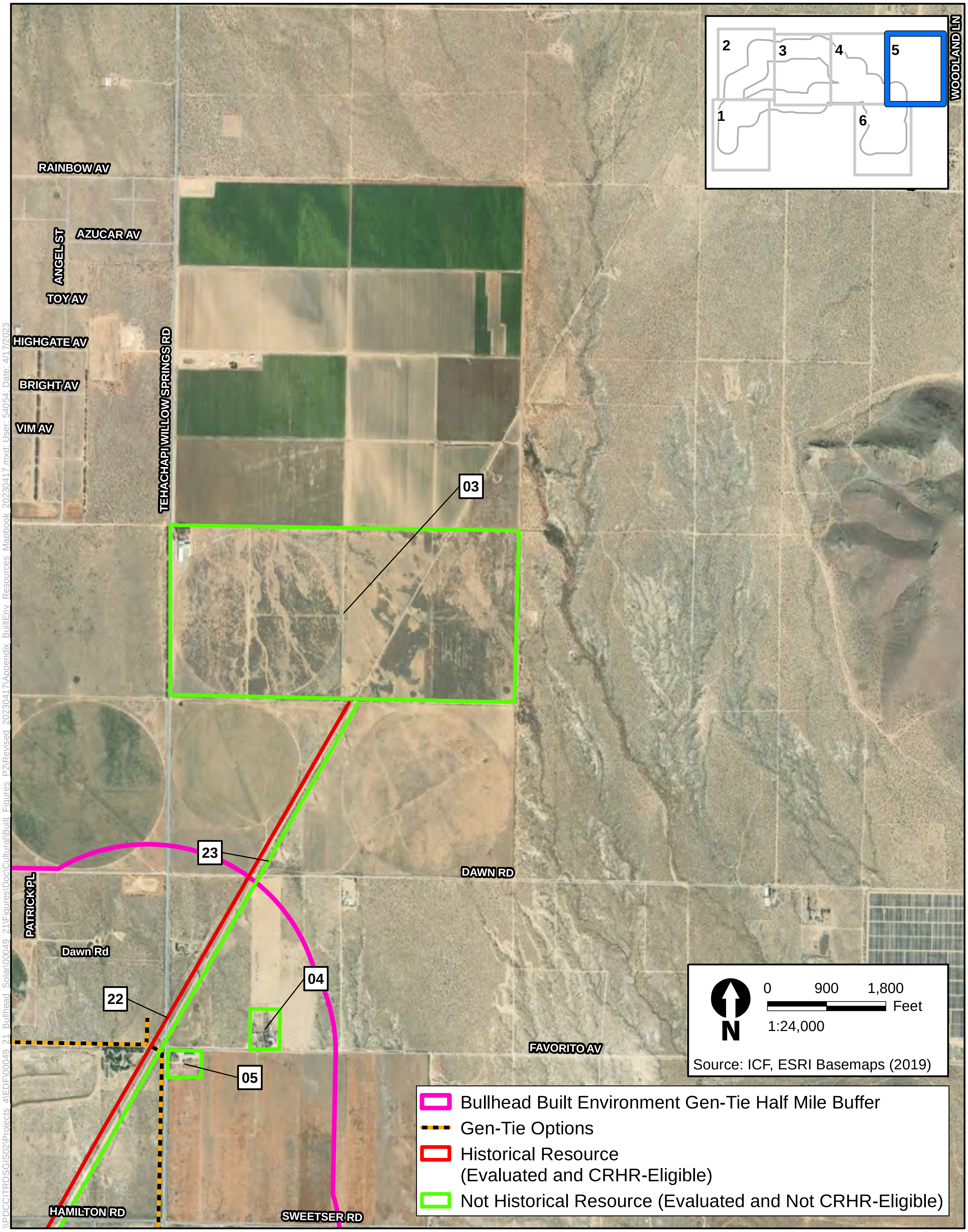
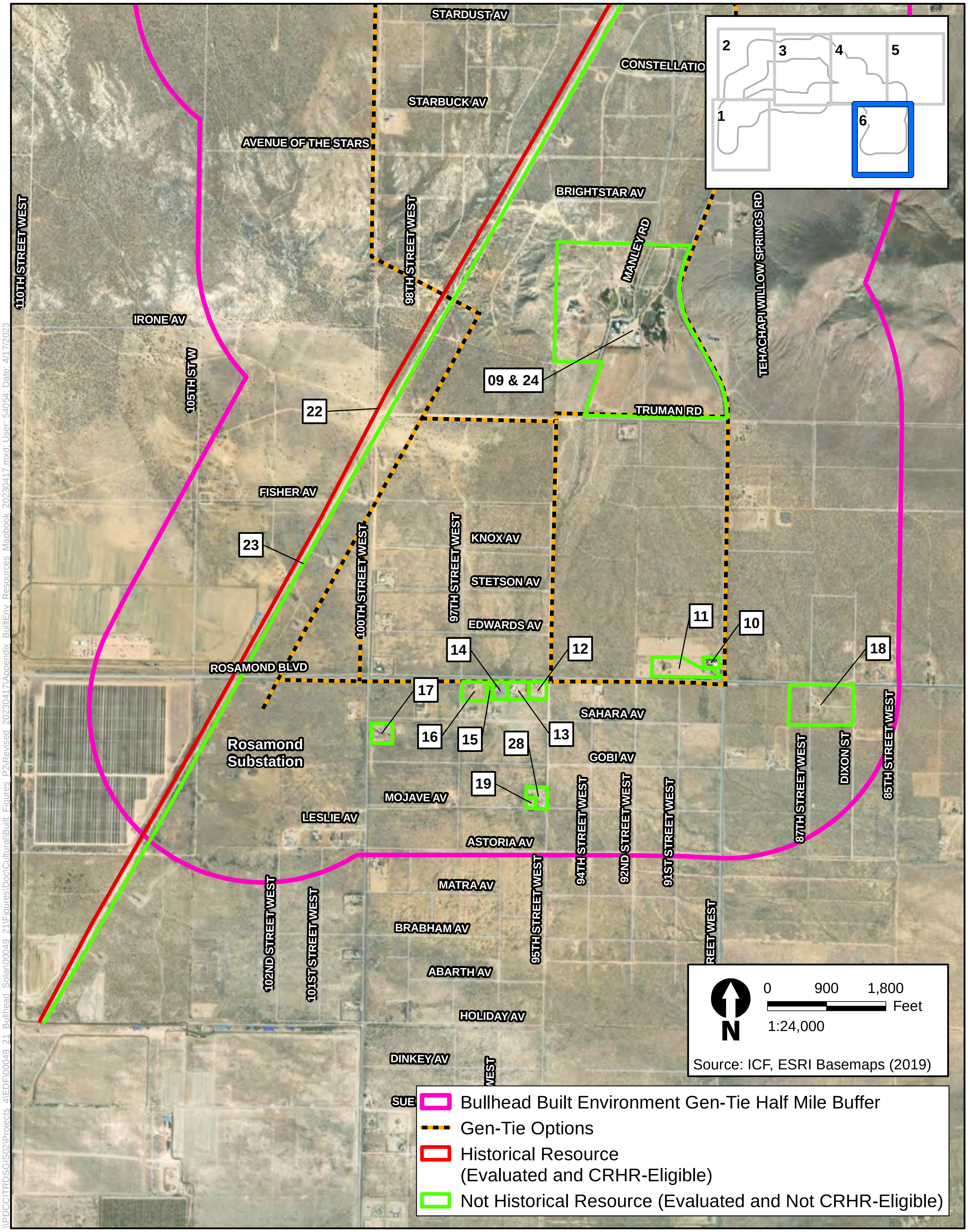
Built Environment Resources



Appendix A, Sheet 5
Built Environment Resources



Appendix A, Sheet 6
Built Environment Resources

Appendix B

DPR 523 Forms

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Appendix C

Property Access Request Letters

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State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HR #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code Reviewer Date

Resource Name or # (Assigned by recorder): Resource ID 01, 6195 105th Street

P1. Other Identifier: 6195 105th Street

*** P2. Location:** ☐ Not for Publication ☑ Unrestricted

***a. County** **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** **Date** **T ; R ; 1/4 of 1/4 of Sec ; B.M.**

c. Address 6195 105th Street City Rosamond Zip

d. UTM: (Give more than one for large and/or linear feature) Zone , mE/ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)

; 474-120-12-00-5

*** P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

The subject residence is located at 6195 105th Street West, Rosamond, Kern County, California 93560. The property comprises Block 12 of S ½ of Section 36 Township 10 N Range 14 W, a 10.03-acres square parcel on 105th Street West between Yucca Avenue and Dawn Road in unincorporated Kern County to the northwest of Willow Springs. The property, owned by Jason Young, is minimally developed with the centrally located single-family residence and several ancillary structures and has flat terrain, trees and shrubs, and a series of internal roads connecting 105th Street West to the residence and various structures on the property. The residence was constructed in 1964.

The residence is one-story side-gabled building oriented on a diagonal axis set back roughly 400 feet west of the property line at 105th Street West. (See continuation sheet.)

*** P3b. Resource Attributes:** HP2. Single family property

*** P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, etc.)
Northeast elevation, facing south 06/08/2021

*** P6. Date Constructed/Age and Sources:**
☐ Prehistoric ☑ Historic ☐ Both
1964 (Factual) Tax Assessor

*** P7. Owner and Address:**
Jason Young
6195 105th Street West
Rosamond, CA 93560

*** P8. Recorded by:** (Name, affiliation, address)
Corey Lentz
ICF
1200 6th Avenue, Suite 1800, Seattle, WA 98101

*** P9. Date Recorded:** 01/24/2022

*** P10. Survey Type:** (Describe)

*** P11. Report Citation:** (Cite survey report/other sources or "none")

* **Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☑ Continuation Sheet ☑ Building, Structure, and Object Record
☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record
☐ Photograph Record ☐ Other: (List)

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary #
HR #

BUILDING, STRUCTURE, AND OBJECT RECORD

*Resource Name or # (Assigned by Recorder): Resource ID 01, 6195 105th Street
* NRHP Status Code 6Z

B1. Historic Name: None
B2. Common Name: 6195 105th Street
* B3. Original Use: Residence
B4. Present Use: Residence
* **B5. Architectural Style:** Ranch
B6. Construction History: (Construction date, alterations, and date of alterations.)
The residence was constructed in 1964 (ParcelQuest 2021). The two ancillary structures to the northwest of the residence were constructed contemporaneously with the residence and have been present at the property with the residence since 1968. (Teledyne Geotronics 1968). A third ancillary structure was constructed between 2012-2014 to the south of the residence (Nationwide Environmental Title Research, LLC [NETR] 2012; NETR 2014). (See continuation sheet.)
* **B7. Moved?** ☑ No ☐ Yes ☐ Unknown Date: N/A Original Location: N/A
B8. Related Features:
N/A

* B9a. Architect: Unknown
b. Builder: Unknown
B10. Significance: Theme N/A Area N/A
Period of Significance N/A Property Type N/A Applicable Criteria N/A

The property at 6195 105th Street, Rosamond, CA 93560 does not meet the criteria for listing in the California Register of Historical Resources (CRHR). It does not, therefore, qualify as a historical resource under the California Environmental Quality Act.

CONTEXT
HOMESTEADING AND AGRICULTURE
Beyond the Antelope Valley railroad stops that developed into towns and eventually into cities, most settlement in the region involved homesteading lands for ranching and agriculture. Ethno-religious groups, prohibitionists, and utopian socialists also established agricultural colonies in the region during the late nineteenth and early twentieth centuries. Some newcomers homesteaded lands with the primary goal of becoming successful ranchers or farmers, while other homesteaders undertook requisite improvement of lands strategically in an effort to supplement their mining endeavors (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53).

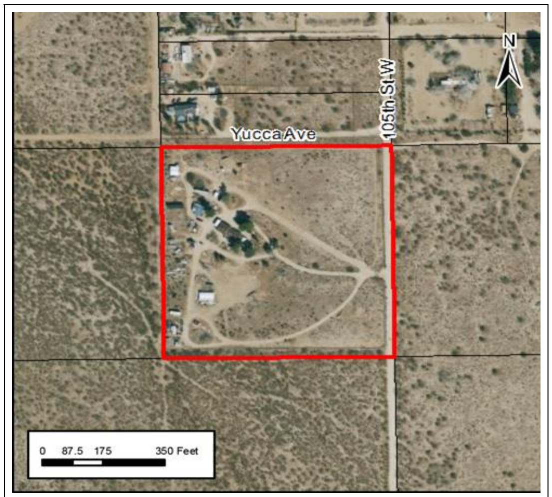
Homesteading claims in the western Antelope Valley region began primarily after 1900 as a consequence of several factors. Having received transfers of significant land grants in 1903 from the federal government, the Southern Pacific Railroad launched heavy land-sale promotions during the 1910s, which attracted settlers from the east and from Europe. Rising land prices in Los Angeles and other urbanizing areas of Southern California enhanced the appeal of homesteading in the Antelope Valley for some southland residents. These factors, along with amendments to the Desert Land Act—which made provisions for absentee ownership, reduced irrigation and cultivation requirements, and shrank requisite periods of residency—generated a boom in homesteading activity that lasted from the 1910s through the mid-1930s (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53–54). However, not all homesteads were successful. Numerous claims filed after 1910 were never patented because of homesteaders' failure to improve lands adequately. (See continuation sheet.)

* B11. Additional Resource Attributes:
B12. References:
(See continuation sheet.)

B13. Remarks:

* **B14. Evaluator:** Corey Lentz, ICF, ICF
Date of Evaluation: 01/24/2022

(This space reserved for official comments.)



*P3a. Description (continued):
Documentation of the residence's features from the public-right-of-way was limited due to its set back and restricted access to the property. Visible features of the residence include its vertical board exterior cladding, a gabled-roof form is located within the roof line near the northern end of the northeastern façade, a rectangular window located near the northern end of its southeastern façade, and mechanical equipment located on the gable peak near the northwestern end of the building. The residence has an attached garage on its southern side, with a gable roof that is slightly steeper than the residence's gable and projects above that roof near the middle of the building. Aerial views of the residence also indicate a small central shed-roofed projection off the building's southern end.

There are five ancillary structures within the property. Two structures that were constructed contemporaneously with the residence are located to the northwest of the residence. A third structure constructed circa 2014 is located to the south of the residence. Two structures and an associated corral constructed circa 2016 are located to the north of the residence. These ancillary structures were not documented and are not being evaluated as part of this documentation.

INTEGRITY
The subject property retains integrity of location. It also retains integrity of setting because its rural, semi-agricultural setting along 105th Street West remains largely unchanged with only minimal residential development in the vicinity in the twentieth and twenty-first century. The residence's integrity of design, materials, and workmanship could not be documented as its specific features and potential alterations were not visible from the public right-of-way. For these reasons, its integrity of feeling and association are also indeterminable.

*B6. Construction History (continued):

Two other ancillary structures associated with a corral were constructed to the north of the residence between 2014 and 2016 (NETR 2014; NETR 2016). The central curvilinear drive is original to the construction of the residence, with the other internal roads through the property added between 2012 and 2014 (Teledyne Geotronics 1968; NETR 2012; NETR 2016).

*B10. Significance (continued):

Although Southern Pacific Railroad and other Antelope Valley land promoters presented the region as exceptionally fertile, settlers often confronted difficult climatic conditions, including frequent high winds during multiple seasons, flooding, intermittent drought, and, at times, excruciating heat (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53–54).

Homesteading in the Antelope Valley largely came to an end in the 1930s. Prevailing drought conditions worsened locally and across the nation during that decade. In addition, the Great Depression made it increasingly difficult for prospective settlers to accumulate capital for necessary improvements. As a result, during that time, many Antelope Valley settlers abandoned their homesteads, and the longstanding emphasis on promoting private use and development gave way to a new emphasis on conservation and preservation by the National Park Service, U.S. Forest Service, and Bureau of Land Management. In 1935, the federal government stopped accepting new "homestead" or "desert lands" entries, although small 5-acre homestead tracts could be purchased until 1950, and homesteaders with valid claims prior to 1935 could continue to improve their land (Tetra Tech and Jones & Stokes 2004:54).

Across the vicinity of the project, agricultural activity increased after World War II. From 1953 to 1956, land cultivated with crops in the Kern County portion of the Antelope Valley increased from 26,000 to more than 41,000 acres (with 23,732 acres irrigated), mostly in areas west of Rosamond and around Cantil. Alfalfa fields made up the majority of cultivated land across the larger Antelope Valley, followed by dry-land grains. During the 1950s, Antelope Valley farmers devoted limited acreage to irrigated forage crops, vegetables, almonds, apples, peaches, and other fruits. Field crops such as alfalfa and grain, as well as irrigated pastureland, dominated agricultural activity in the Kern County portion of the Antelope Valley, accounting for 34,978 acres in 1957. Alfalfa fields for hay and seed made up 90 percent of that acreage. In terms of livestock, sheep grazing was the most prominent activity in the Kern County portion of the valley during the 1950s. At this time, agriculture accounted for 97 percent of Antelope Valley water use. Although groundwater depletion had led some farmers to abandon acreage by the late 1950s, pumping for irrigation remained economically feasible in most of the valley's farming areas (DWR 1959:36–49).

The mainstay of agriculture in the project vicinity, Antelope Valley alfalfa production went into decline after the 1950s. Rising electricity costs for pumping depleted groundwater supplies and made alfalfa farming more difficult over time. Valley land planted in alfalfa declined from 38,525 acres in 1950 to 8,810 acres in 1987. Between 1953 and 1988, total groundwater pumped annually in the valley declined from 480,000 acre-feet to 69,000 acre-feet. Although land in the project vicinity continued to be cultivated during the 1970s, crop farming in the Rosamond and Willow Springs areas declined dramatically thereafter (DWR 1959:49; Templin et al. 1995:1–2, 7, 16, 64).

RANCH

Originally designed in California in the 1930s, Ranch houses drew inspiration from earlier Spanish Colonial haciendas and northern California farmhouses (SurveyLA 2015:5). The Ranch style gained popularity after World War II, due to Federal Housing Administration (FHA) promotion and loan support. Architects designed and builders constructed Ranch residences across the United States (McAlester 2015:602–603). Due to its ability to capitalize on the importance of automobiles in the post-World War II suburban sprawl, where workers needed to commute to and from work in the city, the Ranch style maintained its popularity until circa 1975 (SurveyLA 2015:13–15). Because of the influence of streetcar suburban developments on the creation of the style, Ranch style houses are primarily associated with and found in suburbs. Developers constructed entire tracts in the style during the 1950s and 1960s (McAlester 2015: 602-603). Non-tract examples of the style, such as those found in rural Kern County, are rarer and often simpler with minimal applied architectural detail. Easily built and customizable, Ranch homes continued to be constructed across America because they blended effortlessly into the newly forming middle-class attitude and lifestyle (SurveyLA 2015:13–15).

Ranch houses typically feature horizontal, one-story massing, with either a gable or hip roof. Initially built with simple rectangular floor plans, by the 1950s, L-shaped floor plans with intersecting gable roofs became more popular (Gottfried and Jennings 2009: 208-209). Developers built these homes on large tracts of land that allowed for spacious backyards and private outdoor living (McAlester 2015:602–603). Ranch-style homes feature an asymmetrical exterior, often elongating the look of the house by incorporating an attached front-facing garage. Substyles of the traditional Ranch plan include Contemporary, Cinderella, American Colonial, and Minimal. Elements of a Cinderella Ranch, otherwise known as Storybook Ranch, feature steep-pitched porch hoods and Swiss-Chalet inspired fascia and shutters that give the house an exaggerated fairytale look. In contrast, Minimal Ranch buildings have a more restrained exterior, including less variation in wall materials and simple footprints, and were commonly built within FHA design guidelines (SurveyLA 2015:17–18). Key features include a large picture window, small porch, and recessed entry. Builders used a variety of resources, including stucco, brick, stone, and wood. They also incorporated planters or window boxes into the exterior design for emphasis (McAlester 2015:597–601).

SITE HISTORY

In the early twentieth century Antelope Valley in the Mojave Desert was sparsely settled. Willow Springs had been established to the southeast of the property in the nineteenth century as the principal stagecoach station in Antelope Valley between Fort Tejon and the Tehachapi Pass prior to the arrival of the railroad and was developed into a small community by Ezra Hamilton at the turn of the twentieth century (Hoover et al. 2002:131; Varney 1990:74–76). By 1898, the settlements of Rosamond to the southeast and Mojave to the northeast had been established and Manly Road (now no longer extant north of Hamilton Road and the Los Angeles Department of Water and Power Easement) ran north-northwest from Willow Springs to Tehachapi (Congdon 1898). At that time, an entity called State School owned Section 36 of Township 9 North Range 13 West (Sec. 36 T9N R13W), which encompassed the property (Congdon 1898). The State of California had owned a large swath of Antelope Valley since 1856, when it claimed a total of 17,028 acres in Kern County and Los Angele County as authorized the California Enabling Act of 1853 (Bureau of Land Management 1856). Ownership of the property in 1898 by “State School” is likely a reference to State of California ownership.

By 1915 an unimproved road ran southeast-northwest through Sec. 36 T9N R13W to the southwest of the property and an intermittent stream transected the southwest ¼ of Sec. 36 T9N R13W. (United States Geological Survey [USGS] 1915). To the north of the property, the Los Angeles Aqueduct running through this area of Antelope Valley had been constructed (USGS 1915).

By the early 1960s, there was a moderate degree of agricultural development in this area northwest of Willow Springs, supported by the Los Angeles Aqueduct to the north and the construction of the Willow Springs Pumping Station near the intersection of General Petroleum Road as early as 1943 (USGS 1943; NETR 1963). The residence was constructed in 1964 (ParcelQuest 2021). The two ancillary structures extant to the northwest of the residence were constructed between 1963 and 1968. (NETR 1963; Teledyne 1968). At that time, the property appeared to be primarily residential with no clear agricultural associations (Teledyne 1968). By 1974, minor agricultural features including a small field and garden appear to have been developed along the western boundary of the property and larger scale agricultural developments in the vicinity of the property were still prevalent (NETR 1974).

By 1995, agricultural features were no longer present within the property (USGS 1995). Three structures located along the property’s western boundary were constructed between 2002 and 2005, the use of which was indiscernible from documentation (USGS 2002; NETR 2005). These three structures were demolished by 2009, but a small ancillary additional structure had been constructed to the west of the residence (NETR 2009). This ancillary structure was then demolished by 2012 (NETR 2012). By 2014, the extant structure to the south of the residence was constructed (NETR 2014). The two other extant structures associated with the corral to the north of the residence were constructed between 2014 and 2016 (NETR 2014; NETR 2016).

In the 1980s and 1990s agricultural land use declined in the immediate vicinity of property, though it remained more prevalent to the southwest of Willow Springs (NETR 1986; USGS 1995). During this period, the only notable construction in the vicinity was Llyod's Landing Airport, constructed between 1974 and 1995 (NETR 1974; USGS 1995). The residence's vicinity has remained largely undeveloped since 1995 with minimal residential construction and agricultural use dispersed along 105th Street and Tehachapi Willow Springs Road to the east and solar farms constructed along 110th Street West to the west (USGS 1995; USGS 2002; NETR 2005; NETR 2009; NETR 2012; NETR 2016; Google Pro 2021).

The property has been owned by Jason Young since 2011, when Young purchased the property from U.S. Bank Trust following U.S. Bank Trust's acquisition of the property from an unnamed Trustee's Deed in 2010 (Kern County Assessor-Recorder 2021). Research did not reveal any specific documented owners between State School in 1898 and U.S. Bank Trust in 2010.

EVALUATION
Under CRHR Criterion 1, the property at 6915 105th Street West does not have important associations with historic events, patterns, or trends of development. The residence was constructed in a rural, semi-agricultural area of Antelope Valley in southern Kern County in the mid-twentieth century. The property's construction was not related to any patterns of residential development in this area, which was minimal throughout the twentieth and twenty-first centuries. Furthermore, this residential property was only briefly used for minor agricultural purposes and research did not reveal the nature of this use or possible associations with any mid-twentieth century trends in agriculture in Kern County during that period. As such, the subject property is ineligible under CRHR Criterion 1.

Under CRHR Criterion 2, the subject property does not share significant associations with the lives of persons important to history. Research provided no indication that its documented owners, State School or Jason Young, or any other individuals potentially associated with the residence played a significant role in national, regional, or local history. As such, the subject property is ineligible under CRHR Criterion 2.

Under CRHR Criterion 3, the subject property is not a significant example of its type, style, or era, it lacks high artistic value, and is not the work of a master architect, building, designer, or engineer. The residence is a common example of the Ranch style. As a commonplace example, lacking some key features of a style, it lacks high artistic value. Research did not reveal a known architect or builder of the property. As such, the subject property is ineligible under CRHR Criterion 3.

Under CRHR Criterion 4, the subject property has neither yielded nor is likely to yield important information about our past. Typical of similar buildings, the property does not have the potential to yield important information regarding construction or engineering materials, methods, or technologies used in the 1950s and 1960s. As such, the subject property is ineligible under CRHR Criterion 4.

In conclusion, 9650 W. Rosamond Boulevard does not have historical associations or architectural or construction qualities that qualify the property for listing under any of the CRHR significance criteria. The property was evaluated in accordance with Section 15064.5(a) (2) of the CEQA guidelines, and found not to qualify as a historical resource for the purposes of CEQA. The current evaluation has assigned a 6Z status code to the property.

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State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

CONTINUATION SHEET

Primary #
HR #
Trinomial

Page 8 of 8 * Resource Name or #: (Assigned by recorder) Resource ID 01, 6195 105th Street

* Recorded by: Corey Lentz, ICF

☑ Continuation ☐ Update * Date: 01/24/2022

East corner showing northwest and southwest elevations, facing south

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HR #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code Reviewer Date

 Resource Name or # (Assigned by recorder): Resource ID 02, 6149 105th Street

P1. Other Identifier: 6149 105th Street

*** P2. Location:** ☐ Not for Publication ☑ Unrestricted
***a. County** Kern **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** **Date** **T ; R ; 1/4 of 1/4 of Sec ; B.M.**
c. Address 6149 105th Street City Rosamond Zip
d. UTM: (Give more than one for large and/or linear feature) Zone , mE/ mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)
; 474-111-17-00-4

*** P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

The property at 6149 105th Street is a rectangular shaped lot measuring 435,600 square feet. The property is in a rural agricultural area of Rosamond, Kern County, southeast of Solar Star, a solar energy farm. The property contains a single-family residence, a detached garage, and additional auxiliary buildings including a manufactured home on the southwest corner of the lot. The remainder of the lot contains un-landscaped fields.

From west-to-east, there is a single-width manufactured home with particle board siding, a side-facing gable roof, vinyl windows, and a wood door set on a block foundation. The single-family residence, located east of the manufactured home, is a rectangular shaped building with non-original stucco siding and a low pitch gabled roof with exposed rafter tails and aluminum sliding windows. There is a non-original covered porch on the east elevation. To the northwest of the single-family residence, there is a board and batten two-bay garage with two board and batten garage doors. (See continuation sheet.)

*** P3b. Resource Attributes:** HP2. Single family property

*** P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, etc.)
Single-Family Residence, south elevation, view facing north

*** P6. Date Constructed/Age and Sources:**
☐ Prehistoric ☑ Historic ☐ Both
1968 (Factual) ParcelQuest

*** P7. Owner and Address:**
Dias Bilgai T Trust
8625 Tunney Ave
Northridge, CA 91324

*** P8. Recorded by:** (Name, affiliation, address)
Hanna Winzenried
ICF
555 W. 5th Street, Suite 3100, Los Angeles, CA 90013

*** P9. Date Recorded:** 12/16/2021

*** P10. Survey Type:** (Describe)

*** P11. Report Citation:** (Cite survey report/other sources or "none")

*** Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☑ Continuation Sheet ☑ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other: (List)

BUILDING, STRUCTURE, AND OBJECT RECORD

*Resource Name or # (Assigned by Recorder): Resource ID 02, 6149 105th Street

* NRHP Status Code 6Z

B1. Historic Name: None

B2. Common Name: 6149 105th Street

* B3. Original Use: Residence

B4. Present Use: Residence

* **B5. Architectural Style:** Ranch

B6. Construction History: (Construction date, alterations, and date of alterations.)

The single-family residence on the subject property dates to 1968 (Parcelquest 2021). Aerial photography from 1974 shows that the west manufactured home and the garage was already extant (NETR 1974). The east manufactured home dates from between 1995 and 2005 (NETR 1995; 2005). No additional permits were found.

*

* **B7. Moved?** ☑ No ☐ Yes ☐ Unknown Date: N/A Original Location: N/A

B8. Related Features:

N/A

* B9a. Architect: Unknown b. Builder: Unknown

B10. Significance: Theme N/A Area N/A

Period of Significance N/A Property Type Single Family R Applicable Criteria N/A

The property at 6149 105th Street does not meet the criteria for listing in the California Register of Historical Resources (CRHR). It does not, therefore, qualify as a historical resource under the California Environmental Quality Act.

CONTEXT

HOMESTEADING AND AGRICULTURE

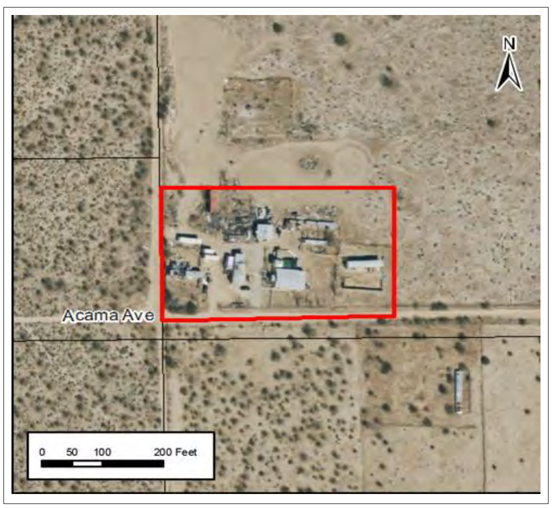
Beyond the Antelope Valley railroad stops that developed into towns and eventually into cities, most settlement in the region involved homesteading lands for ranching and agriculture. Ethno-religious groups, prohibitionists, and utopian socialists also established agricultural colonies in the region during the late nineteenth and early twentieth centuries. Some newcomers homesteaded lands with the primary goal of becoming successful ranchers or farmers, while other homesteaders undertook requisite improvement of lands strategically in an effort to supplement their mining endeavors (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53). (See continuation sheet)

Homesteading claims in the western Antelope Valley region began primarily after 1900 as a consequence of several factors. Having received transfers of significant land grants in 1903 from the federal government, the Southern Pacific Railroad launched heavy land-sale promotions during the 1910s, which attracted settlers from the east and from Europe. Rising land prices in Los Angeles and other urbanizing areas of Southern California enhanced the appeal of homesteading in the Antelope Valley for some southland residents. These factors, along with amendments to the Desert Land Act—which made provisions for absentee ownership, reduced irrigation and cultivation requirements, and shrank requisite periods of residency—generated a boom in homesteading activity that lasted from the 1910s through the mid-1930s (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53–54). However, not all homesteads were successful. Numerous claims filed after 1910 were never patented because of homesteaders' failure to improve lands adequately. (See continuation sheet.)

* B11. Additional Resource Attributes:

B12. References:

(See continuation sheet.)



B13. Remarks:

* **B14. Evaluator:** Hanna Winzenried, ICF, ICF

Date of Evaluation: 12/16/2021

(This space reserved for official comments.)

*P3a. Description (continued):
It has a front facing gable roof. An additional manufactured home with corrugated metal siding, a rounded metal roof, and aluminum windows sits east of the single-family residence.

INTEGRITY
The subject property's integrity is fair. It retains integrity of location. It also retains integrity of setting because the surrounding agricultural and rural setting remains intact. In addition, due to a few alterations including the addition of two manufactured homes and the re-stucco of the single-family residence, it has fair integrity of design, materials, and workmanship. It has integrity of feeling and association as it is still legible as a rural agricultural homestead.

*B10. Significance (continued):

Although Southern Pacific Railroad and other Antelope Valley land promoters presented the region as exceptionally fertile, settlers often confronted difficult climatic conditions, including frequent high winds during multiple seasons, flooding, intermittent drought, and, at times, excruciating heat (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53–54).

Homesteading in the Antelope Valley largely came to an end in the 1930s. Prevailing drought conditions worsened locally and across the nation during that decade. In addition, the Great Depression made it increasingly difficult for prospective settlers to accumulate capital for necessary improvements. As a result, during that time, many Antelope Valley settlers abandoned their homesteads, and the longstanding emphasis on promoting private use and development gave way to a new emphasis on conservation and preservation by the National Park Service, U.S. Forest Service, and Bureau of Land Management. In 1935, the federal government stopped accepting new "homestead" or "desert lands" entries, although small 5-acre homestead tracts could be purchased until 1950, and homesteaders with valid claims prior to 1935 could continue to improve their land (Tetra Tech and Jones & Stokes 2004:54).

Across the vicinity of the project, agricultural activity increased after World War II. From 1953 to 1956, land cultivated with crops in the Kern County portion of the Antelope Valley increased from 26,000 to more than 41,000 acres (with 23,732 acres irrigated), mostly in areas west of Rosamond and around Cantil. Alfalfa fields made up the majority of cultivated land across the larger Antelope Valley, followed by dry-land grains. During the 1950s, Antelope Valley farmers devoted limited acreage to irrigated forage crops, vegetables, almonds, apples, peaches, and other fruits. Field crops such as alfalfa and grain, as well as irrigated pastureland, dominated agricultural activity in the Kern County portion of the Antelope Valley, accounting for 34,978 acres in 1957. Alfalfa fields for hay and seed made up 90 percent of that acreage. In terms of livestock, sheep grazing was the most prominent activity in the Kern County portion of the valley during the 1950s. At this time, agriculture accounted for 97 percent of Antelope Valley water use. Although groundwater depletion had led some farmers to abandon acreage by the late 1950s, pumping for irrigation remained economically feasible in most of the valley's farming areas (DWR 1959:36–49).

The mainstay of agriculture in the project vicinity, Antelope Valley alfalfa production went into decline after the 1950s. Rising electricity costs for pumping depleted groundwater supplies and made alfalfa farming more difficult over time. Valley land planted in alfalfa declined from 38,525 acres in 1950 to 8,810 acres in 1987. Between 1953 and 1988, total groundwater pumped annually in the valley declined from 480,000 acre-feet to 69,000 acre-feet. Although land in the project vicinity continued to be cultivated during the 1970s, crop farming in the Rosamond and Willow Springs areas declined dramatically thereafter (DWR 1959:49; Templin et al. 1995:1–2, 7, 16, 64).

RANCH STYLE
Originally designed in California in the 1930s, Ranch houses drew inspiration from earlier Spanish Colonial haciendas and northern California farmhouses (SurveyLA 2015:5). The Ranch style gained popularity after World War II, due to Federal Housing Administration (FHA) promotion and loan support. Architects designed and builders constructed Ranch residences across the United States (McAlester 2015:602–603). Due to its ability to capitalize on the importance of automobiles in the post-World War II suburban sprawl, where workers needed to commute to and from work in the city, the Ranch style maintained its popularity until circa 1975 (SurveyLA 2015:13–15). Because of the influence of streetcar suburban developments on the creation of the style, Ranch style houses are primarily associated with and found in suburbs. Developers constructed entire tracts in the style during the 1950s and 1960s (McAlester 2015: 602-603). Non-tract examples of the style, such as those found in rural Kern County, are rarer and often simpler with minimal applied architectural detail. Easily built and customizable, Ranch homes continued to be constructed across America because they blended effortlessly into the newly forming middle-class attitude and lifestyle (SurveyLA 2015:13–15).

Ranch houses typically feature horizontal, one-story massing, with either a gable or hip roof. Initially built with simple rectangular floor plans, by the 1950s, L-shaped floor plans with intersecting gable roofs became more popular (Gottfried and Jennings 2009: 208-209). Developers built these homes on large tracts of land that allowed for spacious backyards and private outdoor living (McAlester 2015:602–

603). Ranch-style homes feature an asymmetrical exterior, often elongating the look of the house by incorporating an attached front-facing garage. Substyles of the traditional Ranch plan include Contemporary, Cinderella, American Colonial, and Minimal. Elements of a Cinderella Ranch, otherwise known as Storybook Ranch, feature steep-pitched porch hoods and Swiss-Chalet inspired fascia and shutters that give the house an exaggerated fairytale look. In contrast, Minimal Ranch buildings have a more restrained exterior, including less variation in wall materials and simple footprints, and were commonly built within FHA design guidelines (SurveyLA 2015:17–18). Key features include a large picture window, small porch, and recessed entry. Builders used a variety of resources, including stucco, brick, stone, and wood. They also incorporated planters or window boxes into the exterior design for emphasis (McAlester 2015:597–601).

MANUFACTURED HOMES

Manufactured homes, commonly known as trailer homes or mobile homes, represent a housing trend spurred by automobile tourism and travel at the turn of the twentieth century. Landowners developed campsites called auto courts or motor courts that allowed travelers to pitch tents or sleep in their cars. The camps provided an economical lodging option and welcome alternative to hotels, which were sometimes deemed too formal. This movement led to the design of prefabricated trailer homes in the 1930s, allowing travelers to essentially bring “homes” to the motor parks, rather than sleeping in tents or automobiles. Trailer homes were small (on average, 8 feet wide and 32 feet long) and typified as “one ‘room’ that served several functions and included transformable furniture” (Lawrence 2012:15), designed to allow for easy transport by hitching them to cars. Trailer home relied heavily on metal construction materials. A typical trailer park had relatively compact, angled parallel parking spaces, which allowed the maximum number of homes to fit in the park at one time. Trailer parks often had a laundry room, toilets, showers, or other limited amenities onsite. During and after World War II, the government subsidized the construction of trailer camps to address a housing shortage. The efforts by the government to provide affordable and quickly assembled housing led to a more permanent version of the trailer home known as the mobile home (Lawrence 2012:12, 14, 15, 17, 18, 22; Fowler et al. 2016:4).

By the late 1960s, mobile homes had become a popular housing choice across the country. By that point, one-third of single-family dwellings in the United States were mobile homes, approximately 20 out of every 100 Californians lived in a mobile park in California alone, and six million Americans lived in them across the nation (Fowler et al. 2016:11). Features such as shutters and gable roofs, indoor bathrooms, increased electrical capabilities, and landscaping appeared on mobile homes, making them look and function more like suburban homes. Mobile homes increased in size (up to 14 feet wide and 34 feet long), and most had more than one section. Other changes and features include two stories, indoor bathrooms, fold out porches, full height doors, and jalousie and bay windows (Fowler et al. 2016:9, 11). Many mobile home designs contained corridors to separate the living spaces, and telescoped sections or awnings provided more living space. Mobile homes also included chassis and wheels, which allowed them to be transported to the site by a professional, but they no longer had the transient capability of trailer homes due to their size and weight. Mobile home construction included wood composite, aluminum, or steel. Larger, rectangular lots replaced the angled parking spots to allow for larger homes and, depending on the arrangement of the homes, often provided more privacy. Camps soon included amenities such as swimming pools, playgrounds, and recreational facilities, which made these communities desirable and offered a more affordable price than conventional homeownership. Following the safety and construction standards published in 1976, the United States Department of Housing and Urban Development introduced the term manufactured home for mobile and trailer homes (Haney n.d.:2; Lawrence 2012:18–19; Fowler et al. 2016:9, 11).

Many trailer parks and mobile home parks still exist today. Most parks are specific to either trailer homes or mobile homes and can contain dozens to hundreds of homes. Simple street arrangements may be observed or more complex patterns, including radial street designs in some cases. Most will have one primary entrance to the park and be enclosed by a retaining wall. Although well-built, most manufactured home parks are vernacular, and professionals designed very few of these communities and homes. If well-maintained, manufactured homes can provide affordable housing even many years after being constructed and are said to be “the single most affordable type of housing available” (Haney n.d.:4; Lawrence 2012:36; Fowler et al. 2016:11,14).

SITE HISTORY

U.S. Public Records Index information shows that the subject property was owned by Thomas S. Sandoval in 1939. In 1959, the land was owned by Gail C. Romines. Neither of these owners appear in newspaper research. A historic aerial from 1952 shows that the surrounding area was completely undeveloped except for some scattered agricultural lands indicating that although the land may have been owned, no one lived there prior to the construction of the current residence (Robinson Aerial Surveys, Inc. 1952). By 1963, some roads appeared around the subject property but none of the properties contained any buildings (NETR 1963). By 1974, the subject property contained buildings but was isolated except for some agricultural lands to the east (NETR 1974). By 1995, some surrounding properties were developed but the property remained largely isolated (NETR 1995).

EVALUATION

Under CRHR Criterion 1, the property at 6149 105th Street does not have important associations with historic events, patterns, or trends of development. The development of the subject property post-dates the homesteading of Antelope Valley which occurred from 1910 through 1935. The property even post-dates when the Kern County population nearly doubled in size after World War II from 1953-1956. As such, while the property is part of the post-war growth, it was not part of major development trends in the County, and the subject property is ineligible under CRHR Criterion 1.

Under CRHR Criterion 2, the subject property does not share significant associations with the lives of persons important to history. The subject property was owned by Thomas S. Sandoval in 1939 and Gail C. Romines in 1959. However, historical research did not reveal them to be people important to history. As such, the subject property is ineligible under CRHR Criterion 2.

Under CRHR Criterion 3, the subject property is not a significant example of its type, style, or era, it lacks high artistic value, and is not the work of a master architect, building, designer, or engineer. The single-family residence on the property is a Ranch style residence. However, it is an extremely modest example. Furthermore, it lacks character-defining features of the style such as an attached garage. As such, the subject property is ineligible under CRHR Criterion 3.

Under CRHR Criterion 4, the subject property has neither yielded nor is likely to yield important information about our past. Typical of similar buildings, the subject property's homestead type does not have the potential to yield important information regarding construction or engineering materials, methods, or technologies used in the 1960s. As such, the subject property is ineligible under CRHR Criterion 4.

In conclusion, 6149 105th Street does not have historical associations or architectural or construction qualities that qualify the property for listing under any of the CRHR significance criteria. The property was evaluated in accordance with Section 15064.5(a) (2) of the CEQA guidelines, and found not to qualify as a historical resource for the purposes of CEQA. The current evaluation has assigned a 6Z status code to the property.

*B12. References (continued):

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Gottfried, Herbert, and Jan Jennings. 2009. American Vernacular: Buildings and Interiors, 1870–1960. New York, NY: W. W. Norton & Company.

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Nationwide Environmental Title Research, LLC (NETR). 1963. Rosamond, California, 93560, Aerial Photograph. Accessed February 2, 2021. https://www.historicaerials.com/viewer.
———. 1974. Rosamond, California, 93560, Aerial Photograph. Accessed December 16, 2021. https://www.historicaerials.com/viewer.
———. 1995. Rosamond, California, 93560, Aerial Photograph. Accessed December 16, 2021. https://www.historicaerials.com/viewer.
———. 2005. Rosamond, California, 93560, Aerial Photograph. Accessed December 16, 2021. https://www.historicaerials.com/viewer.

Robinson Aerial Surveys, Inc. 1952. Flight ABL-1952 frame 4K-19. Prepared for USDA-Production and Marketing Administration. Flown October 11, 1952. Accessed December 16, 2021. Available: https://mil.library.ucsb.edu/apcatalog/report/report.php?filed_by=ABL-1952.

SurveyLA. 2015. “Los Angeles Citywide Historic Context Statement: The Ranch House, 1930–1975.” Prepared for City of Los Angeles Office of Historic Resources. December. Accessed August 16, 2021. Available: https://planning.lacity.org/odocument/1acefe03-5615-425f-9182-d58a79014901/The_Ranch_House%2C_1930-1975.pdf.

Templin, Steven, Steven P. Phillips, Daniel E. Cherry, and Myrna L. DeBortoli. 1995. Land Use and Water Use in the Antelope Valley, California. U.S. Geological Survey Water-Resources Investigations Report 94-4208. Available: https://pubs.usgs.gov/wri/1994/4208/report.pdf. Accessed February 12, 2019.

Tetra Tech, Inc., and Jones & Stokes. 2004. Cultural Resources Evaluation of Historic Period Homesites on Edwards Air Force Base, Kern and Los Angeles Counties, California. Volume 1, Introduction and Background. Submitted to the Air Force Flight Test Center, Base, Historic Preservation Office, Edwards Air Force Base, CA. Contract No. DACA-05-01-D-0005, Task Order 0031.2002-K HOMESIT. On file at the Base Historic Preservation Office, Edwards Air Force Base, CA.

*** Resource Name or #:** (Assigned by recorder) Resource ID 02, 6149 105th Street

*** Recorded by:** Hanna Winzenried, ICF

☑ **Continuation** ☐ **Update**

*** Date:** 12/16/2021

West manufactured home, south and west elevation, view facing northwest;

Garage, south elevation, view facing north

East manufactured home home, south elevation, view facing northeast

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HR #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code Reviewer Date

 Resource Name or # (Assigned by recorder): Resource ID 03, 346-032-55-00-4

P1. Other Identifier: N/a

*** P2. Location:** ☐ Not for Publication ☑ Unrestricted
***a. County** Kern **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** **Date** **T ; R ; 1/4 of 1/4 of Sec ; B.M.**
c. Address N/a City Rosamond Zip
d. UTM: (Give more than one for large and/or linear feature) Zone , mE/ mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)
; 346-032-55-00-4

*** P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

The property APN 346-032-55-00-4 is a rectangular lot measuring 12,563,139 square feet. The lot is located at the southeast corner of the intersection of Champagne Avenue and Tehachapi Willow Springs Road. The Los Angeles DWP Easement runs diagonally through the east half of the property. The property is agricultural and there are agricultural and light industrial buildings on the northwest corner of the lot.

There are approximately three agricultural distribution buildings on the lot, abutting one another. To the north is a corrugated metal building with a very low profile front-facing gable roof with no overhanging eaves set atop a high concrete foundation with loading bumpers. This building has two metal roll-up garage doors to the north and a metal pedestrian door on the south side. The door is accessed by concrete steps and a concrete landing with metal railings. This building was constructed by 1995. To the south is the original building which was constructed by 1968. It is a corrugated sheet-metal building with a moderately pitched gable roof with no overhanging eaves. (See continuation sheet.)

*** P3b. Resource Attributes:** HP8. Industrial building

*** P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, etc.)
West façade, view facing west

*** P6. Date Constructed/Age and Sources:**
☐ Prehistoric ☑ Historic ☐ Both
1968 (Estimate) Aerial Imagery

*** P7. Owner and Address:**
Aurora Solar LLC
1125 NW Couch St Ste 700
Portland, OR 97209-4129

*** P8. Recorded by:** (Name, affiliation, address)
Hanna Winzenried
ICF
555 W. 5th Street, Suite 3100, Los Angeles, CA 90013

*** P9. Date Recorded:** 12/17/2021

*** P10. Survey Type:** (Describe)

*** P11. Report Citation:** (Cite survey report/other sources or "none")

*** Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☑ Continuation Sheet ☑ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other: (List)

BUILDING, STRUCTURE, AND OBJECT RECORD

*Resource Name or # (Assigned by Recorder): Resource ID 03, 346-032-55-00-4 * NRHP Status Code 6Z

B1. Historic Name: None
B2. Common Name: 346-032-55-00-4
* B3. Original Use: Agricultural B4. Present Use: Agricultural
* **B5. Architectural Style:** N/A
B6. Construction History: (Construction date, alterations, and date of alterations.)
The central building appears in aerials by 1968 (Teledyne Geotronics 1968). The additional buildings appear in aerials by 1995 (NETR 1995). No building permits are available for the subject property.

*

* **B7. Moved?** ☑ No ☐ Yes ☐ Unknown Date: N/A Original Location: N/A
B8. Related Features:
N/A

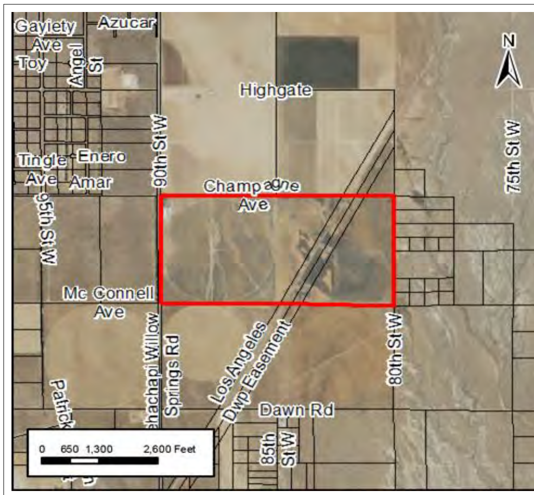
* B9a. Architect: Unknown b. Builder: Unknown
B10. Significance: Theme N/A Area N/A
Period of Significance N/A Property Type Industrial Applicable Criteria N/A

The property at APN 346-032-55-00-4 does not meet the criteria for listing in the California Register of Historical Resources (CRHR). It does not, therefore, qualify as a historical resource under the California Environmental Quality Act.

CONTEXT
HOMESTEADING AND AGRICULTURE
Beyond the Antelope Valley railroad stops that developed into towns and eventually into cities, most settlement in the region involved homesteading lands for ranching and agriculture. Ethno-religious groups, prohibitionists, and utopian socialists also established agricultural colonies in the region during the late nineteenth and early twentieth centuries. Some newcomers homesteaded lands with the primary goal of becoming successful ranchers or farmers, while other homesteaders undertook requisite improvement of lands strategically in an effort to supplement their mining endeavors (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53).

Homesteading claims in the western Antelope Valley region began primarily after 1900 as a consequence of several factors. Having received transfers of significant land grants in 1903 from the federal government, the Southern Pacific Railroad launched heavy land-sale promotions during the 1910s, which attracted settlers from the east and from Europe. Rising land prices in Los Angeles and other urbanizing areas of Southern California enhanced the appeal of homesteading in the Antelope Valley for some southland residents. These factors, along with amendments to the Desert Land Act—which made provisions for absentee ownership, reduced irrigation and cultivation requirements, and shrank requisite periods of residency—generated a boom in homesteading activity that lasted from the 1910s through the mid-1930s (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53–54). However, not all homesteads were successful. Numerous claims filed after 1910 were never patented because of homesteaders' failure to improve lands adequately. Although Southern Pacific Railroad and other Antelope Valley land promoters presented the region as exceptionally fertile, settlers often confronted difficult climatic conditions, including frequent high winds during multiple seasons, flooding, intermittent drought, and, at times, excruciating heat (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53–54).

* B11. Additional Resource Attributes:
B12. References:
(See continuation sheet.)



B13. Remarks:

* **B14. Evaluator:** Hanna Winzenried, ICF, ICF
Date of Evaluation: 12/17/2021

(This space reserved for official comments.)

*P3a. Description (continued):
There is a large attic vent in the gable. From north to south, there is a metal window with two- over-three3 true-divided lights, a pedestrian door, electrical equipment with conduit run up the façade and over the metal roll-up garage door on the south half of the building. The building is set atop a tall concrete foundation that extends out from the plane of the front exterior, creating a loading dock, which displays loading bumpers across the front. The loading dock is connected to the concrete steps of the building to the north, providing access to this structure. The two north buildings run from east to west. The south building is oriented north to south. The primary façade facing Tehachapi Willow Springs Road is set back from the center building and is clad in standing seam steel siding. This building has a side gable roof with a shallow pitch and shallowly overhanging eaves and sits atop a tall concrete foundation. The west elevation contains ten metal roll-up garage doors; under each opening on the concrete foundation are two applied loading bumpers. The south building was constructed by 1995. Northeast of the three main buildings is a metal storage silo. There are two additional buildings east of the three main buildings that are not visible from the public right-of-way.

INTEGRITY
The subject property's integrity is fair. It retains integrity of location. It also retains integrity of setting because it is still rurally located with undeveloped fields to the west, and agricultural fields to the east. In addition, the 1968 building has undergone minimal alterations including the addition of a bar and electric conduit, but two additional buildings were constructed directly abutting the original building and therefore the property has fair integrity of design, materials, and workmanship. For these reasons, it has integrity of feeling and association because it is still legible as an agricultural building and property.

*B10. Significance (continued):

Prevailing drought conditions worsened locally and across the nation during that decade. In addition, the Great Depression made it increasingly difficult for -prospective settlers to accumulate capital for necessary improvements. As a result, during that time, many Antelope Valley settlers abandoned their homesteads, and the longstanding emphasis on promoting private use and development gave way to a new emphasis on conservation and preservation by the National Park Service, U.S. Forest Service, and Bureau of Land Management. In 1935, the federal government stopped accepting new "homestead" or "desert lands" entries, although small 5-acre homestead tracts could be purchased until 1950, and homesteaders with valid claims prior to 1935 could continue to improve their land (Tetra Tech and Jones & Stokes 2004:54).

Across the vicinity of the project, agricultural activity increased after World War II. From 1953 to 1956, land cultivated with crops in the Kern County portion of the Antelope Valley increased from 26,000 to more than 41,000 acres (with 23,732 acres irrigated), mostly in areas west of Rosamond and around Cantil. Alfalfa fields made up the majority of cultivated land across the larger Antelope Valley, followed by dry-land grains. During the 1950s, Antelope Valley farmers devoted limited acreage to irrigated forage crops, vegetables, almonds, apples, peaches, and other fruits. Field crops such as alfalfa and grain, as well as irrigated pastureland, dominated agricultural activity in the Kern County portion of the Antelope Valley, accounting for 34,978 acres in 1957. Alfalfa fields for hay and seed made up 90 percent of that acreage. In terms of livestock, sheep grazing was the most prominent activity in the Kern County portion of the valley during the 1950s. At this time, agriculture accounted for 97 percent of Antelope Valley water use. Although groundwater depletion had led some farmers to abandon acreage by the late 1950s, pumping for irrigation remained economically feasible in most of the valley's farming areas (DWR 1959:36–49).

The mainstay of agriculture in the project vicinity, Antelope Valley alfalfa production went into decline after the 1950s. Rising electricity costs for pumping depleted groundwater supplies and made alfalfa farming more difficult over time. Valley land planted in alfalfa declined from 38,525 acres in 1950 to 8,810 acres in 1987. Between 1953 and 1988, total groundwater pumped annually in the valley declined from 480,000 acre-feet to 69,000 acre-feet. Although land in the project vicinity continued to be cultivated during the 1970s, crop farming in the Rosamond and Willow Springs areas declined dramatically thereafter (DWR 1959:49; Templin et al. 1995:1–2, 7, 16, 64).

AGRICULTURAL BUILDINGS
Kern County is one of the leading farm counties in the United States (Beeman 2016). Historically, ranching was the main form of agriculture in Kern County, but more recently, fruits and vegetables have become important crops in the County (Beeman 2016). Important crops and commodities in Kern County include grapes, almonds, milk, citrus, cattle, pistachios, carrots (Water Association of Kern County 2021). With the county's strong association with agriculture, there are many agricultural buildings in the county. Types of agricultural buildings include barns, storage silos, equipment sheds, and cattle housing such as dairies, pig sties, and sheep housing (Historic England 2017).

An early barn types includes "transverse frame." Transverse frame barns have front-gabled roofs and large centered entries for horse-drawn vehicles, tractors, trucks, or other equipment to access the central passages. Storage of hay or other animal feed are often located in second story lofts (Noble 1984: 6-7, 11-13). A common variant, the "Midwest three-portal barn" is a transverse frame farm with added shed roof enclosed side aisles to the, each with front elevation (Noble 1984: 13). After World War II, industrial-scale feed silos replaced the storage loft of many barns. One-story poles barns with walls formed of vertical metal poles and attached siding, and low-pitched gabled roofs supported by steel-girder trusses became prevalent (Noble 1984: 47; Noble & Cleek 1996: 39). Recently, agricultural producers have developed simpler structures to provide shelter for livestock, stripping pole barns of their siding altogether in favor of open-sided structures consisting of steel columns that support low-pitched metal roofs. Such shelters can be large and extensive, creating a larger area of sheltered space.

Because of the practical and utilitarian use of agricultural buildings, they rarely have applied architectural styles. Agricultural buildings usually have a vernacular style with local materials including wood frame and cladding. Some newer agriculture buildings have corrugated metal siding. If there are windows, they may include double-hung or fixed wood frame sashes; fixed or operational steel-frame sashes, or horizontally sliding aluminum sashes. Many ancillary buildings incorporate one or more larger vehicle entries, often with roll-up metal doors, as well as pedestrian entries with single-leaf doors. Associated historic vernacular landscape features including irrigation features, feedlots, tanks, and pastureland (SurveyLA 2018: 43).

SITE HISTORY

Historic aerials show that in 1952, the subject property and surrounding land was a undeveloped. There were very few roads cut into the landscape at the time (Robinson Aerial Surveys, Inc 1952). By 1963, the subject property, and a couple properties to the south and to the northwest was agricultural (NETR 1963). By 1968, additional properties to the west, and north were agricultural (Teledyne Geotronics 1968). Agricultural developments continued to grow into 1974 (NETR 1974). By 1995, an airfield was developed southwest of the subject property. The additional buildings appear in aerials by 1995 (NETR 1995).

EVALUATION

Under CRHR Criterion 1, the property at APN 346-032-55-00-4 does not have important associations with historic events, patterns, or trends of development. The property is used for alfalfa agriculture but does not contain a homestead. The property is a part of the post-World War II growth of Kern County as the property was developed for agriculture in the 1950s. While it is a part of agricultural development in Kern County, it is not an important or trend-setting example of Kern County's agricultural development. As such, the subject property is ineligible under CRHR Criterion 1.

Under CRHR Criterion 2, the subject property does not share significant associations with the lives of persons important to history. Historical research did not reveal any people associated with the property. As such, the subject property is ineligible under CRHR Criterion 2.

Under CRHR Criterion 3, the subject property is not a significant example of its type, style, or era, it lacks high artistic value, and is not the work of a master architect, building, designer, or engineer. The buildings on the property are examples of one-story pole buildings with walls formed of vertical metal poles and attached siding, and low-pitched gabled roofs supported by steel-girder trusses. However, these buildings are not barns, but are storage buildings. The central oldest building has a steel-frame window with corrugated metal siding and a roll-up metal door typical of agricultural buildings in Kern County from the 1960s. However, the building is a modest example and lacks any architectural details. It is not an example of a master architect's design and is not a rare example of the building type in Kern County. The two additional buildings are younger than 45 years of age and are not historically significant. As such, the subject property is ineligible under CRHR Criterion 3.

Under CRHR Criterion 4, the subject property has neither yielded nor is likely to yield important information about our past. Typical of similar buildings, the subject property's Agricultural landscape does not have the potential to yield important information regarding construction or engineering materials, methods, or technologies used in the 1950s and 1960s. As such, the subject property is ineligible under CRHR Criterion 4.

In conclusion, APN 346-032-55-00-4 does not have historical associations or architectural or construction qualities that qualify the property for listing under any of the CRHR significance criteria. The property was evaluated in accordance with Section 15064.5(a) (2) of the CEQA guidelines and found not to qualify as a historical resource for the purposes of CEQA. The current evaluation has assigned a 6Z status code to the property.

*B12. References (continued):

Beeman, Randal. 2016. "The land keeps us rooted: How ag became a way of life here." Bakersfield.com. December 1. Accessed December 25, 2021. Available: https://www.bakersfield.com/special/150-years/the-land-keeps-us-rooted-how-ag-became-a-way-of-life-here/article_8f405b08-67bd-5cee-9455-e8e55a5f79f4.html.

California Department of Water Resources (DWR). 1959. Feather River and Delta Diversion Projects, Bulletin No. 78, Investigation of

Alternative Aqueduct Systems to Serve Southern California. Appendix Z: Long-Range Economic Potential of the Antelope Valley-Mojave River Basin. January. Sacramento, CA. Available: http://wdl.water.ca.gov/waterdatalibrary/docs/historic/Bulletins/Bulletin_78/Bulletin_78-A__1959.pdf. Accessed: February 12, 2019.

Edwards Air Force Base. 2009. Integrated Cultural Resources Management Plan for Edwards Air Force Base, California. Volume I. Report on file, Base Historic Preservation Office, Edwards Air Force Base, CA.

Historic England. 2017. "Agricultural Buildings Listing Selection Guide." December. Accessed December 15, 2021. Available: https://historicengland.org.uk/images-books/publications/dlsg-agricultural-buildings/heag122-agricultural-buildings-lsg/.

Nationwide Environmental Title Research, LLC (NETR). 1963. Rosamond, California, 93560, Aerial Photograph. Accessed December 17, 2021. https://www.historicaerials.com/viewer.
-----. 1974. Rosamond, California, 93560, Aerial Photograph. Accessed December 17, 2021. https://www.historicaerials.com/viewer.
-----. 1995. Rosamond, California, 93560, Aerial Photograph. Accessed December 17, 2021. https://www.historicaerials.com/viewer.

Noble, Allen G. Wood, Brick, and Stone. The North American Settlement Landscape, Volume 2: Barns and Farm Structures. Amherst, MA: University of Massachusetts Press, 1984.

Noble, Allen G., and Richard K. Cleek. The Old Barn Book: A Field Guide to North American Barns and other Farm Structures. New Brunswick, NJ: Rutgers University Press, 1996.

Robinson Aerial Surveys, Inc. 1952. Flight ABL_1952, Frame 4K-18. Prepared for USDA Production and Marketing Administration. October 11. Accessed December 17, 2021. Available: https://mil.library.ucsb.edu/apcatalog/report/report.php?filed_by=ABL-1952.

SurveyLA. 2018. "Los Angeles Citywide Historic Context Statement: Context: Industrial Development, 1850-1980." Prepared for the City of Los Angeles Department of City Planning. February. Accessed December 15, 2021. Available: https://planning.lacity.org/odocument/ad40500b-cf5a-436e-8c80-a81606544c01/IndustrialDevelopment_1850-1980.pdf.

Teledyne Geotronics. 1968. Flight TG_2445 Framer 2-51. Prepared for Department of County Engineers, County of Los Angeles. March 25. Accessed December 17, 2021. Available: https://mil.library.ucsb.edu/apcatalog/report/report.php?filed_by=TG-2445.

Templin, Steven, Steven P. Phillips, Daniel E. Cherry, and Myrna L. DeBortoli. 1995. Land Use and Water Use in the Antelope Valley, California. U.S. Geological Survey Water-Resources Investigations Report 94-4208. Available: https://pubs.usgs.gov/wri/1994/4208/report.pdf. Accessed February 12, 2019.

Tetra Tech, Inc., and Jones & Stokes. 2004. Cultural Resources Evaluation of Historic Period Homesites on Edwards Air Force Base, Kern and Los Angeles Counties, California. Volume 1, Introduction and Background. Submitted to the Air Force Flight Test Center, Base, Historic Preservation Office, Edwards Air Force Base, CA. Contract No. DACA-05-01-D-0005, Task Order 0031.2002-K HOMESIT. On file at the Base Historic Preservation Office, Edwards Air Force Base, CA.

Water Association of Kern County (WAKC). 2021. "Kern County is always one of the top ranked counties in agricultural production in California, and in the nation." Accessed December 15, 2021. Available: https://www.wakc.com/water-overview/water-usage/agricultural-water-use/.

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HR #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code Reviewer Date

 Resource Name or # (Assigned by recorder): Resource ID 04, 8715 Favorito Avenue

P1. Other Identifier: 8715 Favorito Avenue

*** P2. Location:** ☐ Not for Publication ☑ Unrestricted
***a. County** **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** **Date** **T ; R ; 1/4 of 1/4 of Sec ; B.M.**
c. Address 8715 Favorito Avenue City Rosamond Zip
d. UTM: (Give more than one for large and/or linear feature) Zone , mE/ mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)
; 315-050-38-00-1

*** P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

The subject property at 8715 Favorito Avenue in Rosamond, Kern County, is bound by Los Angeles Department of Water and Power (LADWP) easement to the north (south of Dawn Road) and Favorito Avenue to the south. It consists of a one-story single-family residence set back roughly 125 feet from front property line at Favorito Avenue and three ancillary structures surrounding the residence along the southern portion of the property. The subject property is oriented south toward Favorito Avenue and has a lot size of 16.8 acres.

The one-story residence has a flat roof, a rectangular form, and is clad in stucco. The south (primary) elevation faces Favorito Avenue. There is an asymmetrical arrangement of doors and windows along the elevation. The other elevations are not visible from the public right-of-way. (See continuation sheet.)

*** P3b. Resource Attributes:** HP2. Single family property

*** P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☑ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, etc.)
East elevation, facing west 06/08/2021

*** P6. Date Constructed/Age and Sources:**
☐ Prehistoric ☑ Historic ☐ Both
1970 (Factual) Tax Assessor

*** P7. Owner and Address:**
Corona Ezequiel
8715 Favorito Avenue
Rosamond, CA 93560

*** P8. Recorded by:** (Name, affiliation, address)
Caitlin Greeley
ICF
555 W. 5th Street, Suite 3100, Los Angeles, CA 90013

*** P9. Date Recorded:** 01/31/2022

*** P10. Survey Type:** (Describe)

*** P11. Report Citation:** (Cite survey report/other sources or "none")

*** Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☑ Continuation Sheet ☑ Building, Structure, and Object Record
☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record
☐ Photograph Record ☐ Other: (List)

BUILDING, STRUCTURE, AND OBJECT RECORD

*Resource Name or # (Assigned by Recorder): Resource ID 04, 8715 Favorito Avenue   * NRHP Status Code 6Z

B1. Historic Name: None
B2. Common Name: 8715 Favorito Avenue
* B3. Original Use: Residence   B4. Present Use: Residence
* **B5. Architectural Style:** Ranch
B6. Construction History: (Construction date, alterations, and date of alterations.)
The residence on the subject property at 8715 Favorito Avenue has a construction date of 1970 (Parcel Quest 2021). No original building permits are available from Kern County. No Sanborn maps are available. Between 2005 and 2009 the residential building footprint grew in size and demolition took place to half of one of the ancillary structures. (See continuation sheet.)
*
* **B7. Moved?** ☑ No ☐ Yes ☐ Unknown   Date: N/A   Original Location: N/A
B8. Related Features:
N/A

* B9a. Architect: Unknown   b. Builder: Unknown
B10. Significance: Theme N/A   Area N/A
Period of Significance N/A   Property Type N/A   Applicable Criteria N/A

The property at 8715 Favorito Avenue does not meet the criteria for listing in the California Register of Historical Resources (CRHR). It does not, therefore, qualify as a historical resource under the California Environmental Quality Act.

CONTEXT
RANCH
Originally designed in California in the 1930s, Ranch houses drew inspiration from earlier Spanish Colonial haciendas and northern California farmhouses (SurveyLA 2015:5). The Ranch style gained popularity after World War II, due to Federal Housing Administration (FHA) promotion and loan support. Architects designed and builders constructed Ranch residences across the United States (McAlester 2015:602–603). Due to its ability to capitalize on the importance of automobiles in the post-World War II suburban sprawl, where workers needed to commute to and from work in the city, the Ranch style maintained its popularity until circa 1975 (SurveyLA 2015:13–15). Because of the influence of streetcar suburban developments on the creation of the style, Ranch style houses are primarily associated with and found in suburbs. Developers constructed entire tracts in the style during the 1950s and 1960s (McAlester 2015: 602-603). Non-tract examples of the style, such as those found in rural Kern County, are rarer and often simpler with minimal applied architectural detail. Easily built and customizable, Ranch homes continued to be constructed across America because they blended effortlessly into the newly forming middle-class attitude and lifestyle (SurveyLA 2015:13–15).

Ranch houses typically feature horizontal, one-story massing, with either a gable or hip roof. Initially built with simple rectangular floor plans, by the 1950s, L-shaped floor plans with intersecting gable roofs became more popular (Gottfried and Jennings 2009: 208-209). Developers built these homes on large tracts of land that allowed for spacious backyards and private outdoor living (McAlester 2015:602–603). Ranch-style homes feature an asymmetrical exterior, often elongating the look of the house by incorporating an attached front-facing garage. (See continuation sheet.)

* B11. Additional Resource Attributes:
B12. References:
(See continuation sheet.)

B13. Remarks:

* **B14. Evaluator:** Cait Greeley, ICF, ICF
Date of Evaluation: 01/31/2022

(This space reserved for official comments.)

*P3a. Description (continued):
Two long rectangular ancillary structures with flat roofs sit to the northwest of the residential building, and one rectangular ancillary structure sits to the west of the residential building. An unpaved road forms a square around the property.

INTEGRITY
The subject property's integrity is fair. It retains integrity of location. It does not retain integrity of setting because agricultural development of the area took place at a later day. Between 1972 and 1995, the roofs of the two long ancillary structures deteriorated substantially (NETR 1972 and 1995). In addition, due to a number of alterations, it does not have integrity of design, materials, and workmanship. For these reasons, it does not have integrity of feeling and association

*B6. Construction History (continued):

The addition of a third ancillary structure appears between 2009 and 2010. (NETR 2005, 2009, 2010). No other alterations have taken place at the subject property.

*B10. Significance (continued):

Substyles of the traditional Ranch plan include Contemporary, Cinderella, American Colonial, and Minimal. Elements of a Cinderella Ranch, otherwise known as Storybook Ranch, feature steep-pitched porch hoods and Swiss-Chalet inspired fascia and shutters that give the house an exaggerated fairytale look. In contrast, Minimal Ranch buildings have a more restrained exterior, including less variation in wall materials and simple footprints, and were commonly built within FHA design guidelines (SurveyLA 2015:17–18). Key features include a large picture window, small porch, and recessed entry. Builders used a variety of resources, including stucco, brick, stone, and wood. They also incorporated planters or window boxes into the exterior design for emphasis (McAlester 2015:597–601).

HOMESTEADING AND AGRICULTURE
Beyond the Antelope Valley railroad stops that developed into towns and eventually into cities, most settlement in the region involved homesteading lands for ranching and agriculture. Ethno-religious groups, prohibitionists, and utopian socialists also established agricultural colonies in the region during the late nineteenth and early twentieth centuries. Some newcomers homesteaded lands with the primary goal of becoming successful ranchers or farmers, while other homesteaders undertook requisite improvement of lands strategically in an effort to supplement their mining endeavors (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53).

Homesteading claims in the western Antelope Valley region began primarily after 1900 as a consequence of several factors. Having received transfers of significant land grants in 1903 from the federal government, the Southern Pacific Railroad launched heavy land-sale promotions during the 1910s, which attracted settlers from the east and from Europe. Rising land prices in Los Angeles and other urbanizing areas of Southern California enhanced the appeal of homesteading in the Antelope Valley for some southland residents. These factors, along with amendments to the Desert Land Act—which made provisions for absentee ownership, reduced irrigation and cultivation requirements, and shrank requisite periods of residency—generated a boom in homesteading activity that lasted from the 1910s through the mid-1930s (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53–54). However, not all homesteads were successful. Numerous claims filed after 1910 were never patented because of homesteaders' failure to improve lands adequately. Although Southern Pacific Railroad and other Antelope Valley land promoters presented the region as exceptionally fertile, settlers often confronted difficult climatic conditions, including frequent high winds during multiple seasons, flooding, intermittent drought, and, at times, excruciating heat (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53–54).

Homesteading in the Antelope Valley largely came to an end in the 1930s. Prevailing drought conditions worsened locally and across the nation during that decade. In addition, the Great Depression made it increasingly difficult for prospective settlers to accumulate capital for necessary improvements. As a result, during that time, many Antelope Valley settlers abandoned their homesteads, and the longstanding emphasis on promoting private use and development gave way to a new emphasis on conservation and preservation by the National Park Service, U.S. Forest Service, and Bureau of Land Management. In 1935, the federal government stopped accepting new "homestead" or "desert lands" entries, although small 5-acre homestead tracts could be purchased until 1950, and homesteaders with valid claims prior to 1935 could continue to improve their land (Tetra Tech and Jones & Stokes 2004:54).

Across the vicinity of the project, agricultural activity increased after World War II. From 1953 to 1956, land cultivated with crops in the Kern County portion of the Antelope Valley increased from 26,000 to more than 41,000 acres (with 23,732 acres irrigated), mostly in areas west of Rosamond and around Cantil. Alfalfa fields made up the majority of cultivated land across the larger Antelope Valley, followed by dry-land grains. During the 1950s, Antelope Valley farmers devoted limited acreage to irrigated forage crops, vegetables, almonds, apples, peaches, and other fruits. Field crops such as alfalfa and grain, as well as irrigated pastureland, dominated agricultural activity in the Kern County portion of the Antelope Valley, accounting for 34,978 acres in 1957. Alfalfa fields for hay and seed made up 90 percent of that acreage. In terms of livestock, sheep grazing was the most prominent activity in the Kern County portion of the valley during the 1950s. At this time, agriculture accounted for 97 percent of Antelope Valley water use. Although groundwater depletion had led some farmers to abandon acreage by the late 1950s, pumping for irrigation remained economically feasible in most of the valley's farming areas (DWR 1959:36–49).

The mainstay of agriculture in the project vicinity, Antelope Valley alfalfa production went into decline after the 1950s. Rising electricity costs for pumping depleted groundwater supplies and made alfalfa farming more difficult over time. Valley land planted in alfalfa declined from 38,525 acres in 1950 to 8,810 acres in 1987. Between 1953 and 1988, total groundwater pumped annually in the valley declined from 480,000 acre-feet to 69,000 acre-feet. Although land in the project vicinity continued to be cultivated during the 1970s, crop farming in the Rosamond and Willow Springs areas declined dramatically thereafter (DWR 1959:49; Templin et al. 1995:1–2, 7, 16, 64).

SITE HISTORY
Prior to the subject property's construction at 8715 Favorito Avenue, 1963 historic aerial images show the area was undeveloped (NETR 1963). Agricultural and residential development in the vicinity took place between the 1970s and the 1990s (NETR 1972, 1995). The surrounding area has remained unchanged in that time. The subject property's building footprint has changed since its original construction.

Kern County does not have original building permits for any buildings located on the subject property, nor are there any permits for alterations to any building on the property. Historic newspaper research reveals no information about the original owner or the property's original use. The current use of the property is residential. The current owner is Corona Ezequiel. Historic newspaper research yielded no information regarding Corona Ezequiel. Historic newspaper research yielded no information regarding the architect of any of the buildings.

EVALUATION
Under CRHR Criterion 1, the property at 8715 Favorito Avenue does not have important associations with historic events, patterns, or trends of development. Prior to its construction in 1970, the neighboring area was undeveloped. In the 1970s through the 1990s, residential and agricultural development took place north and south of Favorito Avenue. The region of the subject property at 8715 Favorito Avenue has remained the same since then, and the use of the property did not contribute to any specific historic events. It is not representative of any important association. As such, the subject property is ineligible under CRHR Criterion 1.

Under CRHR Criterion 2, the subject property does not share significant associations with the lives of persons important to history. Historic research revealed no information regarding the original owner. It is unknown the original function of the building. The current owner is Corona Ezequiel. Historic newspaper research yielded no information about Corona Ezequiel as they relate to their associations with the subject property at 8715 Favorito Avenue. As such, the subject property is ineligible under CRHR Criterion 2.

Under CRHR Criterion 3, the subject property is not a significant example of its type, style, or era, it lacks high artistic value, and is not the work of a master architect, building, designer, or engineer. The architect of the buildings is unknown. The subject property does not have a distinguishable architectural style. The property has undergone alterations to the building footprint and ancillary structures. The buildings is modest in design. With basic features, the property does not stand out among the masses constructed in suburban areas of California and the United States during the 1970s. The property does not represent an innovation in engineering or the work of a master. It displays commonplace materials and construction methods. As such, the subject property is ineligible under CRHR Criterion 3.

Under CRHR Criterion 4, the subject property has neither yielded nor is likely to yield important information about our past. Typical of similar buildings, the subject property's wood frame construction does not have the potential to yield important information regarding construction or engineering materials, methods, or technologies used in the 1970s. As such, the subject property is ineligible under CRHR Criterion 4.

In conclusion, 8715 Favorito Avenue does not have historical associations or architectural or construction qualities that qualify the property for listing under any of the CRHR significance criteria. The property was evaluated in accordance with Section 15064.5(a) (2) of the CEQA guidelines, and found not to qualify as a historical resource for the purposes of CEQA. The current evaluation has assigned a 6Z status code to the property

*B12. References (continued):

California Department of Water Resources (DWR). 1959. Feather River and Delta Diversion Projects, Bulletin No. 78, Investigation of Alternative Aqueduct Systems to Serve Southern California. Appendix Z: Long-Range Economic Potential of the Antelope Valley-Mojave

Primary #
HR #
Trinomial

CONTINUATION SHEET

 *** Resource Name or #:** (Assigned by recorder) Resource ID 04, 8715 Favorito Avenue

*** Recorded by:** Caitlin Greeley, ICF

☑ **Continuation** ☐ **Update** *** Date:** 01/31/2022

River Basin. January. Sacramento, CA. Available: http://wdl.water.ca.gov/waterdatalibrary/docs/historic/Bulletins/Bulletin_78/Bulletin_78-A__1959.pdf. Accessed: February 12, 2019.

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Google Maps. "8715 Favorito Avenue, Rosamond, CA 93560." Accessed: January 31, 2022. Available: https://www.google.com/maps/place/8715+Favorito+Ave,+Rosamond,+CA+93560/@34.9004627,-118.2881276,476m/data=!3m2!1e3!4b1!4m5!3m4!1s0x80c23e10edd66081:0x21e3361d356f1ca3!8m2!3d34.9004583!4d-118.2859389

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Nationwide Environmental Title Research, LLC (NETR). 2022. Historic Aerials, 8715 Favorito Avenue, Rosamond, CA 93560. Aerial Photographs 1963, 1972, 1974, 1995, 2005, 2009, 2010. Accessed: January 31, 2022. Available: https://www.historicaerials.com/viewer

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SurveyLA. 2015. "Los Angeles Citywide Historic Context Statement: The Ranch House, 1930–1975." Prepared for City of Los Angeles Office of Historic Resources. December. Accessed August 16, 2021. Available: https://planning.lacity.org/odocument/1acefe03-5615-425f-9182-d58a79014901/The_Ranch_House%2C_1930-1975.pdf.

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Tetra Tech, Inc., and Jones & Stokes. 2004. Cultural Resources Evaluation of Historic Period Homesites on Edwards Air Force Base, Kern and Los Angeles Counties, California. Volume 1, Introduction and Background. Submitted to the Air Force Flight Test Center, Base, Historic Preservation Office, Edwards Air Force Base, CA. Contract No. DACA-05-01-D-0005, Task Order 0031.2002-K HOMESIT. On file at the Base Historic Preservation Office, Edwards Air Force Base, CA.

Varney, Philip. 1990. Southern California's Best Ghost Towns: A Practical Guide. University of Oklahoma Press, Norman, OK.

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HR #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code Reviewer Date

 Resource Name or # (Assigned by recorder): Resource ID 05, 5488 Tehachapi-Willow Springs Road

P1. Other Identifier: 5488 Tehachapi-willow Springs Road

*** P2. Location:** ☐ Not for Publication ☑ Unrestricted
***a. County** **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** **Date** **T ; R ; 1/4 of 1/4 of Sec ; B.M.**
c. Address 5488 Tehachapi-willow Springs Road City Rosamond Zip
d. UTM: (Give more than one for large and/or linear feature) Zone , mE/ mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)
; 315-011-18-00-8

*** P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

The property located at 5488 Tehachapi Willow Springs Road is largely composed of agricultural fields with a small homestead. There are four buildings located in the northwestern corner of the square parcel that consist of a single-family residence, an ancillary building, a metal agricultural building, and a wood shed. The parcel is bound by Favorito Avenue to the north, Tehachapi Willow Springs Road to the west, Hamilton Road to the south, and 85th Street West to the east. A secondary road divides the 156-acre parcel in half, with Favorito Avenue/85th Street running north-south. The landscape is composed of a flat terrain with a majority of the parcel used for farming; the agricultural parcel is composed of irrigated land.

The single-family residence was constructed between 1963 and 1968 (NETR 1963 and Teledyne, Inc. (See continuation sheet.)

*** P3b. Resource Attributes:** HP2. Single family property

*** P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, etc.)
East elevation, facing west/southwest
06/08/2021

*** P6. Date Constructed/Age and Sources:**
☐ Prehistoric ☑ Historic ☐ Both
1963-1968 (Estimate) Aerial Photographs

*** P7. Owner and Address:**
Leonard W & Laura Griffin Survivors Trust
48009 70th Street East
Lancaster, CA 93535

*** P8. Recorded by:** (Name, affiliation, address)
Elizabeth Hilton
ICF
555 W. 5th Street, Suite 3100, Los Angeles, CA 90013

*** P9. Date Recorded:** 01/25/2022

*** P10. Survey Type:** (Describe)

*** P11. Report Citation:** (Cite survey report/other sources or "none")

*** Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☑ Continuation Sheet ☑ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other: (List)

* Required Information

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary #

HR #

BUILDING, STRUCTURE, AND OBJECT RECORD

*Resource Name or # (Assigned by Recorder): Resource ID 05, 5488 Tehachapi-Willow Springs Road * **NRHP Status Code** 6Z

B1. Historic Name: None

B2. Common Name: 5488 Tehachapi-Willow Springs Road

* B3. Original Use: Residence B4. Present Use: Residence

* **B5. Architectural Style:** Ranch

B6. Construction History: (Construction date, alterations, and date of alterations.)

No Building Permits or Sanborn Maps were available for this property. Additionally, historic newspapers and ancestry library did not identify any resources for this property address or cross streets.

A 1968 aerial image reveals a small, rectangular residence sited adjacent to Tehachapi Willow Springs Road and an agricultural building to

* **B7. Moved?** ☑ No ☐ Yes ☐ Unknown Date: N/A Original Location: N/A

B8. Related Features:

N/A

* B9a. Architect: Unknown b. Builder: Unknown

B10. Significance: Theme N/A Area N/A

Period of Significance N/A Property Type N/A Applicable Criteria N/A

The property at 5488 Tehachapi Willow Springs Road does not meet the criteria for listing in the California Register of Historical Resources (CRHR). It does not, therefore, qualify as a historical resource under the California Environmental Quality Act.

CONTEXT

HOMESTEADING AND AGRICULTURE

Beyond the Antelope Valley railroad stops that developed into towns and eventually into cities, most settlement in the region involved homesteading lands for ranching and agriculture. Ethno-religious groups, prohibitionists, and utopian socialists also established agricultural colonies in the region during the late nineteenth and early twentieth centuries. Some newcomers homesteaded lands with the primary goal of becoming successful ranchers or farmers, while other homesteaders undertook requisite improvement of lands strategically in an effort to supplement their mining endeavors (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53).

Homesteading claims in the western Antelope Valley region began primarily after 1900 as a consequence of several factors. Having received transfers of significant land grants in 1903 from the federal government, the Southern Pacific Railroad launched heavy land-sale promotions during the 1910s, which attracted settlers from the east and from Europe. Rising land prices in Los Angeles and other urbanizing areas of Southern California enhanced the appeal of homesteading in the Antelope Valley for some southland residents. These factors, along with amendments to the Desert Land Act—which made provisions for absentee ownership, reduced irrigation and cultivation requirements, and shrank requisite periods of residency—generated a boom in homesteading activity that lasted from the 1910s through the mid-1930s (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53–54). However, not all homesteads were successful. Numerous claims filed after 1910 were never patented because of homesteaders' failure to improve lands adequately. (See continuation sheet.)

* B11. Additional Resource Attributes:

B12. References:

(See continuation sheet.)

B13. Remarks:

* **B14. Evaluator:** Elizabeth Hilton, ICF, ICF

Date of Evaluation: 01/25/2022

(This space reserved for official comments.)

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

CONTINUATION SHEET

Primary #
HR #
Trinomial

 * Resource Name or #: (Assigned by recorder) Resource ID 05, 5488 Tehachapi-Willow Springs Road

* Recorded by: Elizabeth Hilton, ICF

☑ Continuation ☐ Update * Date: 01/25/2022

West elevation of residence, facing east.

Southwest elevation of residence and agricultural building, facing northeast. Source: Google Maps, May 2019.

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HR #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code Reviewer Date

 Resource Name or # (Assigned by recorder): Resource ID 06, 10145 Hamilton Road

P1. Other Identifier: 10145 Hamilton Road

*** P2. Location:** ☐ Not for Publication ☑ Unrestricted
***a. County** **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** **Date** **T ; R ; 1/4 of 1/4 of Sec ; B.M.**
c. Address 10145 Hamilton Road City Rosamond Zip
d. UTM: (Give more than one for large and/or linear feature) Zone , mE/ mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)
; 358-052-08-00-1

*** P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

The property located at 10145 Hamilton Road is a narrow 14.9 acre parcel bordered by 90th Avenue to the east, Hamilton Road to the south, vacant land to the west, and Favorito Avneue to the north. There are three buildings located in the southern section of the parcel, set back from Hamilton Road: a single-family residence, wood barn, small shed, and a small silo. North of the buildings are fenced areas used for livestock farming, as well as two metal silos and a small metal water tower that are visible from Hamilton Road. The landscape is composed of a flat terrain with dirt ground cover populated with shrubs and trees.

The single-family residence is one-story tall and rectangular in plan. Designed in the Craftsman style, it is set back approximately 500 feet from Hamilton Road and clad with a smooth stucco finish. It is capped by a medium-pitched side-gable roof with overhanging eaves and clad in shingles. The primary, south, façade is asymmetrically divided into four bays. There is an off-center primary entrance flanked to the west by a window opening and to the east by two windows that appear to be two-over-two panes. (See continuation sheet.)

*** P3b. Resource Attributes:** HP2. Single family property

*** P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, etc.)
South elevation, facing north 06/08/2021

*** P6. Date Constructed/Age and Sources:**
☐ Prehistoric ☑ Historic ☐ Both
c. 1930 (Estimate) Professional Opinion

*** P7. Owner and Address:**
Luzviminda V Padilla
3633 Kim Court
Lancaster, CA 93536

*** P8. Recorded by:** (Name, affiliation, address)
Elizabeth Hilton
ICF
555 W. 5th Street, Suite 3100, Los Angeles, CA 90013

*** P9. Date Recorded:** 01/25/2022

*** P10. Survey Type:** (Describe)

*** P11. Report Citation:** (Cite survey report/other sources or "none")

* **Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☑ Continuation Sheet ☑ Building, Structure, and Object Record
☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record
☐ Photograph Record ☐ Other: (List)

* Required Information

BUILDING, STRUCTURE, AND OBJECT RECORD

*Resource Name or # (Assigned by Recorder): Resource ID 06, 10145 Hamilton Road

* NRHP Status Code 6Z

B1. Historic Name: None

B2. Common Name: 10145 Hamilton Road

* B3. Original Use: Residence

B4. Present Use: Residence

* **B5. Architectural Style:** Craftsman

B6. Construction History: (Construction date, alterations, and date of alterations.)

No Building Permits or Sanborn Maps were available for this property. Additionally, historic newspapers and Ancestry Library did not identify any resources for this property address or cross streets.

* A construction date of c. 1930 was given to the residence based on the Craftsman design and two-over-two window fenestration. (See

* **B7. Moved?** ☑ No ☐ Yes ☐ Unknown Date: N/A Original Location: N/A

B8. Related Features:

N/A

* B9a. Architect: Unknown b. Builder: Unknown

B10. Significance: Theme N/A Area N/A

Period of Significance N/A Property Type N/A Applicable Criteria N/A

The property at 10145 Hamilton Road does not meet the criteria for listing in the California Register of Historical Resources (CRHR). It does not, therefore, qualify as a historical resource under the California Environmental Quality Act.

CONTEXT

HOMESTEADING AND AGRICULTURE

Beyond the Antelope Valley railroad stops that developed into towns and eventually into cities, most settlement in the region involved homesteading lands for ranching and agriculture. Ethno-religious groups, prohibitionists, and utopian socialists also established agricultural colonies in the region during the late nineteenth and early twentieth centuries. Some newcomers homesteaded lands with the primary goal of becoming successful ranchers or farmers, while other homesteaders undertook requisite improvement of lands strategically in an effort to supplement their mining endeavors (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53).

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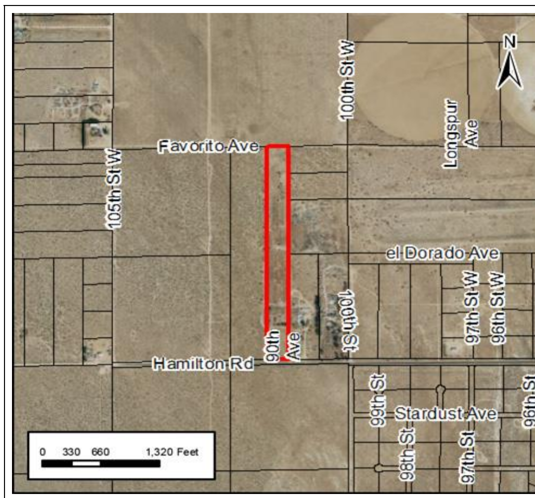
* B11. Additional Resource Attributes:

B12. References:

(See continuation sheet.)



B13. Remarks:

* **B14. Evaluator:** Elizabeth Hilton, ICF, ICF

Date of Evaluation: 01/25/2022

(This space reserved for official comments.)

*P3a. Description (continued):
There is a large two-story addition on the north (rear) elevation that appears to envelope the original homestead. Secondary small-scale additions were made to the west and north elevations.

A vernacular barn is sited west-adjacent of the residence with wood-frame construction. Rectangular in plan, it has a medium-pitched front-gable roof capped with asphalt shingles and slightly overhanging eaves. The primary, south, façade reveals a wood truss and open-air gable-end, with wood panels leaning against the façade. It appears to be in a state of disrepair.

A small shed is located northeast of the residence. Rectangular in plan, it has a medium-pitched side-gable roof with slightly overhanging eaves. A small addition appears to be located on the north elevation. It cannot be seen from Hamilton Road, obscured by trees.

Landscaping around the homestead consists of dirt ground covering with mature growth trees lining the homestead area to the south and west of the wood barn. A dirt driveway extends around the trees, surrounding the residential area, and connecting to 90th Avenue. The agricultural area north of the homestead is divided into multiple sections with wood fencing for the livestock. A small metal water tower and two metal silos are sited between the livestock fencing and homestead.

INTEGRITY
The subject property retains integrity of location. It also retains integrity of setting because its rural, semi-agricultural setting along Hamilton Road remains largely unchanged with only minimal residential development in the vicinity in the twentieth and twenty-first century. In addition, alterations to the property, which consist of a very large addition to the residence and removal of wood siding on the barn, it has fair integrity of design, materials, and workmanship. For these reasons, it has fair integrity of feeling and association.

*B6. Construction History (continued):

The earliest aerial image available in the vicinity dates to 1952 (Robinson Aerial Surveys, Inc. 1952), which shows the residence and barn. Based on visual inspection, the barn was most likely constructed c. 1940. The 1995 aerial shows the construction of a small shed sited northeast of the residence (NETR 1995), revealing a construction date between 1974 and 1995 (NETR 1974 and 1995). The aerial images available do not show the small metal water tower and two metal silos sited north of the residence.

Based on historic aerials and Google Maps, there does not appear to be any additions to the barn; however, there appears to be a small northern addition to the shed, constructed before 1995 (NETR 1995), and a large two-story addition to the rear of the residence, constructed between 1974 and 1995. Based on visual inspection, the only alterations that can be seen from the street is the removal of wood siding and a door from the primary, south, elevation on the barn, along with the large two-story rear addition to the residence.

*B10. Significance (continued):

Homesteading in the Antelope Valley largely came to an end in the 1930s. Prevailing drought conditions worsened locally and across the nation during that decade. In addition, the Great Depression made it increasingly difficult for prospective settlers to accumulate capital for necessary improvements. As a result, during that time, many Antelope Valley settlers abandoned their homesteads, and the longstanding emphasis on promoting private use and development gave way to a new emphasis on conservation and preservation by the National Park Service, U.S. Forest Service, and Bureau of Land Management. In 1935, the federal government stopped accepting new "homestead" or "desert lands" entries, although small 5-acre homestead tracts could be purchased until 1950, and homesteaders with valid claims prior to 1935 could continue to improve their land (Tetra Tech and Jones & Stokes 2004:54).

Across the vicinity of the project, agricultural activity increased after World War II. From 1953 to 1956, land cultivated with crops in the Kern County portion of the Antelope Valley increased from 26,000 to more than 41,000 acres (with 23,732 acres irrigated), mostly in areas west of Rosamond and around Cantil. Alfalfa fields made up the majority of cultivated land across the larger Antelope Valley, followed by dry-land grains. During the 1950s, Antelope Valley farmers devoted limited acreage to irrigated forage crops, vegetables, almonds, apples, peaches, and other fruits. Field crops such as alfalfa and grain, as well as irrigated pastureland, dominated agricultural activity in the Kern County portion of the Antelope Valley, accounting for 34,978 acres in 1957. Alfalfa fields for hay and seed made up 90 percent of that acreage. In terms of livestock, sheep grazing was the most prominent activity in the Kern County portion of the valley during the 1950s. At this time, agriculture accounted for 97 percent of Antelope Valley water use. Although groundwater depletion had led some farmers to abandon acreage by the late 1950s, pumping for irrigation remained economically feasible in most of the valley's farming areas (DWR

1959:36–49).

The mainstay of agriculture in the project vicinity, Antelope Valley alfalfa production went into decline after the 1950s. Rising electricity costs for pumping depleted groundwater supplies and made alfalfa farming more difficult over time. Valley land planted in alfalfa declined from 38,525 acres in 1950 to 8,810 acres in 1987. Between 1953 and 1988, total groundwater pumped annually in the valley declined from 480,000 acre-feet to 69,000 acre-feet. Although land in the project vicinity continued to be cultivated during the 1970s, crop farming in the Rosamond and Willow Springs areas declined dramatically thereafter (DWR 1959:49; Templin et al. 1995:1–2, 7, 16, 64).

CRAFTSMAN STYLE

Craftsman architecture originated in Southern California, home to most landmark examples of the style. The Greene brothers in Pasadena, who designed and built numerous high-style “ultimate bungalows”' together from 1893–1914, merged Japanese woodworking and English Arts and Crafts aesthetics that resulted in a subtle, “honest use of building materials,” with an emphasis on quality craft work (GPA 2007:19). The style made buildings’ structural components (i.e., beams and support structures) part of the visual appeal. Gustav Stickley’s The Craftsman magazine promoted single-family Craftsman dwellings through moderately priced, standardized plans. Contractors and builders followed suit with lower-cost standardized designs embellished with customizable options. Through pattern books and popular magazines, more Craftsman-styled homes sprung up across the country, making high-quality artisanship accessible to more buyers. In the years before the Depression, middle class families moved to temperate areas of southern California with generous, inexpensive parcels where the Craftsman’s “simple but artistic” feature-set could shine until the style’s decline by 1930 (GPA 2007:20). In concert with pattern books and magazines, home builders and contractors could order homes from catalogues and have everything necessary, except heavy materials like stone and rock, shipped to the build site. Catalogue homes and contractor-built designs made Craftsman homeownership accessible, convenient, and affordable (GPA 2007:19–21; McAlester 2013:1,973–1,974).

Character-defining features of Craftsman architecture include wood-framed, one- or one-and-one-half-story high buildings with low-to-moderate-pitched gabled roofs with wide, unenclosed eaves, gabled- or shed-style dormers, walls clad in wood clapboard or wood shingles, false decorative bracketry or braces beneath the gables, exposed roof rafters, full-width or partial-width porches supported by square columns, and continuous porch columns or piers with no break at the porch level along the façade. Exposed woodwork displays rich finishes meant to complement the visual impact of the building. Embellishments may include sloping (i.e., battered) foundations, stone-clad chimneys, extended or elaborated rafter ends, cottage windows, lines of three or more windows, and multiple roof planes (McAlester 2013:1,924–1,972; GPA 2007:28).

Vernacular examples tend to originate from catalogue-ordered or contractor designs and typically embody modest stylistic elements of their high-style counterparts. These examples may share similar forms or layouts of their surrounding neighbors or tracts elsewhere in the region; however, many catalogue designs allowed for owner variations. These examples may lack the “hand-hewn” materials and high-style complex woodwork and bracketry seen on architect-designed, high-style examples by master architects like Greene and Greene. Vernacular examples may express eclectic elements from complementary styles like Oriental, Swiss, Colonial, or Tudor, embodying the preferences of the owner, builder, or designer or simply popular architecture during its construction. Multi-family or large commercial Craftsman buildings tend to share the same character-defining elements of their catalogue-ordered or high-style single-family counterparts, with commercial examples incorporating features on a larger scale to accommodate the scale of the building (GPA 2007:34–35).

VERNACULAR

Vernacular buildings typically include features that express the influence of a particular architectural style but do not reflect an architect’s or builder’s intentional articulation of a specific architectural style. Vernacular structures are part of the common, everyday fabric of the built environment. Their purposes, functions, and aesthetic values and objectives play crucial roles in determining their design and construction.

Historically, vernacular architecture reflects the common building traditions, construction materials, culture, climate, and landscape of a particular nation, region, or place. During the industrial and post-industrial eras modern forces such as industrial fabrication, mass-production and distribution, consumer capitalism, and large-scale market conditions influenced vernacular architecture more than place and tradition. Architectural historians Herbert Gottfried and Jan Jennings argue that during the late 19th and 20th centuries, vernacular architecture continued to qualify as “practical” architecture, but it also increasing became an “industrial” or “manufactured” architecture, not to mention a “market” architecture “responsive to marketing pressure and to changes in fashion” (Gottfried and Jennings 2009:9–12).

AGRICULTURAL BUILDINGS

Kern County is one of the leading farm counties in the United States (Beeman 2016). Historically, ranching was the main form of agriculture in Kern County, but more recently, fruits and vegetables have become important crops in the County (Beeman 2016). Important crops and commodities in Kern County include grapes, almonds, milk, citrus, cattle, pistachios, carrots (Water Association of Kern County

2021). With the county's strong association with agriculture, there are many agricultural buildings in the county. Types of agricultural buildings include barns, storage silos, equipment sheds, and cattle housing.

An early barn types includes "transverse frame." Transverse frame barns have front-gabled roofs and large centered entries for horse-drawn vehicles, tractors, trucks, or other equipment to access the central passages. Storage of hay or other animal feed are often located in second story lofts (Noble 1984: 6-7, 11-13). A common variant, the "Midwest three-portal barn" is a transverse frame farm with added shed roof enclosed side aisles to the, each with front elevation (Noble 1984: 13). After World War II, industrial-scale feed silos replaced the storage loft of many barns. One-story poles barns with walls formed of vertical metal poles and attached siding, and low-pitched gabled roofs supported by steel-girder trusses became prevalent (Noble 1984: 47; Noble & Cleek 1996: 39). Recently, agricultural producers have developed simpler structures to provide shelter for livestock, stripping pole barns of their siding altogether in favor of open-sided structures consisting of steel columns that support low-pitched metal roofs. Such shelters can be large and extensive, creating a larger area of sheltered space.

Because of the practical and utilitarian use of agricultural buildings, they rarely have applied architectural styles. Agricultural buildings usually have a vernacular style with local materials including wood frame and cladding. Some newer agriculture buildings have corrugated metal siding. If there are windows, they may include double-hung or fixed wood frame sashes; fixed or operational steel-frame sashes, or horizontally sliding aluminum sashes. Many ancillary buildings incorporate one or more larger vehicle entries, often with roll-up metal doors, as well as pedestrian entries with single-leaf doors. Associated historic vernacular landscape features including irrigation features, feedlots, tanks, and pastureland (SurveyLA 2018: 43).

SITE HISTORY

The property located at 10145 Hamilton Road is a narrow, rectangular, agricultural parcel surrounded in a rural area by vacant land, large farms, and modest homesteads (Google Maps 2022). Aerial images reveal minor changes to the landscape since the mid-20th century (Robinson Aerial Surveys, Inc. 1952 and Google Maps 2022).

The earliest aerial image in the vicinity is from 1952, which shows three small, side-by-side homesteads located off Hamilton Road. At this time, only the barn and residence were located on the property, with trees lining the east and west property boundary, as well as trees providing a visual border between the homestead and the street. Based on visual inspection, the residence was most likely constructed c. 1930, and the barn was most likely constructed c. 1940. A dirt driveway went up present day 90th Avenue and circled back in front of the tree line (Robinson Aerial Surveys, Inc. 1952). Over the years mature growth trees began to surround the residence and barn; the driveway extended alongside the tree line in front of the buildings and went around the western parcel boundary of trees, looping back to what later became 90th Avenue (NETR 1963). But by 1995, trees only lined the front of the buildings and the west parcel boundary by the homestead. This aerial also shows the construction of a small shed sited northeast of the residence (NETR 1995), revealing a construction date between 1974 and 1995 (NETR 1974 and 1995). The aerial images available do not show the small metal water tower and two metal silos sited north of the residence. Presently, 90th Avenue is located on aerial maps, with the street stopping beyond the homestead and the second driveway entrance (Google Maps 2022).

The 1952 aerial does not show any agricultural use in the area surrounding the subject property (Robinson Aerial Surveys, Inc. 1952). By 1963, fencing existed north of the residence (NETR 1963), which was expanded farther north in 1968 (Teledyne Inc. 1968). Fencing was extended north once again by 1995 (NETR 1995); there has been no changes since then to the property (Google Maps 2022).

The current owner is Luzviminda V. Padilla (ProQuest 2022). Research did not reveal previous owners; however, a Kern County Map from 1898 reveals the land was once owned by the Oak Creek L. and W. Company (Congdon 1898). Research did not reveal any information on these owners.

EVALUATION

Under CRHR Criterion 1, the property at 10145 Hamilton Road does not have important associations with historic events, patterns, or trends of development. The residence on the property was erected in the first half of the 20th century, along with the adjacent two homesteads. Although the residence and barn were most likely constructed within the period of significance for homesteading in the Antelope Valley, multiple alterations are visible: the barn door and siding has been removed from the primary façade, and a two-story rear addition envelopes the residence, such that only the primary façade of the homestead is present (Google Maps 2022). Additionally, the property does not display any agricultural use until the second half of the twentieth century, in which livestock farming expanded on the parcel until 1995 (NETR 1963 and 1995), and agricultural structures, including two silos and a small water tower, were only erected present day (Google Maps). Due to extensive alterations to the residence, barn, and property as a whole, there is little evidence that suggests this property is directly linked to an early homestead associated with local history. As such, the subject property is ineligible under CRHR Criterion 1.

Under CRHR Criterion 2, the subject property does not share significant associations with the lives of persons important to history. The current owner is identified as is Luzviminda V. Padilla (ParcelQuest 2022). Research did not reveal previous owners; however, a Kern County Map from 1898 reveals the land was once owned by Oak Creek L. and W. Company (Congdon 1898). Research yielded no information for these owners; it is unlikely the subject property is associated with the life of an important person in the Antelope Valley. As such, the subject property is ineligible under CRHR Criterion 2.

Under CRHR Criterion 3, the subject property is not a significant example of its type, style, or era, it lacks high artistic value, and is not the work of a master architect, building, designer, or engineer. The subject property has three vernacular buildings: a residence, barn, and small shed. Constructed c. 1930 in the Craftsman style, the residence exhibits commonplace features such as stucco wall cladding, off-center primary entrance, and front-gable roof. However, high style examples would include a pronounced front porch, applied wood elements, and its original building footprint. The residence has been heavily altered due to a two-story addition that dominates the building plan, and the c. 1940 wood barn is missing doors and wood siding. Therefore, as an ubiquitous example of the Craftsman and vernacular styles that exhibits visible alterations, it does not warrant architectural merit. Furthermore, the shed, silos, water tower, and fencing used for livestock farming are unlikely to be the work of a master. As such, the subject property is ineligible under CRHR Criterion 3.

Under CRHR Criterion 4, the subject property has neither yielded nor is likely to yield important information about our past. Typical of similar buildings, the subject property's wood frame construction does not have the potential to yield important information regarding construction or engineering materials, methods, or technologies used in the 1930s and 40s. As such, the subject property is ineligible under CRHR Criterion 4.

In conclusion, 10145 Hamilton Road does not have historical associations or architectural or construction qualities that qualify the property for listing under any of the CRHR significance criteria. The property was evaluated in accordance with Section 15064.5(a) (2) of the CEQA guidelines and found not to qualify as a historical resource for the purposes of CEQA. The current evaluation has assigned a 6Z status code to the property.

*B12. References (continued):

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*P3a. Description (continued):
1968). One-story tall and rectangular in plan, the Ranch style residence is clad with a smooth stucco finish. It is capped by a medium-pitched side-gable roof with slightly overhanging eaves, pronounced fascia, and clad in wood shingles. The elevations are punctuated with tripartite windows and a rear pedestrian door is obscured by a metal security door. The residence is accessed from the east or north on a concrete clad sidewalk, which cannot be seen from the street.

An ancillary building is sited north-adjacent of the residence and constructed in a similar design to the residence. Rectangular in plan, the elevations are clad in a smooth stucco siding. It has a medium-pitched side-gable roof capped with wood shingles and slightly overhanging eaves. The primary, east, façade faces the large agricultural building. Due to mature growth vegetation, the building is heavily obscured from the street.

A large-scale agricultural building is sited south-adjacent of Favorito Avenue, located east of the ancillary building. Two-stories tall, it is rectangular in plan and capped with a medium-pitched side-gable roof. It is an open-air building, supported by metal columns with a metal roof and gable ends.

A small wood shed is located south of the agricultural building. Rectangular in plan, it has wood-frame construction and a medium-pitched side-gable roof with slightly overhanging eaves. The primary, east, façade features an open door-frame and small window opening to the north and underneath the roof pitch. The north elevation is composed of large door openings, most likely for storage.

Landscaping around the homestead consists of dirt ground covering with mature growth trees lining the homestead area on Favorito Avenue and Tehachapi Willow Springs Road. The northwestern corner of the property is also lined with a metal cyclone fence capped with barbed wire. Telephone lines extend along the northern parcel boundary. A dirt driveway extends around the residence from the south off Tehachapi Willow Springs Road; then, it curves south and east of the agricultural building to connect to Favorito Avenue. The driveway is accessed through a pair of metal cyclone gates. Alfalfa is planted in the farming portions of the property.

INTEGRITY
The subject property's integrity is difficult to ascertain due to limits in documentation from the public right-of-way. It retains integrity of location. It also retains integrity of setting because its rural, semi-agricultural setting along Tehachapi Willow Springs Road and Favorito Avenue remains largely unchanged with only minimal residential development in the vicinity in the twentieth and twenty-first century. In addition, due to a lack of alterations it has integrity of design, materials, and workmanship. For these reasons, it has integrity of feeling and association.

*B6. Construction History (continued):

1968). A 1963 aerial shows a clearing where the homestead is located (NETR 1963); therefore, the residence and agricultural building were constructed between 1963 and 1968. A 1974 aerial shows the erection of a rectangular building in the northwestern corner of the parcel, just north of the residence; therefore, it was most likely constructed between 1968 and 1974. The 1974 aerial also shows two small sheds constructed to the west and south of the agricultural building (NETR 1974), revealing a similar construction date of c. 1970. However, by 1995, an aerial reveals the westernmost shed was demolished (NETR 1995), leaving the four existing buildings on the parcel.

Based on historic aerials and Google Maps, there does not appear to be any additions to the four buildings on the parcel. Additionally, based on visual inspection, the only alterations that can be seen from the street is the removal of two windows and a door from the primary, east, elevation on the wood shed.

*B10. Significance (continued):

Although Southern Pacific Railroad and other Antelope Valley land promoters presented the region as exceptionally fertile, settlers often confronted difficult climatic conditions, including frequent high winds during multiple seasons, flooding, intermittent drought, and, at times, excruciating heat (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53–54).

Homesteading in the Antelope Valley largely came to an end in the 1930s. Prevailing drought conditions worsened locally and across the nation during that decade. In addition, the Great Depression made it increasingly difficult for prospective settlers to accumulate capital for necessary improvements. As a result, during that time, many Antelope Valley settlers abandoned their homesteads, and the longstanding emphasis on promoting private use and development gave way to a new emphasis on conservation and preservation by the National Park Service, U.S. Forest Service, and Bureau of Land Management. In 1935, the federal government stopped accepting new "homestead" or "desert lands" entries, although small 5-acre homestead tracts could be purchased until 1950, and homesteaders with valid claims prior to 1935 could continue to improve their land (Tetra Tech and Jones & Stokes 2004:54).

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The mainstay of agriculture in the project vicinity, Antelope Valley alfalfa production went into decline after the 1950s. Rising electricity costs for pumping depleted groundwater supplies and made alfalfa farming more difficult over time. Valley land planted in alfalfa declined from 38,525 acres in 1950 to 8,810 acres in 1987. Between 1953 and 1988, total groundwater pumped annually in the valley declined from 480,000 acre-feet to 69,000 acre-feet. Although land in the project vicinity continued to be cultivated during the 1970s, crop farming in the Rosamond and Willow Springs areas declined dramatically thereafter (DWR 1959:49; Templin et al. 1995:1–2, 7, 16, 64).

RANCH STYLE

Originally designed in California in the 1930s, Ranch houses drew inspiration from earlier Spanish Colonial haciendas and northern California farmhouses (SurveyLA 2015:5). The Ranch style gained popularity after World War II, due to Federal Housing Administration (FHA) promotion and loan support. Architects designed and builders constructed Ranch residences across the United States (McAlester 2015:602–603). Due to its ability to capitalize on the importance of automobiles in the post-World War II suburban sprawl, where workers needed to commute to and from work in the city, the Ranch style maintained its popularity until circa 1975 (SurveyLA 2015:13–15). Because of the influence of streetcar suburban developments on the creation of the style, Ranch style houses are primarily associated with and found in suburbs. Developers constructed entire tracts in the style during the 1950s and 1960s (McAlester 2015: 602-603). Non-tract examples of the style, such as those found in rural Kern County, are rarer and often simpler with minimal applied architectural detail. Easily built and customizable, Ranch homes continued to be constructed across America because they blended effortlessly into the newly forming middle-class attitude and lifestyle (SurveyLA 2015:13–15).

Ranch houses typically feature horizontal, one-story massing, with either a gable or hip roof. Initially built with simple rectangular floor plans, by the 1950s, L-shaped floor plans with intersecting gable roofs became more popular (Gottfried and Jennings 2009: 208-209). Developers built these homes on large tracts of land that allowed for spacious backyards and private outdoor living (McAlester 2015:602–603). Ranch-style homes feature an asymmetrical exterior, often elongating the look of the house by incorporating an attached front-facing garage. Substyles of the traditional Ranch plan include Contemporary, Cinderella, American Colonial, and Minimal. Elements of a Cinderella Ranch, otherwise known as Storybook Ranch, feature steep-pitched porch hoods and Swiss-Chalet inspired fascia and shutters that give the house an exaggerated fairytale look. In contrast, Minimal Ranch buildings have a more restrained exterior, including less variation in wall materials and simple footprints, and were commonly built within FHA design guidelines (SurveyLA 2015:17–18). Key features include a large picture window, small porch, and recessed entry. Builders used a variety of resources, including stucco, brick, stone, and wood. They also incorporated planters or window boxes into the exterior design for emphasis (McAlester 2015:597–601).

AGRICULTURAL BUILDINGS

Kern County is one of the leading farm counties in the United States (Beeman 2016). Historically, ranching was the main form of agriculture in Kern County, but more recently, fruits and vegetables have become important crops in the County (Beeman 2016). Important crops and commodities in Kern County include grapes, almonds, milk, citrus, cattle, pistachios, carrots (Water Association of Kern County 2021). With the county's strong association with agriculture, there are many agricultural buildings in the county. Types of agricultural buildings include barns, storage silos, equipment sheds, and cattle housing.

An early barn types includes "transverse frame." Transverse frame barns have front-gabled roofs and large centered entries for horse-drawn vehicles, tractors, trucks, or other equipment to access the central passages. Storage of hay or other animal feed are often located in second story lofts (Noble 1984: 6-7, 11-13). A common variant, the "Midwest three-portal barn" is a transverse frame farm with added shed roof enclosed side aisles to the, each with front elevation (Noble 1984: 13). After World War II, industrial-scale feed silos replaced the storage loft of many barns. One-story poles barns with walls formed of vertical metal poles and attached siding, and low-pitched gabled roofs supported by steel-girder trusses became prevalent (Noble 1984: 47; Noble & Cleek 1996: 39). Recently, agricultural producers have developed simpler structures to provide shelter for livestock, stripping pole barns of their siding altogether in favor of open-sided structures consisting of steel columns that support low-pitched metal roofs. Such shelters can be large and extensive, creating a larger area of sheltered space.

Because of the practical and utilitarian use of agricultural buildings, they rarely have applied architectural styles. Agricultural buildings usually have a vernacular style with local materials including wood frame and cladding. Some newer agriculture buildings have corrugated metal siding. If there are windows, they may include double-hung or fixed wood frame sashes; fixed or operational steel-frame sashes, or horizontally sliding aluminum sashes. Many ancillary buildings incorporate one or more larger vehicle entries, often with roll-up metal doors, as well as pedestrian entries with single-leaf doors. Associated historic vernacular landscape features including irrigation features, feedlots, tanks, and pastureland (SurveyLA 2018: 43).

SITE HISTORY

The property located at 5488 Tehachapi Willow Springs Road is a large, square agricultural parcel surrounded in a rural area by vacant land, large farms, and modest homesteads (Google Maps 2019). Aerial images reveal minor changes to the landscape since the mid-20th century (NETR 1963).

In 1963, historic aerials show most of the parcel was used for agricultural purposes, except for the northwest corner of the parcel, located at the southeast quadrant of the Favorito Avenue and Tehachapi Willow Springs Road intersection, which is cleared of plantings aside for small trees. At this time, trees were already planted along the parcel boundary on both Favorito Avenue and Thachapi Willow Springs Road, adjacent to the cleared land. A dirt driveway extends from Tehachapi Willow Springs Road, south of the line of trees bordering the residence, curves north along more trees and then continues east, extending south of the agricultural building and then terminating east of the building at Favorito Avenue (NETR 1963). In 1968, a small, rectangular residence is sited adjacent to Tehachapi Willow Springs Road and an agricultural building is erected adjacent to Favorito Avenue, which provides a construction date of c. 1965 for both buildings. Additionally, the trees have matured, and more trees were planted to surround the residence and border the agricultural building (Teledyne, Inc. 1968). A 1974 aerial shows the erection of a rectangular building at the intersection of Tehachapi Willow springs Road and Favorito Avenue, as well as two small sheds constructed to the west and south of the agricultural building; this provides a construction date of c. 1970 for these three buildings (NETR 1974). By 1995, aerials again show the mature growth vegetation on the parcel, and the demolition of the westernmost shed. The three main buildings remain intact along with the small shed south of the agricultural building (NETR 1995). By 2016, interior trees have been removed from the residential area (NETR 2016).

The current owner is Leonard W. and Laura Griffin Survivors Trust (ProQuest 2022). Laura Griffin was born in Culver City and died in Lancaster, California, after living in the Antelope Valley since 1953. Griffin was married to Leonard (The Antelope Valley Press 2019), who was born in Huntington Park as one of four children raised on a dairy farm. After World War II he moved to the Antelope Valley and became an established alfalfa farmer (Halley-Olsen-Murphy Funerals and Cremations 2009). Research did not reveal previous owners; however, a Kern County Map from 1898 reveals the land was once owned by the Southern Pacific Railroad (Congdon 1898).

EVALUATION

Under CRHR Criterion 1, the property at 5488 Tehachapi Willow Springs Road does not have important associations with historic events, patterns, or trends of development. The four buildings on the property were erected in the second half of the 20th century, outside the period of significance for homesteading. While farming predates the buildings, there is no evidence that suggests this property is directly linked to an earlier homestead or was one of the first alfalfa farms in the area. As such, the subject property is ineligible under CRHR Criterion 1.

Under CRHR Criterion 2, the subject property does not share significant associations with the lives of persons important to history. Research identified the current owner as Leonard W. and Laura Griffin Survivors Trust (ParcelQuest 2022); Leonard Griffin and his wife Laura grew alfalfa (The Antelope Valley Press 2019). Research did not reveal previous owners; however, a Kern County Map from 1898 reveals the land was once owned by the Southern Pacific Railroad (Congdon 1898). Based on research, it is unlikely the subject property is associated with the life of an important person in the Antelope Valley. As such, the subject property is ineligible under CRHR Criterion 2.

Under CRHR Criterion 3, the subject property is not a significant example of its type, style, or era, it lacks high artistic value, and is not the work of a master architect, building, designer, or engineer. The subject property has four vernacular buildings: a residence, ancillary building, agricultural building, and wood shed. The residence and ancillary building are heavily obscured due to mature growth trees along the property line; however, they were constructed c. 1965 and c. 1970 in the Ranch style. High style examples would include diamond-pane windows, applied wood elements, cross-braced doors, water table, and chimney. Although they have a smooth stucco finish and side-gable roof with wood shingles, it is a commonplace example of a prevalent property type and style for the time period that does not warrant architectural merit. Furthermore, the modest metal agricultural building and vernacular wood shed lack high artistic value, and it is unlikely they are the work of a master. As such, the subject property is ineligible under CRHR Criterion 3.

Under CRHR Criterion 4, the subject property has neither yielded nor is likely to yield important information about our past. Typical of similar buildings, the subject property's wood and metal frame does not have the potential to yield important information regarding construction or engineering materials, methods, or technologies used in the 1960s. As such, the subject property is ineligible under CRHR Criterion 4.

In conclusion, 5488 Tehachapi Willow Springs Road does not have historical associations or architectural or construction qualities that qualify the property for listing under any of the CRHR significance criteria. The property was evaluated in accordance with Section 15064.5(a) (2) of the CEQA guidelines and found not to qualify as a historical resource for the purposes of CEQA. The current evaluation has assigned a 6Z status code to the property.

*B12. References (continued):

Beeman, Randal. 2016. "The land keeps us rooted: How ag became a way of life here."

Bakersfield.com. December 1. Accessed December 25, 2021. Available: https://www.bakersfield.com/special/150-years/the-land-keeps-us-rooted-how-ag-became-a-way-of-life-here/article_8f405b08-67bd-5cee-9455-e8e55a5f79f4.html.

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State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HR #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code Reviewer Date

 Resource Name or # (Assigned by recorder): Resource ID 07, 10085 Hamilton Road

P1. Other Identifier: 10085 Hamilton Road

*** P2. Location:** ☐ Not for Publication ☑ Unrestricted

***a. County** **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** **Date** **T ; R ; 1/4 of 1/4 of Sec ; B.M.**

c. Address 10085 Hamilton Road City Rosamond Zip

d. UTM: (Give more than one for large and/or linear feature) Zone , mE/ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)

; 358-052-07-00-8

*** P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

The property at 10085 Hamilton Road in Rosamond, Kern County, contains 419,482 square feet in a rectangular lot situated on the north side of Hamilton Road just west of the intersection with 100th Street W (ParcelQuest 2021). A short road labeled 90th Avenue runs along half of the western property boundary. The property is largely open, with a few large trees planted along the middle of the eastern property boundary and near the structures. The dirt driveway leading from Hamilton Road north forms two loops in the center of the property next to and around the buildings, then veers southwest to meet 90th Avenue (NETR 2018). At the property entrance is a simple post and lintel gateway made of rounded wooden logs and filled by a metal gate. On either side of this entrance a low chain link fence extends west and east between the property boundary and roadway (Google 2008).

The structures are set in the middle of the parcel and this distance makes it difficult to discern the features and functions of these structures. (See continuation sheet.)

*** P3b. Resource Attributes:** HP2. Single family property

*** P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, etc.)
South elevations, facing north 06/08/2021

*** P6. Date Constructed/Age and Sources:**
☐ Prehistoric ☑ Historic ☐ Both
c. 1940 (Estimate) Tax Assessor

*** P7. Owner and Address:**
John J Barrios
10085 Hamilton Road
Rosamond, CA 93560

*** P8. Recorded by:** (Name, affiliation, address)
Maureen McCoy
ICF
980 9th St Suite 1200, Sacramento, CA 95814

*** P9. Date Recorded:** 01/31/2022

*** P10. Survey Type:** (Describe)

*** P11. Report Citation:** (Cite survey report/other sources or "none")

*** Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☑ Continuation Sheet ☑ Building, Structure, and Object Record
☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record
☐ Photograph Record ☐ Other: (List)

Primary #
HR #

BUILDING, STRUCTURE, AND OBJECT RECORD

*Resource Name or # (Assigned by Recorder): Resource ID 07, 10085 Hamilton Road

* NRHP Status Code 6Z

B1. Historic Name: None

B2. Common Name: 10085 Hamilton Road

* B3. Original Use: Residence

B4. Present Use: Residence

* **B5. Architectural Style:** Ranch

B6. Construction History: (Construction date, alterations, and date of alterations.)

The property has undergone changes in recent decades, including the construction and demolition of several outbuildings. A small outbuilding was located at the rear of house in 1952 but was removed by the early 1960s (Robinson 1952; NETR 1963). A square outbuilding was built behind the house c. 1970 and was removed by the 1990s (NETR 1974; 1995; Teledyne 1968). (See continuation sheet.)

*

* **B7. Moved?** ☑ No ☐ Yes ☐ Unknown Date: N/A Original Location: N/A

B8. Related Features:

N/A

* B9a. Architect: Unknown b. Builder: Unknown

B10. Significance: Theme N/A Area N/A

Period of Significance N/A Property Type N/A Applicable Criteria N/A

The property at 10085 Hamilton Road does not meet the criteria for listing in the California Register of Historical Resources (CRHR). It does not, therefore, qualify as a historical resource under the California Environmental Quality Act.

CONTEXT

HOMESTEADING AND AGRICULTURE

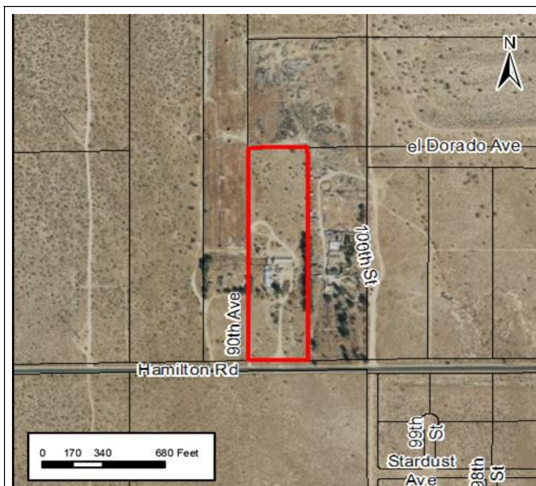
Beyond the Antelope Valley railroad stops that developed into towns and eventually into cities, most settlement in the region involved homesteading lands for ranching and agriculture. Ethno-religious groups, prohibitionists, and utopian socialists also established agricultural colonies in the region during the late nineteenth and early twentieth centuries. Some newcomers homesteaded lands with the primary goal of becoming successful ranchers or farmers, while other homesteaders undertook requisite improvement of lands strategically in an effort to supplement their mining endeavors (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53).

Homesteading claims in the western Antelope Valley region began primarily after 1900 as a consequence of several factors. Having received transfers of significant land grants in 1903 from the federal government, the Southern Pacific Railroad launched heavy land-sale promotions during the 1910s, which attracted settlers from the east and from Europe. Rising land prices in Los Angeles and other urbanizing areas of Southern California enhanced the appeal of homesteading in the Antelope Valley for some southland residents. These factors, along with amendments to the Desert Land Act—which made provisions for absentee ownership, reduced irrigation and cultivation requirements, and shrank requisite periods of residency—generated a boom in homesteading activity that lasted from the 1910s through the mid-1930s (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53–54). However, not all homesteads were successful. Numerous claims filed after 1910 were never patented because of homesteaders' failure to improve lands adequately. (See continuation sheet.)

* B11. Additional Resource Attributes:

B12. References:

(See continuation sheet.)



B13. Remarks:

* **B14. Evaluator:** Maureen McCoy, ICF, ICF

Date of Evaluation: 01/31/2022

(This space reserved for official comments.)

*P3a. Description (continued):
The buildings include a c. 1940, rectangular single-family residence with attached garage (ParcelQuest 2021, Kern County Assessor Recorder 2022). The main house has a half-hip, half-gable roof, with the gable facing south toward the road. The roofing may asphalt or metal. The house also has several additions, including a flat or shed-roofed addition on the east elevation and two rear additions. Attached to the rear (north) elevation is a larger gable structure, which may be the garage, which is attached to the house by a flat-roofed hyphen. The house also features brick chimneys.

There are two small and one large outbuilding on the north side of the house that may serve agricultural purposes (NETR 2018). The first is set close to the rear addition on the house and it an almost square, gable-roofed structure. Behind this and to the north is a long, narrow structure. The large outbuilding is composed of three rectangular sections, as see in the rooflines. All these structures may have metal roofing. Additional details were not visible from the road due to distance and trees.

INTEGRITY
The subject property's integrity is fair. It retains integrity of location. It also retains integrity of setting because the surrounding area has remained largely unchanged since the establishment of this property. The property is flanked by similar houses and outbuildings on the north side of Hamilton Road that were constructed around the same time. The larger setting also still includes open or unimproved desert lots and agricultural fields. In addition, due to many alterations to the property it does not have integrity of design, materials, and workmanship. For these reasons, it does not have integrity of feeling and association.

*B6. Construction History (continued):

The large, rectangular outbuilding at the northeast corner of the house was constructed c. 2015 (NETR 2014; 2016). A narrow outbuilding was constructed just west of this large outbuilding c. 2017 (NETR 2018). No building permits for the property were available online, and the buildings were not clearly visible from the public right-of-way. Therefore, additional changes to the property, including those to the main house, could not be detailed.

*B10. Significance (continued):

Although Southern Pacific Railroad and other Antelope Valley land promoters presented the region as exceptionally fertile, settlers often confronted difficult climatic conditions, including frequent high winds during multiple seasons, flooding, intermittent drought, and, at times, excruciating heat (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53–54).

Homesteading in the Antelope Valley largely came to an end in the 1930s. Prevailing drought conditions worsened locally and across the nation during that decade. In addition, the Great Depression made it increasingly difficult for prospective settlers to accumulate capital for necessary improvements. As a result, during that time, many Antelope Valley settlers abandoned their homesteads, and the longstanding emphasis on promoting private use and development gave way to a new emphasis on conservation and preservation by the National Park Service, U.S. Forest Service, and Bureau of Land Management. In 1935, the federal government stopped accepting new "homestead" or "desert lands" entries, although small 5-acre homestead tracts could be purchased until 1950, and homesteaders with valid claims prior to 1935 could continue to improve their land (Tetra Tech and Jones & Stokes 2004:54).

Across the vicinity of the project, agricultural activity increased after World War II. From 1953 to 1956, land cultivated with crops in the Kern County portion of the Antelope Valley increased from 26,000 to more than 41,000 acres (with 23,732 acres irrigated), mostly in areas west of Rosamond and around Cantil. Alfalfa fields made up the majority of cultivated land across the larger Antelope Valley, followed by dry-land grains. During the 1950s, Antelope Valley farmers devoted limited acreage to irrigated forage crops, vegetables, almonds, apples, peaches, and other fruits. Field crops such as alfalfa and grain, as well as irrigated pastureland, dominated agricultural activity in the Kern County portion of the Antelope Valley, accounting for 34,978 acres in 1957. Alfalfa fields for hay and seed made up 90 percent of that acreage. In terms of livestock, sheep grazing was the most prominent activity in the Kern County portion of the valley during the 1950s. At this time, agriculture accounted for 97 percent of Antelope Valley water use. Although groundwater depletion had led some farmers to abandon acreage by the late 1950s, pumping for irrigation remained economically feasible in most of the valley's farming areas (DWR 1959:36–49).

The mainstay of agriculture in the project vicinity, Antelope Valley alfalfa production went into decline after the 1950s. Rising electricity costs for pumping depleted groundwater supplies and made alfalfa farming more difficult over time. Valley land planted in alfalfa declined from 38,525 acres in 1950 to 8,810 acres in 1987. Between 1953 and 1988, total groundwater pumped annually in the valley declined from 480,000 acre-feet to 69,000 acre-feet. Although land in the project vicinity continued to be cultivated during the 1970s, crop farming in the

Rosamond and Willow Springs areas declined dramatically thereafter (DWR 1959:49; Templin et al. 1995:1–2, 7, 16, 64).

SITE HISTORY

Antelope Valley and Willow Springs were largely unpopulated from the late nineteenth century to early twentieth century. The land had been parceled out to private owners by the Southern Pacific Railroad by the end of the nineteenth century and may have been used for ranching or agricultural. Development of many parcels in this area did not occur until the mid-twentieth century. The current parcel was encompassed in a larger lot owned by L. Wilde in 1898 (Congdon 1898). The current owner is John J. Barrios. Additional information on the settlement of this parcel could not be found during a historic records search. Searches of contemporary newspapers and census records did not reveal any information about L. Wilde or any later owners of the parcel.

The lot remained unimproved until the 1940s, when Wagon Wheel Ranch was mapped at this location (USGS 1915; 1943). This Rancho appears to have encompassed the lot on the corner of the intersection as well as the current parcel and parcel immediately to the west (USGS 1965). While no agricultural fields or orchards are visible on the parcel during the twentieth century, the larger setting has included agricultural fields and improved areas that may have been worked by those living on this property. Ranching and poultry farming has been a part of the landscape as well. In 1977 the Wagon Wheel Rancho in Rosamond was noted as an unclaimed property owned by the Antelope Valley Egg and Poultry Association (The Bakersfield Californian 1977). Deed records for the property were not accessible, but agricultural buildings, including what may be chicken coops, located on the properties flanking this one, indicate that the surrounding area was used for these activities throughout the twentieth and into the twenty-first century (NETR 1963; 2018).

EVALUATION

Under CRHR Criterion 1, the property at 10085 Hamilton Road does not have important associations with historic events, patterns, or trends of development. The property was established after the heyday of homesteading in the area but was likely associated with agricultural trends in the post-World War II period. It is unclear if the property is still used for poultry-raising or agricultural purposes. There are many examples of this property type in the Rosamond area, and this property is not an exceptional example. As such, the subject property is ineligible under CRHR Criterion 1.

Under CRHR Criterion 2, the subject property does not share significant associations with the lives of persons important to history. None of the identified owners have made significant contributions to history while living or working at the subject property. As such, the subject property is ineligible under CRHR Criterion 2.

Under CRHR Criterion 3, the subject property is not a significant example of its type, style, or era, it lacks high artistic value, and is not the work of a master architect, building, designer, or engineer. The property is an example of a c. 1940 residence with one-story massing, a gable roof, simple footprint, and no discernible architectural details. It sits on a large parcel and has ample backyard space. Based on these common elements and because no architect, builder, or engineer could be identified with the construction, the property lacks the quality of design associated with a master's work. As such, the subject property is ineligible under CRHR Criterion 3.

Under CRHR Criterion 4, the subject property has neither yielded nor is likely to yield important information about our past. Typical of similar buildings, the subject property's one-story, frame construction does not have the potential to yield important information regarding construction or engineering materials, methods, or technologies used in the 1940s. As such, the subject property is ineligible under CRHR Criterion 4.

In conclusion, 10085 Hamilton Road does not have historical associations or architectural or construction qualities that qualify the property for listing under any of the CRHR significance criteria. The property was evaluated in accordance with Section 15064.5(a) (2) of the CEQA guidelines and found not to qualify as a historical resource for the purposes of CEQA. The current evaluation has assigned a 6Z status code to the property.

*B12. References (continued):

The Bakersfield Californian. 1977. "Notice of Names of Persons Appearing to be Owners of Unclaimed Property." August 19, 57.

Beeman, Randal. 2016. "The land keeps us rooted: How ag became a way of life here." Bakersfield.com. December 1. Accessed December 25, 2021. Available: https://www.bakersfield.com/special/150-years/the-land-keeps-us-rooted-how-ag-became-a-way-of-life-here/article_8f405b08-67bd-5cee-9455-e8e55a5f79f4.html.

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-------. 1965. Willow Springs, California [map]. 1:24000, 7.5’ Series. Denver, CO: USGS. Surveyed 1963, 1965.

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State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

CONTINUATION SHEET

Primary #
HR #
Trinomial

 *** Resource Name or #:** (Assigned by recorder) Resource ID 07, 10085 Hamilton Road

*** Recorded by:** Maureen McCoy, ICF

☑ **Continuation** ☐ **Update** *** Date:** 01/31/2022

South elevation of the residence behind trees, facing north from roadway

Addtional view of south elevation of the residence, facing north from roadway

Front gate, north side of Hamilton Road

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HR #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code Reviewer Date

 Resource Name or # (Assigned by recorder): Resource ID 08, 10057 Hamilton Road

P1. Other Identifier: 10057 Hamilton Road

*** P2. Location:** ☐ Not for Publication ☑ Unrestricted
***a. County** and (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** Date T ; R ; 1/4 of 1/4 of Sec ; B.M.
c. Address 10057 Hamilton Road City Rosamond Zip
d. UTM: (Give more than one for large and/or linear feature) Zone , mE/ mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)
; 358-052-06-00-5

*** P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

The subject residence is located at 10057 Hamilton Road, Rosamond, Kern County, California 93560. The property comprises Block 6 of Section 1 Township 10 N Range 14 W (S. 1 T. 10 N. R. 14 W.), a 9.64-acres square parcel on Hamilton Road between 90th Avenue and 100th Street West in unincorporated Kern County to the northwest of Willow Springs. The property, owned by Gamino R. Guerrero, is developed with a centrally located single-family residence and numerous ancillary structures and site features and has a generally flat terrain, with trees and shrubs. The residence was constructed in 1951.

The residence is one-story, with an L-shaped plan, and side-gabled roofs. The building is set back roughly 500 feet west of the property line at Hamilton Road. Aerial views of the residence indicate a rectangular shed-roofed projection is located on the east and north sides of the building. No specific exterior features of the residence could be documented from the public-right-of-way due to its set back and restricted access to the property.

The property contains numerous ancillary structures and site features, both built and natural. (See continuation sheet.)

*** P3b. Resource Attributes:** HP2. Single family property

*** P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, etc.)
10057 Hamilton Road, facing west from 100th Street W 06/08/2021

*** P6. Date Constructed/Age and Sources:** ☐ Prehistoric ☑ Historic ☐ Both
1951 (Estimate) Tax Assessor

*** P7. Owner and Address:**
Gamino Rodolfo Guerrero
10057 Hamilton Road
Rosamond, CA 93650-6931

*** P8. Recorded by:** (Name, affiliation, address)
Corey Lentz
ICF
1200 6th Avenue, Suite 1800, Seattle, WA 98101

*** P9. Date Recorded:** 01/26/2022

*** P10. Survey Type:** (Describe)

*** P11. Report Citation:** (Cite survey report/other sources or "none")

* **Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☑ Continuation Sheet ☑ Building, Structure, and Object Record
☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record
☐ Photograph Record ☐ Other: (List)

Primary #
HR #

BUILDING, STRUCTURE, AND OBJECT RECORD

*Resource Name or # (Assigned by Recorder): Resource ID 08, 10057 Hamilton Road

* NRHP Status Code 6Z

B1. Historic Name: None

B2. Common Name: 10057 Hamilton Road

* B3. Original Use: Residence

B4. Present Use: Residence

* **B5. Architectural Style:** Vernacular

B6. Construction History: (Construction date, alterations, and date of alterations.)

The residence was constructed in 1951 (ParcelQuest 2021). Three ancillary structures were present in 1963, one large rectangular structure located along the property's western boundary (now demolished), one small rectangular structure north of the residence (extant), and one small irregularly shaped structure to the south of the residence (now demolished) (Nationwide Environmental Title Research, LLC [NETR] 1963). (See continuation sheet.)

* **B7. Moved?** ☑ No ☐ Yes ☐ Unknown Date: N/A Original Location: N/A

B8. Related Features:

N/A

* B9a. Architect: Unknown

b. Builder: Unknown

B10. Significance: Theme N/A Area N/A

Period of Significance N/A Property Type N/A Applicable Criteria N/A

The property at 10057 Hamilton Road, Rosamond, California 93560 does not meet the criteria for listing in the California Register of Historical Resources (CRHR). It does not, therefore, qualify as a historical resource under the California Environmental Quality Act.

CONTEXT

HOMESTEADING AND AGRICULTURE

Beyond the Antelope Valley railroad stops that developed into towns and eventually into cities, most settlement in the region involved homesteading lands for ranching and agriculture. Ethno-religious groups, prohibitionists, and utopian socialists also established agricultural colonies in the region during the late nineteenth and early twentieth centuries. Some newcomers homesteaded lands with the primary goal of becoming successful ranchers or farmers, while other homesteaders undertook requisite improvement of lands strategically in an effort to supplement their mining endeavors (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53).

Homesteading claims in the western Antelope Valley region began primarily after 1900 as a consequence of several factors. Having received transfers of significant land grants in 1903 from the federal government, the Southern Pacific Railroad launched heavy land-sale promotions during the 1910s, which attracted settlers from the east and from Europe. Rising land prices in Los Angeles and other urbanizing areas of Southern California enhanced the appeal of homesteading in the Antelope Valley for some southland residents. These factors, along with amendments to the Desert Land Act—which made provisions for absentee ownership, reduced irrigation and cultivation requirements, and shrank requisite periods of residency—generated a boom in homesteading activity that lasted from the 1910s through the mid-1930s (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53–54). However, not all homesteads were successful. Numerous claims filed after 1910 were never patented because of homesteaders' failure to improve lands adequately. (See continuation sheet.)

* B11. Additional Resource Attributes:

B12. References:

(See continuation sheet.)

B13. Remarks:

* **B14. Evaluator:** Corey Lentz, ICF, ICF

Date of Evaluation: 01/26/2022

(This space reserved for official comments.)

*P3a. Description (continued):
The exact nature and use of the various built structures are indeterminable from existing aerial documentation. However, except for the rectangular structure to the north of the residence constructed circa 1963, all extant ancillary structures and site features are not historic and were not documented at the property until 1995 or after. These ancillary structures and site features were not documented and are not being evaluated as part of this documentation.

INTEGRITY
The subject property retains integrity of location. It also retains integrity of setting because its rural, semi-agricultural setting along Hamilton Road remains largely unchanged with only minimal residential development in the vicinity in the twentieth and twenty-first century. The residence's integrity of design, materials, and workmanship could not be documented as its specific features and potential alterations were not visible from the public right-of-way. For these reasons, its integrity of feeling and association are also indeterminable.

*B6. Construction History (continued):

The southern of these three structures was demolished between 1963 and 1974 (NETR 1963; NETR 1974). By 1974, the western structure was extended at its north end with additional construction (NETR 1974). The extant structure to the southwest of the residence along the western property boundary was constructed between 1974 and 1995 (NETR 1974; NETR 1995). By 2005, the circa 1963 structure along the property's western boundary had been demolished and additional structures and site features had been constructed, such U-shaped structure enclosing the yard to the immediate northwest of the residence (2005). Numerous other temporary structures or site features have been constructed and then removed from the property between 2005 and the present and the nature and use of these structures are indeterminable from existing aerial documentation (NETR 2005; NETR 2009; NETR 2012; NETR 2014; NETR 2016; NETR 2018; Google Pro 2021).

*B10. Significance (continued):

Although Southern Pacific Railroad and other Antelope Valley land promoters presented the region as exceptionally fertile, settlers often confronted difficult climatic conditions, including frequent high winds during multiple seasons, flooding, intermittent drought, and, at times, excruciating heat (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53–54).

Homesteading in the Antelope Valley largely came to an end in the 1930s. Prevailing drought conditions worsened locally and across the nation during that decade. In addition, the Great Depression made it increasingly difficult for prospective settlers to accumulate capital for necessary improvements. As a result, during that time, many Antelope Valley settlers abandoned their homesteads, and the longstanding emphasis on promoting private use and development gave way to a new emphasis on conservation and preservation by the National Park Service, U.S. Forest Service, and Bureau of Land Management. In 1935, the federal government stopped accepting new "homestead" or "desert lands" entries, although small 5-acre homestead tracts could be purchased until 1950, and homesteaders with valid claims prior to 1935 could continue to improve their land (Tetra Tech and Jones & Stokes 2004:54).

Across the vicinity of the project, agricultural activity increased after World War II. From 1953 to 1956, land cultivated with crops in the Kern County portion of the Antelope Valley increased from 26,000 to more than 41,000 acres (with 23,732 acres irrigated), mostly in areas west of Rosamond and around Cantil. Alfalfa fields made up the majority of cultivated land across the larger Antelope Valley, followed by dry-land grains. During the 1950s, Antelope Valley farmers devoted limited acreage to irrigated forage crops, vegetables, almonds, apples, peaches, and other fruits. Field crops such as alfalfa and grain, as well as irrigated pastureland, dominated agricultural activity in the Kern County portion of the Antelope Valley, accounting for 34,978 acres in 1957. Alfalfa fields for hay and seed made up 90 percent of that acreage. In terms of livestock, sheep grazing was the most prominent activity in the Kern County portion of the valley during the 1950s. At this time, agriculture accounted for 97 percent of Antelope Valley water use. Although groundwater depletion had led some farmers to abandon acreage by the late 1950s, pumping for irrigation remained economically feasible in most of the valley's farming areas (DWR 1959:36–49).

The mainstay of agriculture in the project vicinity, Antelope Valley alfalfa production went into decline after the 1950s. Rising electricity costs for pumping depleted groundwater supplies and made alfalfa farming more difficult over time. Valley land planted in alfalfa declined from 38,525 acres in 1950 to 8,810 acres in 1987. Between 1953 and 1988, total groundwater pumped annually in the valley declined from 480,000 acre-feet to 69,000 acre-feet. Although land in the project vicinity continued to be cultivated during the 1970s, crop farming in the Rosamond and Willow Springs areas declined dramatically thereafter (DWR 1959:49; Templin et al. 1995:1–2, 7, 16, 64).

VERNACULAR

Vernacular buildings typically include features that express the influence of a particular architectural style but do not reflect an architect's or builder's intentional articulation of a specific architectural style. Vernacular structures are part of the common, everyday fabric of the built environment. Their purposes, functions, and aesthetic values and objectives play crucial roles in determining their design and construction.

Historically, vernacular architecture reflects the common building traditions, construction materials, culture, climate, and landscape of a particular nation, region, or place. During the industrial and post-industrial eras modern forces such as industrial fabrication, mass-production and distribution, consumer capitalism, and large-scale market conditions influenced vernacular architecture more than place and tradition. Architectural historians Herbert Gottfried and Jan Jennings argue that during the late 19th and 20th centuries, vernacular architecture continued to qualify as "practical" architecture, but it also increasing became an "industrial" or "manufactured" architecture, not to mention a "market" architecture "responsive to marketing pressure and to changes in fashion" (Gottfried and Jennings 2009:9–12).

AGRICULTURAL BUILDINGS
Kern County is one of the leading farm counties in the United States (Beeman 2016). Historically, ranching was the main form of agriculture in Kern County, but more recently, fruits and vegetables have become important crops in the County (Beeman 2016). Important crops and commodities in Kern County include grapes, almonds, milk, citrus, cattle, pistachios, carrots (Water Association of Kern County 2021). With the county's strong association with agriculture, there are many agricultural buildings in the county. Types of agricultural buildings include barns, storage silos, equipment sheds, and cattle housing.

An early barn types includes "transverse frame." Transverse frame barns have front-gabled roofs and large centered entries for horse-drawn vehicles, tractors, trucks, or other equipment to access the central passages. Storage of hay or other animal feed are often located in second story lofts (Noble 1984: 6-7, 11-13). A common variant, the "Midwest three-portal barn" is a transverse frame farm with added shed roof enclosed side aisles to the, each with front elevation (Noble 1984: 13). After World War II, industrial-scale feed silos replaced the storage loft of many barns. One-story poles barns with walls formed of vertical metal poles and attached siding, and low-pitched gabled roofs supported by steel-girder trusses became prevalent (Noble 1984: 47; Noble & Cleek 1996: 39). Recently, agricultural producers have developed simpler structures to provide shelter for livestock, stripping pole barns of their siding altogether in favor of open-sided structures consisting of steel columns that support low-pitched metal roofs. Such shelters can be large and extensive, creating a larger area of sheltered space.

Because of the practical and utilitarian use of agricultural buildings, they rarely have applied architectural styles. Agricultural buildings usually have a vernacular style with local materials including wood frame and cladding. Some newer agriculture buildings have corrugated metal siding. If there are windows, they may include double-hung or fixed wood frame sashes; fixed or operational steel-frame sashes, or horizontally sliding aluminum sashes. Many ancillary buildings incorporate one or more larger vehicle entries, often with roll-up metal doors, as well as pedestrian entries with single-leaf doors. Associated historic vernacular landscape features including irrigation features, feedlots, tanks, and pastureland (SurveyLA 2018: 43).

SITE HISTORY
In the early twentieth century Antelope Valley in the Mojave Desert was sparsely settled. Willow Springs had been established to the southeast of the property in the nineteenth century as the principal stagecoach station in Antelope Valley between Fort Tejon and the Tehachapi Pass prior to the arrival of the railroad and was developed into a small community by Ezra Hamilton at the turn of the twentieth century (Hoover et al. 2002:131; Varney 1990:74–76). By 1898, the settlements of Rosamond to the southeast and Mojave to the northeast had been established and Manly Road (now no longer extant north of Hamilton Road and the Los Angeles Department of Water and Power Easement) ran north-northwest from Willow Springs to Tehachapi to the east of the property (Congdon 1898). At that time, L. Wilde owned Section 1 Township 9 N Range 14 W (S1 T9N R14W), which encompassed the property (Congdon 1898).

By 1915 S1 T9N R13W was transected to the west of the property by an improved road running northwest from Willow Springs and by an intermittent stream running north-south (United States Geological Survey [USGS] 1915). To the north of the property, the Los Angeles Aqueduct had been constructed through this area of Antelope Valley (USGS 1915). A USGS topographic map from 1943 indicated Wagon Wheel Ranch was located in the vicinity of the property, though the residence at the property is documented as not having been constructed until 1951 (ParcelQuest 2021; USGS 1943).

By 1963, the property included the residence as well as three ancillary structures, but did not have any clear agricultural features such as fields or orchards (NETR 1963). The adjacent parcel to the west was also developed at this time with several buildings and structures (NETR 1963). The area encompassing the property continued to be indicated on maps in 1065 and 1975 as Wagon Wheel Ranch, suggesting that the ancillary structures were likely related to ranching or poultry farming activities on the property and the adjacent parcel (USGS 1965; USGS 1975). New construction and demolition of structures occurred at both properties between 1963 and 1974; within the subject property this included additions to the structure on the property's western boundary and the demolition of the southern of the circa 1963 structures (NETR 1963; NETR 1974).

"Wagon Wheel Ranch, Rosamond" appeared in a "Notice of Names of Persons Appearing to be Owners of Unclaimed Property" in the Bakersfield Californian in August 1977, with the owner of Wagon Wheel Ranch listed as the Antelope Valley Egg & Poultry Association (AVEPA) (Bakersfield California 1977:57). If left unclaimed, custody of the property would be assumed by the State Controller. However, research did not reveal additional information related to this Notice or subsequent changes in ownership the immediate period after 1977. The AVEPA, based out of Lancaster, California, had been organized since at least 1930. That year the Association reported that it had enrolled at least "95 per cent (sic) of poultrymen" in Antelope Valley in the organization (The Los Angeles Evening News 1930: 14). The organization was well-established by the 1950s, with newspapers reporting the sale of over 374,000 cartons of eggs in the fiscal year of 1954 and notable public engagement with the L.A. Chamber of Commerce in 1955 (The Los Angeles Times 1954: 22; The Valley Times 1955: 17).

In addition to ranching and poultry farming, there was a moderate degree of agricultural development in the area northwest of Willow Springs during the 1960s and 1970s, supported by the Los Angeles Aqueduct to the north and the construction of the Willow Springs Pumping Station near the intersection of General Petroleum Road as early as 1943 (USGS 1943; NETR 1963; Teledyne Geotronics 1968; NETR 1974). However, agricultural land use in the immediate vicinity of the property during this period and remained minimal throughout the twentieth century (NETR 1986; NETR 1995). The only notable construction in the vicinity of the property in the latter decades of the twentieth century was Llyod's Landing Airport, constructed between 1974 and 1995 (NETR 1974; USGS 1995).

The number of ancillary structures at the property remained unchanged until the period between 1995 and 2005, during which the western circa 1963 structures were demolished and the yard to the immediate northwest of residence was enclosed with the extant U-shaped structure (NETR 1995; NETR 2005). By 2005, the use of the property had changed as well, with small-scale agricultural plantings present in the southern portion of the parcel and within the enclosed yard. Evidence of this minor agricultural use at the property remained present but showed clear decline from 2005 until 2014 (NETR 2005; NETR 2009; NETR 2012; NETR 2014).

The residence's vicinity has remained largely undeveloped since 1995 with minimal residential construction along 105th Street to the west, some agricultural use land dispersed along Tehachapi Willow Springs Road to the east, and solar farms constructed along 110th Street West to the northwest (USGS 1995; USGS 2002; NETR 2005; NETR 2009; NETR 2012; NETR 2016; Google Pro 2021).

The property has been owned by Gamino R. Guerrero since 2017, when Guerrero purchased the property from Macias F. Gonzalez (ParcelQuest 2021). Research did not reveal any specific documented owners between L. Wilde in 1898 and the AVEPA in 1977 or between the AVEPA in 1977 and Gonzalez in 2017.

EVALUATION
Under CRHR Criterion 1, the property at 10057 Hamilton Road does not have important associations with historic events, patterns, or trends of development. The residence was constructed in a rural, semi-agricultural area of Antelope Valley in southern Kern County in the mid-twentieth century. The property's construction was not related to any patterns of residential development in this area, which was minimal throughout the twentieth and twenty-first centuries. While the property was owned and operated for the raising of poultry by the Antelope Valley Egg & Poultry Association for an indeterminable period during the mid-twentieth century, the property's mere affiliation with the AVEPA is not considered significant as the property was likely one of many AVEPA affiliated poultry farms and furthermore does not retain integrity to convey that association. As such, the subject property is ineligible under CRHR Criterion 1.

Under CRHR Criterion 2, the subject property does not share significant associations with the lives of persons important to history. Research provided no indication that its documented owners, L. Wilde, the AVEPA, Macias F. Gonzalez, Gamino R. Guerrero, and or any other individuals potentially associated with the residence played a significant role in national, regional, or local history. As such, the subject property is ineligible under CRHR Criterion 2.

Under CRHR Criterion 3, the subject property is not a significant example of its type, style, or era, it lacks high artistic value, and is not the work of a master architect, building, designer, or engineer. The residence is a common example of vernacular construction. As a commonplace example, lacking some key features of a style or type, it lacks high artistic value. Research did not reveal a known architect or builder of the property. As such, the subject property is ineligible under CRHR Criterion 3.

Under CRHR Criterion 4, the subject property has neither yielded nor is likely to yield important information about our past. Typical of similar buildings, the property does not have the potential to yield important information regarding construction or engineering materials, methods, or technologies used in the mid-twentieth century. As such, the subject property is ineligible under CRHR Criterion 4.

In conclusion, 10057 Hamilton Road does not have historical associations or architectural or construction qualities that qualify the property for listing under any of the CRHR significance criteria. The property was evaluated in accordance with Section 15064.5(a) (2) of the CEQA guidelines, and found not to qualify as a historical resource for the purposes of CEQA. The current evaluation has assigned a 6Z status code to the property.

*B12. References (continued):

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State of California – The Resources Agency		**Primary #:**	[Insert Primary #]
DEPARTMENT OF PARKS AND RECREATION		**HRI #:**	[Insert HRI #]
PRIMARY RECORD		**Trinomial:**	[Insert Trinomial]
		NRHP Status Code:	7L
	Other Listings:	[Insert Other Listings]	
	Review Code: [Code]	**Reviewer:** [Name]	**Date:** [Insert Date]

Page 1 of 8 ***Resource Name or #:** Resource ID 09, Willow Springs California Historical Landmark

P1. Other Identifier: Willow Springs

***P2. Location:** ☐ **Not for Publication** ☐ **Unrestricted** ***a. County:** Kern

***b. USGS 7.5′ Quad:** **Date:** **T:** **R:** **¼ of Sec** **B.M.**

c. Address: N/A **City:** Rosamond **Zip:**

d. UTM:

e. Other Locational Data (e.g., parcel #, directions to resource, elevation, etc., as appropriate)**:**

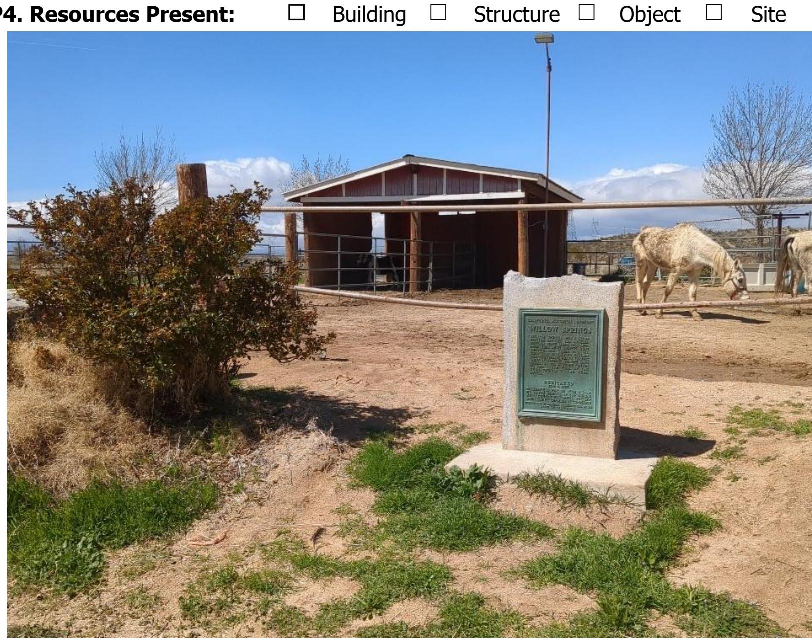
APNs 315-012-01-00-5 (portion west of Tehachapi-Willow Springs Road), 252-341-06-00-1, and 252-341-05-00-8

***P3a. Description** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)**:**

The subject resource is the Willow Springs California Historical Landmark (CHL) No. 130, located northwest of the intersection of Tehachapi-Willow Springs Road and Truman Road. Willow Springs is private property and could not be accessed. Architectural historians surveyed Willow Springs from the public right-of-way along Manly Road and Tehachapi-Willow Springs Road. Two plaques commemorate the landmark. Placed and dedicated in 1937, the earlier plaque is located on the west side of Manly Road near the original location of the Willow Springs Stage Station. The station was created in 1862 approximately 600 feet south of the spring that provided travelers of the trails and eventual stage roads between Los Angeles to the south and Tehachapi and Inyo to the north, with the only certain source of water in the Antelope Valley (see continuation sheet).

***P3b. Resource Attributes** (List attributes and codes)**:** HP 39. Other: Stage Station

***P4. Resources Present:** ☐ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)



P5b. Description of Photo (View, date, accession #)**:**
Photograph 1. 1937 Willow Springs CHL plaque, looking west

***P6. Date Constructed/Age and Sources:**
Circa 1862
☒ Historic ☐ Prehistoric ☐ Both

***P7. Owner and Address:**
Multiple (see continuation sheet).

***P8. Recorded By** (Name, affiliation, and address)**:**
Millie Mujica and Margaret Roderick
ICF
555 W. 5th Street, Suite 3100, Los Angeles, CA 90013

***P9. Date Recorded:** 03/24/2023

***P10. Survey Type:**

***P11. Report Citation** (Cite survey report and other sources, or enter "none."):

***Attachments:** ☐ NONE ☐ Location Map ☒ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List):

B1. Historic Name: Willow Springs California Historical Landmark
B2. Common Name: Willow Springs California Historical Landmark
B3. Original Use: Watering Spring and Stage Station **B4. Present Use:** Agriculture
***B5. Architectural Style:** Vernacular
***B6. Construction History:** The 19th century Willow Springs Stage Station was constructed in circa 1862
***B7. Moved?** ☐ Yes ☒ No ☐ Unknown **Date:** **Original Location:**
***B8. Related Features:**
B9a. Architect: Unknown **B9b. Builder:** Unknown
***B10. Significance:** **Theme:** N/A **Area:** N/A
Period of Significance: N/A **Property Type:** **Applicable Criteria:**
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity):

The Willow Springs CHL No. 130 is not eligible for listing in the California Register of Historical Resources (CRHR), and it does not constitute a built environment resource that qualifies as a historical resource under the California Environmental Quality Act (CEQA).

HISTORIC CONTEXT

19th Century Willow Springs

As one of only three natural oases in the Antelope Valley, Willow Springs was one of the most geographically significant watering holes in the Mojave Desert. Situated on the trail connecting the southern portion of the San Joaquin Valley and the desert area through the Tehachapi Pass, Willow Springs was the only source of surface water for people traveling between Desert Spring to the north and the San Gabriel Mountains to the south. It has served as a source of water for Native Americans, explorers and emigrants, stagecoaches and freight teams, and bandits traveling through the Antelope Valley (Museum of Art and History 2021; *The Tehachapi News* 1951:3).

B11. Additional Resource Attributes (*List attributes and codes*):

***B12. References:**
(See continuation sheet)

B13. Remarks:

***B14. Evaluator:** Timothy Yates, ICF
(This space is reserved for official comments)

***Date of Evaluation:** 04/13/2023

(Sketch Map with north arrow required.)

*P3a. Description (continued):

Mounted on a granite tablet, the 1937 plaque is located 12 feet from a concrete and stone trough created in the twentieth century at the approximate location of the station’s original wood trough. No elements of the original stage station remain at the site. Today an open-sided barn and corral less than 50 years old is located next to the plaque and trough. The 1937 plaque identifies Willow Springs as a CHL and reads: “Willow Springs was a stage station on the Los-Angeles Havilah Stage Lines, 1864-1872. From here, light traffic went through Oak Creek pass via Tehachapi Valley to Havilah and Kernville. Heavy Traffic went northeast to the Inyo mines, or via Jawbone Canyon to the south Fork of the Kern, Thence to the Kern mines.”

A second plaque is located approximately 750 feet to the northeast on the east side of Manly Road, near the center of the Willow Springs resort developed by Ezra Hamilton beginning in 1904. This plaque dates to 1951 and is mounted on a mortared stone trapezoid with a concrete base. It identifies Willow Springs as CHL No. 130 and reads: “Visited by Padre Garces (1776) while following old horse-thief trace, later known as Joe Walker Trail. Freemont Stopped here (1844), the famished Jayhawk Party (1850) found water here while struggling from Death Valley to Los Angeles. Still later was station on Los Angeles-Havilah and Inyo stage lines.”

CHL Nos.1-769 are not automatically listed in the CRHR. The Willow Springs CHL is evaluated here as a built environment resource to determine if it is eligible for listing in the CRHR and thereby qualifies as a built environment historical resource for the purposes of the CEQA.

*P7. Owner and Address (continued):

Willow Springs Company, 4040 Manly Road, Rosamond, CA 93560
Kathy J. Nelson, 4050 Manly Road. Rosamond, CA 93560

*B10. Significance (continued):

Prior to the arrival of Europeans, Willow Springs served as an important stop for Native Americans undertaking migration or trading trips through the valley. Although deserters from the Spanish Cavalry probably traveled Native American trails that led there, Willow Springs first appeared in the historical record in 1776, when Padre Francesco Garces stopped there for water upon returning to Southern California from the San Joaquin Valley (Museum of Art and History 2021). During the mission era, runaway Native Americans drove their horses along the main trail and stopped for water first at Willow Springs before heading north to Desert Spring Indian Wells and into the desert (*The Tehachapi News* 1951:3). Due to this activity, the old trail became known as the Indian Horsethief Trail (later known as the Walker Trail), as the springs also provided water for escaping horse thieves (Museum of Art and History 2021; *The Tehachapi News* 1951:3).

Several other exploring parties visited Willow Springs during the mid-nineteenth century. In 1844, John C. Fremont recorded his stop at the springs and described resting under the spring’s willow trees (Museum of Art and History 2021). In 1849, several small bands of lost Gold Rush 49ers such as the Manly-Jayhawk Party and the Bennet-Arcan Party stopped at Willow Springs to relieve their thirst after a difficult journey through Death Valley (*The Tehachapi News* 1951:3; Museum of Art and History 2021).

Willow Springs became private property in 1862, when President Abraham Lincoln transferred the springs and surrounding lands from the public domain to General Edward Beale. That same year, Nelson Ward and his wife Adelia settled next to the springs. The Wards established a station and constructed an adobe boarding house for horse and mule teams. The increasingly busy station's boarding house became known as "Hotel de Rush," and some guests reportedly had to sleep at the bar (Museum of Art and History 2021). Between 1864 and 1872, Willow Springs functioned as a stage and freight station on the Los Angeles-Havilah stage lines. It also continued to serve as a general watering and resting place for entrepreneurs such as Remi Nadeau, who transported silver from the Cerro Gordo Mines, and freight teams associated with the development of the Death Valley borax deposits (Museum of Art and History 2021; *The Tehachapi News* 1951:3).

After Nelson Ward's death, a couple named Riley took over the Willow Springs station. They operated the station until 1876, when introduction of the Southern Pacific Railroad line through the valley made long-distance stagecoach travel obsolete (Museum of Art and History 2021). In 1937, a plaque commemorating Willow Springs' designation as a California Historical Landmark was placed on the approximate site of the old stage station. The concrete watering trough at the site of the station is a reminder of the days when horses, mules, and oxen were the sole means of transportation. The concrete trough replaced a wooden trough present at the site during the station's operation (*Bakersfield Californian* 1937:9).

After the stage and freighting traffic ceased, Willow Springs remained quiet for the next couple decades. In 1900, an early Mojave Desert pioneer and local miner, Ezra M. Hamilton, bought the springs as well as surrounding acres and moved there with his family. The watering hole became a center of activity once again (Museum of Art and History 2021).

Hamilton ERA

Ezra Hamilton arrived in Willow Springs in 1897, poor in both health and finances (*Bakersfield Morning Echo* 1904:4). After exploring the desert, Hamilton found traces of gold that he believed to be native to the area, and in 1897 he set up his own mine and five-stamp mill on the west slope of Tropico Hill, which is located midway between Willow Springs and Rosamond (*Bakersfield Californian* 1975:9; *The Tehachapi News* 1914:1). The land proved so rich in ore that with just a small group of men Hamilton was able to mine $16,000 worth of gold in one week (*Bakersfield Morning Echo* 1904:4). The ore from the mine was also exceptionally high in grade, with some yields earning as much as $20,000 per ton. Hamilton's mine ended up producing more than a million dollars' worth of gold. (*Bakersfield Californian* 1938:5, 1975:9).

Soon after establishing the mine, Hamilton bought 160 acres in Willow Springs from General Beale's estate for $3,500 and made it his home. Willow Springs had an abundance of water for irrigation, which was key to its development and success (*The Tehachapi News* 1914:1; *Bakersfield Californian* 1975:9). Although Hamilton considered using the water from the spring to run the mill for his gold mine, the natural landscape and tranquility of Willow Springs convinced him to set up a resort instead, which became "the 'social mecca' of the Antelope Valley" (*Bakersfield Californian* 1975:9, quoted; Museum of Art and History 2021). In 1904, Hamilton constructed 27 stone buildings, including: houses for himself, his family, and employees; a hotel consisting of a cluster of a dozen cottages; a cement-lined swimming bath; a town hall and a dance hall (possibly the same building); a post office; a trading post; and a restaurant. Makeshift greenhouses were also created to help stock the trading post and restaurant with produce. The resort's hotel cottages could accommodate up to 30 people and included amenities such as fresh ice, flush toilets, and electricity (Museum of Art and History 2021; *Bakersfield Morning Echo* 1904:4). Hamilton also furnished the cottages, which he rented to both travelers and convalescing or sick people for ten dollars a month. Hamilton promoted the dry climate of Willow Springs as healthy and beneficial to people suffering from weak lungs, and he promoted the waters of the springs as medicinal. Constructed of stone, the cottages were comfortable, although not fully finished. At the time of Willow Springs' development, the nearest trees stood about 12 miles away from the settlement, so Hamilton had wood hauled in for the houses' grates (*Bakersfield Morning Echo* 1905:2; *Bakersfield Morning Echo* 1904:4). A 1904 newspaper article described the development activity at Willow Springs: "everything about Willow Springs is being fitted up in the best manner, but there is no ostentation of wealth, and poor and rich are the recipients of the same genial hospitality" (*Bakersfield Morning Echo* 1904:4).

Under Hamilton's management, Willow Springs became the place for community gatherings. Traveling road shows would stop to provide entertaining performances in the auditorium, and churches frequently held their services there. Although his resort proved successful, Hamilton was determined to transform Willow Springs into a real town. The construction of the first school at Willow Springs was completed in 1904, and a year later Hamilton built a larger school at the property just a short distance away to accommodate more children. As Ezra Hamilton was the first resident of the Antelope Valley to own a car, Willow Springs also boasted the first automobile garage in the area, which Hamilton equipped with a gas pump (Museum of Art and History 2021). In 1904, there were about 50 permanent residents at Willow Springs, and Hamilton planned to build more cottages as more people moved to the area (*Bakersfield Morning Echo* 1904:4).

Hamilton died of heart failure in 1914 at age 81. At the time of his death, he was survived by his wife and three sons, who resided in Willow Springs and Rosamond (*The Tehachapi News* 1914:1). Hamilton's estate—valued at $23,878.10 and consisting mainly of land in southern Kern County—was distributed to his widow Elsie E. Hamilton, Fred M. Hamilton, Truman W. Hamilton, and W. Lester Hamilton. Fred and Truman Hamilton inherited the hotel property, while Elsie Hamilton inherited the family home (*Bakersfield Morning Echo* 1916:2).

After Hamilton's death his once-thriving resort passed on to his children, who sold the place three years later. Between 1918 and 1930, Willow Springs had a variety of owners until the Willow Springs Company—who carried on local mining operations—purchased the small town for its headquarters (Museum of Art and History 2021). Into the 1930s, Willow Springs remained what a newspaper described as "a thriving way station" that "offer[ed] gasoline to the traveler" (*Bakersfield Californian* 1937:9). In 1952, the Tehachapi earthquake destroyed some of the buildings at Hamilton's former property. However, Willow Springs endured. In the following years, the town remained at least partly occupied. Although ownership changed hands several times, people continued to reside in the houses and cottages, and the restaurant continued to do business. During the mid-twentieth century, flight crews participating in the Bell-X-1 experimental flights at Edwards Airforce base resided at Willow Springs as tenants. Such tenants included Chalmers "Slick" Goodlin, the first person to fly the X-1, and Dick Frost, team test project manager for the X-1 program. Renowned female pilot Pancho Barnes also spent time at Willow Springs as a visitor. The restaurant closed at an unknown date. As one source states, since the restaurant closed "Willow Springs village has again fallen quiet, spare for the sound of cars racing nearby" at the racetrack located approximately 1.5 miles southeast of the former Hamilton property (Museum of Art and History 2021).

EVALUTION

The Willow Springs CHL No. 130 has significance under CRHR Criterion 1, as a watering stop that provided for trails established by Native Americans prior to contact with Europeans to evolve into one of the most important nineteenth century travel routes for stage lines and freight operations. The period of significance is 1776, when Padre Garces became the first European to record a stop at the springs, to 1876, when the railroad replaced shipping and traveling through the region by horse, horse-drawn stages, or other animal-drawn vehicles. However, as discussed in more detail below, the CHL commemorates a place that does not retain built environment resources that were present during the period of significance, and therefore does not retain sufficient historic integrity for CRHR listing under Criterion 1.

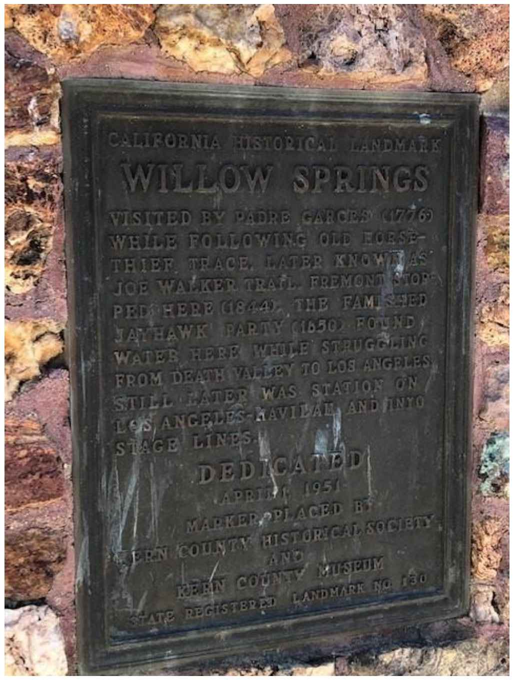
Although historically noteworthy individuals stopped at Willow Springs while traveling prior to the mid-nineteenth century, or spent time at the mid-nineteenth century Willow Springs Stage Station, the Willow Springs CHL does not commemorate an intact nineteenth-century built environment resource or grouping of resources where a historically significant individual performed the nineteenth-century work or other activity for which they are primarily known today. Consequently, the Willow Springs CHL is not eligible for the CRHR under Criterion 2.

The Willow Springs CHL is not eligible under CRHR Criterion 3 because the resource is not a significant example of a type, style, or era of construction; lacks high artistic value; and is not the work of a master architect, building, designer, or engineer. The Willow Springs CHL does not commemorate a built environment resource or grouping of resources that remains intact and dates to the period of historical activity commemorated by the CHL. Although the concrete and stone water trough at the approximate site of the old stage station appears to be an early-twentieth-century built environment resource, it replaced the wood trough present prior to 1876. The extant trough is part of the property at Willow Springs developed by Ezra Hamilton during the twentieth century, which is evaluated separately from the CHL. For these reasons, the Willow Springs CHL is ineligible for the CRHR under Criterion 3.

Under CRHR Criterion 4, the Willow Springs CHL is not a built-environment historical resource that has yielded or is it likely to yield important information about our past. It does not have the potential to yield important information regarding nineteenth century construction or engineering materials, methods, or technologies. As such, the CHL is not a built environment resource eligible for the CRHR under Criterion 4.

P5b. Photographs (continued):

Photograph 2. Concrete and stone trough located south of 1937 CHL plaque, looking west



Photograph 3. 1951 Willow Springs CHL plaque, looking east

Photograph 4. Center of Willow Springs property along Manly Road,
1951 plaque at left, looking east

REFERENCES

Bakersfield Californian. 1932.
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———. 1938. Murphy Leases Hamilton Claim. January 25:5.
———. 1975. Tropico Mine in East Kern for sale: Price set at $2 million. January 25:9.

Bakersfield Morning Echo. 1904. Gala Day at Willow Springs. July 7:4.
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———. 1916. Estate News. April 19:2.

Museum of Art and History. 2021. “The History of Willow Springs.” Accessed March 31, 2023. Available: https://www.lancastermoah.org/single-post/the-history-of-willow-springs.

Tehachapi News. 1914. “Pioneer E. M. Hamilton Died Last Thursday.” July 11:1.
———. 1951. “Dedication at Willow Springs.” April 5:3.

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HR #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code Reviewer Date

 Resource Name or # (Assigned by recorder): Resource ID 10, 3045 90th Street W.

P1. Other Identifier: 3045 90th Street West

*** P2. Location:** ☐ Not for Publication ☑ Unrestricted

***a. County** Kern **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** **Date** **T ; R ; 1/4 of 1/4 of Sec ; B.M.**

c. Address 3045 90th Street West City Rosamond Zip

d. UTM: (Give more than one for large and/or linear feature) Zone , mE/ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)

; 252-352-32-00-6

*** P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

The subject property at 3045 90th Street W. in Willow Springs sits at the intersection of Rosamond Boulevard and 90th Street W. It consists of a one-story commercial building, a chain link fenced-in landscaped area with a canopy structure and a paved parking lot situated at the south of the parcel. The subject property is oriented east towards 90th Street W. and has a lot size of 423, 403 square feet.

The commercial building has a flat roof, a rectangular form, and is clad in non-original stucco. The east (primary) elevation faces 90th Street W. It features a non-original covered porch with three arches, and an awning clad in stucco. Potted plants in wooden barrels sit at the bottom of each archway. Above the awning is a rectangular sign that reads “HIGH DESERT CELLARS LOCAL WINES GIFT SHOP COLD DRINKS.” There is a symmetrical arrangement of two fully glazed primary entrance doors divided by a central wall, flanked by two fixed rectangular storefront windows, and four lantern-style metal light fixtures along the elevation. (See continuation sheet.)

*** P3b. Resource Attributes:** HP6. 1-3 story commercial building

*** P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, etc.)
East elevation, facing west

*** P6. Date Constructed/Age and Sources:**
☐ Prehistoric ☑ Historic ☐ Both
1956 (Factual) ParcelQuest

*** P7. Owner and Address:**
Vargas Family Trust
9500 Laurel Canyon Bl
Arleta, CA 91331-4213

*** P8. Recorded by:** (Name, affiliation, address)
Caitlin Greeley
ICF
555 W. 5th Street, Suite 3100, Los Angeles, CA 90013

*** P9. Date Recorded:** 12/22/2021

*** P10. Survey Type:** (Describe)

*** P11. Report Citation:** (Cite survey report/other sources or "none")

*** Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☑ Continuation Sheet ☑ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other: (List)

Primary #
HR #

BUILDING, STRUCTURE, AND OBJECT RECORD

*Resource Name or # (Assigned by Recorder): Resource ID 10, 3045 90th Street W. * NRHP Status Code 6Z

B1. Historic Name: None
B2. Common Name: 3045 90th Street W.
* B3. Original Use: Unknown B4. Present Use: Commercial
* **B5. Architectural Style:** N/A
B6. Construction History: (Construction date, alterations, and date of alterations.)
The subject property at 3045 90th Street W. has a construction date of 1956 (Parcel Quest 2021). No original building permits are available from the City of Willow Springs. No Sanborn maps are available. Visual analysis and historic aerial image research show a series of alterations. As of 1963 the property had an L shaped footprint. (See continuation sheet.)
*
* **B7. Moved?** ☑ No ☐ Yes ☐ Unknown Date: N/A Original Location: N/A
B8. Related Features:
N/A

* B9a. Architect: Unknown b. Builder: Unknown
B10. Significance: Theme N/A Area N/A
Period of Significance N/A Property Type Commerical Applicable Criteria N/A

The property at 3045 90th Street W. does not meet the criteria for listing in the California Register of Historical Resources (CRHR). It does not, therefore, qualify as a historical resource under the California Environmental Quality Act.

CONTEXT
WILLOW SPRINGS
Ezra Hamilton purchased 160 acres encompassing Willow Springs in 1894. Initially he used the land to raise silkworms and used the spring on his property to provide water for his Lida Mine to the north of Willow Springs. Willow Springs had earlier served as a principal Antelope Valley station on the stage route between Fort Tejon and the Tehachapi Pass prior to the arrival of the railroad, and Native American travelers had made use of the spring prior to the arrival of Europeans (Hoover et al. 2002:131).

After the turn of the century, Hamilton invested approximately $40,000 to remake Willow Springs into a destination for people suffering from pulmonary disease. In 1904 he opened a sanitarium that eventually included 27 stone buildings. In association with the resort, Hamilton constructed a grocery store, garage, blacksmith shop, ice and cold storage plant, public hall and theater, swimming pool, and school. The Willow Springs resort outlived Hamilton, who died in 1914, but closed several years later. The Rosamond School District took over the school at Willow Springs and locals put other buildings to new uses (Varney 1990:74–76).

SPANISH COLONIAL REVIVAL
At the end of World War I, American architects adopted ideas and techniques emphasized in Spanish architecture, specifically in the Andalusian region, to create a new architectural style. Starting in 1915, the Panama–California Exposition held in San Diego, California popularized the emerging Spanish Colonial Revival architectural style. Architect Bertram Grosvenor Goodhue looked to Spanish Colonial buildings in Latin America for his design of the San Diego Exposition buildings. Goodhue's well-received designs led to adoption of Spanish Colonial Revival style across the southwestern states and Florida from 1915 to 1940 (McAlester 2015:521–522). (See continuation sheet.)

* B11. Additional Resource Attributes:
B12. References:
(See continuation sheet.)

B13. Remarks:

* **B14. Evaluator:** Cait Greeley, ICF, ICF
Date of Evaluation: 12/22/2021

(This space reserved for official comments.)

*P3a. Description (continued):
A paved parking lot abuts the building on the east and south elevations.

The north (side) elevation is blank with a chain link fence that extends out from the elevation and wraps around to the rear of the building. Non-original landscaped trees and shrubs outline a square perimeter behind the building along the north (side) and west (rear) elevations. Within the landscaped area is a non-original cloth canopy structure supported by eight metal posts, and two non-original concrete picnic tables. The south (side) elevation is blank except for a large rectangular painted sign that reads “LOCAL WINES.” The west (rear) elevation is not visible from the public right-of-way.

INTEGRITY
The subject property’s integrity is good. It retains integrity of location. It does retain integrity of setting because the neighboring properties have remained the same. Little changes have occurred to the area since the 1960s. In addition, due to a number of alterations, at a minimum of the form and exterior cladding it does not have integrity of design, materials, and workmanship. For these reasons, it does not have integrity of feeling and association.

*B6. Construction History (continued):

The building changed footprint to a rectangular form between 1963 and 1974. An addition of a chain link fenced-in landscaped area to the rear of the property took place between 1974 and 1995. An addition of a non-original front façade on the east elevation took place between 1995 and 2005. An addition of a paved parking lot occurred between 2005 and 2009. An addition of a cloth canopy structure and concrete picnic tables took place between 2014 and 2016. (NETR 1963, 1974, 1995, 2005, 2009, 2014, 2016). Retractable metal security bars over the doors and windows are a later addition per visual analysis. No other alterations have taken place at the subject property.

*B10. Significance (continued):

Due to its ability to create an austere façade on an otherwise-unassuming building, Spanish Colonial Revival saw heightened popularity in California. Architects and builders found the new style flexible allowing them to apply its various design features to simply built frames. As a result, designers regularly used it on residential, commercial, and institutional buildings (SurveyLA 2018:14–15).

Spanish Colonial Revival exteriors incorporate asymmetrical façades with stucco walls, and arched windows and doors. Most buildings designed in this style have multi-level roofs, clay tile clad low-pitched cross-gabled, side-gabled, hipped, or flat roofs. Spanish Colonial Revival buildings typically feature fenestration framed by spiraled wood or stucco columns, covered porches that overlook decorative-tiled courtyards, and towers. Common Spanish Colonial Revival elements include iron-and-wood window grilles, balconettes, and door knockers (McAlester 2015:521–525).

POST-WAR RETAIL BUILDING
Post-World War II, architects and builders increasingly oriented buildings around the automobile. Instead of relying on Main Street commercial centers, developers and retail owners often opted to build free-standing buildings located on large parcels with easy automobile access. This new commercial building type appeared on parcels that could accommodate larger buildings and parking lots and were often located along new commercial strips and freeway frontage roads. Architects and builders designed these new free-standing buildings with moderate-to-deep setbacks, in order to provide convenient automobile parking. In some examples, architects and builders arranged paved parking areas along the sides of these buildings, but not to the rear. This pattern of development created a pattern of voids and solids along the street and as the scale of the buildings and adjoining parking lots increased, would become more pronounced (Prosser 2017:17).

Free-standing post-war retail buildings came in a variety of forms and displayed varying degrees of Modernistic architectural styles. The type ranged from simple rectilinear buildings of concrete-block construction with flat primary façades, display windows, and little-to-no cladding, to elaborately designed buildings with large expanses of glass, multiple cladding materials, cantilevered canopies, dramatic roof lines, and eye-catching signage (Prosser 2017:16–17; Liebs 1995:30–31).

SITE HISTORY
Prior to the subject property’s construction at 3045 90th Street W.,1948 historic aerial images show the area was undeveloped (NETR 1948). Commercial development in the vicinity took place in the 1950s-1960s (Parcel Quest 2021). The area has remained intact. The subject property’s building footprint has changed since its original construction.

The City of Willow Springs does not have original building permits for the subject property. Historic newspaper research reveals no information about the original owner or the property’s original use. The current use is commercial. The current owner is Vargas Family Trust and the business is High Desert Cellars. Research revealed no information regarding Vargas Family Trust or High Desert Cellars relating to the property . Historic newspaper research yielded no information regarding the architect of the building.

EVALUATION
Under CRHR Criterion 1, the property at 3045 90th Street W. does not have important associations with historic events, patterns, or trends of development. Prior to its construction in 1956, the neighboring area was undeveloped. In the 1950s and 1960s, development took place north and south of Rosamond Boulevard. The region of the subject property at 3045 90th Street W. has remained the same since then, and the use of the property did not contribute to any specific historic events. It is not representative of any important association. As such, the subject property is ineligible under CRHR Criterion 1.

Under CRHR Criterion 2, the subject property does not share significant associations with the lives of persons important to history. Historic research revealed no information regarding the original owner. It is unknown the original function of the building. The current owner is Vargas Family Trust and the current business is High Desert Cellars. Historic newspaper research yielded no information about Vargas Family Trust or High Desert Cellars as it relates to their associations with the subject property at 3045 90th Street W. As such, the subject property is ineligible under CRHR Criterion 2.

Under CRHR Criterion 3, the subject property is not a significant example of its type, style, or era, it lacks high artistic value, and is not the work of a master architect, building, designer, or engineer. The architect of the building is unknown. The subject property has stucco cladding, arched bays, and a flat roof indicative of Spanish Colonial Revival. However, the front façade with arched bays is non-original. The subject property lacks discernable features of Spanish Colonial Revival including iron and wood ornamentation, a balcony, arched wooden doors, and red-clay-tile roof cladding. The property has undergone alterations to its footprint, the primary façade, and landscaping additions. The building is modest in design. With basic features, the property does not stand out among the masses constructed in suburban and rural areas of California and the United States during the 1950s. The property does not represent an innovation in engineering or the work of a master. It displays commonplace materials and construction methods. As such, the subject property is ineligible under CRHR Criterion 3.

Under CRHR Criterion 4, the subject property has neither yielded nor is likely to yield important information about our past. Typical of similar buildings, the subject property's wood frame construction does not have the potential to yield important information regarding construction or engineering materials, methods, or technologies used in the 1950s. As such, the subject property is ineligible under CRHR Criterion 4.

In conclusion, 3045 90th Street W. does not have historical associations or architectural or construction qualities that qualify the property for listing under any of the CRHR significance criteria. The property was evaluated in accordance with Section 15064.5(a) (2) of the CEQA guidelines and found not to qualify as a historical resource for the purposes of CEQA. The current evaluation has assigned a 6Z status code to the property.

*B12. References (continued):

Google Maps. "3045 W. 90th Street, Rosamond, CA, 93560." Accessed: December 22, 2021. Available: https://www.google.com/maps/place/3045+90th+St+W,+Rosamond,+CA+93560/@34.8643794,-118.2936084,477m/data=!3m2!1e3!4b1!4m5!3m4!1s0x80c23fd11d4c1403:0x88a744b23fcae059!8m2!3d34.864375!4d-118.2914197

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Primary #
HR #
Trinomial
NRHP Status Code 6Z

PRIMARY RECORD

Other Listings
Review Code Reviewer Date

Resource Name or # (Assigned by recorder): Resource ID 11, 9009 W. Rosamond Boulevard

P1. Other Identifier: 9009 W. Rosamond Boulevard

*** P2. Location:** ☐ Not for Publication ☑ Unrestricted

***a. County** Kern **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** **Date** **T ; R ; 1/4 of 1/4 of Sec ; B.M.**

c. Address 9009 W. Rosamond Boulevard City Rosamond Zip

d. UTM: (Give more than one for large and/or linear feature) Zone , mE/ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)

; 252-352-33-00-9

*** P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

The property at 9009 W. Rosamond Boulevard is located on the northwest corner of Rosamond Boulevard and 95th Street West in Rosamond. The long, hexagonal parcel fronts along W. Rosamond Boulevard and contains 377,229 square feet, most of which is enclosed by a chain link fence (ParcelQuest 2021). A line of trees along the southern edge of the property blocks views from the roadway, and trees are planted in multiple places around the property’s interior. Otherwise, the parcel is open and spacious. A dirt driveway leads north directly from the road to the primary residence, and a second driveway leads from the southeast corner of the property at the intersection with 95th Street to the secondary residence and on to the primary residence, creating a triangular dirt driveway in the center of the parcel. Both entrances to the private areas of the property are blocked by gates.

At the southeast corner of the property is an unfenced area used for commercial purposes. An asphalt parking lot encircles a concrete area in front of the structure. (See continuation sheet.)

*** P3b. Resource Attributes:** HP3. Multiple family property

*** P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, etc.)
Southeast elevation of Store, facing northwest

*** P6. Date Constructed/Age and Sources:**
☐ Prehistoric ☑ Historic ☐ Both
c.1959 (Estimate) ParcelQuest

*** P7. Owner and Address:**
Vargas Family Trust
9500 Laurel Canyon Bl
Arleta, CA 91331-4213

*** P8. Recorded by:** (Name, affiliation, address)
Maureen McCoy
ICF
980 9th St Suite 1200, Sacramento, CA 95814

*** P9. Date Recorded:** 12/23/2021

*** P10. Survey Type:** (Describe)

*** P11. Report Citation:** (Cite survey report/other sources or "none")

*** Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☑ Continuation Sheet ☑ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other: (List)

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary #
HR #

BUILDING, STRUCTURE, AND OBJECT RECORD

*Resource Name or # (Assigned by Recorder): Resource ID 11, 9009 W. Rosamond Boulevard

* NRHP Status Code 6Z

B1. Historic Name: None

B2. Common Name: 9009 W. Rosamond Boulevard

* B3. Original Use: Residential/Commercial

B4. Present Use: Residential

* **B5. Architectural Style:** Ranch; Commercial Building (Gas Station); Manufactured Home

B6. Construction History: (Construction date, alterations, and date of alterations.)

The property was established circa 1960 and included the primary residence and the commercial building. Both outbuildings and the detached garage were constructed around the same time that the property was established (NETR 1959; 1963; USGS 1965; Teledyne, Inc. 1968). A rear addition was added to the primary residence, though the exact date of this addition is not clear from permit records or aerial images. (See continuation sheet.)

* **B7. Moved?** ☑ No ☐ Yes ☐ Unknown Date: N/A Original Location: N/A

B8. Related Features:

N/A

* B9a. Architect: Unknown

b. Builder: Unknown

B10. Significance: Theme N/A Area N/A

Period of Significance N/A Property Type Applicable Criteria

The property at 9009 W. Rosamond Boulevard does not meet the criteria for listing in the California Register of Historical Resources (CRHR). It does not, therefore, qualify as a historical resource under the California Environmental Quality Act.

CONTEXT

ANTELOPE VALLEY

The establishment of Fort Tejon, the introduction of sheep and cattle grazing in the region, and the development of stage lines and roads to service the mines increased travel through the Antelope Valley. During the 1850s and 1860s, Willow Springs provided a stop for water for stagecoach operations in the region. People began to settle near springs and other water resources and pursued mining. By the end of the 1860s, four roads served the valley: Soledad Road; Mojave Road; a road through San Francisquito Canyon, used mainly by cattlemen and miners; and Fort Tejon Road (later Barrel Springs Road) (Gardiner 2002:13–14).

Water sources and railroad development led to the creation of the first communities in the vicinity of the project area. During the early 1870s, the Southern Pacific Railroad constructed a railroad line between Sacramento and Los Angeles via the San Joaquin and Antelope Valleys. Stations along the Southern Pacific line evolved into the project vicinity's first communities. Railroads subsequently constructed through the valley included the Atchison, Topeka & Santa Fe Railway; the Los Angeles & Independence Railroad; the Antelope Valley Line; and the Union Pacific (Lone Pine branch). Located approximately 9 miles east and slightly south of the project area and named for the daughter of a Southern Pacific official, Rosamond was initially the largest of the valley's railroad station settlements.

Situated approximately 11 miles south of Rosamond, Lancaster is thought to have been named for a Southern Pacific employee (Gardiner 2002:14–15). There, a well completed in 1884 demonstrated the availability of groundwater. Langley Wicks, who had earlier attempted and failed to establish a Scottish colony at Willow Springs, purchased land and began to run real estate advertisements in English newspapers. (See continuation sheet.)

* B11. Additional Resource Attributes:

B12. References:

(See continuation sheet.)

B13. Remarks:

* **B14. Evaluator:** Maureen McCoy, ICF, ICF

Date of Evaluation: 12/23/2021

(This space reserved for official comments.)

*P3a. Description (continued):
A small canopy set on a raised, oval, concrete block and supported on two round metal posts is the only remnant of a gas pump that was once on the property. The commercial building here is a rectangular, flat-roofed circa 1960 structure with a pent roof around on all the elevations. The exterior is clad in stucco with sections of brick and stone veneer; a large mural is painted on the northeast elevation. The primary façade (southeast elevation) features windows and a door that are boarded over and block by metal grates. Four modern porch lights are irregularly spaced across this façade under the pent roof. There are no openings on the southwest or northeast elevations. The rear elevation is enclosed by a chain link fence and was not accessible at the time of survey.

To the northwest of the commercial building is a circa 2000 manufactured home. The rectangular, side-gabled structure is clad in vertical siding with faux quoins. Horizontal siding is set in the overhanging gable peaks and bisected by a vertical board that leads from the peaks almost to the ground. The primary façade (south elevation) is dominated by a large cross-gable porch or patio addition. The patio includes a paved concrete foundation, and the roof is supported on squared posts with triangular brackets. Additional details of the doors and windows on the façade were not visible from the public right-of-way due to distance, but street view images indicate that there may be two small windows and one large, six-light window under the peak of the porch gable (Google 2012). The east elevation features two symmetrically arranged windows with wide surrounds and extended bottom sills. The rear (north elevation) features four windows of varying sizes and a door, but details of these features were not visible during survey.

The primary residence is the oldest residential structure on the property. It is situated west of the commercial building and the secondary residence in the center of the parcel. This one-story, side-gabled house represents a Ranch style structure. The primary façade (south elevation) includes an off-center door flanked by two two-light sliding windows with faux shutters. A larger picture window is set in the eastern part of the façade. The façade is sheltered by a narrow eave extension supported on posts. A brick chimney is set on the southwest corner of the building just in front of a shed-roofed addition on the west elevation. The east elevation was not visible at the time of survey due to a row of trees planted along this side of the house. There is a rear addition on the house, but it was not visible at the time of survey.

The property also consists of several outbuildings. Located just to the west of the primary residence is a detached garage. The one-story, gable-roofed structure features slightly overhanging eaves. A door is set on the south elevation at the western corner, but no other features were visible from the public right-of-way. Between the primary residence and the commercial building are outbuildings 1 and 2. Outbuilding 1 is a concrete block rectangle with low-pitched gable roof with wide, overhanging eaves. There is one door in the structure visible from the roadway; it faces south. Outbuilding 2 is a seemingly unused concrete block structure with a very low-pitched gable roof. The window and door openings on the south and east elevation were open at the time of survey, the original features missing.

INTEGRITY
The subject property's integrity is poor. It retains integrity of location. It also retains integrity of setting because the surrounding area has remained largely the same since the establishment of the commercial building and associated residence. The intersection at which it sits includes several residential lots and another store, but largely consists of open desert with streets founded on grids around the subject property. In addition, due to many alterations it does not have integrity of design, materials, and workmanship. The commercial building, which was previously a store and gas station, is currently vacant and no longer used for its historic purpose. For these reasons, it does not have integrity of feeling and association.

*B6. Construction History (continued):

The secondary residence was added to the property circa 2000 (NETR 1995; 2005).

Recent updates to structures on the property are recorded in building permits. Residential plumbing took place in 2007 and an interior remodel and new roof were completed on the commercial building in 2003 and 2004 (Kern County Public Works 2003; 2004; 2007). The 720 square foot covered patio, or front porch, was added to the secondary residence in 2014 (Kern County Public Works 2014).

*B10. Significance (continued):

Soon Lancaster had a post office, a hotel, newspapers, a school, and multiple churches. James P. Ward bought out Wicks in 1888 and grew the first alfalfa produced in the area, which he shipped to Los Angeles in 1890 (Gardiner 2002:14–15, 18–19).

Following the arrival of the railroad, the next major industrial-era development to shape the history of the western Antelope Valley was construction of the Los Angeles Aqueduct. Developed by the Los Angeles Department of Water and Power (LADWP) and designed by engineer William Mulholland, the Los Angeles Aqueduct transported water more than 200 miles, from the Owens Valley south to Los Angeles. The City of Los Angeles began construction of the project in 1908 by creating more than 1,000 miles of new roads, pipelines, and electricity and telephone lines in preparation for construction of the aqueduct itself. The City of Los Angeles purchased 4,000 acres of clay- and limestone-rich land near the Mojave Desert town of Monolith and established a facility that produced 1,000 barrels of Portland cement per day for the project (Kahrl 1979:32; Schwarz 1991:18–20, 22–23).

Much of the settlement in the region through the 1930s involved homesteading lands for ranching and agriculture. Mining declined and in its place, the military rose in importance during World War II. The U.S. Army conducted flight training operations at War Eagle Field south of Rosamond, while the U.S. Navy built an airfield and training facility in the town of Mojave. The federal government also established Muroc Army Airfield east of Rosamond. Later renamed Edwards Air Force Base, it continues to operate as a hub for U.S. test flights and aircraft development to this day (ICF 2015:2.2).

GAS AND SERVICE STATIONS

As automobile ownership increased in the early 20th century, gas filling stations incorporated auto repair elements, adding grease pits, flat tire repairs, and replacement parts to their services. By the end of the 1920s, gas stations also incorporated a repair garage, creating the neighborhood service station (Liebs 1995:102). Early gas-and-service stations often featured two buildings, configured in an L- or U-shape surrounding a central gasoline pump. However, this format proved to be short-lived. During the 1930s Depression, gas-and-service station builders condensed two buildings into one and situated pumps on the exterior. Owners soon located pumps farther from the building in an effort to address vehicular circulation needs. Builders designed gasoline and service stations in popular architectural styles of the era, including Streamline Moderne and International styles. These styles allowed owners to display advertisements for services and goods to motorists through spacious garage bays and large storefront windows (Liebs 1995:102–106).

Starting in the 1950s, building designers re-introduced L-plans and varied the heights of buildings, with the service portion typically taller than the office portion. Builders continued the trend of designing buildings in popular styles and added Mid-Century Modern, Contemporary, and Ranch to the style palette. Modern styles included use of concrete blocks and multiple cladding materials, flat rooflines with extended overhangs, large canopies supported by thin metal posts, wide expanses of glass, and tall, stand-alone signage. Service stations with Ranch-style elements featured front-gabled, low-pitched rooflines with extended eaves, metal-framed windows, wood-and-brick cladding, and large canopies (Jones et al. 2016:7-3, 7-5, 7-8; Rotary Lift 2020). Shed stations with a canopy extending from the building across the driveway to the pump to provide shelter for fueling were common in commercial districts in urban areas. In rural areas, multi-use stations positioned pumps outside of stores, inns, and restaurants, often providing open areas for parking. Like shed-type stations, multi-use stations sometimes incorporated small buildings and canopies to shelter the filling area (Randl 2008:2).

Beginning in the late 1960s, auto repair became popular as an at-home hobby, decreasing the relevance of service stations. Specialty shops sold auto repair items for at-home repairs. This change in auto repair trends contributed to the decline of the gasoline and service station business. To adapt, some gasoline and service stations transitioned away from offering repairs to other services, such as convenience stores and other shops, restaurants or other food services, and offices, a concept known as “store with gas” or “dual fuel depot” (Liebs 1995:113–115).

RANCH STYLE

Originally designed in California in the 1930s, Ranch houses drew inspiration from earlier Spanish Colonial haciendas and northern California farmhouses (SurveyLA 2015:5). The Ranch style gained popularity after World War II, due to Federal Housing Administration (FHA) promotion and loan support. Architects designed and builders constructed Ranch residences across the United States (McAlester 2015:602–603). Due to its ability to capitalize on the importance of automobiles in the post-World War II suburban sprawl, where workers needed to commute to and from work in the city, the Ranch style maintained its popularity until circa 1975 (SurveyLA 2015:13–15). Because of the influence of streetcar suburban developments on the creation of the style, Ranch style houses are primarily associated with and found in suburbs. Developers constructed entire tracts in the style during the 1950s and 1960s (McAlester 2015: 602-603). Non-tract examples of the style, such as those found in rural Kern County, are rarer and often simpler with minimal applied architectural detail. Easily built and customizable, Ranch homes continued to be constructed across America because they blended effortlessly into the newly forming middle-class attitude and lifestyle (SurveyLA 2015:13–15).

Ranch houses typically feature horizontal, one-story massing, with either a gable or hip roof. Initially built with simple rectangular floor plans, by the 1950s, L-shaped floor plans with intersecting gable roofs became more popular (Gottfried and Jennings 2009: 208-209). Developers built these homes on large tracts of land that allowed for spacious backyards and private outdoor living (McAlester 2015:602–603). Ranch-style homes feature an asymmetrical exterior, often elongating the look of the house by incorporating an attached front-facing garage. Substyles of the traditional Ranch plan include Contemporary, Cinderella, American Colonial, and Minimal. Elements of a Cinderella Ranch, otherwise known as Storybook Ranch, feature steep-pitched porch hoods and Swiss-Chalet inspired fascia and shutters that give the house an exaggerated fairytale look. In contrast, Minimal Ranch buildings have a more restrained exterior, including less variation in wall materials and simple footprints, and were commonly built within FHA design guidelines (SurveyLA 2015:17–18). Key features include a large picture window, small porch, and recessed entry. Builders used a variety of resources, including stucco, brick, stone, and wood. They also incorporated planters or window boxes into the exterior design for emphasis (McAlester 2015:597–601).

MANUFACTURED HOMES

Manufactured homes, commonly known as trailer homes or mobile homes, represent a housing trend spurred by automobile tourism and travel at the turn of the twentieth century. Landowners developed campsites called auto courts or motor courts that allowed travelers to pitch tents or sleep in their cars. The camps provided an economical lodging option and welcome alternative to hotels, which were sometimes deemed too formal. This movement led to the design of prefabricated trailer homes in the 1930s, allowing travelers to essentially bring "homes" to the motor parks, rather than sleeping in tents or automobiles. Trailer homes were small (on average, 8 feet wide and 32 feet long) and typified as "one 'room' that served several functions and included transformable furniture" (Lawrence 2012:15), designed to allow for easy transport by hitching them to cars. Trailer home relied heavily on metal construction materials. A typical trailer park had relatively compact, angled parallel parking spaces, which allowed the maximum number of homes to fit in the park at one time. Trailer parks often had a laundry room, toilets, showers, or other limited amenities onsite. During and after World War II, the government subsidized the construction of trailer camps to address a housing shortage. The efforts by the government to provide affordable and quickly assembled housing led to a more permanent version of the trailer home known as the mobile home (Lawrence 2012:12, 14, 15, 17, 18, 22; Fowler et al. 2016:4).

By the late 1960s, mobile homes had become a popular housing choice across the country. By that point, one-third of single-family dwellings in the United States were mobile homes, approximately 20 out of every 100 Californians lived in a mobile park in California alone, and six million Americans lived in them across the nation (Fowler et al. 2016:11). Features such as shutters and gable roofs, indoor bathrooms, increased electrical capabilities, and landscaping appeared on mobile homes, making them look and function more like suburban homes. Mobile homes increased in size (up to 14 feet wide and 34 feet long), and most had more than one section. Other changes and features include two stories, indoor bathrooms, fold out porches, full height doors, and jalousie and bay windows (Fowler et al. 2016:9, 11). Many mobile home designs contained corridors to separate the living spaces, and telescoped sections or awnings provided more living space. Mobile homes also included chassis and wheels, which allowed them to be transported to the site by a professional, but they no longer had the transient capability of trailer homes due to their size and weight. Mobile home construction included wood composite, aluminum, or steel. Larger, rectangular lots replaced the angled parking spots to allow for larger homes and, depending on the arrangement of the homes, often provided more privacy. Camps soon included amenities such as swimming pools, playgrounds, and recreational facilities, which made these communities desirable and offered a more affordable price than conventional homeownership. Following the safety and construction standards published in 1976, the United States Department of Housing and Urban Development introduced the term manufactured home for mobile and trailer homes (Haney n.d.:2; Lawrence 2012:18–19; Fowler et al. 2016:9, 11).

Many trailer parks and mobile home parks still exist today. Most parks are specific to either trailer homes or mobile homes and can contain dozens to hundreds of homes. Simple street arrangements may be observed or more complex patterns, including radial street designs in some cases. Most will have one primary entrance to the park and be enclosed by a retaining wall. Although well-built, most manufactured home parks are vernacular, and professionals designed very few of these communities and homes. If well-maintained, manufactured homes can provide affordable housing even many years after being constructed and are said to be "the single most affordable type of housing available" (Haney n.d.:4; Lawrence 2012:36; Fowler et al. 2016:11,14).

SITE HISTORY

This property was part of the land divisions by the Southern Pacific Railroad in the late nineteenth century. However, no property owner is list on this parcel in 1898 (Congdon 1898). This area may have been used for ranching or agriculture from the late nineteenth century into the first half of twentieth century, but specific information on this parcel could not be found during a historic records search. Searches of newspapers and census records did not reveal any additional information about the property or its past owners.

As growth in the Rosamond area increased in the post-World War II period, particularly in connection with the nearby air base, the need for new highways was recognized in the 1950s (The Bakersfield Californian 1952a; 1952b). This parcel and its gas station may have been founded in an effort to meet the needs of increasing numbers of motorists in the area. The current owners, the Vargas family, purchased the property from a large number of owners in 2001 (Kern County Assessor Recorder 2001). The property was established by the early 1960s (USGS 1943; 1965). It appears to have always been a combination residential and commercial complex. The commercial building likely served as a gas station and small market for passersby and local residents in the mid-twentieth century. It is unclear when the gas pump was removed. It was converted to Chico's Mini Market in recent years, and was renamed Roy's Convenience Store around 2017, but it has been closed in recent years (Google 2012; Roy's Convenience Store 2017).

EVALUATION

Under CRHR Criterion 1, the property at 9009 W. Rosamond Boulevard does not have important associations with historic events, patterns, or trends of development. The property was established after the heyday of homesteading and the peak of agricultural trends in Rosamond during the mid-twentieth century and is not associated with these trends. It is more associated with national trends of highway expansion in the 1950s and 1960s (Weingroff 2017). However, this property was established at the end of this period and is situated quite a distance from State Route 14, which runs through Rosamond proper. There are also many examples of residential property types in the area, and this property is not an exceptional example. As such, the subject property is ineligible under CRHR Criterion 1.

Under CRHR Criterion 2, the subject property does not share significant associations with the lives of persons important to history. Only a few owners could be identified from records searches, and no employees were identified. None of the identified owners have made significant contributions to history while living or working at the subject property. As such, the subject property is ineligible under CRHR Criterion 2.

Under CRHR Criterion 3, the subject property is not a significant example of its type, style, or era, it lacks high artistic value, and is not the work of a master architect, building, designer, or engineer. The property includes 1960s examples of a Ranch-style residence and a vernacular commercial building. The one-story massing of the Ranch house has a gable roof and simple footprint. It has minimal exterior architectural detailing and sits on a large parcel and with ample backyard space. The commercial building includes multiple cladding materials, a flat roofline with extended overhang in the form of a pent roof, and a canopy supported by thin metal posts over the gas pumps (now removed). It also served multiple functions: a gas station, a market with produce and souvenirs, and a convenience store. Finally, there is an example of a circa 2000 manufactured home on the parcel, but the age and lack of significance of this building precludes it from eligibility for the CRHR. No architect, builder, or engineer could be identified with the construction of any building on the property. Overall, the property lacks the quality of design associated with a master's work within any architectural style, form, or construction type. As such, the subject property is ineligible under CRHR Criterion 3.

Under CRHR Criterion 4, the subject property has neither yielded nor is likely to yield important information about our past. Typical of similar buildings, the subject property's one-story frame does not have the potential to yield important information regarding construction or engineering materials, methods, or technologies used in the 1960s. As such, the subject property is ineligible under CRHR Criterion 4.

In conclusion, 9009 W. Rosamond Boulevard does not have historical associations or architectural or construction qualities that qualify the property for listing under any of the CRHR significance criteria. The property was evaluated in accordance with Section 15064.5(a) (2) of the CEQA guidelines and found not to qualify as a historical resource for the purposes of CEQA. The current evaluation has assigned a 6Z status code to the property.

*B12. References (continued):

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Primary #
HR #
Trinomial

CONTINUATION SHEET

 *** Resource Name or #:** (Assigned by recorder) Resource ID 11, 9009 W. Rosamond Boulevard

*** Recorded by:** Maureen McCoy, ICF

☑ **Continuation** ☐ **Update** *** Date:** 12/23/2021

House 1 primary south elevation, facing north

House 1 east elevation, facing northwest

House 2 east elevation, facing west

Outbuilding 1 south elevation, facing north

State of California -- The Resources Agency
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CONTINUATION SHEET

Primary #
HR #
Trinomial

 *** Resource Name or #:** (Assigned by recorder) Resource ID 11, 9009 W. Rosamond Boulevard

*** Recorded by:** Maureen McCoy, ICF

☑ **Continuation** ☐ **Update** *** Date:** 12/23/2021

Outbuilding 2 south elevation, facing north

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HR #
Trinomial
NRHP Status Code 6Z
Other Listings
Review Code Reviewer Date

 Resource Name or # (Assigned by recorder): Resource ID 12, 2973 95th Street

P1. Other Identifier: 2973 95th Street

*** P2. Location:** ☐ Not for Publication ☑ Unrestricted
***a. County** Kern **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** **Date** **T ; R ; 1/4 of 1/4 of Sec ; B.M.**
c. Address 2973 95th Street City Rosamond Zip
d. UTM: (Give more than one for large and/or linear feature) Zone , mE/ mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)
; 374-042-08-00-6

*** P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

The property located at 2973 95th Street sits on an 87,555 square foot parcel in Rosamond, California. The parcel lies on the corner of Rosamond Boulevard to the north and 95th Street to the east. A neighboring parcel abuts 2973 95th Street to the west. Composed of a residence, detached garage, and small shed, the buildings are clustered in the middle of the parcel. The residence is accessed from Rosamond Boulevard with a concrete pad driveway that extends to the detached garage that sits off the east elevation of the residence. A chain-link fence marks the parcel boundaries and encloses the parcel on all four sides.

The residence features a side gabled roof on a rectangular plan with a small side gabled addition on the west elevation. A shed roof covers the front porch of the north elevation with four posts. Stucco cladded, the residence lacks ornamentation and is simple in design. The north (primary) elevation consists of five bays. From east to west, the first bay features a large sixteen light window, and the second bay consists of the main entrance. (See continuation sheet.)

*** P3b. Resource Attributes:** HP2. Single family property

*** P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, etc.)
North and west elevations, facing southeast

*** P6. Date Constructed/Age and Sources:**
☐ Prehistoric ☑ Historic ☐ Both
c.1959 (Estimate) Aerial Imagery

*** P7. Owner and Address:**
Donato Torrez
9534 W Rosamond Boulevard
Rosamond, CA 93560

*** P8. Recorded by:** (Name, affiliation, address)
Inga Gudmundsson
ICF
555 W. 5th Street, Suite 3100, Los Angeles, CA 90013

*** P9. Date Recorded:** 12/23/2021

*** P10. Survey Type:** (Describe)

*** P11. Report Citation:** (Cite survey report/other sources or "none")

*** Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☑ Continuation Sheet ☑ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other: (List)

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary #
HR #

BUILDING, STRUCTURE, AND OBJECT RECORD

*Resource Name or # (Assigned by Recorder): Resource ID 12, 2973 95th Street

* NRHP Status Code 6Z

B1. Historic Name: None

B2. Common Name: 2973 95th Street

* B3. Original Use: Residence

B4. Present Use: Residence

* **B5. Architectural Style:** Ranch

B6. Construction History: (Construction date, alterations, and date of alterations.)

ParcelQuest gives a construction date of 1942. The property does not appear on historic aerials prior to the 1952 aerial (NETR 1948; NETR 1959). The western addition is first visible in 1974 (NETR 1974).The detached garage is present on the location in 2005 (NETR 2005). Little is known about the construction or subsequent alterations to 2973 95th Street. (See continuation sheet.)

*

* **B7. Moved?** ☑ No ☐ Yes ☐ Unknown Date: N/A Original Location: N/A

B8. Related Features:

N/A

* B9a. Architect: Unknown b. Builder: Unknown

B10. Significance: Theme N/A Area N/A

Period of Significance N/A Property Type N/A Applicable Criteria N/A

The property at 2973 95th Street does not meet the criteria for listing in the California Register of Historical Resources (CRHR). It does not, therefore, qualify as a historical resource under the California Environmental Quality Act.

CONTEXT

RANCH STYLE

Originally designed in California in the 1930s, Ranch houses drew inspiration from earlier Spanish Colonial haciendas and northern California farmhouses (SurveyLA 2015:5). The Ranch style gained popularity after World War II, due to Federal Housing Administration (FHA) promotion and loan support. Architects designed and builders constructed Ranch residences across the United States (McAlester 2015:602–603). Due to its ability to capitalize on the importance of automobiles in the post-World War II suburban sprawl, where workers needed to commute to and from work in the city, the Ranch style maintained its popularity until circa 1975 (SurveyLA 2015:13–15). Because of the influence of streetcar suburban developments on the creation of the style, Ranch style houses are primarily associated with and found in suburbs. Developers constructed entire tracts in the style during the 1950s and 1960s (McAlester 2015: 602-603). Non-tract examples of the style, such as those found in rural Kern County, are rarer and often simpler with minimal applied architectural detail. Easily built and customizable, Ranch homes continued to be constructed across America because they blended effortlessly into the newly forming middle-class attitude and lifestyle (SurveyLA 2015:13–15).

Ranch houses typically feature horizontal, one-story massing, with either a gable or hip roof. Initially built with simple rectangular floor plans, by the 1950s, L-shaped floor plans with intersecting gable roofs became more popular (Gottfried and Jennings 2009: 208-209). Developers built these homes on large tracts of land that allowed for spacious backyards and private outdoor living (McAlester 2015:602–603). Ranch-style homes feature an asymmetrical exterior, often elongating the look of the house by incorporating an attached front-facing garage. (See continuation sheet.)

* B11. Additional Resource Attributes:

B12. References:

(See continuation sheet.)

B13. Remarks:

* **B14. Evaluator:** Inga Gudmundsson, ICF, ICF

Date of Evaluation: 12/23/2021

(This space reserved for official comments.)

*P3a. Description (continued):
The third bay features a horizontal sliding sash window. Added lattice paneling attached to the front of the obstructs the view of the fourth bay. The fifth bay consists of a window of indiscernible style on the small side addition. A porch light is fixed to the wall in between the large window and front door. A wood and wire fence wraps around the first, third, and fourth bay as a handrail.

The east elevation of the residence features a large window with a raised AC unit to the west. A black metal fence encloses a small side yard in front of the east elevation. The west elevation features the side addition and a small window of indiscernible style. The south (rear) elevation is not visible from the street.

The detached garage sits to the southeast of the residence and features a front gabled roof with deep overhangs. The wood clad garage consists of two garage door entrances on the north elevation. The east elevation features a window, and a wooden fence extends off the east elevation creating a privacy barrier for the north elevation from 95th Street. The south and west elevations of the garage are not visible from street.

A small shed behind the garage features a front gabled roof. An entrance on the north elevation is the only visible entrance. No windows are visible.

INTEGRITY
The subject property's integrity is fair. It doesretain integrity of location. It also retains integrity of setting because the surrounding area has remained similar to when the property was brought to the parcel. To the east of the property, 95th Street widened by 1972 but remained in the same location. The detached garage and shed were added to the property prior to 1995 although an exact date is unknown. In addition, due to minimal alterations it does not have integrity of design, materials, and workmanship. For these reasons, it does not have integrity of feeling and association.

*B6. Construction History (continued):

The only permit for 2973 95th St available includes a permit 2015 permit for a septic tank and leach field replacement. The original building permits for the property are not available through Kern County.

*B10. Significance (continued):

Substyles of the traditional Ranch plan include Contemporary, Cinderella, American Colonial, and Minimal. Elements of a Cinderella Ranch, otherwise known as Storybook Ranch, feature steep-pitched porch hoods and Swiss-Chalet inspired fascia and shutters that give the house an exaggerated fairytale look. In contrast, Minimal Ranch buildings have a more restrained exterior, including less variation in wall materials and simple footprints, and were commonly built within FHA design guidelines (SurveyLA 2015:17–18). Key features include a large picture window, small porch, and recessed entry. Builders used a variety of resources, including stucco, brick, stone, and wood. They also incorporated planters or window boxes into the exterior design for emphasis (McAlester 2015:597–601).

SITE HISTORY
2973 95th Street sits on part of what was a larger parcel owned in 1898 by S. S. Ash (Congdon 1898). Research did not reveal any information on this person. The property did not have anything built on it prior to the 1950's therefore missing the period of homesteading in the area, that came to an end in the 1930's (NETR 1959). The original owner of the house is unknown. The current owner is Donato Torrez although the house is "pending" sold on Zillow, a popular online real estate website (ParcelQuest 2021, Zillow 2012). Further research did not reveal any information regarding the current owner.

EVALUATION
Under CRHR Criterion 1, the property at 2973 95th Street does not have important associations with historic events, patterns, or trends of development. The property missed the main period of homesteading in the area and did not contribute to the agricultural trends of Rosamond. Research revealed no important historic events that occurred on or at the property. As such, the subject property is ineligible under CRHR Criterion 1.

Under CRHR Criterion 2, the subject property does not share significant associations with the lives of persons important to history. Neither the original parcel owner S. S. Ash nor current owner Donato Torrez have made significant contributions to history. As such, the subject property is ineligible under CRHR Criterion 2.

Under CRHR Criterion 3, the subject property is not a significant example of its type, style, or era, it lacks high artistic value, and is not the work of a master architect, building, designer, or engineer. Indicative of the Ranch style with its rectangular shape and large picture windows, the residence is simple and is not a significant example of the style. Although the original builder is unknown, the residence is not the work of a master and lacks quality of design. As such, the subject property is ineligible under CRHR Criterion 3.

Under CRHR Criterion 4, the subject property has neither yielded nor is likely to yield important information about our past. Typical of similar buildings, the subject property's one-story frame construction does not have the potential to yield important information regarding construction or engineering materials, methods, or technologies used in the 1950's. As such, the subject property is ineligible under CRHR Criterion 4.

In conclusion, 2973 95th Street does not have historical associations or architectural or construction qualities that qualify the property for listing under any of the CRHR significance criteria. The property was evaluated in accordance with Section 15064.5(a) (2) of the CEQA guidelines, and found not to qualify as a historical resource for the purposes of CEQA. The current evaluation has assigned a 6Z status code to the property.

*B12. References (continued):

Congdon, Chas H. 1898. Official Map of Kern County, California. W.B. Walkup.

Gottfried, Herbert, and Jan Jennings. 2009. American Vernacular: Buildings and Interiors, 1870–1960. New York, NY: W. W. Norton & Company.

McAlester, Virginia Savage. 2015. A Field Guide to American Houses. New York, NY: Alfred A. Knopf.

Nationwide Environmental Title Research, LLC (NETR). 1948. Rosamond, California, 93560, Aerial Photograph. Accessed December 22, 2021. https://www.historicaerials.com/viewer.
----. 1959. Rosamond, California, 93560, Aerial Photograph. Accessed December 22, 2021. https://www.historicaerials.com/viewer.
----. 1995. Rosamond, California, 93560, Aerial Photograph. Accessed December 22, 2021. https://www.historicaerials.com/viewer.
----. 2018. Rosamond, California, 93560, Aerial Photograph. Accessed December 21, 2021. https://www.historicaerials.com/viewer.

Robinson Aerial Surveys. 1952. Flight ABL_1952, Frame 4K38. October 11 to December 9. Prepared for USDA- Production and Marketing Administration. Accessed December 22, 2021. Available: https://mil.library.ucsb.edu/ap_indexes/FrameFinder/

SurveyLA. 2015. "Los Angeles Citywide Historic Context Statement: The Ranch House, 1930–1975." Prepared for City of Los Angeles Office of Historic Resources. December. Accessed August 16, 2021. Available: https://planning.lacity.org/odocument/1acefe03-5615-425f-9182-d58a79014901/The_Ranch_House%2C_1930-1975.pdf.

Zillow. 2021. "2973 95th St W, Rosamond, CA 93560." Accessed December 22, 2021. https://www.zillow.com/homedetails/2973-95th-St-W-Rosamond-CA-93560/18995077_zpid/

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HR #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code Reviewer Date

Resource Name or # (Assigned by recorder): Resource ID 13, 9580 W. Rosamond Boulevard

P1. Other Identifier: 9580 W. Rosamond Boulevard

*** P2. Location:** ☐ Not for Publication ☑ Unrestricted

***a. County** Kern **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** **Date** **T ; R ; 1/4 of 1/4 of Sec ; B.M.**

c. Address 9580 W. Rosamond Boulevard City Rosamond Zip

d. UTM: (Give more than one for large and/or linear feature) Zone , mE/ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)

; 374-042-07-00-3

*** P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

The property at 9580 Rosamond Boulevard sits on a square parcel on the south side of Rosamond Boulevard just west of the road's intersection with 95th Street; the parcel contains 83,199 square feet (ParcelQuest 2021). The property is surrounded by a chain link fence and is largely open within the fence. A line of trees is planted along the west elevation of the house, and several other trees are planted throughout the yard. A gravel and dirt driveway leads through a sliding gate in the fence to the carport attached to the house. Cars, mobile homes, and other pieces of machinery are scattered around the yard.

The property consists of one building: the primary residence. This c. 1955 Vernacular structure has a gable roof with modern asphalt roofing. The north elevation of the house is symmetrically arranged with a central roof extension. An awning is set under this extension, providing shade for a bench below. Flanking the awning are large, two-light sliding windows with wide surrounds. (See continuation sheet.)

*** P3b. Resource Attributes:** HP2. Single family property

*** P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, etc.)
North elevation, facing south

*** P6. Date Constructed/Age and Sources:** ☐ Prehistoric ☑ Historic ☐ Both
1955 (Estimate) ParcelQuest

*** P7. Owner and Address:**
Reinaldo and Margaret Lydia de la Rosa
9580 W. Rosamond Blvd
Rosamond, CA 93560

*** P8. Recorded by:** (Name, affiliation, address)
Maureen McCoy
ICF
980 9th St Suite 1200, Sacramento, CA 95814

*** P9. Date Recorded:** 12/22/2021

*** P10. Survey Type:** (Describe)

*** P11. Report Citation:** (Cite survey report/other sources or "none")

*** Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☑ Continuation Sheet ☑ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other: (List)

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary #
HR #

BUILDING, STRUCTURE, AND OBJECT RECORD

*Resource Name or # (Assigned by Recorder): Resource ID 13, 9580 W. Rosamond Boulevard   * NRHP Status Code 6Z

B1. Historic Name: None
B2. Common Name: 9580 W. Rosamond Boulevard
* B3. Original Use: Residence   B4. Present Use: Residence
* **B5. Architectural Style:** Vernacular
B6. Construction History: (Construction date, alterations, and date of alterations.)
The primary residence on this property was constructed circa 1955, along with what may have been a detached garage located at the southeast corner of the house; this latter structure was removed circa 1973 (NETR 1959; 1974; ParcelQuest 2021). A stretch of several parcels in a row along the south side of the road were developed by 1965 (USGS 1965). (See continuation sheet.)
*
* **B7. Moved?** ☑ No ☐ Yes ☐ Unknown Date: N/A   Original Location: N/A
B8. Related Features:
N/A

* B9a. Architect: Unknown   b. Builder: Unknown
B10. Significance: Theme N/A   Area N/A
Period of Significance N/A   Property Type   Applicable Criteria

The property at 9580 W. Rosamond Boulevard does not meet the criteria for listing in the California Register of Historical Resources (CRHR). It does not, therefore, qualify as a historical resource under the California Environmental Quality Act.

CONTEXT
ANTELOPE VALLEY
The establishment of Fort Tejon, the introduction of sheep and cattle grazing in the region, and the development of stage lines and roads to service the mines increased travel through the Antelope Valley. During the 1850s and 1860s, Willow Springs provided a stop for water for stagecoach operations in the region. People began to settle near springs and other water resources and pursued mining. By the end of the 1860s, four roads served the valley: Soledad Road; Mojave Road; a road through San Francisquito Canyon, used mainly by cattlemen and miners; and Fort Tejon Road (later Barrel Springs Road) (Gardiner 2002:13–14).

Water sources and railroad development led to the creation of the first communities in the vicinity of the project area. During the early 1870s, the Southern Pacific Railroad constructed a railroad line between Sacramento and Los Angeles via the San Joaquin and Antelope Valleys. Stations along the Southern Pacific line evolved into the project vicinity's first communities. Railroads subsequently constructed through the valley included the Atchison, Topeka & Santa Fe Railway; the Los Angeles & Independence Railroad; the Antelope Valley Line; and the Union Pacific (Lone Pine branch). Located approximately 9 miles east and slightly south of the project area and named for the daughter of a Southern Pacific official, Rosamond was initially the largest of the valley's railroad station settlements.

Situated approximately 11 miles south of Rosamond, Lancaster is thought to have been named for a Southern Pacific employee (Gardiner 2002:14–15). There, a well completed in 1884 demonstrated the availability of groundwater. Langley Wicks, who had earlier attempted and failed to establish a Scottish colony at Willow Springs, purchased land and began to run real estate advertisements in English newspapers. (See continuation sheet.)

* B11. Additional Resource Attributes:
B12. References:
(See continuation sheet.)

B13. Remarks:

* **B14. Evaluator:** Maureen McCoy, ICF, ICF
Date of Evaluation: 12/22/2021

(This space reserved for official comments.)

*P3a. Description (continued):
Also facing north is a large carport attached at the northeast corner of the house. The carport consists of a flat wooden roof supported on multiple posts; there are two bays for cars to be parked in the shade. There is a garage door-sized opening at the back of the carport that leads into the enclosed part of this addition. The carport extends along the east elevation, but additional details of this and other elevations were not discernible from the public right-of-way. The west elevation is hidden behind the trees planted along the house.

INTEGRITY
The subject property's integrity is fair. It retains integrity of location. It also retains integrity of setting because the surrounding area has remained similar to when the property was established. There are a few small houses that were constructed around the same time along this side of Rosamond Boulevard, as well as open or unimproved desert lots. Some of the surrounding secondary roads remain unimproved as they were in the mid-twentieth century. In addition, due to many alterations it does not have integrity of design, materials, and workmanship. For these reasons, it does not have integrity of feeling and association.

*B6. Construction History (continued):

The carport was added to the residence circa 2000 (NETR 1995; 2005). Two manufactured homes were set on the property for a few years but have since been removed (NETR 2009; 2012).

*B10. Significance (continued):

Soon Lancaster had a post office, a hotel, newspapers, a school, and multiple churches. James P. Ward bought out Wicks in 1888 and grew the first alfalfa produced in the area, which he shipped to Los Angeles in 1890 (Gardiner 2002:14–15, 18–19).

Following the arrival of the railroad, the next major industrial-era development to shape the history of the western Antelope Valley was construction of the Los Angeles Aqueduct. Developed by the Los Angeles Department of Water and Power (LADWP) and designed by engineer William Mulholland, the Los Angeles Aqueduct transported water more than 200 miles, from the Owens Valley south to Los Angeles. The City of Los Angeles began construction of the project in 1908 by creating more than 1,000 miles of new roads, pipelines, and electricity and telephone lines in preparation for construction of the aqueduct itself. The City of Los Angeles purchased 4,000 acres of clay- and limestone-rich land near the Mojave Desert town of Monolith and established a facility that produced 1,000 barrels of Portland cement per day for the project (Kahrl 1979:32; Schwarz 1991:18–20, 22–23).

Much of the settlement in the region through the 1930s involved homesteading lands for ranching and agriculture. Mining declined and in its place, the military rose in importance during World War II. The U.S. Army conducted flight training operations at War Eagle Field south of Rosamond, while the U.S. Navy built an airfield and training facility in the town of Mojave. The federal government also established Muroc Army Airfield east of Rosamond. Later renamed Edwards Air Force Base, it continues to operate as a hub for U.S. test flights and aircraft development to this day (ICF 2015:2.2).

VERNACULAR
Vernacular buildings typically include features that express the influence of a particular architectural style but do not reflect an architect's or builder's intentional articulation of a specific architectural style. Vernacular structures are part of the common, everyday fabric of the built environment. Their purposes, functions, and aesthetic values and objectives play crucial roles in determining their design and construction.

Historically, vernacular architecture reflects the common building traditions, construction materials, culture, climate, and landscape of a particular nation, region, or place. During the industrial and post-industrial eras modern forces such as industrial fabrication, mass-production and distribution, consumer capitalism, and large-scale market conditions influenced vernacular architecture more than place and tradition. Architectural historians Herbert Gottfried and Jan Jennings argue that during the late 19th and 20th centuries, vernacular architecture continued to qualify as "practical" architecture, but it also increasing became an "industrial" or "manufactured" architecture, not to mention a "market" architecture "responsive to marketing pressure and to changes in fashion" (Gottfried and Jennings 2009:9–12).

SITE HISTORY
This property was part of a larger parcel owned by S.S. Ash in 1898, which was bisected at that time by a county road (Congdon 1898). This larger parcel was part of the many divisions of land by the Southern Pacific Railroad and may have been used for ranching or agriculture from the late nineteenth century into the first half of twentieth century, but specific information on this parcel could not be found during a historic records search. Additionally, searches of contemporary newspapers and census records did not reveal any information about this specific person. However, buildings do not appear on the property until the 1950s, so it was likely undeveloped until the post-World War II period (NETR 1959). The current owners are Reinaldo and Margaret Lydia de la Rosa (Kern County Assessor Recorder 2020).

EVALUATION

Under CRHR Criterion 1, the property at 9580 W. Rosamond Boulevard does not have important associations with historic events, patterns, or trends of development. The property was established after the heyday of homesteading and the peak of agricultural trends in Rosamond during the mid-twentieth century. There are many examples of residential property types in the area, and this property is not an exceptional example. As such, the subject property is ineligible under CRHR Criterion 1.

Under CRHR Criterion 2, the subject property does not share significant associations with the lives of persons important to history. Only a few owners could be identified from records searches. None of the identified owners have made significant contributions to history while living at the subject property. As such, the subject property is ineligible under CRHR Criterion 2.

Under CRHR Criterion 3, the subject property is not a significant example of its type, style, or era, it lacks high artistic value, and is not the work of a master architect, building, designer, or engineer. The property is an example of a circa-1955 Vernacular residence with one-story massing, a cross-gable roof, and simple footprint. It has minimal exterior architectural detailing. No architect, builder, or engineer could be identified with the construction, which is also typical of vernacular construction. Overall, the property lacks the quality of design associated with a master's work. As such, the subject property is ineligible under CRHR Criterion 3.

Under CRHR Criterion 4, the subject property has neither yielded nor is likely to yield important information about our past. Typical of similar buildings, the subject property's one-story frame construction does not have the potential to yield important information regarding construction or engineering materials, methods, or technologies used in the 1950s. As such, the subject property is ineligible under CRHR Criterion 4.

In conclusion, 9580 W. Rosamond Boulevard does not have historical associations or architectural or construction qualities that qualify the property for listing under any of the CRHR significance criteria. The property was evaluated in accordance with Section 15064.5(a) (2) of the CEQA guidelines and found not to qualify as a historical resource for the purposes of CEQA. The current evaluation has assigned a 6Z status code to the property.

*B12. References (continued):

Congdon, Chas H. 1898. Official Map of Kern County, California. W.B. Walkup.

Edwards Air Force Base. 2009. Integrated Cultural Resources Management Plan for Edwards Air Force Base, California. Volume I. Report on file, Base Historic Preservation Office, Edwards Air Force Base, CA.

Gardiner, Allen. 2002. Antelope Valley: An Illustrated History. Heritage Media Corporation, Carlsbad, CA.

Gottfried, Herbert, and Jan Jennings. 2009. American Vernacular Buildings and Interiors, 1870–1960. W. W. Norton & Company, Inc., New York, New York.

ICF. 2015. Archaeological Survey, Testing and Evaluation Report for the Valentine Solar Project, Kern County, California. December. Prepared for EDF Renewable Energy, Oakland, CA.

Kahrl, William L. 1979. The California Water Atlas. Governor's Office of Planning and Research in cooperation with the California Department of Water Resources, Sacramento, CA.

Kern County Assessor Recorder. 2020. "Document Details." Accessed December 21, 2021. Available: recorderonline.co.kern.ca.us/cgi-bin/oindex.mbr/alldetail?Official=&Birth=&Death=&Marriage=&Maps=&Fbn=&USERKEY=20211221000000000000022OFF&Batno=684913&Batsq=2&Cert=220046578&Last_Rcd=00001&oindex_Name=DE LA ROSAREINALDO&Doc_Date=20200414&Counter=1&Doc_Desc=Deed&RelDoc=&TYPE=&Book=&Page=0&APN=37404207&Doc_Type=0001&Pages=3&Image=B20105AA.AB6&Path=&Prev_Search=0005 &P_Stat1=&P_Desc1=&P_Stat2=&P_Desc2=&P_Stat3=&P_Desc3=&P_Stat4=&P_Desc4=&P_Verify=Y&FIRST=Y.

Nationwide Environmental Title Research, LLC (NETR). 1959. Rosamond, California, 93560, Aerial Photograph. Accessed December 21, 2021. https://www.historicaerials.com/viewer.
———. 1974. Rosamond, California, 93560, Aerial Photograph. Accessed December 16, 2021. https://www.historicaerials.com/viewer.
———. 1995. Rosamond, California, 93560, Aerial Photograph. Accessed December 16, 2021. https://www.historicaerials.com/viewer.

———. 2005. Rosamond, California, 93560, Aerial Photograph. Accessed December 16, 2021. https://www.historicaerials.com/viewer.
———. 2009. Rosamond, California, 93560, Aerial Photograph. Accessed December 16, 2021. https://www.historicaerials.com/viewer.
———. 2012. Rosamond, California, 93560, Aerial Photograph. Accessed December 16, 2021. https://www.historicaerials.com/viewer.

Schwarz, Joel. 1991. A Water Odyssey: The Story of the Metropolitan Water District of Southern California. Metropolitan Water District of Southern California and Hiller Books and Binders, Los Angeles, CA.

U.S. Geological Survey (USGS). 1965. Little Buttes, California [map]. 1:24000, 15' Series. Denver, CO: USGS. Surveyed 1963, 1965.

Primary #
HR #
Trinomial

CONTINUATION SHEET

 *** Resource Name or #:** (Assigned by recorder) Resource ID 13, 9580 W. Rosamond Boulevard

*** Recorded by:** Maureen McCoy, ICF

☑ **Continuation** ☐ **Update**

*** Date:** 12/22/2021

North elevation, view facing south from roadway

Wide view of property, east elevation of house, view facing southwest

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HR #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code Reviewer Date

 Resource Name or # (Assigned by recorder): Resource ID 14, 9650 W. Rosamond Boulevard

P1. Other Identifier: 9650 W. Rosamond Boulevard

*** P2. Location:** ☐ Not for Publication ☑ Unrestricted
***a. County** Kern **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** **Date** **T ; R ; 1/4 of 1/4 of Sec ; B.M.**
c. Address 9650 W. Rosamond Boulevard City Rosamond Zip
d. UTM: (Give more than one for large and/or linear feature) Zone , mE/ mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)
; 374-042-39-00-6

*** P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

The subject residence is located at 9650 W. Rosamond Boulevard, Rosamond, Kern County, California 93560. The building is located in Block 39 of Tract 4, a 1.46-acre parcel on W. Rosamond Boulevard between 95th Street W. and 100th Street W. in unincorporated Kern County to the west of Rosamond and south of Willow Springs. The property is predominantly undeveloped with a single-family residence built along its western boundary. The residence was constructed in between 1959 and 1963.

The residence is one story in height with a hip-on-side-gable (Jerkinhead) roof. The building is of wood-framed construction and has a concrete foundation, stucco cladding, and a composition shingle roof. The residence's primary façade (north) features its primary entrance on its east side, which consists of a broad single door with a metal grate, flanked on either side by two large rectangular sliding vinyl windows with eight-light sashes. The west side of the northern façade features a pair of smaller rectangular sliding vinyl windows with eight-light sashes and a third smaller rectangular sliding window with eight-light sashes at its west end. (See continuation sheet.)

*** P3b. Resource Attributes:** HP2. Single family property
*** P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, etc.)
North elevation, facing south

*** P6. Date Constructed/Age and Sources:**
☐ Prehistoric ☑ Historic ☐ Both
c. 1963 (Estimate) Aerial Imagery

*** P7. Owner and Address:**
Lydia L Holton
9650 W Rosamond Bl
Rosamond, CA 93560-7506

*** P8. Recorded by:** (Name, affiliation, address)
Corey Lentz
ICF
1200 6th Avenue, Suite 1800, Seattle, WA 98101

*** P9. Date Recorded:** 12/21/2021
*** P10. Survey Type:** (Describe)

*** P11. Report Citation:** (Cite survey report/other sources or "none")

*** Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☑ Continuation Sheet ☑ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other: (List)

BUILDING, STRUCTURE, AND OBJECT RECORD

*Resource Name or # (Assigned by Recorder): Resource ID 14, 9650 W. Rosamond Boulevard * NRHP Status Code 6Z

B1. Historic Name: None
B2. Common Name: 9650 W. Rosamond Boulevard
* B3. Original Use: Residence B4. Present Use: Residence
* **B5. Architectural Style:** Ranch
B6. Construction History: (Construction date, alterations, and date of alterations.)
The residence was constructed between 1959 and 1963 (Nationwide Environmental Title Research [NETR] 1959; 1963). The only documented alteration to the residence is the replacement of its electrical panel in 2019 (Kern County 2019). The building's windows sashes appear to have been replaced, though research did not reveal the exact date and nature of these alterations. (See continuation sheet.)
*
* **B7. Moved?** ☑ No ☐ Yes ☐ Unknown Date: N/A Original Location: N/A
B8. Related Features:
N/A

* B9a. Architect: Unknown b. Builder: Unknown
B10. Significance: Theme N/A Area N/A
Period of Significance N/A Property Type Applicable Criteria

The property at 9650 W. Rosamond Boulevard does not meet the criteria for listing in the California Register of Historical Resources (CRHR). It does not, therefore, qualify as a historical resource under the California Environmental Quality Act.

CONTEXT
HOMESTEADING AND AGRICULTURE
Beyond the Antelope Valley railroad stops that developed into towns and eventually into cities, most settlement in the region involved homesteading lands for ranching and agriculture. Ethno-religious groups, prohibitionists, and utopian socialists also established agricultural colonies in the region during the late nineteenth and early twentieth centuries. Some newcomers homesteaded lands with the primary goal of becoming successful ranchers or farmers, while other homesteaders undertook requisite improvement of lands strategically in an effort to supplement their mining endeavors (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53).

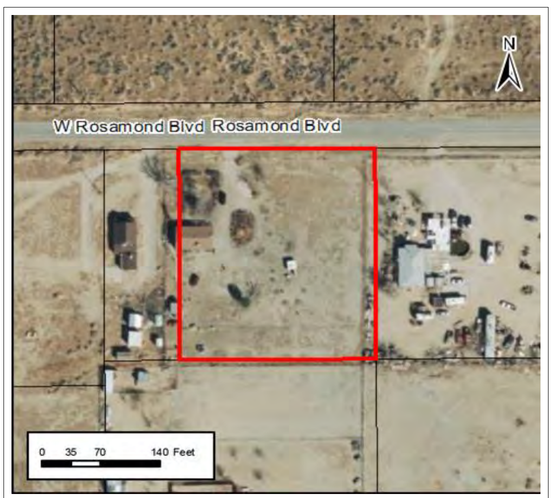
Homesteading claims in the western Antelope Valley region began primarily after 1900 as a consequence of several factors. Having received transfers of significant land grants in 1903 from the federal government, the Southern Pacific Railroad launched heavy land-sale promotions during the 1910s, which attracted settlers from the east and from Europe. Rising land prices in Los Angeles and other urbanizing areas of Southern California enhanced the appeal of homesteading in the Antelope Valley for some southland residents. These factors, along with amendments to the Desert Land Act—which made provisions for absentee ownership, reduced irrigation and cultivation requirements, and shrank requisite periods of residency—generated a boom in homesteading activity that lasted from the 1910s through the mid-1930s (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53–54). However, not all homesteads were successful. Numerous claims filed after 1910 were never patented because of homesteaders' failure to improve lands adequately. (See continuation sheet.)

* B11. Additional Resource Attributes:
B12. References:
(See continuation sheet.)

B13. Remarks:

* **B14. Evaluator:** Corey Lentz, ICF, ICF
Date of Evaluation: 12/21/2021

(This space reserved for official comments.)



*P3a. Description (continued):
The building's eastern façade features a rectangular sliding vinyl window with four-light sashes on its southern side and a fixed sash with sidelights window on its western side with its central one-over-one sashes each comprised of 10-lights. A small vent is located centrally on the façade beneath the roofline of the façade's clipped gable. The western façade features a side entrance, consisting of a single door and small concrete stair, and a rectangular sliding window on its northern side. A small vent is also located centrally on this façade beneath the roofline of its clipped gable. The building's southern façade was not visible from the public right-of-way and could not be documented.

Two additional structures are located at immediately south of the residence, constructed between 1995 and 2005. These structures were not documented and are not being evaluated as part of this documentation.

INTEGRITY
The subject property's integrity is poor. It retains integrity of location. It also retains integrity of setting because its rural, semi-agricultural setting along W. Rosamond Boulevard remains largely unchanged with only minimal residential development to the south in the twenty-first century. The property retains fair integrity in design, as the building's footprint and form have not changed; however, the comprehensive replacement of its windows has undermined integrity in this aspect. In addition, due to the comprehensive replacement of its windows, the residence does not have integrity of materials and workmanship. For these reasons, it does not have integrity of feeling and association.

*B6. Construction History (continued):

The two extant structures at the rear of the property were constructed between 1995 and 2005 (NETR 1995; NETR 2005).

*B10. Significance (continued):

Although Southern Pacific Railroad and other Antelope Valley land promoters presented the region as exceptionally fertile, settlers often confronted difficult climatic conditions, including frequent high winds during multiple seasons, flooding, intermittent drought, and, at times, excruciating heat (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53–54).

Homesteading in the Antelope Valley largely came to an end in the 1930s. Prevailing drought conditions worsened locally and across the nation during that decade. In addition, the Great Depression made it increasingly difficult for prospective settlers to accumulate capital for necessary improvements. As a result, during that time, many Antelope Valley settlers abandoned their homesteads, and the longstanding emphasis on promoting private use and development gave way to a new emphasis on conservation and preservation by the National Park Service, U.S. Forest Service, and Bureau of Land Management. In 1935, the federal government stopped accepting new "homestead" or "desert lands" entries, although small 5-acre homestead tracts could be purchased until 1950, and homesteaders with valid claims prior to 1935 could continue to improve their land (Tetra Tech and Jones & Stokes 2004:54).

Across the vicinity of the project, agricultural activity increased after World War II. From 1953 to 1956, land cultivated with crops in the Kern County portion of the Antelope Valley increased from 26,000 to more than 41,000 acres (with 23,732 acres irrigated), mostly in areas west of Rosamond and around Cantil. Alfalfa fields made up the majority of cultivated land across the larger Antelope Valley, followed by dry-land grains. During the 1950s, Antelope Valley farmers devoted limited acreage to irrigated forage crops, vegetables, almonds, apples, peaches, and other fruits. Field crops such as alfalfa and grain, as well as irrigated pastureland, dominated agricultural activity in the Kern County portion of the Antelope Valley, accounting for 34,978 acres in 1957. Alfalfa fields for hay and seed made up 90 percent of that acreage. In terms of livestock, sheep grazing was the most prominent activity in the Kern County portion of the valley during the 1950s. At this time, agriculture accounted for 97 percent of Antelope Valley water use. Although groundwater depletion had led some farmers to abandon acreage by the late 1950s, pumping for irrigation remained economically feasible in most of the valley's farming areas (DWR 1959:36–49).

The mainstay of agriculture in the project vicinity, Antelope Valley alfalfa production went into decline after the 1950s. Rising electricity costs for pumping depleted groundwater supplies and made alfalfa farming more difficult over time. Valley land planted in alfalfa declined from 38,525 acres in 1950 to 8,810 acres in 1987. Between 1953 and 1988, total groundwater pumped annually in the valley declined from 480,000 acre-feet to 69,000 acre-feet. Although land in the project vicinity continued to be cultivated during the 1970s, crop farming in the Rosamond and Willow Springs areas declined dramatically thereafter (DWR 1959:49; Templin et al. 1995:1–2, 7, 16, 64).

RANCH STYLE
Originally designed in California in the 1930s, Ranch houses drew inspiration from earlier Spanish Colonial haciendas and northern California farmhouses (SurveyLA 2015:5). The Ranch style gained popularity after World War II, due to Federal Housing Administration (FHA) promotion and loan support. Architects designed and builders constructed Ranch residences across the United States (McAlester

2015:602–603). Due to its ability to capitalize on the importance of automobiles in the post-World War II suburban sprawl, where workers needed to commute to and from work in the city, the Ranch style maintained its popularity until circa 1975 (SurveyLA 2015:13–15). Because of the influence of streetcar suburban developments on the creation of the style, Ranch style houses are primarily associated with and found in suburbs. Developers constructed entire tracts in the style during the 1950s and 1960s (McAlester 2015: 602-603). Non-tract examples of the style, such as those found in rural Kern County, are rarer and often simpler with minimal applied architectural detail. Easily built and customizable, Ranch homes continued to be constructed across America because they blended effortlessly into the newly forming middle-class attitude and lifestyle (SurveyLA 2015:13–15).

Ranch houses typically feature horizontal, one-story massing, with either a gable or hip roof. Initially built with simple rectangular floor plans, by the 1950s, L-shaped floor plans with intersecting gable roofs became more popular (Gottfried and Jennings 2009: 208-209). Developers built these homes on large tracts of land that allowed for spacious backyards and private outdoor living (McAlester 2015:602–603). Ranch-style homes feature an asymmetrical exterior, often elongating the look of the house by incorporating an attached front-facing garage. Substyles of the traditional Ranch plan include Contemporary, Cinderella, American Colonial, and Minimal. Elements of a Cinderella Ranch, otherwise known as Storybook Ranch, feature steep-pitched porch hoods and Swiss-Chalet inspired fascia and shutters that give the house an exaggerated fairytale look. In contrast, Minimal Ranch buildings have a more restrained exterior, including less variation in wall materials and simple footprints, and were commonly built within FHA design guidelines (SurveyLA 2015:17–18). Key features include a large picture window, small porch, and recessed entry. Builders used a variety of resources, including stucco, brick, stone, and wood. They also incorporated planters or window boxes into the exterior design for emphasis (McAlester 2015:597–601).

SITE HISTORY
In the early twentieth century Antelope Valley in the Mojave Desert was sparsely settled. Willow Springs had been established to the north in the nineteenth century as the principal stagecoach station in Antelope Valley between Fort Tejon and the Tehachapi Pass prior to the arrival of the railroad and was developed into a small community by Ezra Hamilton at the turn of the twentieth century (Hoover et al. 2002:131; Varney 1990:74–76). By 1898, the settlements of Rosamond to the east and Mojave to the northeast had been established and W. Rosamond Boulevard had been constructed east out of Rosamond (Congdon 1898). At that time, S.S. Ash owned the Northwest ¼ Section of Township 9 North Range 13 West, which encompassed the property (Congdon 1898). In 1915 an unimproved road ran southwest-northeast through this area from 100th Street W. to just east of the property, where it transitioned to improved road at W. Rosamond Boulevard and continued to run northeast to Willow Springs (United States Geological Survey [USGS] 1915).

By mid-century, there was minimal agricultural development and a scattering of residential properties in the vicinity of the property. A building had been constructed to the west of the property by 1948, as had a building located to the southwest on 100th Street, then associated with an agricultural property (NETR 1948). Several agricultural properties were developed to the property's immediate northwest, west, and southwest by 1952 (NETR 1948; Robinson Aerial Surveys, Inc. [RAS] 1952). Between 1952 and 1959, two neighboring buildings were constructed to the east of the property along W. Rosamond Boulevard, Gobi Avenue, Mojave Avenue, and Astoria Avenue were built through Tract 4 to the south of the property, and the adjacent block to the east was platted (RAS 1952; NETR 1959).

The residence was constructed at the property between 1959 and 1963, as was the residence adjacent to the west (NETR 1959; 1963). The Willow Springs International Raceway was also constructed northeast of the property during this period (NETR 1963; RAS 1952). The property remained unchanged during the 1960s, though several additional residences were constructed to the east of the property along W. Rosamond Boulevard (NETR 1963; Teledyne Geotronics 1968). Between 1968 and 1972 the section of Gobi Avenue within Tract 4 south of the property was removed. (NETR 1972; Teledyne Geotronics 1968).

In the 1970s and 1980s agricultural land use declined in the immediate vicinity of property, though it remained more prevalent to the south along the Kern County-Los Angeles County Line (NETR 1974; USGS 1989). There was little development in the vicinity of the property in the 1990s and early 2000s and the property itself remained unchanged during this period (NETR 1995; NETR 2005). The two structures located behind the residence were constructed between 1995 and 2005 (NETR 1995; NETR 2005). The residence's vicinity has remained largely undeveloped since 2005 with minimal residential construction dispersed along 100th Street, 95th Street, and W. Rosamond Boulevard (NETR 2009; NETR 2012; NETR 2016; Google Pro 2021).

The property has been owned by Lydia L. Holton since 2019, when Holton purchased the property from Dominga Moreno (Parcel Quest 2021). Research did not reveal any owners between S.S. Ash and Dominga Moreno during the twentieth and early twenty-first centuries.

EVALUATION
Under CRHR Criterion 1, the property at 9650 W. Rosamond Boulevard does not have important associations with historic events, patterns, or trends of development. The residence was constructed in a rural, semi-agricultural area of Antelope Valley in southern Kern County in the mid-twentieth century. The property's construction was not related to any patterns of residential development in this area, which was

minimal throughout the twentieth and twenty-first centuries. Furthermore, this residential property has been not associated with any other uses, such as agriculture, since it was constructed. As such, the subject property is ineligible under CRHR Criterion 1.

Under CRHR Criterion 2, the subject property does not share significant associations with the lives of persons important to history. Research provided no indication that its documented owners, S.S. Ash, Dominga Moreno, and Lydia L. Holton, or any other individuals potentially associated with the residence played a significant role in national, regional, or local history. As such, the subject property is ineligible under CRHR Criterion 2.

Under CRHR Criterion 3, the subject property is not a significant example of its type, style, or era, it lacks high artistic value, and is not the work of a master architect, building, designer, or engineer. The residence is a common example of the Ranch style. As a commonplace example, lacking some key features of a style, it lacks high artistic value. Research did not reveal a known architect or builder of the property. As such, the subject property is ineligible under CRHR Criterion 3.

Under CRHR Criterion 4, the subject property has neither yielded nor is likely to yield important information about our past. Typical of similar buildings, the subject property's wood frame construction does not have the potential to yield important information regarding construction or engineering materials, methods, or technologies used in the 1950s and 1960s. As such, the subject property is ineligible under CRHR Criterion 4.

In conclusion, 9650 W. Rosamond Boulevard does not have historical associations or architectural or construction qualities that qualify the property for listing under any of the CRHR significance criteria. The property was evaluated in accordance with Section 15064.5(a) (2) of the CEQA guidelines, and found not to qualify as a historical resource for the purposes of CEQA. The current evaluation has assigned a 6Z status code to the property.

*B12. References (continued):

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CONTINUATION SHEET

Primary #
HR #
Trinomial

Page 7 **of** 7 *** Resource Name or #:** (Assigned by recorder) Resource ID 14, 9650 W. Rosamond Boulevard

*** Recorded by:** Corey Lentz, ICF

☑ **Continuation** ☐ **Update** *** Date:** 12/21/2021

NE corner, showing east and north facades, facing southwest

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HR #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code Reviewer Date

 Resource Name or # (Assigned by recorder): Resource ID 15, 9668 W. Rosamond Boulevard

P1. Other Identifier: 9668 W. Rosamond Boulevard

*** P2. Location:** ☐ Not for Publication ☑ Unrestricted
***a. County** Kern **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** **Date** **T ; R ; 1/4 of 1/4 of Sec ; B.M.**
c. Address 9668 W. Rosamond Boulevard City Rosamond Zip
d. UTM: (Give more than one for large and/or linear feature) Zone , mE/ mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)
; 374-042-04-00-4

*** P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

The subject residence is located at 9668 W. Rosamond Boulevard, Rosamond, Kern County, California 93560. The building is located in Block 4 of Tract 4, a 0.49-acres parcel on W. Rosamond Boulevard between 95th Street W. and 100th Street W. in unincorporated Kern County to the west of Rosamond and south of Willow Springs.. The residence was constructed in between 1959 and 1963.

The residence consists of a central one and half story volume with a front-gabled roof and two projecting one-story volumes on its northern and southern sides with hip roofs. A small square rear (south) addition with a low-pitched gable roof was constructed at the building's southeast corner between 1968 and 1972. The building is of wood-framed construction and has a concrete foundation, predominantly stucco cladding on its first story with fiber cement cladding at its northeast corner, horizontal board cladding on its northern gable end, and composition shingle roofs.

The residence's primary façade (north) features a centrally located entrance, a single wooden paneled door with a single concrete stair, and a sliding window on its eastern side. (See continuation sheet.)

*** P3b. Resource Attributes:** HP2. Single family property
*** P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, etc.)
North elevation, facing south

*** P6. Date Constructed/Age and Sources:**
☐ Prehistoric ☑ Historic ☐ Both
c. 1963 (Estimate) Aerial Imagery

*** P7. Owner and Address:**
Gilberto A. Nevarez
9668 W. Rosamond Boulevard
Rosamond, CA 93560-7506

*** P8. Recorded by:** (Name, affiliation, address)
Corey Lentz
ICF
1200 6th Avenue, Suite 1800, Seattle, WA 98101

*** P9. Date Recorded:** 12/17/2021
*** P10. Survey Type:** (Describe)

*** P11. Report Citation:** (Cite survey report/other sources or "none")

*** Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☑ Continuation Sheet ☑ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other: (List)

BUILDING, STRUCTURE, AND OBJECT RECORD

*Resource Name or # (Assigned by Recorder): Resource ID 15, 9668 W. Rosamond Boulevard * NRHP Status Code 6Z

B1. Historic Name: None
B2. Common Name: 9668 W. Rosamond Boulevard
* B3. Original Use: Residence B4. Present Use: Residence
* **B5. Architectural Style:** Vernacular
B6. Construction History: (Construction date, alterations, and date of alterations.)
The residence was constructed between 1959 and 1963 (Nationwide Environmental Title Research [NETR] 1959; 1963). The residence's rear addition was constructed between 1968 and 1972 (NETR 1968; 1972). The only other documented alteration to the residence is an upgrade to its electrical service 2002 (Kern County 2002). (See continuation sheet.)
*
* **B7. Moved?** ☑ No ☐ Yes ☐ Unknown Date: N/A Original Location: N/A
B8. Related Features:
N/A

* B9a. Architect: Unknown b. Builder: Unknown
B10. Significance: Theme N/A Area N/A
Period of Significance N/A Property Type Applicable Criteria

The property at 9668 W. Rosamond Boulevard does not meet the criteria for listing in the California Register of Historical Resources (CRHR). It does not, therefore, qualify as a historical resource under the California Environmental Quality Act.

CONTEXT
HOMESTEADING AND AGRICULTURE

Beyond the Antelope Valley railroad stops that developed into towns and eventually into cities, most settlement in the region involved homesteading lands for ranching and agriculture. Ethno-religious groups, prohibitionists, and utopian socialists also established agricultural colonies in the region during the late nineteenth and early twentieth centuries. Some newcomers homesteaded lands with the primary goal of becoming successful ranchers or farmers, while other homesteaders undertook requisite improvement of lands strategically in an effort to supplement their mining endeavors (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53).

Homesteading claims in the western Antelope Valley region began primarily after 1900 as a consequence of several factors. Having received transfers of significant land grants in 1903 from the federal government, the Southern Pacific Railroad launched heavy land-sale promotions during the 1910s, which attracted settlers from the east and from Europe. Rising land prices in Los Angeles and other urbanizing areas of Southern California enhanced the appeal of homesteading in the Antelope Valley for some southland residents. These factors, along with amendments to the Desert Land Act—which made provisions for absentee ownership, reduced irrigation and cultivation requirements, and shrank requisite periods of residency—generated a boom in homesteading activity that lasted from the 1910s through the mid-1930s (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53–54). However, not all homesteads were successful. Numerous claims filed after 1910 were never patented because of homesteaders' failure to improve lands adequately. (See continuation sheet.)

* B11. Additional Resource Attributes:
B12. References:
(See continuation sheet.)

B13. Remarks:

* **B14. Evaluator:** Corey Lentz, ICF, ICF
Date of Evaluation: 12/17/2021

(This space reserved for official comments.)

*P3a. Description (continued):
The window's wooden slipsill and upper surround are flared horizontally at each end, though the original sashes have been replaced with vinyl equivalents. A column with a flared base is located on the east side of the façade, which is slightly recessed from the rest of the eastern façade; its northwestern corner is flush with the building's northern and western façades and matches the materials of the rest of the exterior. The presence of this eastern column potentially indicates the northern projecting one-story volume was originally an open porch that has since been enclosed. A rectangular wooden slatted attic vent is located just beneath northern gable peak. The building's eastern façade features two rectangular sliding windows of different sizes. A larger rectangular window abuts the building's northeast corner, situated at mid-height and running up to the roofline and a smaller rectangular window is located centrally on the facade. Its western façade also features two windows of matching design to those of the eastern façade, though the larger rectangular window is located slightly south of the building's northwest corner and its smaller rectangular window is located centrally. The surrounds of the windows on these façades match the flared design of the window on the northern façade, and the sashes have also been replaced. A wood-filled opening is located on the western façade of the building's southern one-story volume. The building's southern façade was not visible from the public right-of-way and could not be documented.

Five additional structures, constructed between 1974 and 1989, are located at the rear of the property. These structures were not documented and are not being evaluated as part of this documentation.

INTEGRITY
The subject property's integrity is poor. It retains integrity of location. It also retains integrity of setting because its rural, semi-agricultural setting along W. Rosamond Boulevard remains largely unchanged with only minimal residential development to the south in the twenty-first century. In addition, due to alterations to its windows, the construction of the rear addition, and the apparent enclosure of the projecting bay on its primary façade, the residence does not have integrity of design, materials, and workmanship. For these reasons, it does not have integrity of feeling and association.

*B6. Construction History (continued):

The building's windows sashes have been replaced and the projecting bay on its northern façade has likely been enclosed, though research did not reveal the exact date and nature of these alterations. The five extant structures to the rear of the property were all constructed between 1974 and 1989 (NETR 1974; USGS 1989).

*B10. Significance (continued):

Although Southern Pacific Railroad and other Antelope Valley land promoters presented the region as exceptionally fertile, settlers often confronted difficult climatic conditions, including frequent high winds during multiple seasons, flooding, intermittent drought, and, at times, excruciating heat (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53–54).

Homesteading in the Antelope Valley largely came to an end in the 1930s. Prevailing drought conditions worsened locally and across the nation during that decade. In addition, the Great Depression made it increasingly difficult for prospective settlers to accumulate capital for necessary improvements. As a result, during that time, many Antelope Valley settlers abandoned their homesteads, and the longstanding emphasis on promoting private use and development gave way to a new emphasis on conservation and preservation by the National Park Service, U.S. Forest Service, and Bureau of Land Management. In 1935, the federal government stopped accepting new "homestead" or "desert lands" entries, although small 5-acre homestead tracts could be purchased until 1950, and homesteaders with valid claims prior to 1935 could continue to improve their land (Tetra Tech and Jones & Stokes 2004:54).

Across the vicinity of the project, agricultural activity increased after World War II. From 1953 to 1956, land cultivated with crops in the Kern County portion of the Antelope Valley increased from 26,000 to more than 41,000 acres (with 23,732 acres irrigated), mostly in areas west of Rosamond and around Cantil. Alfalfa fields made up the majority of cultivated land across the larger Antelope Valley, followed by dry-land grains. During the 1950s, Antelope Valley farmers devoted limited acreage to irrigated forage crops, vegetables, almonds, apples, peaches, and other fruits. Field crops such as alfalfa and grain, as well as irrigated pastureland, dominated agricultural activity in the Kern County portion of the Antelope Valley, accounting for 34,978 acres in 1957. Alfalfa fields for hay and seed made up 90 percent of that acreage. In terms of livestock, sheep grazing was the most prominent activity in the Kern County portion of the valley during the 1950s. At this time, agriculture accounted for 97 percent of Antelope Valley water use. Although groundwater depletion had led some farmers to abandon acreage by the late 1950s, pumping for irrigation remained economically feasible in most of the valley's farming areas (DWR 1959:36–49).

The mainstay of agriculture in the project vicinity, Antelope Valley alfalfa production went into decline after the 1950s. Rising electricity costs for pumping depleted groundwater supplies and made alfalfa farming more difficult over time. Valley land planted in alfalfa declined from 38,525 acres in 1950 to 8,810 acres in 1987. Between 1953 and 1988, total groundwater pumped annually in the valley declined from 480,000 acre-feet to 69,000 acre-feet. Although land in the project vicinity continued to be cultivated during the 1970s, crop farming in the Rosamond and Willow Springs areas declined dramatically thereafter (DWR 1959:49; Templin et al. 1995:1–2, 7, 16, 64).

VERNACUL AR

Vernacular buildings typically include features that express the influence of a particular architectural style but do not reflect an architect's or builder's intentional articulation of a specific architectural style. Vernacular structures are part of the common, everyday fabric of the built environment. Their purposes, functions, and aesthetic values and objectives play crucial roles in determining their design and construction.

Historically, vernacular architecture reflects the common building traditions, construction materials, culture, climate, and landscape of a particular nation, region, or place. During the industrial and post-industrial eras modern forces such as industrial fabrication, mass-production and distribution, consumer capitalism, and large-scale market conditions influenced vernacular architecture more than place and tradition. Architectural historians Herbert Gottfried and Jan Jennings argue that during the late 19th and 20th centuries, vernacular architecture continued to qualify as "practical" architecture, but it also increasing became an "industrial" or "manufactured" architecture, not to mention a "market" architecture "responsive to marketing pressure and to changes in fashion" (Gottfried and Jennings 2009:9–12).

SITE HISTORY

In the early twentieth century Antelope Valley in the Mojave Desert was sparsely settled. To the north, Willow Springs had been established in the nineteenth century as the principal stagecoach station in Antelope Valley between Fort Tejon and the Tehachapi Pass prior to the arrival of the railroad and was developed into a small community by Ezra Hamilton at the turn of the twentieth century (Hoover et al. 2002:131; Varney 1990:74–76). The settlements of Rosamond to the east and Mojave to the northeast had been established and W. Rosamond Boulevard had been constructed east out of Rosamond (Congdon 1898). At that time, S.S. Ash owned the Northwest ¼ Section of Township 9 North Range 13 West, which encompassed the property (Congdon 1898). In 1915 an unimproved road ran southwest-northeast through this area from 100th Street W. to just east of the property, where it transitioned to improved road at W. Rosamond Boulevard and continued to run northeast to Willow Springs (United States Geological Survey [USGS] 1915).

By mid-century, there was minimal agricultural development and a scattering of residential properties in the vicinity of the property. A building had been constructed to the west of the property by 1948, as had a building located to the southwest on 100th Street, then associated with an agricultural property (NETR 1948). Several agricultural properties were developed to the property's immediate northwest, west, and southwest by 1952 (NETR 1948; Robinson Aerial Surveys, Inc. [RAS] 1952). Between 1952 and 1959, two neighboring buildings were constructed to the east of the property along W. Rosamond Boulevard, Gobi Avenue, Mojave Avenue, and Astoria Avenue were built through Tract 4 to the south of the property, and the adjacent block to the east was platted (RAS 1952; NETR 1959).

The residence was constructed at the property between 1959 and 1963, as was the residence adjacent to the east (NETR 1959; 1963). The Willow Springs International Raceway was also constructed northeast of the property during this period (NETR 1963; RAS 1952). The property remained unchanged during the 1960s, though several additional residences were constructed to the east of the property along W. Rosamond Boulevard (NETR 1963; Teledyne Geotronics 1968). Between 1968 and 1972 the residence's rear addition was constructed and the section of Gobi Avenue within Tract 4 south of the property was removed. (NETR 1972; Teledyne Geotronics 1968).

In the 1970s and 1980s agricultural land use declined in the immediate vicinity of property, though it remained more prevalent to the south along the Kern County-Los Angeles County Line (NETR 1974; USGS 1989). By 1989, several additional structures were constructed at the rear of the property within a fenced area (USGS 1989). There was little development in the vicinity of the property in the 1990s and early 2000s and the property itself remained unchanged during this period (NETR 1995; NETR 2005). The residence's vicinity has remained largely undeveloped since 2005 with minimal residential construction dispersed along 100th Street, 95th Street, and W. Rosamond Boulevard (NETR 2009; NETR 2012; NETR 2016; Google Pro 2021).

The property has been owned by Gilberto A. Nevarez since 2016, when Nevarez purchased the property from Ronald E. & Paula Smillie (Parcel Quest 2021). Vicki Gale Karrer was recorded as the owner of the property in 2002 (Kern County 2002). Research did not reveal the date of Karrer's sale of the property to Ronald E. & Paula Smillie between 2002 and 2016 or any owners between S.S. Ash and Vicki Karrer during the twentieth century.

EVALUATION

Under CRHR Criterion 1, the property at 9668 W. Rosamond Boulevard does not have important associations with historic events, patterns, or trends of development. The residence was constructed in a rural, semi-agricultural area of Antelope Valley in southern Kern County in the mid-twentieth century. The property's construction was not related to any patterns of residential development in this area, which was minimal throughout the twentieth and twenty-first centuries. Furthermore, this residential property has been not associated with any other uses, such as agriculture. As such, the subject property is ineligible under CRHR Criterion 1.

Under CRHR Criterion 2, the subject property does not share significant associations with the lives of persons important to history. Research provided no indication that its documented owners, S.S. Ash, Vicki Karrer, Ronald E. & Paula Smillie, and Gilberto A. Nevarez, or any other individuals potentially associated with the residence played a significant role in national, regional, or local history. As such, the subject property is ineligible under CRHR Criterion 2.

Under CRHR Criterion 3, the subject property is not a significant example of its type, style, or era, it lacks high artistic value, and is not the work of a master architect, building, designer, or engineer. The residence is a common example of vernacular residential architecture and lacks any distinctive features of a type, style or era. As a commonplace example, lacking some key features of a style, it lacks high artistic value. Research did not reveal a known architect or builder of the property. As such, the subject property is ineligible under CRHR Criterion 3.

Under CRHR Criterion 4, the subject property has neither yielded nor is likely to yield important information about our past. Typical of similar buildings, the subject property's wood frame construction does not have the potential to yield important information regarding construction or engineering materials, methods, or technologies used in the 1950s and 1960s. As such, the subject property is ineligible under CRHR Criterion 4.

In conclusion, 9668 W. Rosamond Boulevard does not have historical associations or architectural or construction qualities that qualify the property for listing under any of the CRHR significance criteria. The property was evaluated in accordance with Section 15064.5(a) (2) of the CEQA guidelines, and found not to qualify as a historical resource for the purposes of CEQA. The current evaluation has assigned a 6Z status code to the property.

*B12. References (continued):

California Department of Water Resources (DWR). 1959. Feather River and Delta Diversion Projects, Bulletin No. 78, Investigation of Alternative Aqueduct Systems to Serve Southern California. Appendix Z: Long-Range Economic Potential of the Antelope Valley-Mojave River Basin. January. Sacramento, CA. Available: http://wdl.water.ca.gov/waterdatalibrary/docs/historic/Bulletins/Bulletin_78/Bulletin_78-A__1959.pdf. Accessed: February 12, 2019.

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Hoover, Mildred Brooke, Hero Eugene Rensch, Ethel Grace Rensch, William N. Abeloe, and Douglas E. Kyle. 2002. Historic Spots in California. Fifth edition. Douglas E. Kyle, editor. Stanford University Press, Stanford, CA.

Kern County. 2002. Permit record for 9668 Rosamond Boulevard, Rosamond, CA.

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Robinson Aerial Surveys, Inc. 1952. ABL-1952, Frame 4K-38. October 11 to December 9. Prepared for USDA - Production and Marketing Administration. Accessed December 16, 2021. Available: https://mil.library.ucsb.edu/ap_indexes/FrameFinder/.

Teledyne Geotronics. 1968. TG-2445, Frame 2-103. March 25 to May 1. Prepared for Department of County Engineers, County of Los Angeles. Accessed December 16, 2021. Available: https://mil.library.ucsb.edu/ap_indexes/FrameFinder/.

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Tetra Tech, Inc., and Jones & Stokes. 2004. Cultural Resources Evaluation of Historic Period Homesites on Edwards Air Force Base, Kern and Los Angeles Counties, California. Volume 1, Introduction and Background. Submitted to the Air Force Flight Test Center, Base, Historic Preservation Office, Edwards Air Force Base, CA. Contract No. DACA-05-01-D-0005, Task Order 0031.2002-K HOMESIT. On file at the Base Historic Preservation Office, Edwards Air Force Base, CA.

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Primary #
HR #
Trinomial

CONTINUATION SHEET

 *** Resource Name or #:** (Assigned by recorder) Resource ID 15, 9668 W. Rosamond Boulevard

*** Recorded by:** Corey Lentz, ICF

☑ **Continuation** ☐ **Update** *** Date:** 12/17/2021

NW corner, showing west and north facades, facing southeast

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HR #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code Reviewer Date

 Resource Name or # (Assigned by recorder): Resource ID 16, 9714 W. Rosamond Blvd.

P1. Other Identifier: 9714 W. Rosamond Boulevard

*** P2. Location:** ☐ Not for Publication ☑ Unrestricted
***a. County** Kern **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** **Date** **T ; R ; 1/4 of 1/4 of Sec ; B.M.**
c. Address 9714 W. Rosamond Boulevard City Rosamond Zip
d. UTM: (Give more than one for large and/or linear feature) Zone , mE/ mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)
; 374-042-03-00-1

*** P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

The rectangular 115,869-square foot parcel at 9714 W. Rosamond Boulevard contains a rectangular, one-story, wood-frame constructed bungalow with a small rear addition and a couple prefabricated sheds. The parcel is located on the south side of W. Rosamond Boulevard approximately mid-way between 95th Street West to the east and 100th Street West to the west. Sparsely populated and rural, a handful of other buildings are located in the vicinity, with a few also along the south side of W. Rosamond Boulevard and a few along the east side of 100th Street West. Besides the bungalow and the ancillary sheds, the parcel is undeveloped. Brush, small bushes, and a couple trees accompany the parcel.

The bungalow faces north onto W. Rosamond Boulevard. It is located in the northwest corner of the parcel and set back approximately 90-feet from the roadway. A front gable roof with modest overhanging eaves caps the rectangular, stucco-clad bungalow. A shed roof caps the rear (south) addition. The symmetrical primary (north) elevation contains three bays. (See continuation sheet.)

*** P3b. Resource Attributes:** HP2. Single family property

*** P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, etc.)
North and east elevations, facing southwest

*** P6. Date Constructed/Age and Sources:**
☐ Prehistoric ☑ Historic ☐ Both
1919 ()

*** P7. Owner and Address:**
Dixie Noel
9714 W. Rosamond Boulevard
Rosamond, CA 93560-7506

*** P8. Recorded by:** (Name, affiliation, address)
Margaret Roderick
ICF
555 W. 5th Street, Suite 3100, Los Angeles, CA 90013

*** P9. Date Recorded:** 12/22/2021

*** P10. Survey Type:** (Describe)

*** P11. Report Citation:** (Cite survey report/other sources or "none")

*** Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☑ Continuation Sheet ☑ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other: (List)

BUILDING, STRUCTURE, AND OBJECT RECORD

*Resource Name or # (Assigned by Recorder): Resource ID 16, 9714 W. Rosamond Blvd. * NRHP Status Code 6Z

B1. Historic Name: None
B2. Common Name: 9714 W. Rosamond Blvd.
* B3. Original Use: Residence B4. Present Use: Residence
* **B5. Architectural Style:** Bungalow
B6. Construction History: (Construction date, alterations, and date of alterations.)
The bungalow dates to 1919 (ParcelQuest 2021). Kern County does not have permits on file for this parcel. Between 1948 and 1952, a long, narrow building built to the southeast of the bungalow was present but was later partially demolished between 1959 and 1963 (Robinson Aerial Surveys 1952; National Environmental Title Research [NETR] 1948, 1959, and 1963). (See continuation sheet.)
*
* **B7. Moved?** ☑ No ☐ Yes ☐ Unknown Date: N/A Original Location: N/A
B8. Related Features:
N/A

* B9a. Architect: Unknown b. Builder: Unknown
B10. Significance: Theme N/A Area N/A
Period of Significance N/A Property Type Applicable Criteria

The property at 9714 W. Rosamond Boulevard does not meet the criteria for listing in the California Register of Historical Resources (CRHR). It does not, therefore, qualify as a historical resource under the California Environmental Quality Act.

CONTEXT
HOMESTEADING AND AGRICULTURE
Beyond the Antelope Valley railroad stops that developed into towns and eventually into cities, most settlement in the region involved homesteading lands for ranching and agriculture. Ethno-religious groups, prohibitionists, and utopian socialists also established agricultural colonies in the region during the late nineteenth and early twentieth centuries. Some newcomers homesteaded lands with the primary goal of becoming successful ranchers or farmers, while other homesteaders undertook requisite improvement of lands strategically in an effort to supplement their mining endeavors (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53).

Homesteading claims in the western Antelope Valley region began primarily after 1900 as a consequence of several factors. Having received transfers of significant land grants in 1903 from the federal government, the Southern Pacific Railroad launched heavy land-sale promotions during the 1910s, which attracted settlers from the east and from Europe. Rising land prices in Los Angeles and other urbanizing areas of Southern California enhanced the appeal of homesteading in the Antelope Valley for some southland residents. These factors, along with amendments to the Desert Land Act—which made provisions for absentee ownership, reduced irrigation and cultivation requirements, and shrank requisite periods of residency—generated a boom in homesteading activity that lasted from the 1910s through the mid-1930s (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53–54). However, not all homesteads were successful. Numerous claims filed after 1910 were never patented because of homesteaders' failure to improve lands adequately. (See continuation sheet.)

* B11. Additional Resource Attributes:
B12. References:
(See continuation sheet.)

B13. Remarks:

* **B14. Evaluator:** Margaret Roderick, ICF, ICF
Date of Evaluation: 12/22/2021

(This space reserved for official comments.)

*P3a. Description (continued):
An entrance is located in the center bay. A screen door obscures the door. A vinyl sliding sash replacement window flanks the entrance on either side, forming the second and third bays. A light fixture is located to the east of the door, and a louvered gable vent punctuates the gable above the door. Numbers reading, “9714” are affixed to the east side of the elevation. Non-original concrete steps and a ramp access the bungalow at this elevation.

The east and west elevation are also visible from the public right-of-way. The east elevation contains three bays. The northern two bays are symmetrical, and each has a vinyl sliding sash replacement window. The third bay, which is narrow and corresponds to the bungalow’s rear addition, contains an entrance accessed by two or three concrete steps. The west elevation contains two symmetrical bays to the north and a narrow, unfenestrated bay to the south. A vinyl sliding sash replacement window punctuates each of the two northern bays. The third southern bay is a solid, stucco-clad wall set below the rear addition’s shed roof. The rear elevation is not visible, but contains a full-width, narrow addition.

INTEGRITY
The subject property’s integrity is poor. It retains integrity of location. It has diminished integrity of setting because although the area remains rural, several buildings dot the landscape to the east that date to after 1919. Moreover, some areas around the property had been used for agricultural purposes, which is no longer a land use in the vicinity. In addition, due to many alterations including window replacement and resizing, replacement of horizontal wood siding in favor of stucco, porch alterations, and a rear addition, it lacks integrity of design, materials, and workmanship. For these reasons, it lacks integrity of feeling and association.

*B6. Construction History (continued):

The extant portion was demolished between 1972 and 1995 (NETR 1972 and 1995).

Visual inspection identified the following alterations, all of which occurred at unknown dates: resized window openings and replacement of windows with vinyl, sliding sash windows, stucco-cladding (completed at or after the window resizing), and rear addition. Visual inspection and research did not identify any additional alterations. Prefabricated sheds were also erected at unknown dates.

*B10. Significance (continued):

Although Southern Pacific Railroad and other Antelope Valley land promoters presented the region as exceptionally fertile, settlers often confronted difficult climatic conditions, including frequent high winds during multiple seasons, flooding, intermittent drought, and, at times, excruciating heat (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53–54).

Homesteading in the Antelope Valley largely came to an end in the 1930s. Prevailing drought conditions worsened locally and across the nation during that decade. In addition, the Great Depression made it increasingly difficult for prospective settlers to accumulate capital for necessary improvements. As a result, during that time, many Antelope Valley settlers abandoned their homesteads, and the longstanding emphasis on promoting private use and development gave way to a new emphasis on conservation and preservation by the National Park Service, U.S. Forest Service, and Bureau of Land Management. In 1935, the federal government stopped accepting new “homestead” or “desert lands” entries, although small 5-acre homestead tracts could be purchased until 1950, and homesteaders with valid claims prior to 1935 could continue to improve their land (Tetra Tech and Jones & Stokes 2004:54).

Across the vicinity of the project, agricultural activity increased after World War II. From 1953 to 1956, land cultivated with crops in the Kern County portion of the Antelope Valley increased from 26,000 to more than 41,000 acres (with 23,732 acres irrigated), mostly in areas west of Rosamond and around Cantil. Alfalfa fields made up the majority of cultivated land across the larger Antelope Valley, followed by dry-land grains. During the 1950s, Antelope Valley farmers devoted limited acreage to irrigated forage crops, vegetables, almonds, apples, peaches, and other fruits. Field crops such as alfalfa and grain, as well as irrigated pastureland, dominated agricultural activity in the Kern County portion of the Antelope Valley, accounting for 34,978 acres in 1957. Alfalfa fields for hay and seed made up 90 percent of that acreage. In terms of livestock, sheep grazing was the most prominent activity in the Kern County portion of the valley during the 1950s. At this time, agriculture accounted for 97 percent of Antelope Valley water use. Although groundwater depletion had led some farmers to abandon acreage by the late 1950s, pumping for irrigation remained economically feasible in most of the valley’s farming areas (DWR 1959:36–49).

The mainstay of agriculture in the project vicinity, Antelope Valley alfalfa production went into decline after the 1950s. Rising electricity costs for pumping depleted groundwater supplies and made alfalfa farming more difficult over time. Valley land planted in alfalfa declined from 38,525 acres in 1950 to 8,810 acres in 1987. Between 1953 and 1988, total groundwater pumped annually in the valley declined from

480,000 acre-feet to 69,000 acre-feet. Although land in the project vicinity continued to be cultivated during the 1970s, crop farming in the Rosamond and Willow Springs areas declined dramatically thereafter (DWR 1959:49; Templin et al. 1995:1–2, 7, 16, 64).

BUNGALOW

A bungalow is a modest residential dwelling type whose primary design tenets are simplicity and economy. Designers applied the bungalow building type to popular styles of the period including Spanish Colonial Revival, English Revival, American Colonial Revival, and Craftsman. The type was popular from the early 20th century until World War II. Bungalow is a British adaptation of the Bengali word bangala, which refers to a seventeenth-century Indian hut. The components of a bungalow have evolved since British army tents, but still display simplicity, large open spaces, and outdoor ventilation. These elements attracted Californians in the early twentieth century. In stark contrast to the ostentatious architecture of the preceding Victorian era, the bungalow's "simplicity and artistry could harmonize in one affordable house" (Winter 1996:8).

Bungalows commonly feature all living spaces on one floor and built-in furniture, and although they can vary in size, most are compact and have a low profile. They are simple and practical to construct and lack ornamentation (Winter 1996:8–10). The bungalow became available for purchase in highly marketed plan books and catalogues in a variety of styles and for shipment by railroad in a prefabricated format. Because of the efficiency and low cost, property developers were able to construct bungalow courts, or clusters of bungalows, on a single property, arranged sometimes around shared green open space or with a driveway. Bungalows dipped in popularity following World War II, when an even more economical residential form took hold: the tract house (Winter 1996:6–10, Grimes 2016:8–11).

SITE HISTORY

Prior to the construction of the bungalow in 1919, S. Ash owned a parcel of land that included the subject property's land (Congdon 1898). Landowners farmed in the Willow Springs/Rosamond area in the early-to-mid 1900s (NETR 1948; Robinson Aerial Surveys 1952). Since the mid-1900s, the area was no longer used for agricultural purposes (NETR 1959, 1963, and 1972). The area remains rural with few modest residences.

Research did not identify if S. Ash owned the property when the bungalow was built in 1919, or anyone else who has owned or lived at the property. The current owner is Dixie Lee Noel (ParcelQuest 2021).

EVALUATION

Under CRHR Criterion 1, the property at 9714 W. Rosamond Boulevard does not have important associations with historic events, patterns, or trends of development. S. Ash owned the land by 1898, prior to the prominent period of homesteading in the area. The bungalow dates approximately two decades later, well into the homesteading period. While the property may be associated with this history, it does not have a direct link to it. Furthermore, alterations to the bungalow disallow it from being identified as a 1919 bungalow associated with local area history. As such, the subject property is ineligible under CRHR Criterion 1.

Under CRHR Criterion 2, the subject property does not share significant associations with the lives of persons important to history. Research identified an early landowner and the current property owner. Research yielded no information on S. Ash or identified if he built the 1919 bungalow. This coupled with extensive area research, it is unlikely that the property is associated with the productive life of important persons in our history. As such, the subject property is ineligible under CRHR Criterion 2.

Under CRHR Criterion 3, the subject property is not a significant example of its type, style, or era, it lacks high artistic value, and is not the work of a master architect, building, designer, or engineer. Due to substantial alterations to the bungalow's integrity of design, materials, and workmanship, it is not a good example of its type, style, or era. Although its modest, one-story, rectangular plan and front gable roof express a bungalow, resized and replaced windows, application of stucco cladding, and other alterations disallow the bungalow from expressing its original architecture. It also lacks high artistic value. The original permit for the property is not on file, although due to its modest plan and rural setting, it is unlikely that it was the work of a master. Moreover, due to alterations, it bears no connection to an original architect or builder. As such, the subject property is ineligible under CRHR Criterion 3.

Under CRHR Criterion 4, the subject property has neither yielded nor is likely to yield important information about our past. Typical of similar buildings, the subject property's one-story, wood-frame does not have the potential to yield important information regarding construction or engineering materials, methods, or technologies used circa 1920. As such, the subject property is ineligible under CRHR Criterion 4.

In conclusion, 9714 W. Rosamond Boulevard does not have historical associations or architectural or construction qualities that qualify the property for listing under any of the CRHR significance criteria. The property was evaluated in accordance with Section 15064.5(a) (2) of the CEQA guidelines, and found not to qualify as a historical resource for the purposes of CEQA. The current evaluation has assigned a 6Z status code to the property.

*B12. References (continued):

California Department of Water Resources (DWR). 1959. Feather River and Delta Diversion Projects, Bulletin No. 78, Investigation of Alternative Aqueduct Systems to Serve Southern California. Appendix Z: Long-Range Economic Potential of the Antelope Valley-Mojave River Basin. January. Sacramento, CA. Available: http://wdl.water.ca.gov/waterdatalibrary/docs/historic/Bulletins/Bulletin_78/Bulletin_78-A__1959.pdf. Accessed: February 12, 2019.

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State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

CONTINUATION SHEET

Primary #
HR #
Trinomial

 *** Resource Name or #:** (Assigned by recorder) Resource ID 16, 9714 W. Rosamond Blvd.

*** Recorded by:** Margaret Roderick, ICF

☑ **Continuation** ☐ **Update** *** Date:** 12/22/2021

North and west elevations, facing southeast

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HR #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code Reviewer Date

 Resource Name or # (Assigned by recorder): Resource ID 17, 2860 100th Street

P1. Other Identifier: 2860 100th Street

* P2. Location: ☐ Not for Publication ☑ Unrestricted
*a. County Kern and (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
*b. USGS 7.5' Quad Date T ; R ; 1/4 of 1/4 of Sec ; B.M.
c. Address 2860 100th Street City Rosamond Zip
d. UTM: (Give more than one for large and/or linear feature) Zone , mE/ mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)
; 374-041-09-00-2

* P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

The property at 2860 100th Street sits at the southeast corner of 100th Street and Sahara Avenue, which is a dirt road, and consists of a residence and four outbuildings or structures on a square lot containing approximately 104,979 square feet (ParcelQuest 2021). The entire parcel is surrounded by a tall chain link fence; a hinged gate faces west, allowing access to the asphalt-paved driveway inside. The land around the parcel consists of sand and desert shrubs; just to the north of the property is the square outline of an old well (USGS 1965). A tall, metal transmission line polesits along the western side of the fence between the property and roadway, and two wooden poles are located along the north and west sides of the fence. Inside the parcel there are a few trees planted among the buildings. The buildings have all been painted the same light shade of brown and have similar replacement roofs.

The residence is a c. 1945 one-story, rectangular, side-gabled structure clad in what may be stucco, and it rests on a concrete block foundation. (See continuation sheet.)

* P3b. Resource Attributes: HP2. Single family property

* P4. Resources Present: ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, etc.)
North elevation, facing southeast

* P6. Date Constructed/Age and Sources: ☐ Prehistoric ☑ Historic ☐ Both
c. 1945 (Estimate) ParcelQuest

* P7. Owner and Address:
Patrick and Jennifer Ladd
2860 W. 100th Street
Rosamond, CA 93560-7076

* P8. Recorded by: (Name, affiliation, address)
Maureen McCoy
ICF
980 9th St Suite 1200, Sacramento, CA 95814

* P9. Date Recorded: 12/17/2021

* P10. Survey Type: (Describe)

* P11. Report Citation: (Cite survey report/other sources or "none")

* Attachments: ☐ NONE ☐ Location Map ☐ Sketch Map ☑ Continuation Sheet ☑ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other: (List)

 * Required Information

Primary #
HR #

BUILDING, STRUCTURE, AND OBJECT RECORD

*Resource Name or # (Assigned by Recorder): Resource ID 17, 2860 100th Street

* NRHP Status Code 6Z

B1. Historic Name: None
B2. Common Name: 2860 100th Street
* B3. Original Use: Residence
B4. Present Use: Residence
* **B5. Architectural Style:** Ranch; Minimal
B6. Construction History: (Construction date, alterations, and date of alterations.)

No building permit records could be located for this property; aerial images provide some construction dates for the outbuildings and structures. The residence and detached garage 1 were likely constructed in the mid-1940s (NETR 1948). Detached garage 2, located at the northeast corner, is a mid-1950s construction (NETR 1959). (See continuation sheet.)

*

* **B7. Moved?** ☑ No ☐ Yes ☐ Unknown Date: N/A Original Location: N/A

B8. Related Features:

N/A

* B9a. Architect: Unknown b. Builder: Unknown

B10. Significance: Theme N/A Area N/A

Period of Significance N/A Property Type Applicable Criteria

The property at 2860 100th Street does not meet the criteria for listing in the California Register of Historical Resources (CRHR). It does not, therefore, qualify as a historical resource under the California Environmental Quality Act.

CONTEXT

HOMESTEADING AND AGRICULTURE

Beyond the Antelope Valley railroad stops that developed into towns and eventually into cities, most settlement in the region involved homesteading lands for ranching and agriculture. Ethno-religious groups, prohibitionists, and utopian socialists also established agricultural colonies in the region during the late nineteenth and early twentieth centuries. Some newcomers homesteaded lands with the primary goal of becoming successful ranchers or farmers, while other homesteaders undertook requisite improvement of lands strategically in an effort to supplement their mining endeavors (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53).

Homesteading claims in the western Antelope Valley region began primarily after 1900 as a consequence of several factors. Having received transfers of significant land grants in 1903 from the federal government, the Southern Pacific Railroad launched heavy land-sale promotions during the 1910s, which attracted settlers from the east and from Europe. Rising land prices in Los Angeles and other urbanizing areas of Southern California enhanced the appeal of homesteading in the Antelope Valley for some southland residents. These factors, along with amendments to the Desert Land Act—which made provisions for absentee ownership, reduced irrigation and cultivation requirements, and shrank requisite periods of residency—generated a boom in homesteading activity that lasted from the 1910s through the mid-1930s (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53–54). However, not all homesteads were successful. Numerous claims filed after 1910 were never patented because of homesteaders' failure to improve lands adequately. Although Southern Pacific Railroad and other Antelope Valley land promoters presented the region as exceptionally fertile, settlers often confronted difficult climatic conditions, including frequent high winds during multiple seasons, flooding, intermittent drought, and, at times, excruciating heat (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53–54).

* B11. Additional Resource Attributes:

B12. References:

(See continuation sheet.)

B13. Remarks:

* **B14. Evaluator:** Maureen McCoy, ICF, ICF

Date of Evaluation: 12/17/2021

(This space reserved for official comments.)

*P3a. Description (continued):
The massing and lack of stylistic details are consistent with Ranch style. The main roof is topped in replacement asphalt shingles, but the shed-roof extension from the eaves of the northern façade appears to be clad in metal. This roof extension creates a wide, full-width front porch supported on regularly spaced, squared posts set into a concrete patio. The façade (northern elevation) is symmetrically arranged with a central door flanked by two windows on either side. Three of windows appear to be two-light, sliding replacements, and the fourth is a narrower example of the same style. The windows are slightly recessed with a slightly flared lower lintel, but additional details of them and door were not discernable from the public right-of-way.

The west elevation of the residence features a slightly off-center, two-light, sliding, replacement window with faux mullions to create the illusion of eight-panes in each light; a vent is set in the center of the gable peak. The east elevation is likely similarly arranged but could not be seen from the public right-of-way. The rear elevation features four evenly spaced windows, which appear to be the same variety as those on the west elevation, and a door set in the western corner and accessed via a small set of concrete steps. The door is recessed and includes a half-height window, but additional details were not discernible.

Located a few yards southeast of the residence is a detached garage 1, which is from the same construction period as the house. The north-facing façade is dominated by a wide, rolling garage door. The west elevation features evenly spaced two-light, sliding, replacement windows set in the northern half of the elevation. A door set in the southern corner of this elevation appears to be an unadorned, modern example. There are no openings in the rear elevation and the east elevation was not visible at the time of survey.

Directly behind the house is a large double hip-roofed carport set on a concrete pad. The roof is clad in asphalt and supported on square, wooden posts with triangular braces. The posts are connected by two rows of horizontal wooden boards that enclose three sides of the structure; the northern side remains open. Behind the carport is a taller, square-shaped shelter that provides shade for trailers and large machine equipment. It's four square, wooden posts are set directly in the ground, and the flat roof has a slight overhang.

At the northeast corner of the property is a second rectangular garage (detached garage 2) with an asphalt-clad, side-gable roof. The only opening in the structure appears to be a on the south elevation: a large garage-door sized opening is centered here. No openings could be seen on the north or west elevations; the east elevation was not visible at the time of survey.

INTEGRITY
The subject property's integrity is poor. It retains integrity of location. It also retains integrity of setting because the surrounding landscape has retained the same property divisions and continues to be used for agriculture or represents an arid landscape. In addition, due to some alterations it does not have integrity of design, materials, and workmanship. For these reasons, it does not have integrity of feeling and association.

*B6. Construction History (continued):

The carport was constructed circa 2000 and the Shelter was constructed circa 2016 (NETR 2005; 2016).

*B10. Significance (continued):

Prevailing drought conditions worsened locally and across the nation during that decade. In addition, the Great Depression made it increasingly difficult for prospective settlers to accumulate capital for necessary improvements. As a result, during that time, many Antelope Valley settlers abandoned their homesteads, and the longstanding emphasis on promoting private use and development gave way to a new emphasis on conservation and preservation by the National Park Service, U.S. Forest Service, and Bureau of Land Management. In 1935, the federal government stopped accepting new "homestead" or "desert lands" entries, although small 5-acre homestead tracts could be purchased until 1950, and homesteaders with valid claims prior to 1935 could continue to improve their land (Tetra Tech and Jones & Stokes 2004:54).

Across the vicinity of the project, agricultural activity increased after World War II. From 1953 to 1956, land cultivated with crops in the Kern County portion of the Antelope Valley increased from 26,000 to more than 41,000 acres (with 23,732 acres irrigated), mostly in areas west of Rosamond and around Cantil. Alfalfa fields made up the majority of cultivated land across the larger Antelope Valley, followed by dry-land grains. During the 1950s, Antelope Valley farmers devoted limited acreage to irrigated forage crops, vegetables, almonds, apples, peaches, and other fruits. Field crops such as alfalfa and grain, as well as irrigated pastureland, dominated agricultural activity in the Kern County portion of the Antelope Valley, accounting for 34,978 acres in 1957. Alfalfa fields for hay and seed made up 90 percent of that acreage. In terms of livestock, sheep grazing was the most prominent activity in the Kern County portion of the valley during the 1950s. At this time, agriculture accounted for 97 percent of Antelope Valley water use. Although groundwater depletion had led some farmers to abandon acreage by the late 1950s, pumping for irrigation remained economically feasible in most of the valley's farming areas (DWR

1959:36–49).

The mainstay of agriculture in the project vicinity, Antelope Valley alfalfa production went into decline after the 1950s. Rising electricity costs for pumping depleted groundwater supplies and made alfalfa farming more difficult over time. Valley land planted in alfalfa declined from 38,525 acres in 1950 to 8,810 acres in 1987. Between 1953 and 1988, total groundwater pumped annually in the valley declined from 480,000 acre-feet to 69,000 acre-feet. Although land in the project vicinity continued to be cultivated during the 1970s, crop farming in the Rosamond and Willow Springs areas declined dramatically thereafter (DWR 1959:49; Templin et al. 1995:1–2, 7, 16, 64).

RANCH STYLE

Originally designed in California in the 1930s, Ranch houses drew inspiration from earlier Spanish Colonial haciendas and northern California farmhouses (SurveyLA 2015:5). The Ranch style gained popularity after World War II, due to Federal Housing Administration (FHA) promotion and loan support. Architects designed and builders constructed Ranch residences across the United States (McAlester 2015:602–603). Due to its ability to capitalize on the importance of automobiles in the post-World War II suburban sprawl, where workers needed to commute to and from work in the city, the Ranch style maintained its popularity until circa 1975 (SurveyLA 2015:13–15). Because of the influence of streetcar suburban developments on the creation of the style, Ranch style houses are primarily associated with and found in suburbs. Developers constructed entire tracts in the style during the 1950s and 1960s (McAlester 2015: 602-603). Non-tract examples of the style, such as those found in rural Kern County, are rarer and often simpler with minimal applied architectural detail. Easily built and customizable, Ranch homes continued to be constructed across America because they blended effortlessly into the newly forming middle-class attitude and lifestyle (SurveyLA 2015:13–15).

Ranch houses typically feature horizontal, one-story massing, with either a gable or hip roof. Initially built with simple rectangular floor plans, by the 1950s, L-shaped floor plans with intersecting gable roofs became more popular (Gottfried and Jennings 2009: 208-209). Developers built these homes on large tracts of land that allowed for spacious backyards and private outdoor living (McAlester 2015:602–603). Ranch-style homes feature an asymmetrical exterior, often elongating the look of the house by incorporating an attached front-facing garage. Substyles of the traditional Ranch plan include Contemporary, Cinderella, American Colonial, and Minimal. Elements of a Cinderella Ranch, otherwise known as Storybook Ranch, feature steep-pitched porch hoods and Swiss-Chalet inspired fascia and shutters that give the house an exaggerated fairytale look. In contrast, Minimal Ranch buildings have a more restrained exterior, including less variation in wall materials and simple footprints, and were commonly built within FHA design guidelines (SurveyLA 2015:17–18). Key features include a large picture window, small porch, and recessed entry. Builders used a variety of resources, including stucco, brick, stone, and wood. They also incorporated planters or window boxes into the exterior design for emphasis (McAlester 2015:597–601).

SITE HISTORY

The parcel on which this property sits was part of a larger parcel owned by S.S. Ash in 1898 (Congdon 1898). The parcel was part of the many divisions of land by the Southern Pacific Railroad and may have been used for ranching or agricultural from the late nineteenth century into the first half of twentieth century, but specific information on this parcel could not be found during a historic records search. Additionally, searches of contemporary newspapers and census records did not reveal any information about this specific person. However, buildings do not appear on the property until the mid-twentieth century, so it was likely undeveloped or used for agriculture until the post-World War II period (NETR 1948).

The property was likely established as part of an agricultural endeavor in the post-war period. Agricultural fields were delineated on the southern edge of the property from the 1940s to through 1970s, which was in keeping with the decline in agriculture in the area during the latter half of the twentieth century (NETR 1948; 1974; Robinson Aerial Surveys, Inc. 1952). Aside from grains, sugar beets were also a popular crop in Rosamond and Antelope Valley during this period (The Bakersfield Californian 1962:5). Agricultural was a diminishing part of the surrounding landscape from this period to the present, and this property no longer appears to be associated with agricultural activities as the immediately adjacent fields appear to be wild or fallow (NETR 2018). The current owners, Patrick and Jennifer Ladd, purchased the property in 2010, but older deed records could not be located at time (Kern County Assessor Recorder 2010).

EVALUATION

Under CRHR Criterion 1, the property at 2860 100th Street does not have important associations with historic events, patterns, or trends of development. The property was established after the heyday of homesteading in the area but was likely associated with agricultural trends in the post-war period of the 1950s. Today, the parcel no longer appears to be used for agriculture. There are many examples of this property type in the Rosamond area, and this property is not an exceptional example. As such, the subject property is ineligible under CRHR Criterion 1.

Under CRHR Criterion 2, the subject property does not share significant associations with the lives of persons important to history. Only a few owners could be identified from records searches. None of the identified owners have made significant contributions to history while living or working at the subject property. As such, the subject property is ineligible under CRHR Criterion 2.

Under CRHR Criterion 3, the subject property is not a significant example of its type, style, or era, it lacks high artistic value, and is not the work of a master architect, building, designer, or engineer. The property is an example of a circa-1945 Ranch residence. The one-story massing has a gable roof and simple footprint. It has minimal exterior architectural detailing beside the long front porch. It sits on a large parcel and has ample backyard space. No architect, builder, or engineer could be identified with the construction. Overall, the property lacks the quality of design associated with a master's work. As such, the subject property is ineligible under CRHR Criterion 3.

Under CRHR Criterion 4, the subject property has neither yielded nor is likely to yield important information about our past. Typical of similar buildings, the subject property's one-story, frame construction does not have the potential to yield important information regarding construction or engineering materials, methods, or technologies used in the 1940s. As such, the subject property is ineligible under CRHR Criterion 4.

In conclusion, 2860 100th Street does not have historical associations or architectural or construction qualities that qualify the property for listing under any of the CRHR significance criteria. The property was evaluated in accordance with Section 15064.5(a) (2) of the CEQA guidelines and found not to qualify as a historical resource for the purposes of CEQA. The current evaluation has assigned a 6Z status code to the property.

*B12. References (continued):

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———. 2016. Rosamond, California, 93560, Aerial Photograph. Accessed December 16, 2021. https://www.historicaerials.com/viewer.
———. 2018. Rosamond, California, 93560, Aerial Photograph. Accessed December 16, 2021. https://www.historicaerials.com/viewer.

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SurveyLA. 2015. “Los Angeles Citywide Historic Context Statement: The Ranch House, 1930–1975.” Prepared for City of Los Angeles Office of Historic Resources. December. Accessed August 16, 2021. Available: https://planning.lacity.org/odocument/1acefe03-5615-425f-9182-d58a79014901/The_Ranch_House%2C_1930-1975.pdf.

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Available: https://pubs.usgs.gov/wri/1994/4208/report.pdf. Accessed February 12, 2019.

Tetra Tech, Inc., and Jones & Stokes. 2004. Cultural Resources Evaluation of Historic Period Homesites on Edwards Air Force Base, Kern and Los Angeles Counties, California. Volume 1, Introduction and Background. Submitted to the Air Force Flight Test Center, Base, Historic Preservation Office, Edwards Air Force Base, CA. Contract No. DACA-05-01-D-0005, Task Order 0031.2002-K HOMESIT. On file at the Base Historic Preservation Office, Edwards Air Force Base, CA.

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State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

CONTINUATION SHEET

Primary #
HR #
Trinomial

Page 7 **of** 7 *** Resource Name or #:** (Assigned by recorder) Resource ID 17, 2860 100th Street

*** Recorded by:** Maureen McCoy, ICF

☑ **Continuation** ☐ **Update** *** Date:** 12/17/2021

Rear elevation of Main House; view of Carport and Shelter from 100th Street facing east; west elevation of Detached Garage One

West elevation of Main House; detail view of Carport and Shelter from 100th Street facing east

Detail view of Main House facade from 100th Street facing southeast

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HR #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code   Reviewer   Date

Resource Name or # (Assigned by recorder): Resource ID 18, 8738 Rosamond Boulevard

P1. Other Identifier: 8738 Rosamond Boulevard

*** P2. Location:** ☐ Not for Publication ☑ Unrestricted

***a. County** Kern **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** **Date** **T ; R ; 1/4 of 1/4 of Sec ; B.M.**

c. Address 8738 Rosamond Boulevard City Rosamond Zip

d. UTM: (Give more than one for large and/or linear feature) Zone , mE/ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)

; 374-072-01-00-4; 374-071-11-00-6

*** P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

The property at 8738 Rosamond Boulevard consists of two parcels, one long and rectangular and one roughly square, set beside each other in an L-shape and containing a total of 833,737 square feet of land (ParcelQuest 2021). The parcels are located on the south side of Rosamond Boulevard between 90th Street West and Dixon Street and just south of Willow Springs. A gravel driveway runs south from the road toward the Main House, then veers southeast toward the rear of the property. Today, there are two houses and two outbuildings on the property; all of them are Vernacular/Utilitarian rather than high-style constructions. The open areas around the building complex is arid and full of desert shrubs.

The primary residence e is a c. 1940s structure located along the driveway just before it curves. The house consists of several cross-gable roofs and rear additions added to the south elevation of the oldest block. The roof is covered in replacement asphalt shingles and the foundation is not visible. (See continuation sheet.)

*** P3b. Resource Attributes:** HP2. Single family property

*** P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, etc.)
North elevation, facing south

*** P6. Date Constructed/Age and Sources:**
☐ Prehistoric ☑ Historic ☐ Both
c. 1945 (Estimate) ParcelQuest

*** P7. Owner and Address:**
George and Louise M. Lujan
8748 Rosamond Boulevard
Rosamond, CA 93560-6972

*** P8. Recorded by:** (Name, affiliation, address)
Maureen McCoy
ICF
980 9th St Suite 1200, Sacramento, CA 95814

*** P9. Date Recorded:** 12/20/2021

*** P10. Survey Type:** (Describe)

*** P11. Report Citation:** (Cite survey report/other sources or "none")

*** Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☑ Continuation Sheet ☑ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other: (List)

Primary #
HR #

BUILDING, STRUCTURE, AND OBJECT RECORD

*Resource Name or # (Assigned by Recorder): Resource ID 18, 8738 Rosamond Boulevard

* NRHP Status Code 6Z

B1. Historic Name: None
B2. Common Name: 8738 Rosamond Boulevard
* B3. Original Use: Residence
B4. Present Use: Residence
* **B5. Architectural Style:** Vernacular
B6. Construction History: (Construction date, alterations, and date of alterations.)
No building permit records could be located for this property; aerial images provide some construction dates for the outbuildings and structures, which have changed over time. The oldest and northernmost block of the primary residence was constructed in the mid-1940s (NETR 1948). The second house was constructed circa 1960 (NETR 1963). (See continuation sheet.)
*
* **B7. Moved?** ☑ No ☐ Yes ☐ Unknown Date: N/A Original Location: N/A
B8. Related Features:
N/A

* B9a. Architect: Unknown b. Builder: Unknown
B10. Significance: Theme N/A Area N/A
Period of Significance N/A Property Type Applicable Criteria

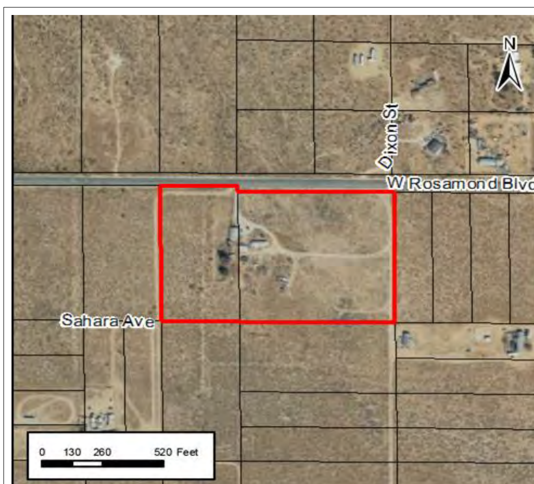
The property at 8738 Rosamond Boulevard does not meet the criteria for listing in the California Register of Historical Resources (CRHR). It does not, therefore, qualify as a historical resource under the California Environmental Quality Act.

CONTEXT
HOMESTEADING AND AGRICULTURE
Beyond the Antelope Valley railroad stops that developed into towns and eventually into cities, most settlement in the region involved homesteading lands for ranching and agriculture. Ethno-religious groups, prohibitionists, and utopian socialists also established agricultural colonies in the region during the late nineteenth and early twentieth centuries. Some newcomers homesteaded lands with the primary goal of becoming successful ranchers or farmers, while other homesteaders undertook requisite improvement of lands strategically in an effort to supplement their mining endeavors (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53).

Homesteading claims in the western Antelope Valley region began primarily after 1900 as a consequence of several factors. Having received transfers of significant land grants in 1903 from the federal government, the Southern Pacific Railroad launched heavy land-sale promotions during the 1910s, which attracted settlers from the east and from Europe. Rising land prices in Los Angeles and other urbanizing areas of Southern California enhanced the appeal of homesteading in the Antelope Valley for some southland residents. These factors, along with amendments to the Desert Land Act—which made provisions for absentee ownership, reduced irrigation and cultivation requirements, and shrank requisite periods of residency—generated a boom in homesteading activity that lasted from the 1910s through the mid-1930s (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53–54). However, not all homesteads were successful. Numerous claims filed after 1910 were never patented because of homesteaders' failure to improve lands adequately. Although Southern Pacific Railroad and other Antelope Valley land promoters presented the region as exceptionally fertile, settlers often confronted difficult climatic conditions, including frequent high winds during multiple seasons, flooding, intermittent drought, and, at times, excruciating heat (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53–54).

* B11. Additional Resource Attributes:
B12. References:
(See continuation sheet.)

B13. Remarks:



* **B14. Evaluator:** Maureen McCoy, ICF, ICF
Date of Evaluation: 12/20/2021

(This space reserved for official comments.)

*P3a. Description (continued):
The side-gable on the original block faces north toward the road. Two two-light sliding, replacement windows face the roadway on this northern elevation, and a large air conditioning unit is set between them. The façade is the east elevation, which consists of a small gable extension supported on two posts that creates a small shelter for the main entrance. This entrance is flanked by two windows within the body of the original block, but details of these features could not be discerned from the public right-of-way. A cross gable addition on the rear may also feature a door facing east, but this component also could not be seen clearly from the roadway. The rear (west) elevation features similar windows, including two-light sliding replacements, a single-light fixed window, and a one-over-one window in the rear additions.

Just east of the primary residence is the secondary residence, a side-gabled c. 1960 building. The roof is topped in metal panels and the foundation is not visible. This simple rectangular block features three 12-light windows spaced along the north-facing façade, two two-light sliding windows of varying sizes, one one-over-one window, and a paneled door and a two-light sliding window; all these features appear to be replacements.

Behind these two houses is outbuilding 1; the purpose or current function of this structure is unclear. It features an almost flat roof with a very slightly pitched cross-gable with peaks facing north and east. Along the north elevation, a large two-light, sliding window is visible. The eastern corner of the roof forms a shelter for a porch area, and a simple door can be seen facing north under this porch. No other features were discernible from the public right-of-way.

A second, smaller outbuilding (outbuilding 2) is set behind the primary residence but was not fully visible or accessible at the time of survey from the public right-of-way. It is also set within some large trees and shrubs, but it does appear to be rectangular and feature a flat roof.

INTEGRITY
The subject property's integrity is fair. It retains integrity of location. It also retains integrity of setting because the surrounding area has remained a mixture of agricultural fields and unimproved square lots, as it was when the property was founded. Due to many alterations, it has diminished integrity of design, materials, and workmanship. Despite the diminished integrity of design, materials, and workmanship, it retains integrity of feeling and association.

*B6. Construction History (continued):

Outbuilding 1 appears to have replaced an earlier, smaller outbuilding in approximately the same location to the southeast of the primary residence; the purpose of this structure is unclear, but it appears to be from the 1970s (NETR 1972). Outbuilding 2 may also be a circa 1970s construction, but aerial images are not clear and detailed building records could not be found for the property (NETR 1972). All these structures were set just on the east side of a rectangular well which cannot be seen from the road today (USGS 1974).

*B10. Significance (continued):

Prevailing drought conditions worsened locally and across the nation during that decade. In addition, the Great Depression made it increasingly difficult for prospective settlers to accumulate capital for necessary improvements. As a result, during that time, many Antelope Valley settlers abandoned their homesteads, and the longstanding emphasis on promoting private use and development gave way to a new emphasis on conservation and preservation by the National Park Service, U.S. Forest Service, and Bureau of Land Management. In 1935, the federal government stopped accepting new "homestead" or "desert lands" entries, although small 5-acre homestead tracts could be purchased until 1950, and homesteaders with valid claims prior to 1935 could continue to improve their land (Tetra Tech and Jones & Stokes 2004:54).

Across the vicinity of the project, agricultural activity increased after World War II. From 1953 to 1956, land cultivated with crops in the Kern County portion of the Antelope Valley increased from 26,000 to more than 41,000 acres (with 23,732 acres irrigated), mostly in areas west of Rosamond and around Cantil. Alfalfa fields made up the majority of cultivated land across the larger Antelope Valley, followed by dry-land grains. During the 1950s, Antelope Valley farmers devoted limited acreage to irrigated forage crops, vegetables, almonds, apples, peaches, and other fruits. Field crops such as alfalfa and grain, as well as irrigated pastureland, dominated agricultural activity in the Kern County portion of the Antelope Valley, accounting for 34,978 acres in 1957. Alfalfa fields for hay and seed made up 90 percent of that acreage. In terms of livestock, sheep grazing was the most prominent activity in the Kern County portion of the valley during the 1950s. At this time, agriculture accounted for 97 percent of Antelope Valley water use. Although groundwater depletion had led some farmers to abandon acreage by the late 1950s, pumping for irrigation remained economically feasible in most of the valley's farming areas (DWR 1959:36–49).

The mainstay of agriculture in the project vicinity, Antelope Valley alfalfa production went into decline after the 1950s. Rising electricity costs for pumping depleted groundwater supplies and made alfalfa farming more difficult over time. Valley land planted in alfalfa declined from 38,525 acres in 1950 to 8,810 acres in 1987. Between 1953 and 1988, total groundwater pumped annually in the valley declined from 480,000 acre-feet to 69,000 acre-feet. Although land in the project vicinity continued to be cultivated during the 1970s, crop farming in the Rosamond and Willow Springs areas declined dramatically thereafter (DWR 1959:49; Templin et al. 1995:1–2, 7, 16, 64).

VERNACULAR

Vernacular buildings typically include features that express the influence of a particular architectural style but do not reflect an architect's or builder's intentional articulation of a specific architectural style. Vernacular structures are part of the common, everyday fabric of the built environment. Their purposes, functions, and aesthetic values and objectives play crucial roles in determining their design and construction.

Historically, vernacular architecture reflects the common building traditions, construction materials, culture, climate, and landscape of a particular nation, region, or place. During the industrial and post-industrial eras modern forces such as industrial fabrication, mass-production and distribution, consumer capitalism, and large-scale market conditions influenced vernacular architecture more than place and tradition. Architectural historians Herbert Gottfried and Jan Jennings argue that during the late 19th and 20th centuries, vernacular architecture continued to qualify as "practical" architecture, but it also increasing became an "industrial" or "manufactured" architecture, not to mention a "market" architecture "responsive to marketing pressure and to changes in fashion" (Gottfried and Jennings 2009:9–12).

SITE HISTORY

The parcel on which this property sits did not have an assigned owner at the end of the nineteenth century (Congdon 1898). The parcel was part of the many divisions of land by the Southern Pacific Railroad, but specific information on this parcel could not be found during a historic records search. Additionally, searches of contemporary newspapers and census records did not reveal any information about the more recent owners of the property. Buildings do not appear on the property until the mid-twentieth century, so it was likely undeveloped or used for ranching or agriculture until that time (NETR 1948).

The property is associated with mid-twentieth century agricultural trends. While the northern side of Rosamond Boulevard remained undeveloped, large, cultivated fields were located just south of the building complex (NETR 1959; 1963; Robinson Aerial Surveys, Inc. 1952). However, between the 1970s and 1990s, agriculture in the area declined and was phased out of use for the property, which is in line with larger area trends (NETR 1972; 1974; 1995; Templin et al. 1995:2). The property is currently owned by George and Louise M. Lujan, who purchased it in 2008 (Kern County Assessor Recorder 2008).

EVALUATION

Under CRHR Criterion 1, the property at 8738 Rosamond Boulevard does not have important associations with historic events, patterns, or trends of development. The property was established after the heyday of homesteading in the area but was likely associated with agricultural trends in the post-war period of the 1950s. Today, the parcel no longer appears to be used for agriculture. There are many examples of this property type in the Rosamond area, and this property is not an exceptional example. As such, the subject property is ineligible under CRHR Criterion 1.

Under CRHR Criterion 2, the subject property does not share significant associations with the lives of persons important to history. Only a few owners could be identified from records searches. None of the identified owners have made significant contributions to history while living or working at the subject property. As such, the subject property is ineligible under CRHR Criterion 2.

Under CRHR Criterion 3, the subject property is not a significant example of its type, style, or era, it lacks high artistic value, and is not the work of a master architect, building, designer, or engineer. The property is an example of a circa-1945 Vernacular residence. The one-story massing has a gable roof and simple footprint. It has minimal exterior architectural detailing. No architect, builder, or engineer could be identified with the construction, which is also typical of vernacular construction. Overall, the property lacks the quality of design associated with a master's work. As such, the subject property is ineligible under CRHR Criterion 3.

Under CRHR Criterion 4, the subject property has neither yielded nor is likely to yield important information about our past. Typical of similar buildings, the subject property's one-story, frame construction does not have the potential to yield important information regarding construction or engineering materials, methods, or technologies used in the 1940s. As such, the subject property is ineligible under CRHR Criterion 4.

In conclusion, 8738 Rosamond Boulevard does not have historical associations or architectural or construction qualities that qualify the property for listing under any of the CRHR significance criteria. The property was evaluated in accordance with Section 15064.5(a) (2) of the CEQA guidelines and found not to qualify as a historical resource for the purposes of CEQA. The current evaluation has assigned a 6Z status code to the property.

*B12. References (continued):

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Tetra Tech, Inc., and Jones & Stokes. 2004. Cultural Resources Evaluation of Historic Period Homesites on Edwards Air Force Base, Kern and Los Angeles Counties, California. Volume 1, Introduction and Background. Submitted to the Air Force Flight Test Center, Base, Historic Preservation Office, Edwards Air Force Base, CA. Contract No. DACA-05-01-D-0005, Task Order 0031.2002-K HOMESIT. On file at the Base Historic Preservation Office, Edwards Air Force Base, CA.

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CONTINUATION SHEET

Primary #
HR #
Trinomial

Page 6 **of** 6 *** Resource Name or #:** (Assigned by recorder) Resource ID 18, 8738 Rosamond Boulevard

*** Recorded by:** Maureen McCoy, ICF

☑ **Continuation** ☐ **Update** *** Date:** 12/20/2021

Outbuilding north elevation, view facing south from Rosamond Blvd

Secondary House north elevation, view facing south from Rosamond Blvd

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HR #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code Reviewer Date

 Resource Name or # (Assigned by recorder): Resource ID 19, 2655 95th Street

P1. Other Identifier: 2655 95th Street

*** P2. Location:** ☐ Not for Publication ☑ Unrestricted
***a. County** Kern **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** **Date** **T ; R ; 1/4 of 1/4 of Sec ; B.M.**
c. Address 2655 95th Street City Rosamond Zip
d. UTM: (Give more than one for large and/or linear feature) Zone , mE/ mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)
; 374-042-25-00-5; 374-042-26-00-8

*** P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

The property located at 2655 95th Street consists of a Quonset hut and a residence. Originally part of a larger parcel that still shares the same address, on the corner of 95th Street and Mojave Avenue, 2655 95th Street (Quonset hut and Residence) sits to the north of Mojave Avenue. The square shaped parcel lies on the southwest portion of the original square shaped parcel and includes 27,878 square feet. The other portion of the original parcel creates an L-shape to the north and east of 2655 95th Street (Quonset hut and Residence) and is evaluated separately. The Quonset hut and residence sit side by side on the southern portion of the parcel. Both of their primary elevations face south onto Mojave Avenue.

The Quonset hut is a semi-cylindrical shaped prefabricated building that lies to the west of the residence. Corrugated steel wraps around the building which sits on a concrete foundation. The three-bay asymmetrical primary (south) elevation features a stucco finish. Two eight-light double hung vinyl windows sit on opposite sides of the main entrance. (See continuation sheet.)

*** P3b. Resource Attributes:** HP3. Multiple family property

*** P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, etc.)
South elevation, facing northwest

*** P6. Date Constructed/Age and Sources:**
☐ Prehistoric ☑ Historic ☐ Both
c. 1950s-1960s (Estimate) Aerial Imagery

*** P7. Owner and Address:**
Longview Mobile Home Park
829 West Palmdale Boulevard, #34
Palmdale, CA 93551-4261

*** P8. Recorded by:** (Name, affiliation, address)
Inga Gudmundsson
ICF
555 W. 5th Street, Suite 3100, Los Angeles, CA 90013

*** P9. Date Recorded:** 12/30/2021

*** P10. Survey Type:** (Describe)

*** P11. Report Citation:** (Cite survey report/other sources or "none")

*** Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☑ Continuation Sheet ☑ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other: (List)

BUILDING, STRUCTURE, AND OBJECT RECORD

*Resource Name or # (Assigned by Recorder): Resource ID 19, 2655 95th Street

* NRHP Status Code 6Z

B1. Historic Name: None

B2. Common Name: 2655 95th Street

* B3. Original Use: Residence

B4. Present Use: Residence

* **B5. Architectural Style:** Quonset Hut; Vernacular

B6. Construction History: (Construction date, alterations, and date of alterations.)

Little is known about the construction or subsequent alterations for the two properties at 2655 95th Street (Quonset hut and Residence). Both the Quonset hut and residence are first shown on the property in 1963 (NETR 1963). An unknown builder constructed both properties between 1959 and 1963, although it is important to note that the Quonset hut due to its ease in assembling and dissembling could be older than that (NETR 1959, NETR 1963). (See continuation sheet.)

* **B7. Moved?** ☑ No ☐ Yes ☐ Unknown Date: N/A Original Location: N/A

B8. Related Features:

N/A

* B9a. Architect: Unknown b. Builder: Unknown

B10. Significance: Theme N/A Area N/A

Period of Significance N/A Property Type N/A Applicable Criteria N/A

The property at 2655 95th Street (Quonset hut and Residence) does not meet the criteria for listing in the California Register of Historical Resources (CRHR). It does not, therefore, qualify as a historical resource under the California Environmental Quality Act.

CONTEXT

QUONSET HUT

Quonset huts stemmed from a military need for prefabricated, easy to build, portable buildings. In 1916, World War I British officer Major Peter Norman Nissen patented the first iteration of what became the Quonset Hut. The Nissen Hut was a semi-cylindrical shelter constructed of corrugated steel cuts in strips and wrapped around a steel frame. The United States Navy recognized the adaptability of the structures and decided to manufacture their own version of the Nissen Hut during World War II. The US Navy hired George A. Fuller and Company, a Chicago architectural firm, to design a better functioning hut that would help solve the Navy's need for storage and housing. Their designs would become the Quonset Hut. Named after new naval base Quonset Point, in Rhode Island, the Navy had two specifications for the hut's design: arched in shape and easy to assemble/dissemble. The Fuller firm designed three iterations throughout World War II, each with two different size plans. The first hut, the T-Rib Quonset, proved to be heavy and hard to ship overseas. The second, the Quonset Redesign, included a better floorplan and new frame built with material from Stran-Steel which helped to lighten the shipment of the hut materials and cost less to produce as well. The final redesign used new materials including half-inch plywood and lighter siding that made it even lighter to ship and easier to assemble (SurveyLA 2015:1-4).

United States miltary contractors manufactured approximately 160,000 Quonset huts during World War II. Other manufacturers also produced Quonset huts for the civilian market during the war. The United States sold many surplus military huts to the public which served a variety of purposes including housing, barns, and restaurants (Survey LA 2015: 4). (See continuation sheet.)

* B11. Additional Resource Attributes:

B12. References:

(See continuation sheet.)

B13. Remarks:

* **B14. Evaluator:** Inga Gudmundsson, ICF, ICF

Date of Evaluation: 12/30/2021

(This space reserved for official comments.)

*P3a. Description (continued):
The door of the main entrance abuts the west window. A small concrete walkway and raised stoop lead to the door. The number "21" painted in red is stenciled below the west window. The east elevation features at least three dormer-like vinyl windows that have been cut into the corrugated steel. The easternmost portion of the east elevation is not visible. The easternmost window visible on the east elevation is an eight-light double hung window. To the west of this window a side entrance has been carved out of the side of the Quonset hut. The frame of the door is rectangular and sits out of the sloped side. To the west of the door is a casement eight-light window. A utility box abuts the westernmost opening, an eight-light double hung window. The west elevation features two side additions both with shed roofs and stucco siding. The first addition to the east is rectangular shaped, with an eight-light double hung vinyl window feature in the middle of the addition's west elevation. The western side addition consists of a square-shaped plan, with a small rectangular horizontal sliding sash window in the northeast corner of the west elevation. The rear (north) elevation consists of the original Quonset hut and attached north elevation of the western addition. The side addition features a horizontal sliding sash window. The north elevation of the Quonset hut features two large horizontal sliding sash windows. Two electrical boxes and wiring are attached to the wall between the two windows. The north elevation is stucco clad.

The concrete block residence features a side gabled roof on a rectangular plan. The primary (south) elevation consists of two symmetrical bays. Each bay features two horizontal sliding sash windows with a sill underneath. In between each window is a door. A small stoop with wood handrails lead up to both doors. The door on the east side of the south elevation also includes a screen door. A porch light and wood sign with the address number "19" painted in white is attached to the east of the eastern door. A satellite dish rests on top of the roof on the west side of the south elevation. Another satellite dish stands to the east of the south elevation. The east elevation features three horizontal sliding sash windows with sills underneath. Only two windows are visible on the west elevation. The easternmost window is a double-hung window with a sill underneath. The second window to the west in the middle of the west elevation is a horizontal sliding sash window with a sill underneath. Both the east and west elevations have wood siding that meets at the point of the gable roof. The north elevation is not visible from the road. A chain-link fence separates both front entrances and creates two separate front yards. The front yard and area that abuts Mojave Avenue is gravel.

INTEGRITY
The subject property's integrity is fair. It retains integrity of location. It also retains integrity of setting because the surrounding area has remained similar to when the buildings were constructed on the property. In addition, due to many alterations it does not have integrity of design, materials, and workmanship. For these reasons, it does has integrity of feeling and association.

*B6. Construction History (continued):

No visible alterations or additions have been made to the residence. The two Quonset hut additions are visible in a 1974 historic aerial giving the range that they could have been added as 1972-1974 (NETR 1972; NETR 1974). Both additions are present by 1974 (NETR 1974). Building permits including the original permits for the two properties are not available through Kern County.

*B10. Significance (continued):

In a 1946 press release, Stran-Steel stated that its Quonset huts had been adapted for 257 different uses. Housing developers attempted to use Quonset huts to meet the pressing need for post-war housing throughout the country with modest success. The sloping sides of the frame made the floorplan smaller on the inside and the huts reminded many veterans in need of housing of their time in the military, both leading to less interest in buying a Quonset hut (The Department of Archaeology + Historic Preservation – Washington State 2021).

VERNACULAR
Vernacular buildings typically include features that express the influence of a particular architectural style but do not reflect an architect's or builder's intentional articulation of a specific architectural style. Vernacular structures are part of the common, everyday fabric of the built environment. Their purposes, functions, and aesthetic values and objectives play crucial roles in determining their design and construction.

Historically, vernacular architecture reflects the common building traditions, construction materials, culture, climate, and landscape of a particular nation, region, or place. During the industrial and post-industrial eras modern forces such as industrial fabrication, mass-production and distribution, consumer capitalism, and large-scale market conditions influenced vernacular architecture more than place and tradition. Architectural historians Herbert Gottfried and Jan Jennings argue that during the late 19th and 20th centuries, vernacular architecture continued to qualify as "practical" architecture, but it also increasing became an "industrial" or "manufactured" architecture, not to mention a "market" architecture "responsive to marketing pressure and to changes in fashion" (Gottfried and Jennings 2009:9–12).

MANUFACTURED HOMES

Manufactured homes, commonly known as trailer homes or mobile homes, represent a housing trend spurred by automobile tourism and travel at the turn of the twentieth century. Landowners developed campsites called auto courts or motor courts that allowed travelers to pitch tents or sleep in their cars. The camps provided an economical lodging option and welcome alternative to hotels, which were sometimes deemed too formal. This movement led to the design of prefabricated trailer homes in the 1930s, allowing travelers to essentially bring "homes" to the motor parks, rather than sleeping in tents or automobiles. Trailer homes were small (on average, 8 feet wide and 32 feet long) and typified as "one 'room' that served several functions and included transformable furniture" (Lawrence 2012:15), designed to allow for easy transport by hitching them to cars. Trailer home relied heavily on metal construction materials. A typical trailer park had relatively compact, angled parallel parking spaces, which allowed the maximum number of homes to fit in the park at one time. Trailer parks often had a laundry room, toilets, showers, or other limited amenities onsite. During and after World War II, the government subsidized the construction of trailer camps to address a housing shortage. The efforts by the government to provide affordable and quickly assembled housing led to a more permanent version of the trailer home known as the mobile home (Lawrence 2012:12, 14, 15, 17, 18, 22; Fowler et al. 2016:4).

By the late 1960s, mobile homes had become a popular housing choice across the country. By that point, one-third of single-family dwellings in the United States were mobile homes, approximately 20 out of every 100 Californians lived in a mobile park in California alone, and six million Americans lived in them across the nation (Fowler et al. 2016:11). Features such as shutters and gable roofs, indoor bathrooms, increased electrical capabilities, and landscaping appeared on mobile homes, making them look and function more like suburban homes. Mobile homes increased in size (up to 14 feet wide and 34 feet long), and most had more than one section. Other changes and features include two stories, indoor bathrooms, fold out porches, full height doors, and jalousie and bay windows (Fowler et al. 2016:9, 11). Many mobile home designs contained corridors to separate the living spaces, and telescoped sections or awnings provided more living space. Mobile homes also included chassis and wheels, which allowed them to be transported to the site by a professional, but they no longer had the transient capability of trailer homes due to their size and weight. Mobile home construction included wood composite, aluminum, or steel. Larger, rectangular lots replaced the angled parking spots to allow for larger homes and, depending on the arrangement of the homes, often provided more privacy. Camps soon included amenities such as swimming pools, playgrounds, and recreational facilities, which made these communities desirable and offered a more affordable price than conventional homeownership. Following the safety and construction standards published in 1976, the United States Department of Housing and Urban Development introduced the term manufactured home for mobile and trailer homes (Haney n.d.:2; Lawrence 2012:18–19; Fowler et al. 2016:9, 11).

Many trailer parks and mobile home parks still exist today. Most parks are specific to either trailer homes or mobile homes and can contain dozens to hundreds of homes. Simple street arrangements may be observed or more complex patterns, including radial street designs in some cases. Most will have one primary entrance to the park and be enclosed by a retaining wall. Although well-built, most manufactured home parks are vernacular, and professionals designed very few of these communities and homes. If well-maintained, manufactured homes can provide affordable housing even many years after being constructed and are said to be "the single most affordable type of housing available" (Haney n.d.:4; Lawrence 2012:36; Fowler et al. 2016:11,14).

SITE HISTORY
In 1898, B.C. Barker owned the parcel at 2655 95th Street (Quonset hut and Residence) ((Congdon 1898). Research did not reveal any information on this person. The property did not have anything built on it before 1959, thus the property is not part of the period of homesteading in the area which came to an end in the 1930's (NETR 1959). Both the Quonset hut and residence are first visible on the parcel in 1963 (NETR 1963).

Originally part of a mobile home park, the Quonset hut and residence were just two of many buildings and mobile homes on the original parcel at one time. Historical aerial photos from 1963 show the original 110,642 square foot parcel at 2655 95th Street with both the Quonset hut and Residence visible, as well in the southwest corner as well two manufactured homes on the northern portion of what is now the neighboring L-shaped parcel (NETR 1963; Parcel Quest 2021). This would mark the start of the mobile home park on the parcel. Less than ten years later, at least fourteen mobile homes resided on the parcel as well as two other buildings (NETR 1972). Landscaped vegetation lined the north and west boundaries of the parcel. Although seemingly successful over the next three decades, with numerous mobile homes on the property, by 2005 less than six remained. The original parcel remained scarcely populated with a fluctuating six mobile homes on it until 2015 when Longview Mobile Home Park sold 2655 95th Street (Quonset hut & Residence) (NETR 2009; NETR 2014; Parcel Quest 2021). This split the property into two separate parcels, although both still share the same address, 2655 95th Street (Parcel Quest 2021).

The current owner of 2655 95th Street (Quonset Hut and residence) is Longview Mobile Home Park.

EVALUATION
Under CRHR Criterion 1, the property at 2655 95th Street (Quonset hut and Residence) does not have important associations with historic events, patterns, or trends of development. The property was not developedin the main homesteading period of the area and did not contribute

to the agricultural trends of Rosamond. As such, the subject property is ineligible under CRHR Criterion 1.

Under CRHR Criterion 2, the subject property does not share significant associations with the lives of persons important to history. Research did not reveal any information on the original owner of the land B. C. Barker nor the current owner Longview Mobile Home Park. Neither owner has made significant contributions to history. As such, the subject property is ineligible under CRHR Criterion 2.

Under CRHR Criterion 3, the subject properties are not a significant example of its type, style, or era, it lacks high artistic value, and is not the work of a master architect, building, designer, or engineer. Quonset huts are prefabricated, easily shipped, and seen throughout the United States since they could be built easily without any skills. The residence is a vernacular, concrete block building that does not have a distinct style nor is the work of a master. As such, the subject property is ineligible under CRHR Criterion 3.

Under CRHR Criterion 4, the subject property has neither yielded nor is likely to yield important information about our past. Typical of similar buildings, the Quonset hut's prefabricated corrugated steel and steel frame as well as the concrete block residence does not have the potential to yield important information regarding construction or engineering materials, methods, or technologies used in the 1950s-1960s. As such, the subject property is ineligible under CRHR Criterion 4.

In conclusion, 2655 95th Street (Quonset hut and Residence) does not have historical associations or architectural or construction qualities that qualify the property for listing under any of the CRHR significance criteria. The property was evaluated in accordance with Section 15064.5(a) (2) of the CEQA guidelines, and found not to qualify as a historical resource for the purposes of CEQA. The current evaluation has assigned a 6Z status code to the property.

*B12. References (continued):

Fowler, Kari, Heather Goers, and Christine Lazzaretto. 2016. "Los Angeles Citywide Historic Context Statement: Trailer Parks and Mobile Home Parks, 1920–1969." SurveyLA. Prepared for City of Los Angeles Office of Historic Resources. Accessed November 19, 2021. Available: https://planning.lacity.org/odocument/4960e8aa-327c-44ab-be58-ed0c67ed916b/Trailer%20Parks%20and%20Mobile%20Home%20Parks%2C%201920-1969.pdf.

Gottfried, Herbert, and Jan Jennings. 2009. American Vernacular Buildings and Interiors, 1870–1960. W. W. Norton & Company, Inc., New York, New York.

Haney, Neal. n.d. "Then and Now, What Next." Olympia, WA: Washington State Department of Archeology and Historic Preservation. Accessed July 28, 2021. Available: https://dahp.wa.gov/sites/default/files/Then-and-Now-Neal.pdf.

Lawrence, Parker Clifton. 2012. "Home Sweet Mobile Home Park: Developing A Historic Context for a Modern Resource." Theis project. Milledgeville, GA: Georgia College. Accessed November 18, 2021. Available: https://getd.libs.uga.edu/pdfs/lawrence_parker_c_201408_mhp.pdf.

Nationwide Environmental Title Research, LLC (NETR). 1959. Rosamond, California, 93560, Aerial Photograph. Accessed December 30, 2021. https://www.historicaerials.com/viewer.
----. 1963. Rosamond, California, 93560, Aerial Photograph. Accessed December 30, 2021. https://www.historicaerials.com/viewer.
----. 1972. Rosamond, California, 93560, Aerial Photograph. Accessed December 30, 2021. https://www.historicaerials.com/viewer.
----. 1974. Rosamond, California, 93560, Aerial Photograph. Accessed December 30, 2021. https://www.historicaerials.com/viewer.
----. 2009. Rosamond, California, 93560, Aerial Photograph. Accessed December 30, 2021. https://www.historicaerials.com/viewer.
----. 2014. Rosamond, California, 93560, Aerial Photograph. Accessed December 30, 2021. https://www.historicaerials.com/viewer.

SurveyLA. 2015. "Los Angeles Citywide Historic Context Statement: The Quonset Hut, 1941-1965." Prepared for City of Los Angeles Office of Historic Resources. October. Accessed December 29, 2021. Available: The Quonset Hut, 1920-1965.pdf (lacity.org)

The Department of Archaeology + Historic Preservation – Washington State. 2021. "Quonset Hut 1941-1960." Accessed December 29, 2021. Quonset Hut | Washington State Department of Archaeology & Historic Preservation (DAHP)

CONTINUATION SHEET

 *** Resource Name or #:** (Assigned by recorder) Resource ID 19, 2655 95th Street

*** Recorded by:** Inga Gudmundsson, ICF

☑ **Continuation** ☐ **Update** *** Date:** 12/30/2021

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HR #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code Reviewer Date

 Resource Name or # (Assigned by recorder): Resource ID 20, 358-211-06-00-4

P1. Other Identifier: N/a N/a

*** P2. Location:** ☐ **Not for Publication** ☑ **Unrestricted**

***a. County** Kern **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** **Date** **T ; R ; 1/4 of 1/4 of Sec ; B.M.**

c. Address N/a N/a City N/a Zip

d. UTM: (Give more than one for large and/or linear feature) Zone , mE/ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)

; 358-211-06-00-4

*** P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

Parcel number 358-211-06-00-4 is a square lot measuring 214,750 square feet located west of the intersection of 150th Street West and General Petroleum Road. The parcel is in rural Kern County and is surrounded by fields of natural shrubbery. The lot contains a residence at the northeast corner. There are additional small auxiliary buildings on the property. Vehicular access is provided by a dirt driveway from 150th St. W to the north. Most of the lot features natural landscaping.

The residence is a single-story building with a side-facing shallowly pitched gable roof. It is clad with plywood siding. The gable roof extends over the south side of the residence and is supported by six posts creating a covered porch area. The overhanging roof sags in the middle. There are two doors and an aluminum window on the south elevation. The building extends to the north with a shed addition. The east elevation consists of an aluminum fixed window.

INTEGRITY
The subject property's integrity is fair. (See continuation sheet.)

*** P3b. Resource Attributes:** HP2. Single family property

*** P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, etc.)
Northeast elevation, view facing southwest

*** P6. Date Constructed/Age and Sources:**
☐ Prehistoric ☑ Historic ☐ Both
C. 1963 (Estimate) ParcelQuest

*** P7. Owner and Address:**
Raul & Gridt Escobar
P.O. Box 1841
Rosamond, CA 93560

*** P8. Recorded by:** (Name, affiliation, address)
Hanna Winzenried
ICF
555 W. 5th Street, Suite 3100, Los Angeles, CA 90013

*** P9. Date Recorded:** 12/17/2021

*** P10. Survey Type:** (Describe)

*** P11. Report Citation:** (Cite survey report/other sources or "none")

*** Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☑ Continuation Sheet ☑ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other: (List)

BUILDING, STRUCTURE, AND OBJECT RECORD

*Resource Name or # (Assigned by Recorder): Resource ID 20, 358-211-06-00-4 * NRHP Status Code 6Z

B1. Historic Name: None
B2. Common Name: 358-211-06-00-4
* B3. Original Use: Residence B4. Present Use: Residence
* **B5. Architectural Style:** Ranch
B6. Construction History: (Construction date, alterations, and date of alterations.)
There were no buildings at the property in 1952 (Robinson Aerial Surveys, Inc. 1952). Although the historic aerial from 1963 is of poor quality, there appears to be a structure at the property by this time (NETR 1963). No building permits are available for this property. The residence is vacant and has fallen into disrepair at an unknown date.
*
* **B7. Moved?** ☑ No ☐ Yes ☐ Unknown Date: N/A Original Location: N/A
B8. Related Features:
N/A

* B9a. Architect: Unknown b. Builder: Unknown
B10. Significance: Theme N/A Area N/A
Period of Significance N/A Property Type Applicable Criteria

The property at Parcel Number 358-211-06-00-4 does not meet the criteria for listing in the California Register of Historical Resources (CRHR). It does not, therefore, qualify as a historical resource under the California Environmental Quality Act.

CONTEXT
HOMESTEADING AND AGRICULTURE
Beyond the Antelope Valley railroad stops that developed into towns and eventually into cities, most settlement in the region involved homesteading lands for ranching and agriculture. Ethno-religious groups, prohibitionists, and utopian socialists also established agricultural colonies in the region during the late nineteenth and early twentieth centuries. Some newcomers homesteaded lands with the primary goal of becoming successful ranchers or farmers, while other homesteaders undertook requisite improvement of lands strategically in an effort to supplement their mining endeavors (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53).

Homesteading claims in the western Antelope Valley region began primarily after 1900 as a consequence of several factors. Having received transfers of significant land grants in 1903 from the federal government, the Southern Pacific Railroad launched heavy land-sale promotions during the 1910s, which attracted settlers from the east and from Europe. Rising land prices in Los Angeles and other urbanizing areas of Southern California enhanced the appeal of homesteading in the Antelope Valley for some southland residents. These factors, along with amendments to the Desert Land Act—which made provisions for absentee ownership, reduced irrigation and cultivation requirements, and shrank requisite periods of residency—generated a boom in homesteading activity that lasted from the 1910s through the mid-1930s (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53–54). However, not all homesteads were successful. Numerous claims filed after 1910 were never patented because of homesteaders' failure to improve lands adequately. (See continuation sheet.)

* B11. Additional Resource Attributes:
B12. References:
(See continuation sheet.)

B13. Remarks:

* **B14. Evaluator:** Hanna Winzenried, ICF, ICF
Date of Evaluation: 12/17/2021

(This space reserved for official comments.)

*** Recorded by:** Hanna Winzenried, ICF
☑ **Continuation** ☐ **Update** *** Date:** 12/17/2021

*P3a. Description (continued):
It retains integrity of location. It also retains integrity of setting because the building is still rurally located and surrounded by natural landscaped desert. In addition, due to some alterations including a shed addition to the rear, it has fair integrity of design, materials, and workmanship. For these reasons, it has integrity of feeling and association.

*B10. Significance (continued):

Although Southern Pacific Railroad and other Antelope Valley land promoters presented the region as exceptionally fertile, settlers often confronted difficult climatic conditions, including frequent high winds during multiple seasons, flooding, intermittent drought, and, at times, excruciating heat (Edwards Air Force Base 2009:123; Tetra Tech and Jones & Stokes 2004:53–54).

Homesteading in the Antelope Valley largely came to an end in the 1930s. Prevailing drought conditions worsened locally and across the nation during that decade. In addition, the Great Depression made it increasingly difficult for prospective settlers to accumulate capital for necessary improvements. As a result, during that time, many Antelope Valley settlers abandoned their homesteads, and the longstanding emphasis on promoting private use and development gave way to a new emphasis on conservation and preservation by the National Park Service, U.S. Forest Service, and Bureau of Land Management. In 1935, the federal government stopped accepting new “homestead” or “desert lands” entries, although small 5-acre homestead tracts could be purchased until 1950, and homesteaders with valid claims prior to 1935 could continue to improve their land (Tetra Tech and Jones & Stokes 2004:54).

Across the vicinity of the project, agricultural activity increased after World War II. From 1953 to 1956, land cultivated with crops in the Kern County portion of the Antelope Valley increased from 26,000 to more than 41,000 acres (with 23,732 acres irrigated), mostly in areas west of Rosamond and around Cantil. Alfalfa fields made up the majority of cultivated land across the larger Antelope Valley, followed by dry-land grains. During the 1950s, Antelope Valley farmers devoted limited acreage to irrigated forage crops, vegetables, almonds, apples, peaches, and other fruits. Field crops such as alfalfa and grain, as well as irrigated pastureland, dominated agricultural activity in the Kern County portion of the Antelope Valley, accounting for 34,978 acres in 1957. Alfalfa fields for hay and seed made up 90 percent of that acreage. In terms of livestock, sheep grazing was the most prominent activity in the Kern County portion of the valley during the 1950s. At this time, agriculture accounted for 97 percent of Antelope Valley water use. Although groundwater depletion had led some farmers to abandon acreage by the late 1950s, pumping for irrigation remained economically feasible in most of the valley’s farming areas (DWR 1959:36–49).

The mainstay of agriculture in the project vicinity, Antelope Valley alfalfa production went into decline after the 1950s. Rising electricity costs for pumping depleted groundwater supplies and made alfalfa farming more difficult over time. Valley land planted in alfalfa declined from 38,525 acres in 1950 to 8,810 acres in 1987. Between 1953 and 1988, total groundwater pumped annually in the valley declined from 480,000 acre-feet to 69,000 acre-feet. Although land in the project vicinity continued to be cultivated during the 1970s, crop farming in the Rosamond and Willow Springs areas declined dramatically thereafter (DWR 1959:49; Templin et al. 1995:1–2, 7, 16, 64).

RANCH STYLE
Originally designed in California in the 1930s, Ranch houses drew inspiration from earlier Spanish Colonial haciendas and northern California farmhouses (SurveyLA 2015:5). The Ranch style gained popularity after World War II, due to Federal Housing Administration (FHA) promotion and loan support. Architects designed and builders constructed Ranch residences across the United States (McAlester 2015:602–603). Due to its ability to capitalize on the importance of automobiles in the post-World War II suburban sprawl, where workers needed to commute to and from work in the city, the Ranch style maintained its popularity until circa 1975 (SurveyLA 2015:13–15). Because of the influence of streetcar suburban developments on the creation of the style, Ranch style houses are primarily associated with and found in suburbs. Developers constructed entire tracts in the style during the 1950s and 1960s (McAlester 2015: 602-603). Non-tract examples of the style, such as those found in rural Kern County, are rarer and often simpler with minimal applied architectural detail. Easily built and customizable, Ranch homes continued to be constructed across America because they blended effortlessly into the newly forming middle-class attitude and lifestyle (SurveyLA 2015:13–15).

Ranch houses typically feature horizontal, one-story massing, with either a gable or hip roof. Initially built with simple rectangular floor plans, by the 1950s, L-shaped floor plans with intersecting gable roofs became more popular (Gottfried and Jennings 2009: 208-209). Developers built these homes on large tracts of land that allowed for spacious backyards and private outdoor living (McAlester 2015:602–603). Ranch-style homes feature an asymmetrical exterior, often elongating the look of the house by incorporating an attached front-facing garage. Substyles of the traditional Ranch plan include Contemporary, Cinderella, American Colonial, and Minimal. Elements of a Cinderella Ranch, otherwise known as Storybook Ranch, feature steep-pitched porch hoods and Swiss-Chalet inspired fascia and shutters that give the house an exaggerated fairytale look. In contrast, Minimal Ranch buildings have a more restrained exterior, including less variation in wall materials and simple footprints, and were commonly built within FHA design guidelines (SurveyLA 2015:17–18). Key features include a large picture window, small porch, and recessed entry. Builders used a variety of resources, including stucco, brick, stone, and wood. They also incorporated planters or window boxes into the exterior design for emphasis (McAlester 2015:597–601).

SITE HISTORY
A historic aerial from 1952 shows that the surrounding area was completely undeveloped except for some scattered agricultural lands (Robinson Aerial Surveys, Inc. 1952). By 1963, some roads appeared around the subject property and the single-family residence was extant (NETR 1963). By 1974, the subject property was isolated except for a homestead to the southeast (NETR 1974). By 1989, auxiliary buildings appeared on the property (NETR 1989).

EVALUATION
Under CRHR Criterion 1, the property at Parcel Number 358-211-06-00-4 does not have important associations with historic events, patterns, or trends of development. The development of the subject property post-dates the homesteading of Antelope Valley which occurred from 1910 through 1935. The property even post-dates when the Kern County population nearly doubled in size after World War II from 1953-1956. As such, while the property is part of the post-war growth, it was not part of major development trends in the County, and the subject property is ineligible under CRHR Criterion 1.

Under CRHR Criterion 2, the subject property does not share significant associations with the lives of persons important to history. Historic research does not reveal any people associated with the property. As such, the subject property is ineligible under CRHR Criterion 2.

Under CRHR Criterion 3, the subject property is not a significant example of its type, style, or era, it lacks high artistic value, and is not the work of a master architect, building, designer, or engineer. The single-family residence on the property is a Ranch style residence. However, it is an extremely modest example. Furthermore, it lacks character-defining features of the style such as an attached garage. The architect is unknown, but this is not an example of a Master Architect design. As such, the subject property is ineligible under CRHR Criterion 3.

Under CRHR Criterion 4, the subject property has neither yielded nor is likely to yield important information about our past. Typical of similar buildings, the subject property's Homestead type does not have the potential to yield important information regarding construction or engineering materials, methods, or technologies used in the 1960s. As such, the subject property is ineligible under CRHR Criterion 4.

In conclusion, Parcel Number 358-211-06-00-4 does not have historical associations or architectural or construction qualities that qualify the property for listing under any of the CRHR significance criteria. The property was evaluated in accordance with Section 15064.5(a) (2) of the CEQA guidelines, and found not to qualify as a historical resource for the purposes of CEQA. The current evaluation has assigned a 6Z status code to the property.

*B12. References (continued):

California Department of Water Resources (DWR). 1959. Feather River and Delta Diversion Projects, Bulletin No. 78, Investigation of Alternative Aqueduct Systems to Serve Southern California. Appendix Z: Long-Range Economic Potential of the Antelope Valley-Mojave River Basin. January. Sacramento, CA. Available: http://wdl.water.ca.gov/waterdatalibrary/docs/historic/Bulletins/Bulletin_78/Bulletin_78-A__1959.pdf. Accessed: February 12, 2019.

Edwards Air Force Base. 2009. Integrated Cultural Resources Management Plan for Edwards Air Force Base, California. Volume I. Report on file, Base Historic Preservation Office, Edwards Air Force Base, CA.

Gottfried, Herbert, and Jan Jennings. 2009. American Vernacular: Buildings and Interiors, 1870–1960. New York, NY: W. W. Norton & Company.

McAlester, Virginia Savage. 2015. A Field Guide to American Houses. New York, NY: Alfred A. Knopf.

Nationwide Environmental Title Research, LLC (NETR). 1963. Rosamond, California, 93560, Aerial Photograph. Accessed February 2, 2021. https://www.historicaerials.com/viewer.
———. 1974. Rosamond, California, 93560, Aerial Photograph. Accessed December 16, 2021. https://www.historicaerials.com/viewer.
———. 1989. Rosamond, California, 93560, Aerial Photograph. Accessed December 16, 2021. https://www.historicaerials.com/viewer.

Robinson Aerial Surveys, Inc. 1952. Flight ABL-1952 frame 4K-19. Prepared for USDA-Production and Marketing Administration. Flown October 11, 1952. Accessed December 16, 2021. Available: https://mil.library.ucsb.edu/apcatalog/report/report.php?filed_by=ABL-1952.

SurveyLA. 2015. "Los Angeles Citywide Historic Context Statement: The Ranch House, 1930–1975." Prepared for City of Los Angeles Office of Historic Resources. December. Accessed August 16, 2021. Available: https://planning.lacity.org/odocument/1acefe03-5615-425f-9182-d58a79014901/The_Ranch_House%2C_1930-1975.pdf.

Templin, Steven, Steven P. Phillips, Daniel E. Cherry, and Myrna L. DeBortoli. 1995. Land Use and Water Use in the Antelope Valley, California. U.S. Geological Survey Water-Resources Investigations Report 94-4208. Available: https://pubs.usgs.gov/wri/1994/4208/report.pdf. Accessed February 12, 2019.

Tetra Tech, Inc., and Jones & Stokes. 2004. Cultural Resources Evaluation of Historic Period Homesites on Edwards Air Force Base, Kern and Los Angeles Counties, California. Volume 1, Introduction and Background. Submitted to the Air Force Flight Test Center, Base, Historic Preservation Office, Edwards Air Force Base, CA. Contract No. DACA-05-01-D-0005, Task Order 0031.2002-K HOMESIT. On file at the Base Historic Preservation Office, Edwards Air Force Base, CA.

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LINEAR FEATURE RECORD

Primary # P-15-018681
HRI #
Trinomial

Resource Name or #: (Assigned by recorder) Resource ID 23, LADWP Owens Gorge 230kV Transmission Line

L1. Historic and/or Common Name: LADWP Owens Gorge 230kV Transmission Line; Barren Ridge-Rinaldi (BAR-RIN) Transmission Line

L2a. Portion Described: ☐ Entire Resource ☒ Segment ☐ Point Observation **Designation:**

b. Location of point or segment: (Provide UTM coordinates, legal description, and any other useful locational data. Show the area that has been field inspected on a Location Map)

Southern terminus: 11S 378869.04 mE, 3857087.12 mN
Northern terminus: 11S 382903.89 mE, 3864350.54 mN

L3. Description: (Describe construction details, materials, and artifacts found at this segment/point. Provide plans/sections as appropriate.)

The Los Angeles Department of Water and Power (LADWP) Owens Gorge Transmission Line runs through a portion of the study area. LADWP built the subject transmission line in 1950-1952. Today LADWP identifies the segment of the transmission line in the study area as the Barren Ridge-Rinaldi (BAR-RIN) Transmission Line.

L4. Dimensions: (In feet for historic features and meters for prehistoric features)

a. Top Width:

b. Bottom Width:

c. Height or Depth:

d. Length of Segment: 27,198'

L4e. Sketch of Cross-Section (include scale) **Facing:**

L5. Associated Resources:

L6. Setting: (Describe natural features, landscape characteristics, slope, etc., as appropriate.)

L7. Integrity Considerations:

Field survey on December 28th, 2021 of the segment within the study area confirmed the physical conditions previously noted in the resource's 2014 recordation. The resource remains ineligible for listing to the CRHR.

L8a. Photograph, Map or Drawing

L8b. Description of Photo, Map, or Drawing (View, scale, etc.)

View of Owens Gorge transmission tower in photo center, facing south, photo taken south of Hamilton Road, Rosamond, Kern County, California

L9. Remarks:

(See continuation sheet.)

L10. Form Prepared by: (Name, affiliation, and address)

Katrina Castaneda, ICF
555 W 5th St Ste 3100,
Los Angeles, CA 90013

L11. Date: January 6, 2021

DPR 523E (1/95)

Primary # P-15-018681
HRI#
Trinomial

***Resource Name or #** (Assigned by recorder) Resource ID 23, LADWP Owens Gorge 230kV Transmission Line

***Recorded by:** Stephanie Hodal and Margaret Roderick ***Date:** 12/28/21 ☐ Continuation ■ Update

L9. Remarks (continued):

Previous Evaluations:
In 2014, Michael Dice of POWER Engineers, Inc. found Owens Gorge 230 kV Transmission Line not eligible for historic designation based on integrity concerns including the loss of integrity from the original run and modernization of original transmission line elements. No status code was assigned.

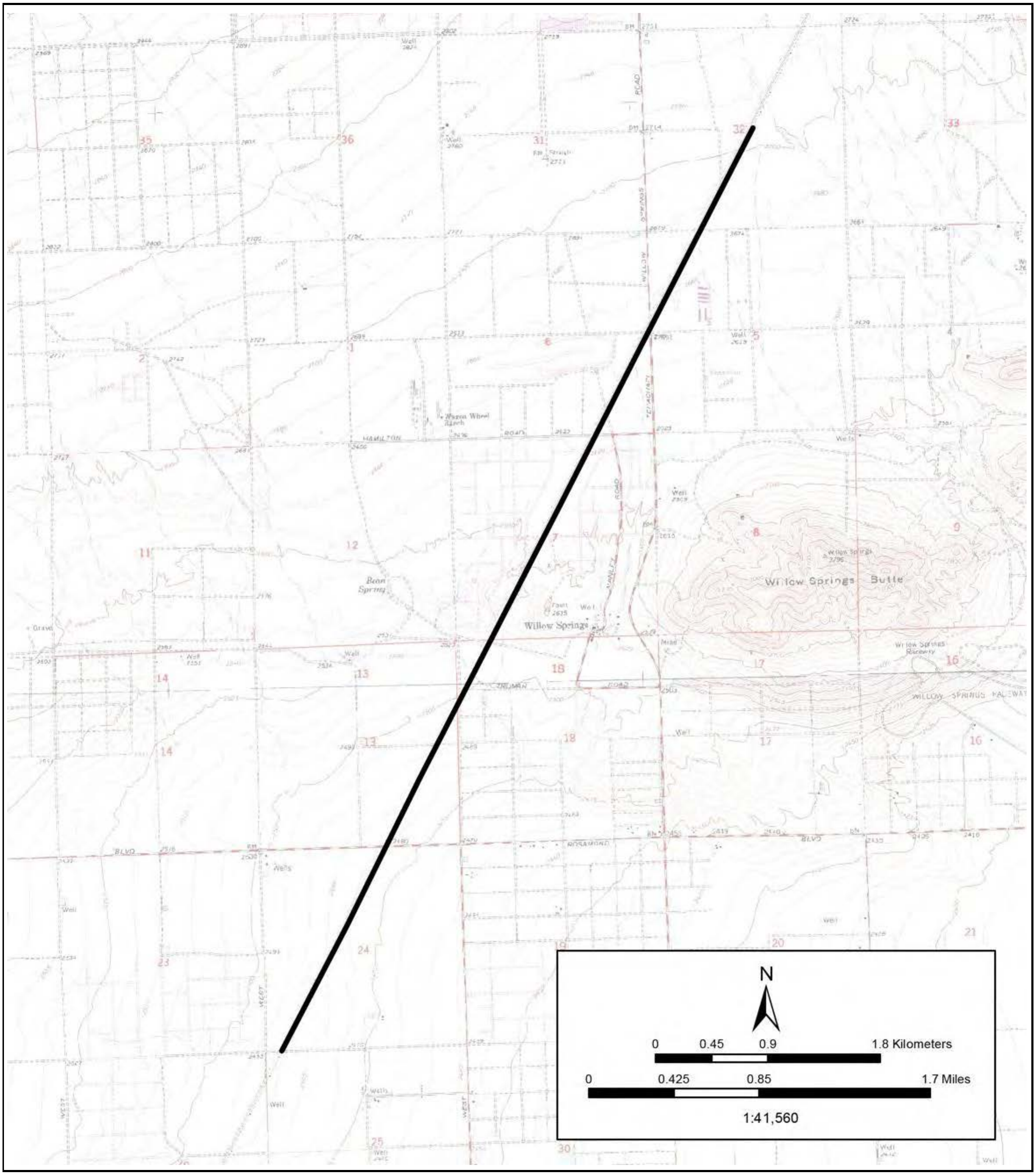
State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Location Map

Primary #
HR #
Trinomial

Page 3 of 3 *Resource Name or #: (Assigned by recorder) Resource ID 23, LADWP Owens Gorge 230kV Transmission Line

*Map Name: USGS 7.5' Little Buttes, Willow Springs *Scale: 1:24,000 *Date of Map: 12/28/2021



State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #:
HRI #:
Trinomial:
NRHP Status Code: 2S2

Other Listings:
Review Code: Reviewer: Date:

 ***Resource Name or #:** Resource ID 22, LADWP 500kV Pacific Direct Current Intertie

P1. Other Identifier: Pacific Direct Current Intertie, Celilo-Sylmar (CEL-SYL) Transmission Line

***P2. Location:** ☐ Not for Publication ☒ Unrestricted ***a. County:** Kern

***b. USGS 7.5' Quad:** See Continuation Sheet **Date:** **T:** **R:** **¼ of Sec** **B.M.**

c. Address: N/A **City:** Willow Springs **Zip:** 93560

d. UTM: See Continuation Sheet

e. Other Locational Data (e.g., parcel #, directions to resource, elevation, etc., as appropriate):

McConnell Avenue between Tehachapi Willow Springs Road and 80th Street West at the north to Holiday Avenue between 110th Street West and 105th Street West at the south.

***P3a. Description** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries):

This form records and evaluates a five-mile section of the 500kV high voltage direct current (HVDC) transmission line owned and operated by the Los Angeles Department of Water and Power (LADWP) in California: LADWP 500kV Pacific Direct Current Intertie (LADWP PDCI). The segment is part of the 845-mile long transregional PDCI that originates at Celilo Converter Station at The Dales in Oregon on the Columbia River and terminates at Sylmar Converter Station in Southern California. Also known as the Celilo-Sylmar (CEL-SYL) transmission line, the PDCI is an element of the larger Pacific Intertie system. The segment evaluated in this report is located approximately one-half mile west of Willow Springs in Kern County. It runs in a straight line from the northeast starting at McConnell Avenue between Tehachapi Willow Springs Road and 80th Street West to the southwest ending at Holiday Avenue between 110th Street West and 105th Street West. (See Continuation Sheet)

***P3b. Resource Attributes** (List attributes and codes): HP11. Engineering Structure; HP9. Public Utility

***P4. Resources Present:** ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo (View, date, accession #):

Photograph 1: LADWP PDCI (right) showing typical guyed tower, view south. December 2021.

***P6. Date Constructed/Age and Sources:**

1965-1970

☒ Historic ☐ Prehistoric ☐ Both

***P7. Owner and Address:**

Los Angeles Department of Water + Power
111 North Hope Street
Los Angeles, CA 90012-2607

***P8. Recorded By** (Name, affiliation, and address):

Stephanie C. Hodal, ICF
555 W. 5th Street, Suite 3100
Los Angeles, CA 90013

***P9. Date Recorded:** 12/28/2021

***P10. Survey Type:** Intensive

***P11. Report Citation** (Cite survey report and other sources, or enter "none."):

***Attachments:** ☐ NONE ☒ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☒ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List):

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or # (Assigned by Recorder):** Resource ID 22, LADWP 500kV Pacific Direct Current Intertie ***NRHP Status Code:** 2S2

B1. Historic Name: Pacific Direct Current Intertie (PDCI)
B2. Common Name: Celilo-Sylmar (CEL-SYL) Transmission Line; LADWP 500kV Pacific Direct Current Intertie
B3. Original Use: High voltage direct current transmission **B4. Present Use:** same
***B5. Architectural Style:** Utilitarian infrastructure
***B6. Construction History:** Built between 1965 and 1970. Alterations related to voltage upgrade in 1984. Alterations for routine maintenance and updates.
***B7. Moved?** ☐ Yes ☒ No ☐ Unknown **Date:** N/A **Original Location:** N/A
***B8. Related Features:** Pacific Intertie; Los Angeles Department of Water + Power Easement Road
B9a. Architect: N/A **B9b. Builder:** Los Angeles Department of Water + Power
***B10. Significance:** **Theme:** Transmission History **Area:** Kern County
Period of Significance: 1965-1970 **Property Type:** Transmission Line **Applicable Criteria:** CRHR 1/3
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity):

This property meets the criteria for listing in the California Register of Historical Resources (CRHR). It does, therefore, qualify as a historical resource under the California Environmental Quality Act (CEQA).

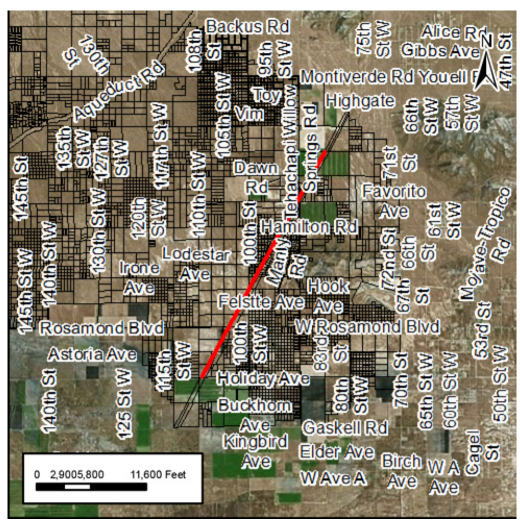
The evaluated segment of the LADWP PDCI retains integrity relative to its historic period of significance, 1965 to 1970, the years of construction and initial operation. Further, it is a contributing segment in the transregional Pacific Intertie with sufficient integrity to be listed in the National Register of Historic Places (NRHP) under Criteria A and C and in the CRHR under Criteria 1 and 3. (See Continuation Sheet)

B11. Additional Resource Attributes:
***B12. References:**
(See Continuation Sheet.)

B11. Remarks:

***B14. Evaluator:** Stephanie C. Hodal
Date of Evaluation: January 20, 2022

(This space is reserved for official comments)



Resource Name or #: Resource ID 22, LADWP 500kV Pacific Direct Current Intertie

L1. Historic and/or Common Name: Pacific Direct Current Intertie (PDCI), Celilo-Sylmar (CEL-SYL) Transmission Line

L2A. Portion Described: ☐ Entire Resource ☒ Segment ☐ Point Observation **Designation:**

L2b. Location of Point or Segment (Provide UTM coordinates, decimal degrees, legal description, and any other useful locational data. Show the area that has been field inspected on a Location Map)**:** Zone 11S, 382820.74 m / 3864272.71 m N (north endpoint); Zone 11S, 378890.25 m E / 3857103.11 m N (south endpoint). This 5-mile section of the 845-mile long Pacific Direct Current Intertie (PDCI) runs from the northeast starting at McConnell Avenue between Tehachapi Willow Springs Road and 80th Street West to the southwest ending at Holiday Avenue between 110th Street West and 105th Street West. The section of the line occupies the west side of the Los Angeles Department of Water and Power (LADWP) Easement.

L3. Description (Describe construction details, materials, and artifacts found at this segment/point. Provide plans/sections as appropriate)**:**

This segment of the LADWP PDCI uses two steel-lattice tower types: guyed and self-supporting. The guyed towers have a tall slender square body that supports a single cross-arm and a two-point peak. The guyed bodies taper toward the base, connecting to a square mounting plate bolted into a circular concrete footing. Guy wires anchored in concrete footings stabilize the columnar structure. The self-supporting towers, wide and square with four legs at their base, taper up to a narrow square body, that also supports a single cross-arm and a two-point peak . The legs of the self-supporting towers are secured to individual concrete footings. On both tower types, the cross arm carries two suspension insulators, one at either end of the arm. One insulated conductor bundle (made up of two lines) suspends from each insulator. Overhead ground wires run on a parallel plane above the circuit supported on the tower peaks.

L4. Dimensions (In feet for historic features and meters for prehistoric features)**:**

L4a. Top Width: Unknown
L4b. Bottom Width: Unknown
L4c. Height or Depth: Unknown
L4d. Length of Segment: Unknown

L4e. Sketch of Cross Section (include scale) **Facing:**

N/A

L5. Associated Resources: Pacific Intertie, LADWP Easement

L6. Setting (Describe natural features, landscape characteristics, slope, etc., as appropriate)**:** The surrounding area is rural and sparsely populated with few paved roads. The desert landscape features weathered loamy sand, silt, and clay soil and low scrub vegetation. The transmission corridor slopes downward from north to south, losing approximately 225 feet in elevation over the length of the segment.

L7. Integrity Considerations: Alterations related to voltage upgrade in 1984. Alterations for routine maintenance and updates.

L8a. Photograph, Map, or Drawing:

L8b. Description of Photo, Map, or Drawing (View, scale, etc.)**:**
PDCI Transmission Line (left) showing typical self-supporting tower, view north. December 2021.

L9. Remarks:

L10. Form Prepared by (Name, Affiliation, and address):
Stephanie C. Hodal, ICF
555 W. 5th Street, Suite 3100
Los Angeles, CA 90013

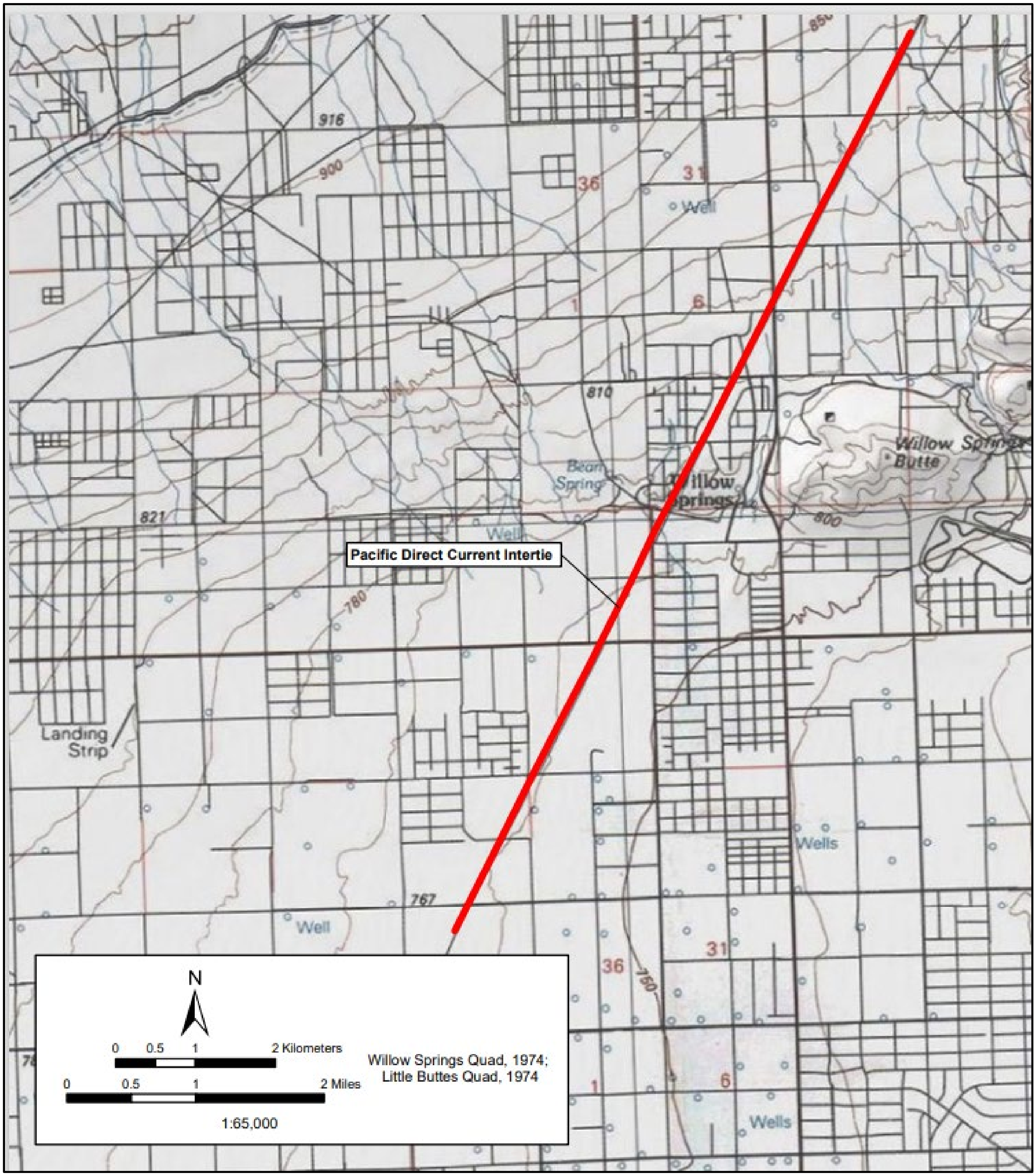
L11. Date: January 20, 2022

Primary #:
HRI #:

LOCATION MAP

Trinomial:

Page 4 **of** 11 ***Resource Name or #:** Resource ID 22, LADWP 500kV Pacific Direct Current Intertie



*Resource Name or #: Resource ID 22, LADWP 500kV Pacific Direct Current Intertie

*Recorded by: Stephanie C. Hodal   Date: 12/28/2021   ☒ Continuation   ☐ Update

P2b. Location: USGS (continued):

LADWP PDCI	USGS 7.5’ QUAD	DATE	TOWNSHIP/ RANGE (north to south)	SECTIONS	BASE MERIDIAN
Celilo-Sylmar (north to south)	Willow Springs	1965 (photo revised 1974)	T10N / R13W T9N / R13W T9N / R13W T9N / R13W	32 5 6 7	San Bernardino
	Little Buttes	1965 (photo revised 1974	T9N / R14W T9N / R14W	13 24	

P2b. Location: UTM (continued):

PDCI	COUNTY	NORTHERN ENDPOINT	SOUTHERN ENDPOINT
Celilo- Sylmar	Kern	Zone 11S, 382820.74 m / 3864272.71 m N	Zone 11S, 378890.25 m E / 3857103.11 m N

P3a. Description (continued):

This section of the LADWP PDCI line occupies the west side of the LADWP Easement, an unpaved service road that serves as a corridor for two additional lines that are not evaluated in this report. The LADWP Owens Gorge 230kV transmission line Barren Ridge-Rinaldi (BAR-RIN) segment runs parallel to the PDCI on the east side of the LADWP Easement. The LADWP Barren Ridge-Haskell Canyon (BAR-HSK) transmission line runs east of and parallel to BAR-RIN.)

Additional transmission and distribution lines cross or temporarily enter, parallel, and exit the corridor near Favorito Avenue, Rosamond Boulevard, and Leslie Avenue. The surrounding area is rural and sparsely populated with few paved roads. The desert landscape features weathered loamy sand, silt, and clay soil and low scrub vegetation (Dibblee 1963:203). The transmission corridor slopes downward from north to south, losing approximately 225 feet in elevation over the length of the segment.

This segment of the LADWP PDCI uses two tower types: metal-lattice guyed and self-supporting. The guyed towers have a tall slender square body that supports a single cross-arm and a two-point peak. The guyed bodies taper toward the base, connecting to a square mounting plate bolted into a circular concrete footing. Guy wires anchored in concrete footings stabilize the columnar structure. The self-supporting towers, wide and square with four legs at their base, taper up to a narrow square body, that also supports a single cross-arm and a two-point peak . The legs of the self-supporting towers are secured to individual round concrete footings. On both tower types, the cross arm carries two suspension insulators, one at either end of the arm. One insulated conductor bundle (made up of two lines) suspends from each insulator. Overhead ground wires run on a parallel plane above the circuit supported on the tower peaks.

B10. Significance (continued):

CONTEXT

TRANSMISSION LINE TECHNOLOGY IN SOUTHERN CALIFORNIA

Although Europeans developed the first overhead electrical transmission lines as early as the 1870s, the so-called "white coal" of hydroelectric generation initiated and drove the evolution of transmission technology in California beginning in the 1890s. Constructed over 28 miles from Pomona to San Bernardino in 1891, the San Bernardino Light & Power Company's 5 kV transmission line was Southern California's first long-distance electrical transmission line. The following year, a 23-mile line completed between Riverside and Mill Creek operated as the first 10 kV commercial three-phase alternating current (AC) transmission line in the region. An advance beyond the Mill Creek system's transmission capacity, an 11 kV commercial three-phase AC line began transmitting electricity from the Folsom Powerhouse 22 miles to Sacramento in 1895. Transmission technology improved at a rapid pace thereafter. Voltage capacity reached 100 kV in 1907. Iron and sometimes steel lattice, tubular, or pipe poles carried electrical lines until the turn of the century. Thereafter, engineers increasingly opted for riveted steel lattice towers, which reduced labor costs, especially for higher-voltage lines (Becker et al. 2015:40–45, Williams 1997:176–177).

Existing insulator design limited transmission capacity to 60 kV until 1907. That year, E. M. Hewlett and H. W. Buck introduced the suspension insulator, which allowed long-distance transmission capacity to reach 100 kV. By 1909 three transmission lines could deliver as much as 100 kV of electricity at distances greater than 150 miles: Great Western Power's Las Plumas line from Big Bend to Oakland (155 miles); Colorado Power Company's Glenwood-Denver line (152 miles); and the Southern Power Company's Great Falls, South Carolina-Durham, North Carolina line (210) miles. By 1912, Pacific Gas and Electric Company (PG&E) had completed a 100 kV line from its Drum Powerhouse in Placer County to Oakland (110 miles) (Hughes 1983:280, 282; Van Wormer and Dolan 1999:15).

First developed by the Pacific Light and Power Company, which completed a 241-mile 150 kV line to Los Angeles in 1913, the Big Creek hydroelectric power transmission system became the focal point of transmission technology advancement in the southern portion of California over the next decade. The Big Creek line used steel lattice towers 41 feet high incorporating cross arms approximately 34 feet wide, which engineers designed to carry conduit at average lengths of 660 feet between tower locations. Southern California Edison (SCE) acquired the Big Creek system in 1917 and began upgrading and building new lines with 220 kV capacity. This included augmenting existing towers to carry heavier loads. SCE engineers developed a larger version of the Big Creek tower model for the next major transmission line, the Vincent 220kV Transmission Line. The new towers, though similar in appearance to the original Big Creek towers, had additional height and cross-bracing to support the structural load of the 220kV wire spanning the 224-mile transmission alignment. SCE completed the Vincent 220kV Transmission line in 1926. In Northern California, PG&E had completed a 202-mile 220 kV line from its Pit River hydroelectric system to Sacramento 4 years earlier (Becker et al. 2015:49, quoted; Electrical West 1962:394; Van Wormer and Dolan 1999:15).

Benefitting from the advances in long distance transmission and tower design, the City of Los Angeles, through its newly formed Bureau of Power and Light (BPL), harnessed hydropower made available by construction of the Los Angeles Aqueduct from 1908 to 1913 to develop its own municipal electrical system. BPL(later incorporated into the LADWP) built an over 200-mile long transmission line through the Owens Valley to carry power from multiple aqueduct hydroelectric plants to the city, a new San Francisquito Power Plant No. 1 near Santa Clarita, and a Central Receiving Station (now Receiving Station A) northeast of downtown as the first phases of a generation, transmission, and distribution network. The system initiated service in 1917, delivering electricity to the city over a 115kV transmission line on steel lattice towers (Water and Power Associates 2022).

The development of Boulder Dam during the 1930s resulted in the next major advancement in long-distance electrical transmission. SCE constructed three single-circuit 220 kV lines to transmit power from Boulder Dam on the Colorado River to the Los Angeles area. Known as the First, Second, and Third Boulder Lines, these transmission systems began delivering power to the Los Angeles area in 1938. The most noteworthy Southern California transmission line developed in association with Boulder Dam was constructed by the LADWP. That line stretched 226 miles and carried power on towers ranging from 109- to 144-feet high, the largest in the world at the time of construction. At completion in 1936, the LADWP Boulder Dam – Los Angeles 287.5 kV line also reached "the highest commercial operating voltage in the world" and represented the "pinnacle of achievement in point to point high voltage power transmission" (Electrical West 1962:394; Van Wormer and Dolan 1999:13, quoted).

THE PACIFIC NORTHWEST-PACIFIC SOUTHWEST INTERTIE

After World War II, the effort to connect the electrical systems of large regions fueled the most noteworthy advances in high voltage transmission technology. The largest interconnection effort in the Western United States was the Pacific Northwest-Pacific Southwest Intertie Project built between 1965 and 1970 that delivered hydropower from the Pacific Northwest to rapidly growing central and southern California. Today called the Pacific Intertie, the system comprised three new lines. LADWP and Bonneville Power Administration (BPA) built a single high voltage 800kV direct current (HVDC) transmission line and California-based SCE and PG&E in concert with the BPA and Portland General Electric (PGE) built two extra high voltage (EHV) 500kV alternating current (AC) transmission lines. When complete, the system was the world's largest in terms of length, voltage, and power capacity and the first use of DC power transmission in the United States and (Becker et al. 2015:51; Northwest Power Planning Council 2001; Great Bend Tribune 1964:18). The AC component is called the Pacific Alternating Current Intertie (PACI) and includes a third line added in 1992. The DC component is called the Pacific Direct Current Intertie (PDCI). It was upgraded to 1000kV in 1984 (Burke 2022).

The PDCI, also known as Celilo-Sylmar (CEL-SYL), extends 845-miles from the Celilo Converter Station at the Columbia River on the Washington-Oregon state line south to the Sylmar Converter Station in northern Los Angeles, California. Its power can be switched to run in the opposite direction when needed (Cryer 2021; Kramer 2010: 93; Linenberger and Gahan 2013: 9). The 800kV line was notable in an era when 500kV lines were a recent development and considered high-voltage (Tinsley Becker et. al. 2015:64). Bonneville Power Administration built, owns, and operates the PDCI convertor station and 265-mile line in Oregon. Los Angeles Department of Water and Power (LADWP) built, owns, and operates the 580-mile long PDCI line through Nevada and California. LADWP with four other utility companies owns the Sylmar Converter Station that LADWP operates (Cryer 2021).

Engineers from the Bureau of Reclamation and LADWP developed new convertor and conductor technology, insulator designs, and tower types for constructing the system. Their bundled conductor prevented electromagnetic interference (EMI) and corona, conditions that increase with higher voltage but can be reduced by conductor with a larger surface area. They further innovated an "earth return" using the earth as a negative ground. The two-phase DC transmission required only two conductors on each tower which, with their light weight, allowed the purpose built towers to be smaller and less robust than those typically required on an AC system. Further, the use of bundled conductor increased the acceptable spacing between towers by 50-feet, further reducing material and construction costs along the line (Lindseth 1965; Linenberger and Gahan 2013: 12; Cryer 2021). Self-supporting towers were interspersed between guyed towers to stabilize the length of the line and minimize the area of damage should guyed towers between self-supporting towers collapse (Burke 2022).

The PDCI is a bi-pole system. The original nominal rating in 1970 was 400kV DC, with one pole operating at +400kV DC and the other at -400kV DC. The voltage between the poles was 800kV DC leading to its identification as an 800kV DC system. A 1984 PDCI upgrade from 800kV DC to 1000kV DC added new pulse thyristor valves in series with the original convertors to each pole on the towers. One pole now operates at +500kV DC and the other at -500kV DC for a voltage between poles of 1000kV DC. The LADWP refers to the 1000kV DC system by its nominal rating of 500kV DC, calling it the LADWP 500kV PDCI (Burke 2022).

Character-defining features of this segment include the two steel-lattice tower designs, the alignment within the right of way, the suspension insulators and paired conductor cable, and the paired overhead ground wires.

Previous Evaluation

On July 12, 2019, the California State Historic Preservation Officer (SHPO) concurred that the interstate Pacific Intertie system was eligible for listing in the NRHP under Criteria A and C, giving it a status code of 2S2 (Polanco 2019).

This evaluation in this report addresses a five-mile segment of the 845-mile long PDCI which is part of the larger Pacific Intertie system. This evaluation concludes that the segment is a contributor to the PDCI and thus to the Pacific Intertie system which is significant under Criteria A/1 as the Direct Current component in the first transregional high voltage transmission grid in the country and for its integration of federal, municipal, and investor-owned transmission networks. This segment is a contributor to the PDCI and thus to the Pacific Intertie system which is significant under Criteria C/3 for its development and design of HVDC transmission technology. Therefore, the evaluated segment is a historical resource for the purposes of CEQA.

EVALUATION

Under CRHR Criterion 1, this segment is a contributing element of the PDCI and the larger Pacific Intertie which has an important association with historic events, patterns, or development trends. It contributes to the significance of the PDCI as a typical component of the innovative transmission system that met the growing demand for power posed by post-World War II population growth, suburbanization, and economic expansion in the far western states. It is the HVDC component in an early trans-regional power system created by a unique consortium of cooperating utility companies and agencies. While the recorded segment is not individually eligible, it is a component of the 845-mile long PDCI with a significant history. Therefore, the subject segment of the PDCI is eligible under Criterion 1 of the CRHR.

Under CRHR Criterion 2, this segment is a contributing element of the PDCI and the larger Pacific Intertie which does not share significant association with the lives of person important to history. This criterion requires a direct association between the resource and a person/s significant to local, state, or national history. Research did not identify any historically significant associations or contributions by individuals as advocates, designers, engineers, or builders of a system brought to fruition through the collaboration of government, private, and agency interests. Therefore, the subject segment of the PDCI is not eligible under Criterion 2 of the CRHR.

Under CRHR Criterion 3, this segment is a contributing element of the PDCI and the larger Pacific Intertie which is a significant example of a type, style, or era. The segment contributes to the first national transregional high voltage transmission grid which integrated the first use of HVDC power transmission in the United States, pioneered 800kV DC technology at a time when 500kV technology was still in development and devised new innovative conductor and tower designs to deliver energy over its 845-mile length, more than two times longer than any existing transmission line of the period. Therefore, the subject segment of the PDCI is eligible under Criterion 3 of the CRHR.

Under CRHR Criterion 4, this segment is a contributing element of the PDCI and the larger Pacific Intertie which has neither yielded nor is likely to yield important information about our past individually or as a contributor to the Pacific Intertie. The project is well documented with drawings, text records, and photographs. Therefore, the subject segment is not eligible under Criterion 4 of the CRHR.

In conclusion, this segment of the PDCI has historical associations or architectural or construction qualities that qualify the property for listing under CRHR significance criteria. The property was evaluated in accordance with Section 15064.5(a) (2) of the CEQA guidelines and found to qualify as a historical resource for the purposes of CEQA. The current evaluation has assigned a 2S2 status code to the property.

References

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Additional Photograph:

PDCI Transmission Line (left) showing typical self-supporting tower, view north. December 2021.

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary: P-15-018681
HRI #
Trinomial: CA-KER-10204H

NRHP Status Code:
Other Listings:
Review Code: Reviewer: Date:

 ***Resource Name or #:** LADWP Owens Gorge 230kV transmission line.

P1. Other Identifier: OG-RIN, OG-TOL L1

***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County:** Mono, Inyo, Kern and Los Angeles.
and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quads:** Aberdeen, CA., Bartlett, CA., Bee Springs Canyon, CA., Big Pine, CA., Bishop, CA., Blackrock, CA., Cache Peak, CA., Cantil, CA., Casa Diablo Mountain, CA., Cinco, CA., Coso Junction, CA., Del Sur, CA., Dove Spring, CA., Fish Slough, CA., Fish Springs, CA., Freeman Junction, CA., Green Valley, CA., Haiwee Pass, CA. **(see Continuation sheet).**
Date: various. **Line begins** T 5S; R 31E, Section 5 M.D.B.M ---- **ends at** T 15N; R 8E unsectioned portion S.B.B.M.

c. Address: none **City:** **Zip:**

d. UTM: Zone 11S. Line begins at the Upper Gorge Plant 0359550mE / 4156612mN and ends at the Rinaldi Switching Station but the recorded historic section ends at the Sylmar Switching Station shown on archival topographic maps 0363842mN/3797801mE. NAD1983.

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate).

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries) The Owens Gorge 230kV transmission line (recently "OG-RIN" and currently renamed "BAR-RIN" in the affected segment) was built circa 1950-1952 and originally linked the three LADWP power plants in the Owens River Gorge located northwest of Bishop, CA. to Receiving Station E, which was located at Cahuenga and Whitnall in Toluca Lake. A three-circuit AC transmission line, modifications beginning in the mid 1950's changed the termination point to the original Sylmar Switching Station (SS), which had been renamed the Olive Switching Station in the 1960's and which is located near Yarnell and San Fernando Road. Later the line end was modified and extended to the nearby Rinaldi SS. Although the existing ROW has remained intact between the Owens Gorge and Sylmar, some of the original towers have been replaced with double circuit towers in several places on the Angeles National Forest, repairs and upgrades have occurred, and the terminus of the line has shifted several times. These aspects detract from the integrity of this historic-era resource. The recorded segment herein includes the run of Towers only between Owens Gorge and Sylmar.

***P3b. Resource Attributes:** (List attributes and codes) HP11 (engineering structure).

***P4. Resources Present:** ☐ Building ☐ Structure ☐ Object ☒ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, accession #)
View north of BAR-RIN tower 209-5 showing turn at tower 209-4 in the Antelope Valley near Avenue A and 120th Street West. Pacific Intertie DC towers are to the left (west) at this point.

***P6. Date Constructed/Age:**
☒ Historic ☐ Prehistoric
☐ Both

***P7. Owner and Address:**
LADWP
111 N Hope St, Los Angeles, CA 90012

***P8. Recorded by:**
Michael H. Dice, M.A.
POWER Eigineers, Inc.
731 East Ball Road Suite #100
Anaheim, CA. 92805

***P9. Date Recorded:**
November 7, 2014

***P10. Survey Type:** (Describe)
Linear transect survey.

***P11. Report Citation:** (Cite survey report and other sources, or enter "none."): Marty, J., T. Webb, D. Woodward, J. Rudolph and M. Dice. 2014. *Cultural Resource Survey for the Barren Ridge – Haskell Canyon 230kV Transmission Line, Los Angeles and Kern Counties, California*. USFS Permit No. SCM9067. Submitted to LADWP and the Angeles National Forest by POWER Engineers, Inc. Version Dated October 3, 2014. **For additional referenced reports for thius DPR see continuation sheet.**

***Attachments:** ☐ NONE ☒ Location Map ☐ Sketch Map ☒ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☒ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☒ Photograph Record ☐ Other (List):

LINEAR FEATURE RECORD

***Resource Name or #:** LADWP Owens Gorge 230kV transmission line.

L1. **Historic and/or Common Name:** OG-RIN (OG-TOL 1952-1955).

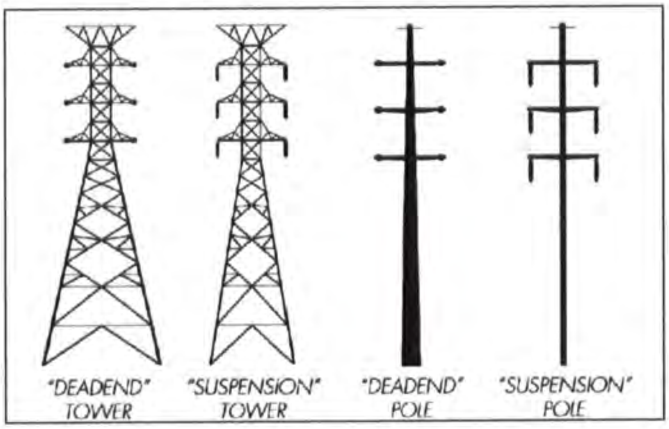
L2a. **Portion Described:** ☐ **Entire Resource** ☒ **Segment** ☐ **Point Observation. Designation:**

b. **Location of point or segment:**

L3. (Describe construction details, materials, and artifacts found at this segment point. Provide plans/descriptions as appropriate) The recorded resource was built 1950-1952 and was a 230kV three-wire A/C circuit on steel towers running between the three Owens Gorge Power Plants (the Pleasant Valley Reservoir powerhouse is small capacity and may not tie-in to this line) and Receiving Station E in Toluca Lake. In 1955, the circuit was shortened to end at the newly built Sylmar Switching Station (now named the Olive Switching Station) located near the corner of San Fernando Road and Yarnell Street in Sylmar. Major changes to LADWP circuits took place in the 1950's and 1960's as a result of explosive suburban development in the San Fernando Valley, leading to many changes in the LADWP circuits. Because of uncertainties in which R-O-W's are original to the 1951-1952 line in the Valley, the resource here has been recorded as a segment from Owens Gorge to Sylmar/Olive onlt. Topographic maps provided show this segment.

At the present time, the Pacific Intertie 500kV DC circuit, and the Olive 1 and 2 circuits converge at the facilities at Sylmar east of Interstate 5, but the OG circuit passes by Sylmar and ends at the Rinaldi Switching Station. Until about 1969, the OG-RIN line ended at the new Sylmar SS west of Interstate 5 along Sepulveda.

L4e. Sketch of cross-section (include scale). Types of towers used by LADWP in the 1950's for transmission lines



L4. Dimensions: a. Top width: 30 feet. b. Bottom width: 20 feet. c. Height/Depth 80 feet avg. d. Length of resource: +/- 230 miles.

L5. Associated resources: None.

L6. Setting: (describe natural features, landscape characteristics, slope, etc as appropriate). The subject transmission line begins at 6500' after the Upper Gorge Powerhouse connection line meets Tower 1-2. Located on a treed plain, the line heads downhill to meet additional high voltage lines emanating from the Middle Gorge and Lower Gorge powerhouses. The line then runs downhill southeastern-ward after meeting with the 500kV Pacific Intertie at Highway 395. Both will travel in the same ROW from this point onward. Skirting the farms of West Bishop, the line generally parallels Highway 395 along the dry foothills of the Eastern Sierras, then near Aberdeen, the line crosses the 395 to the flat generally dry plain paralleling the Owens River. It hops the Owens River a few miles north of Mazourka Canyon Road then runs along the very dry east side of the Owens River until crossing it again at Highway 136 east of Lone Pine. Bypassing Owens Lake by taking the western side, the line again runs southbound on and near the lowest foothills of the Eastern Sierras until it once again crosses Highway 395 near Dunmovin. The line then runs south on lava fields east of Little Lake, then crosses the 395 again about 4 miles south of the Little Lake Dam. Thence paralleling Highway 39 and Highway 14, it crosses rough and dry country in Red Rock State Park and thence to Mojave on high desert creosote bush scrub. Passing west of Mojave, the line separates from Highway 14, crosses over the low barren hills west of the Silver Queen Mine then heads into the former alfalfa and hay fields of the western Antelope Valley. The line hops the California Aqueduct at 130th Street West and over Portal Ridge and then crosses over the San Andreas Rift Valley in a southwestern direction. Rising into ANF lands near Elizabeth Lake, the line runs into the forested slopes of the ANF near Green Acres, with tower pads built on treed finger ridges east of San Fransicquito Canyon Road. Additional lines are put into the ROW including lines from the nearby Olive 1 and 2 powerhouses. The line heads southbound after passing by Drinkwater Reservoir and reaches the new Haskell Canyon Switching Station (HCSS). The line then runs south, crossing over eastern Valencia and finally to Sylmar where it passes by the original Sylmar SS. Here is where the recorded portion of the T-line ends, although modern parts of the T-line continue to the Rinaldi SS. The towers are generally 80' tall and exist in the center of a 200' ROW. In most places, a patrol road runs beneath the CEL-SYL 500kV (Pacific Intertie) line and the OG-RIN lines. In the ANF, long spur roads run to tower pads from named Forest Roads.

L7. Integrity considerations: **See continuation page.**

L8b. Description of Photo map or drawing: **See attached pages.**

L9. Remarks: None

L10. Form prepared by: Michael H. Dice, M.A., POWER Engineers, Inc. 731 E Ball Road Suite 100, Anaheim, CA. 92805

L11. Date: November 7, 2014

Continued P2.b. Additional Topo maps: Haiwee Reservoirs, CA., Independence, CA., Inyokern, CA., Lake Hughes, CA., Little Buttes, CA., Little Lake, CA., Lone Pine, CA., Mint Canyon, CA., Mojave, CA., Mojave NE, CA., Newhall, CA., Ninemile Canyon, CA., Olancha, CA., Owens Peak, CA., Polate Canyon, CA., Rovana, CA., Saltdale NW, CA., San Fernando, CA., Soledad Mtn., Union Wash, CA., Warm Springs Mountain, CA., Willow Springs, CA.

Continued L7. Integrity considerations. Historic Background:

Growth of the City of Los Angeles had outstripped its water supply during the drought years of the mid 1890's, and businessmen called upon local political operatives to find and fund a solution. In the early 1900's, Fred Eaton and William Mulholland began studying the possibility that drinking and irrigation water could be economically obtained from the watershed of the Owens River before it entered the saline Owens Lake. City of Los Angeles (City) engineers divided the area into four hydrological sections separated by transverse ranges of hills (Lee, in DPS 1916:278) in order to provide the City with the most water at the least cost. The northern section consisted of the Long Valley Caldera, the two middle sections known as Bishop-Big Pine and the Independence regions, and the most southern the Owens Lake section into which there was no outlet for runoff during modern times save for evaporation. The goal of City Engineers, as intimated in the 1916 Report on the First Los Angeles Aqueduct (DPS 1916), was to remove much of the runoff controlled by the City from a point near the lower end of the Long Valley section, where the Owens River had cut a gorge through the southeast portion of the Caldera. The practicalities of removing water from the River before Lone Pine meant that runoff from the middle sections would be missed, so an intake point north of Independence was chosen and eventually a reservoir (Tinemaha) was built to capture additional water. All work needed to be undertaken in stages, and voters were impatient: bond issuances for the project were voted upon and approved in 1905.

In 1912, the first headworks of the Los Angeles Aqueduct were constructed on the western bank of the Owens River about two miles east of the small town of Aberdeen and 50 miles south of the Owens Gorge. The water was sent south 60 miles via a cement lined canal, bypassing Owens Lake, and into Haiwee Reservoir (filled 1913), where changes in flow could be controlled before being sent into the lower and mostly underground portion of the Aqueduct. Eventually, with the construction of the Long Valley Dam and Reservoir (aka Lake Crowley, built 1941), the Tinemaha Reservoir (filled 1929: Danskin 1998), and the Pleasant Valley Reservoir (filled 1954-5), flows into the upper section of the system could be controlled completely and less water would be lost. Waters controlled by the City in the Mono Basin north of the Owens River watershed were diverted after 1941 (Kahrl 1982) into a canal and tunnel system which sent the water into Lake Crowley. In the mid 1960's, the City had gained control of so much potential water that LADWP was forced to build a Second Aqueduct in order to avoid the risk of losing the water rights it had obtained (Danskin 1998). Completed in 1970, diversions of City-owned water into the Second Aqueduct cased the local water table in Mono County to drop precipitously (Reisner 1986) and dry up Mono Lake much like Owens Lake had been 50 years before. Already controversial, this incited additional local resistance and led to successful water-related lawsuits against diversion.

Between 1880 and 1910, farmers, ranchers and businessmen native to the Eastern Sierras were forced to endure a rush to develop all hydropower sources by City of Los Angeles advance men, as well as those from San Francisco, Oakland and Sacramento. During this period, land and water rights were being purchased by their representatives at breakneck speed. In addition, emerging large power corporations, such as Edison and PG&E, were gobbling up small power companies and power lines in an attempt to capture any and all viable resources to service the rapidly growing cities (Diamond and Hicks 1988). Farmers and ranchers in the Owens Valley didn't stand a chance at stopping the takeover. Cities naturally kept their intentions as quiet as possible while purchasing additional land and water rights throughout the 1920's and 1930's (Hart 1996). Far downstream from an electrical generation standpoint, Los Angeles was the most successful of these groups. Because facilities and transmission lines had been previously developed by small companies in the Eastern Sierras, Los Angeles (much like PG&E and Edison) consolidated transmission lines and rights of way into the emerging electrical grid.

In 1933, in anticipation of constructing the dam and reservoir (Lake Crowley) on the upper part of the Owens River, LADWP obtained control of two smaller Southern Sierras Power Company (SSPC) plants formerly located on tributaries flowing into the Owens River (City versus Mono 1959). Known as Adams Main and Adams Auxiliary (Steam 1921), combined they generated 7,400kW of seasonal power (ibid), operational only in the spring and early summer. The City and the SSPC had been embroiled in lawsuits for years (Diamond and Hicks 1988) and once SSPC lost much of its California market share in the 1930's, the City, as well as Edison, began to acquire many of their existing facilities.

As noted above, the acquisition of creek and river water leading to saline Mono Lake by the City through purchase of land in the 1930's (Hart 1996) took place during intensified competition with Edison and SSPC. Once the Long Valley Dam was built, a series of tunnels and canals were constructed so that the waters of the Mono Lake watershed could be sent into Lake Crowley. These waters, plus those of the existing Long Valley Caldera watershed, brought the total volume of potential flow into the Gorge to the point where new high voltage power plants could be constructed using the 2,100' drop provided by the fall of water through the Gorge.

Continued L7. Integrity considerations. Historic Background:

In 1947-1948, construction companies began to be able to acquire raw construction materials from factories that had been coverted to war time production after 1942 and, after additional land and rights-of-way were acquired, LADWP was able to begin building the three 37,500kW power plants in the Gorge (City versus Mono 1959)with power destined for the City grid. The Upper Gorge and Middle Gorge plants were built first, and the Control Gorge Plant at Birchim Canyon was built last. At the same time, the City began engineering work on a new 230,000 volt transmission line designed to bring electricity into the "ring" of electrical substations and grid lines that surrounded the City itself. We are uncertain when the Pleasant Valley Power Plant was constructed, but the total generated voltage is low (CEC 2014). Once the new 230kV line entered the Angeles National Forest, it began to follow an existing right of way associated with the 115kv San Francisquito Power Plant #1 and #2 lines, which had been built in 1917-1925. By the time the Paciufic Intertie was built, space in the ROW was at a premium so certain original towers were replaced with 4-circuit towers.

According to Electrical World (1950) and sources at LADWP (Steve Boyles), the end point of the new Owens Gorge transmission line (known then as OG-TOL L1) was "Receiving Station E" located at the corner of Cahuenga Blvd and Whitnall Highway in the Toluca Lake region. This station was built in 1937 (CLUI 2014), but was expanded to take in the new voltage. Electricity began to be delivered to Station E in late 1952. According to LADWP, in 1955 line termination moved from Station E to a new switching station at San Fernando Road in Sylmar near the Upper Van Norman Dam and the transmission line was renamed OG-SYL L1, which reduced the length of the line by 12 miles. In 1967, the termination of the line was moved to the nearby Olive SS and the line officially renamed OG-OLV L1. In 1971, the line was again re-terminated but this time at the Rinaldi Switching Station and thus was lengthened by 2.5 miles. Finally, in 1969 much of the OG circuit between Drinkwater Junction and Sylmar Junction was moved onto taller multi-circuit Haynes Structures. These structures also held the Pacific Intertie DC line, which had been completed in the late 1960's. Given these facts, the circuit and structures located between the Upper Gorge Power Plant and Structure 234-2 near Drinkwater Reservoir may date from 1952, whereas the structures that extend to the south, through the new Haskell Canyon Switching Station and to Rinaldi were built more than 17 years later.

Changes to Tower Run After Original Construction Date:

Including maintenance and replacement of conductors, towers between Tower 234-3 and 236-1 were replaced with 4-circuit towers. The addition of the 500kv Pacific Intertie forced this change in the late 1960's. Many of the towers north of the Olive Switching Station have been replaced with multi-circuit towers such that the original line is unrecognizable south of Tower 234-3. This means that the final 27 miles of the historic era transmission line has been replaced from the 1952 original, or roughly 12% of the original line. In our view, the loss of integrity from the original run plus modernization of original transmission line elements argues for a lack of historical significance based on integrity concerns only.

P11. Report Citations, Continued:

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Danskin, W.R. 1998. Evaluation of the Hydrologic System and Selected Water-Management Alternatives in the Owens Valley, California. *USGS Water Supply Paper #2370-H: Hydrology and Soil-Water-Plant Relations in Owens Valley, California*. Prepared in cooperation with the Inyo County and the Los Angeles Department of Water and Power. Downloaded from http://ca.water.usgs.gov/archive/reports/wsp2370/ by Michael Dice, October 2014.

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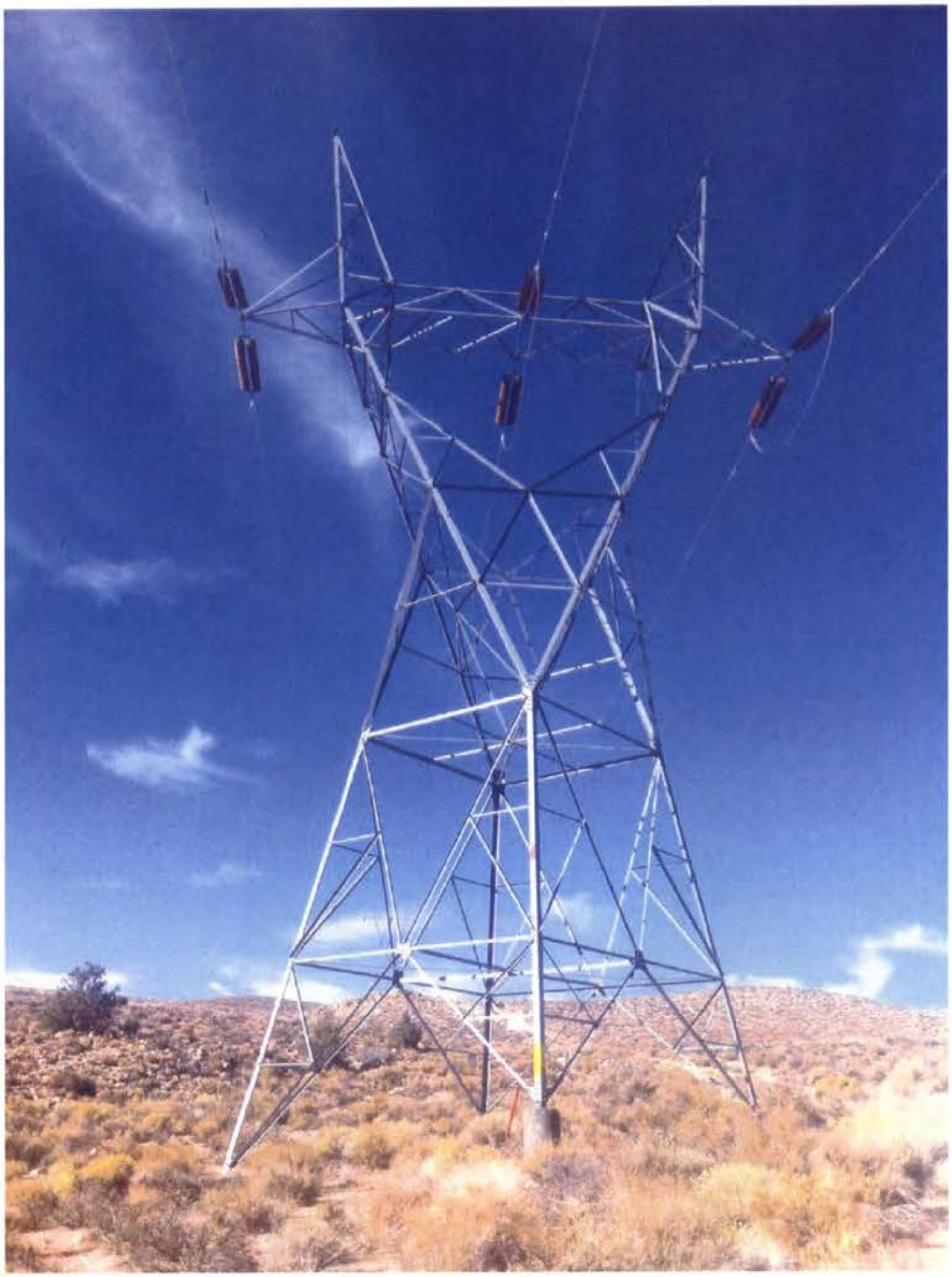
City versus Mono (City of Los Angeles v. County of Mono , 51 Cal.2d 843). 1959. Downloaded

California Energy Commission (CEC) 2014. California Elecgtric Generation Facilities 8x11 Map. Downloaded from http://energyalmanac.ca.gov/powerplants/Statewide_PP_8.5X11_hydro.pdf by Michael Dice, November 2014.

State of California — The Resources Agency DEPARTMENT OF PARKS AND RECREATION **PHOTOGRAPHIC RECORD**	Primary # P-15-018681 HRI# Trinomial: CA-KER-10204H

***Resource Name or #:** LADWP Owens Gorge 230kV transmission line.



Typical original "dead-end" tower style on the OWE line.

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PHOTOGRAPHIC RECORD

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HRI#
Trinomial: CA-KER-10204 H

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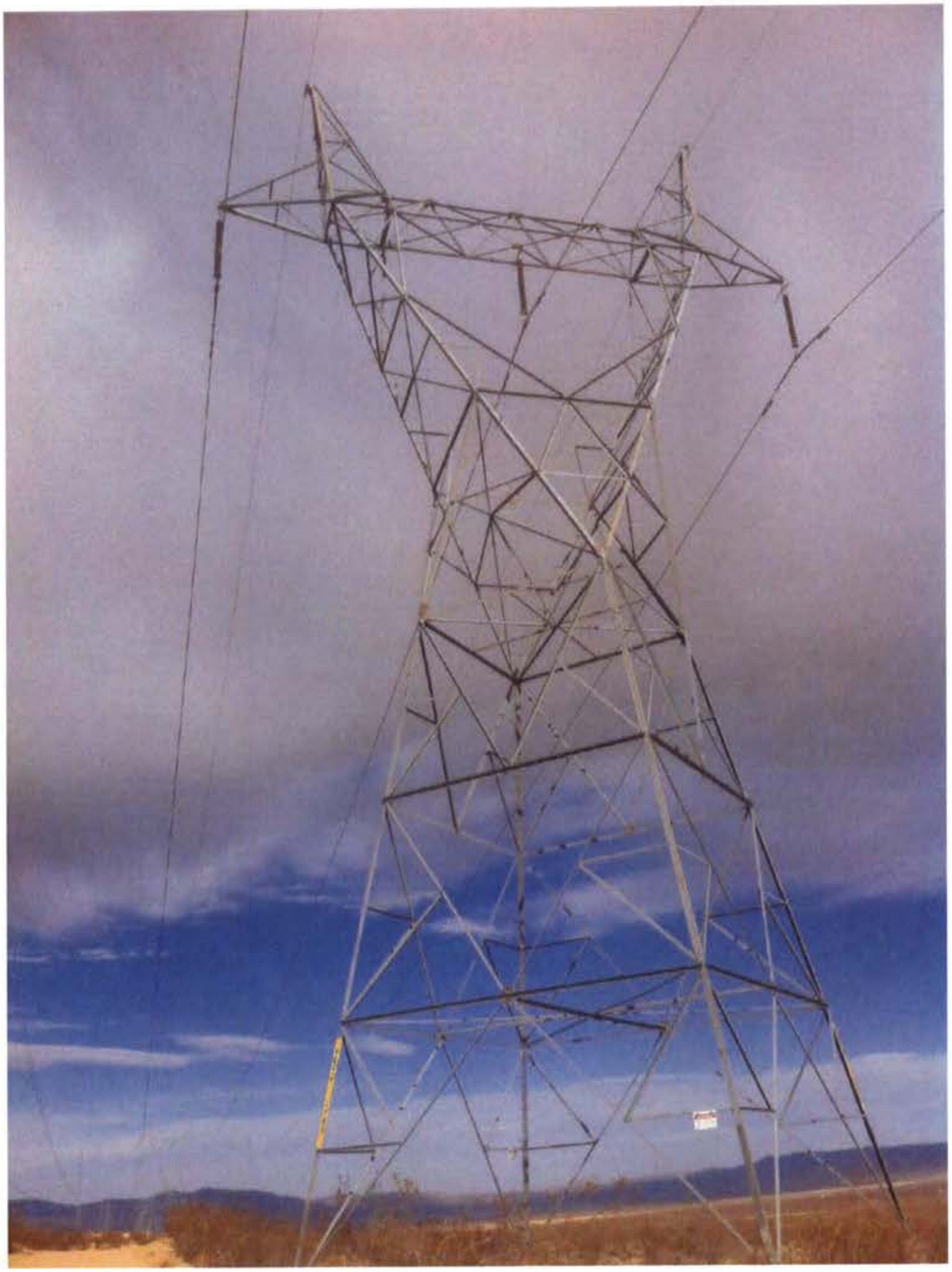


Typical original suspension-type tower style on the OWE line.

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

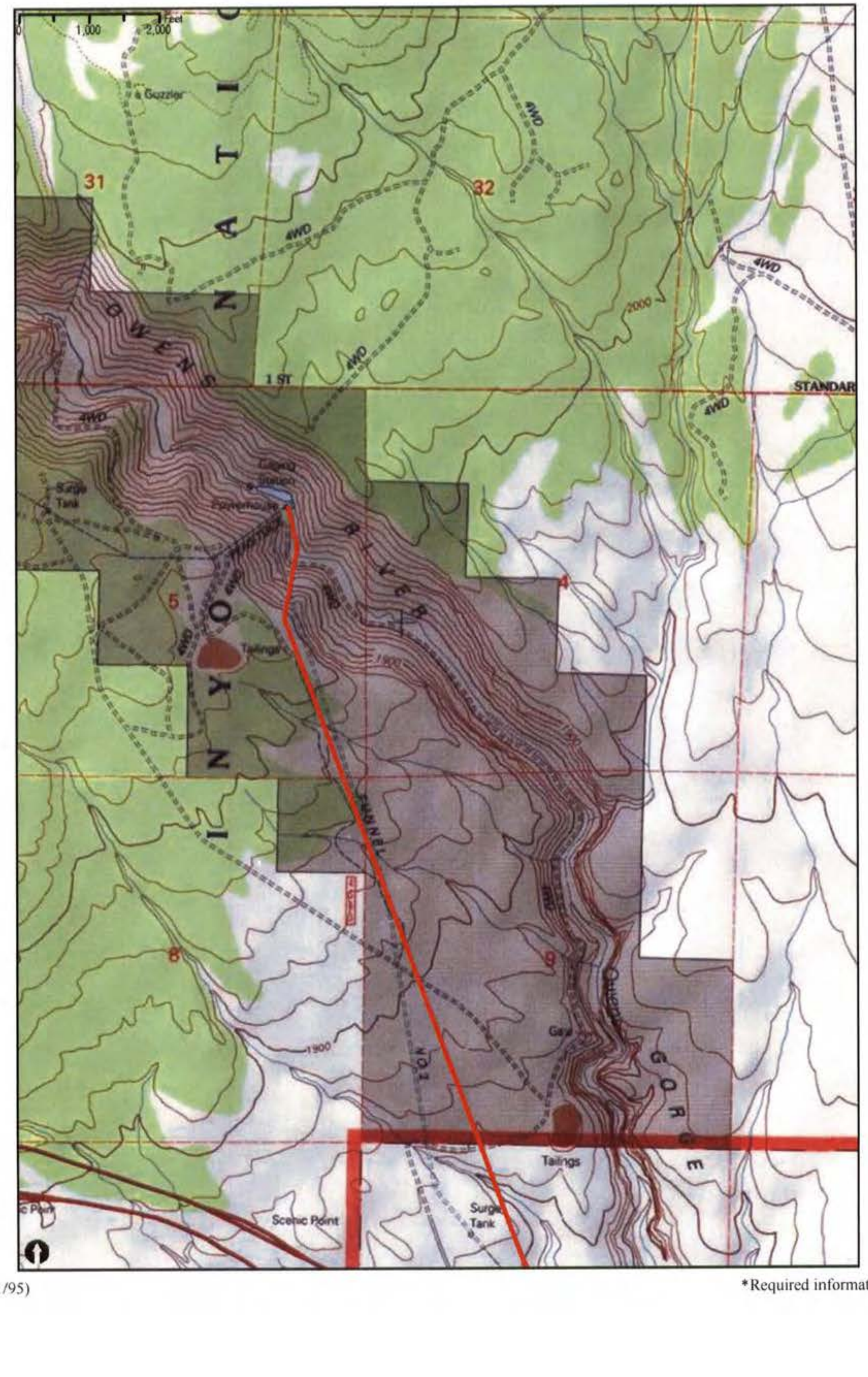
Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.

*Map Name: Casa Diablo Mtn.

*Scale: 1:24,000

*Date of Map: 1996



*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

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HRI#
Trinomial CA-KER-10204H

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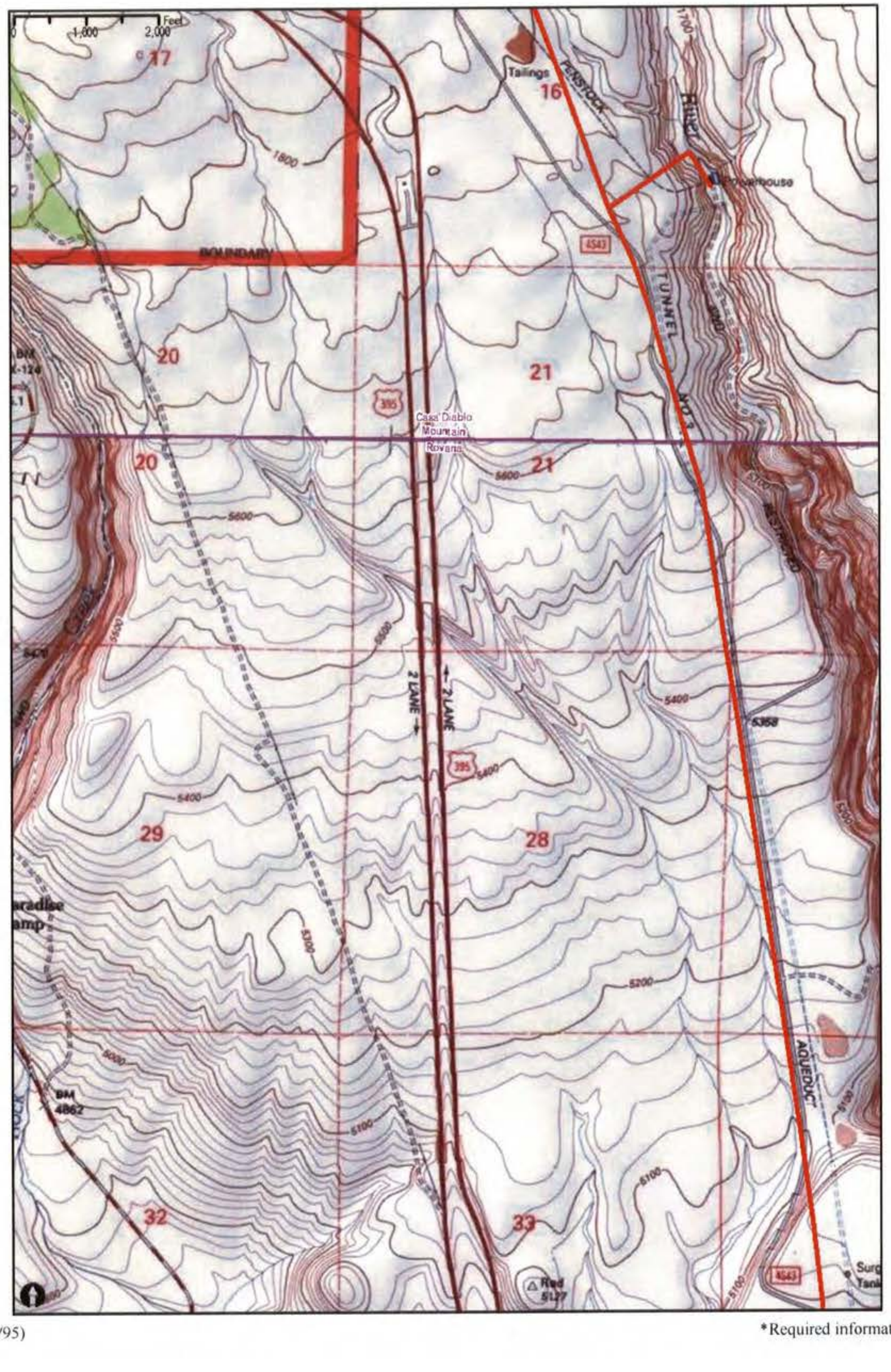
*Map Name: Casa Diablo Mtn./Rovana *Scale: 1:24,000 *Date of Map: 1996



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204H

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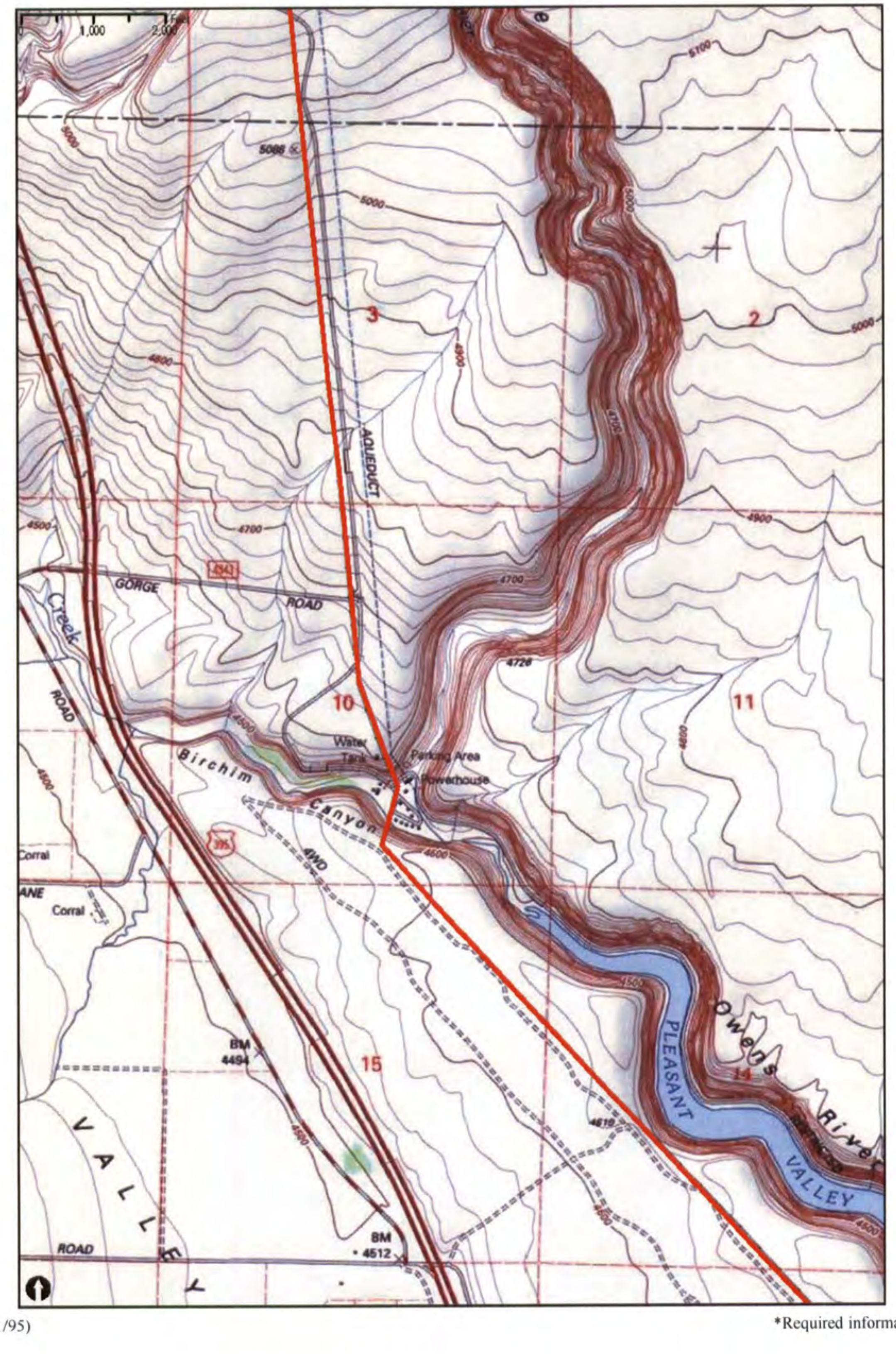
*Date of Map: 1996



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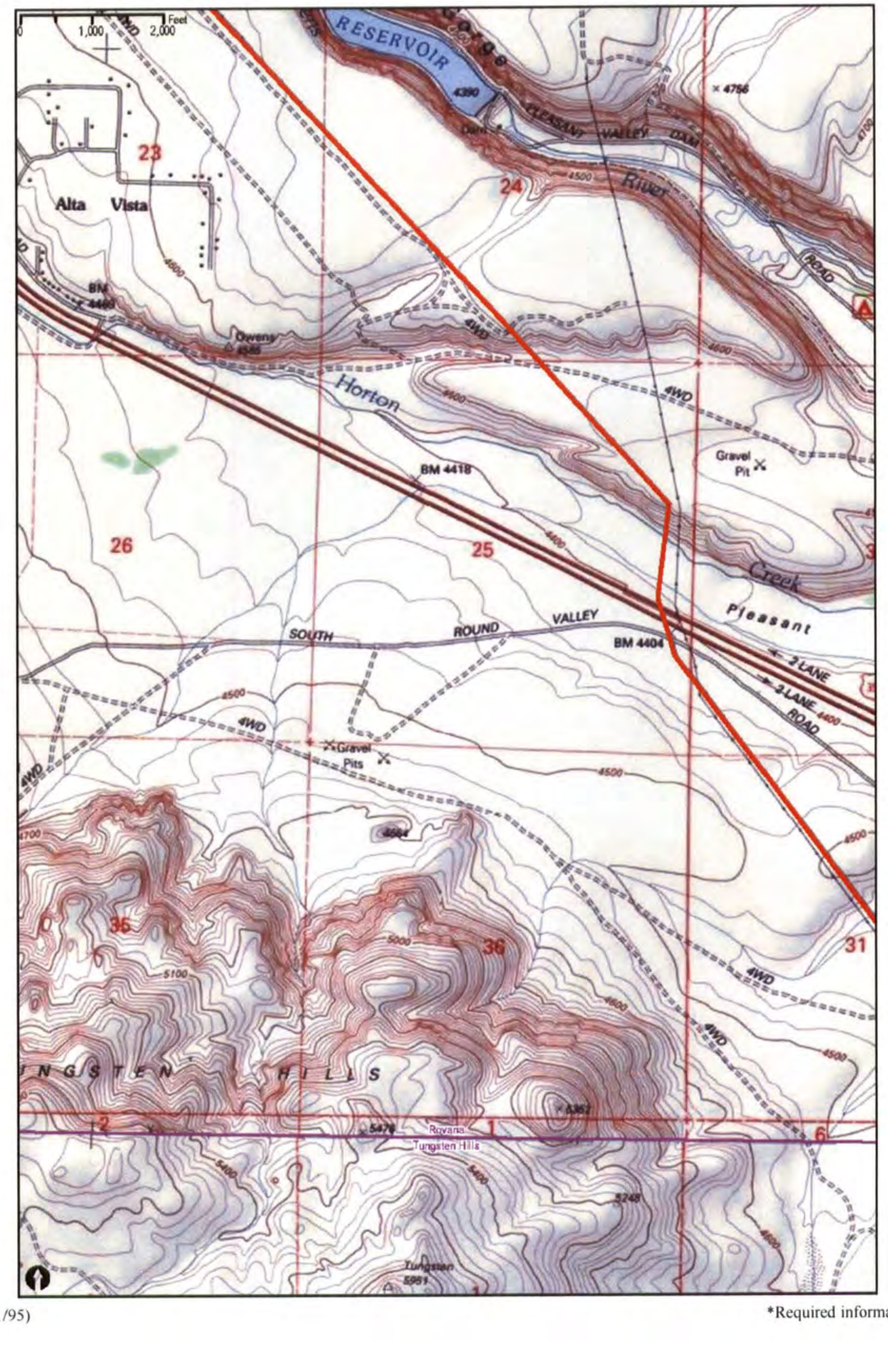
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204H

Page 10 of 78
*Resource Name or #: LADWP Owens Gorge 230kV transmission line.
*Map Name: Rovana
*Scale: 1:24,000
*Date of Map: 1996



DPR 523I (1/95)
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

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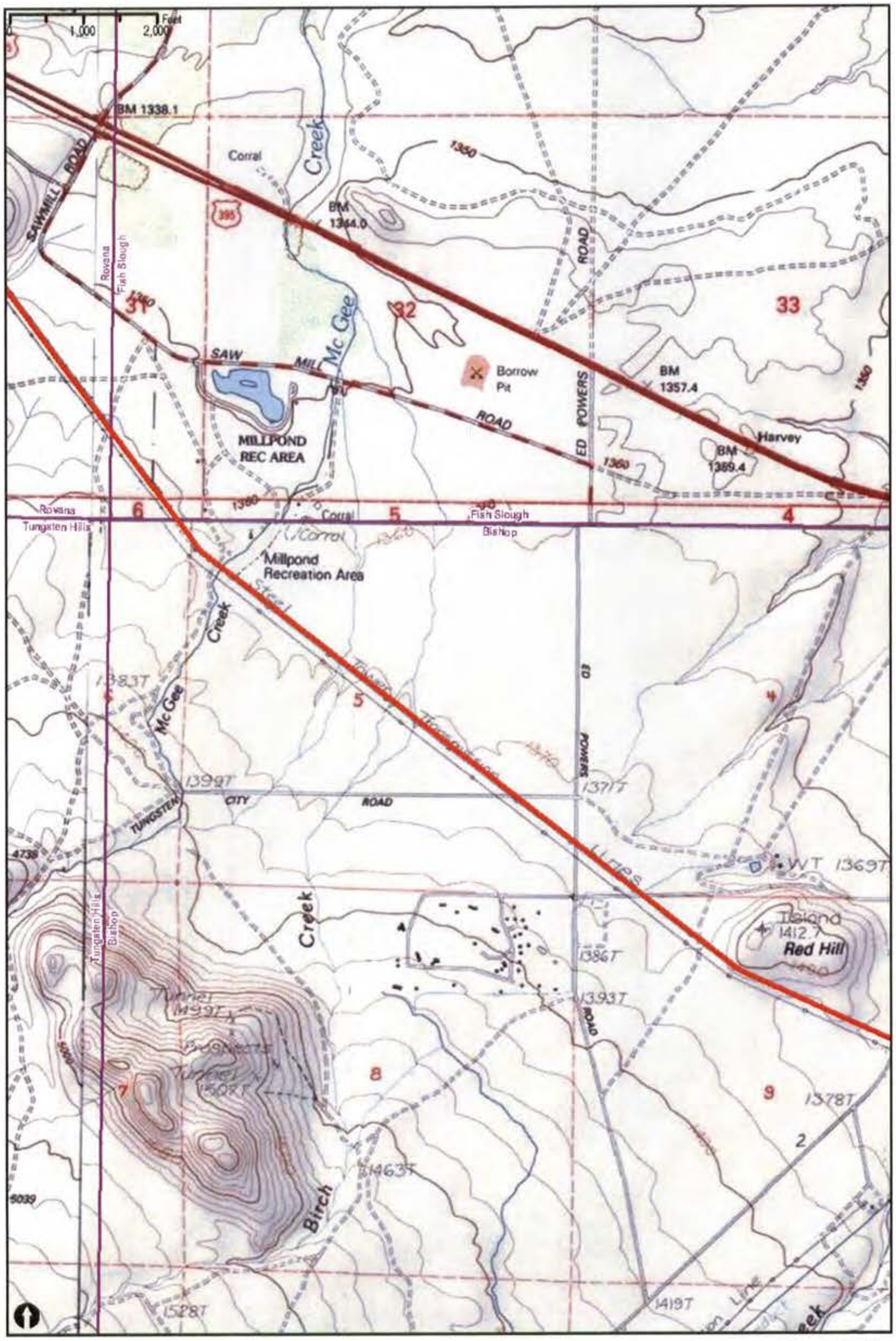
*Resource Name or #: LADWP Owens Gorge 230kV transmission line.

*Map Name: Rovana/Fish Slough/Bishop *Scale: 1:24,000 *Date of Map: 1996

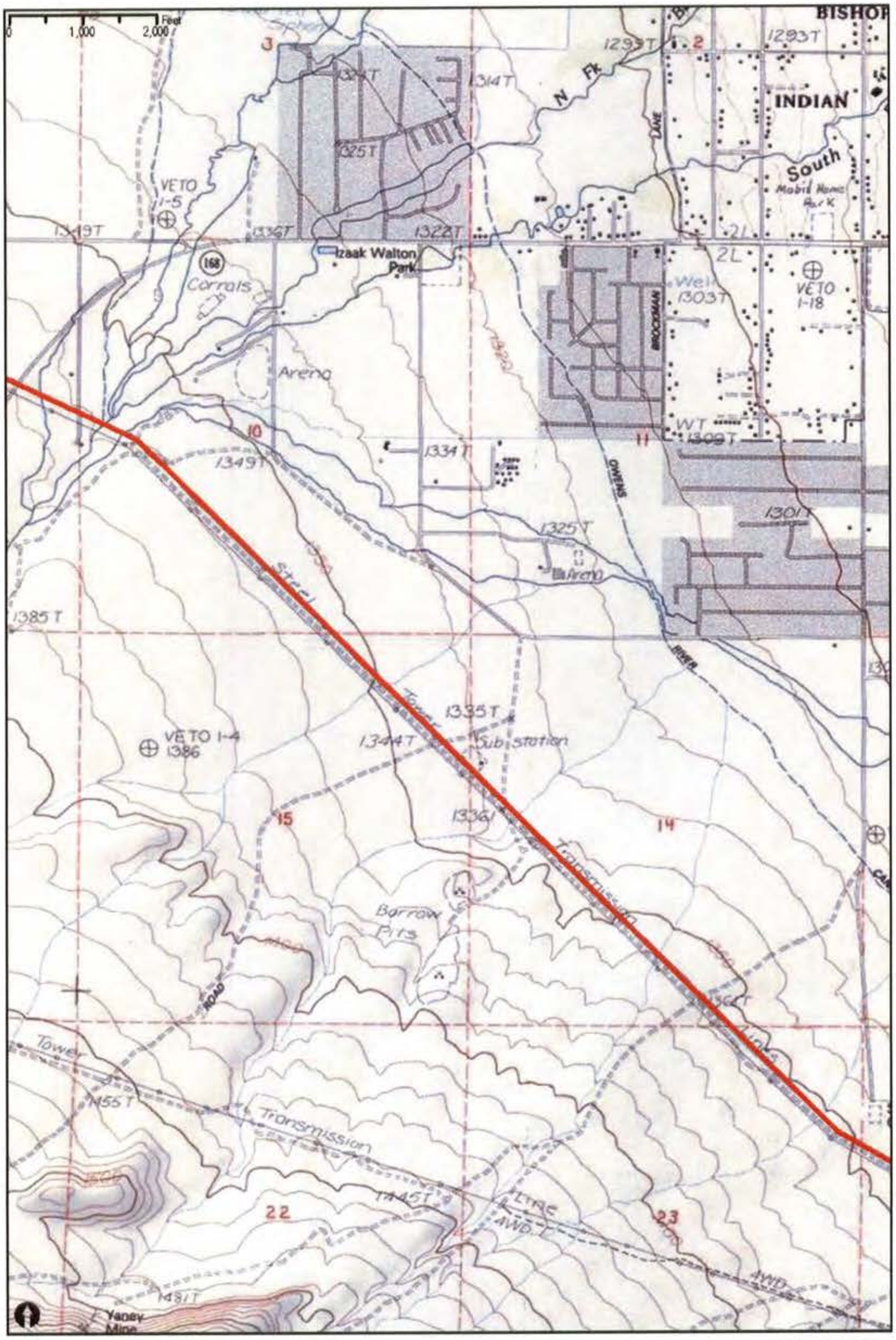


State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.

*Map Name: Bishop
*Scale: 1:24,000
*Date of Map: 1996



DPR 523I (1/95)
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

Page 13 of 78
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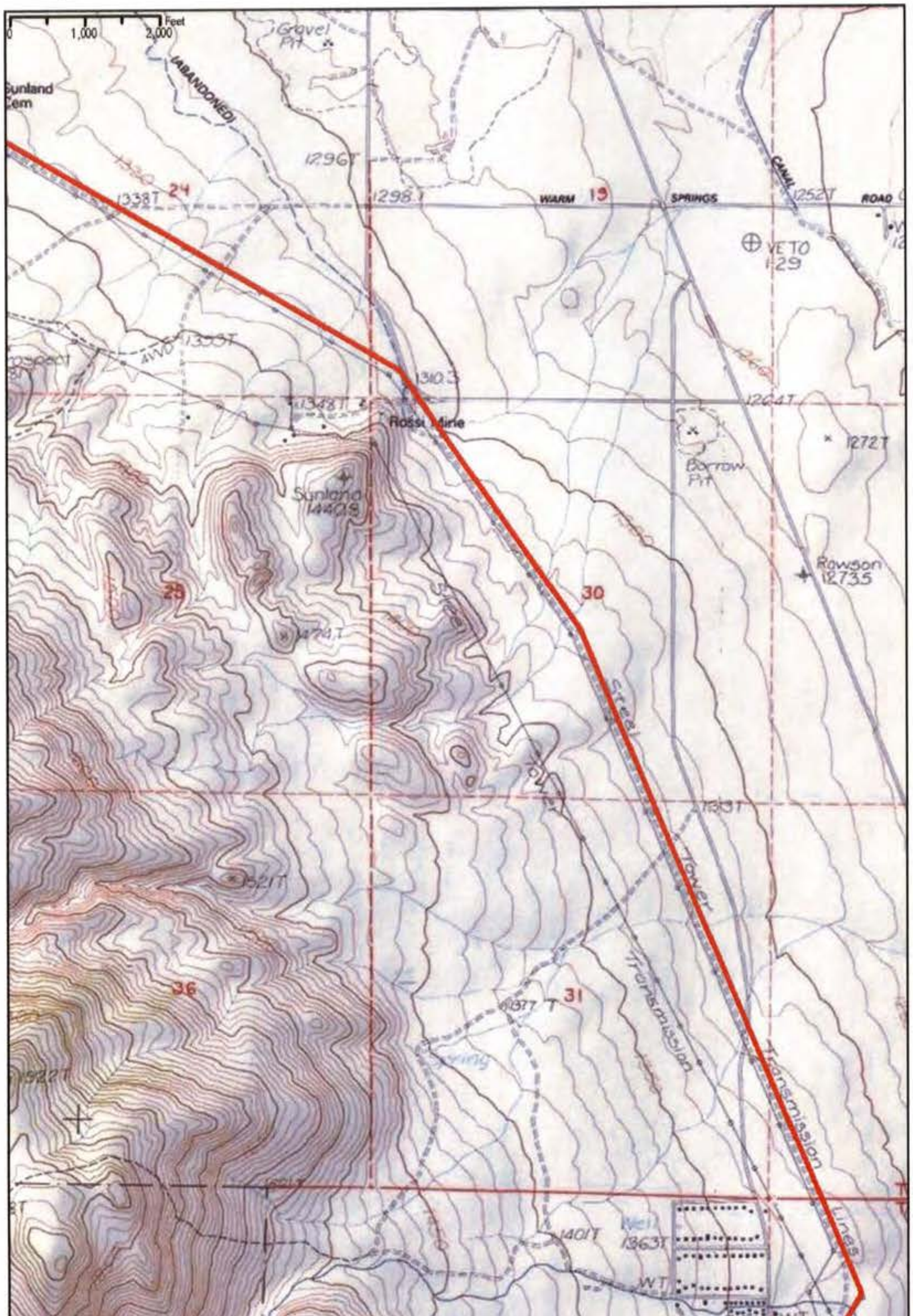
*Map Name: Bishop
*Scale: 1:24,000
*Date of Map: 1996



DPR 523I (1/95)

*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

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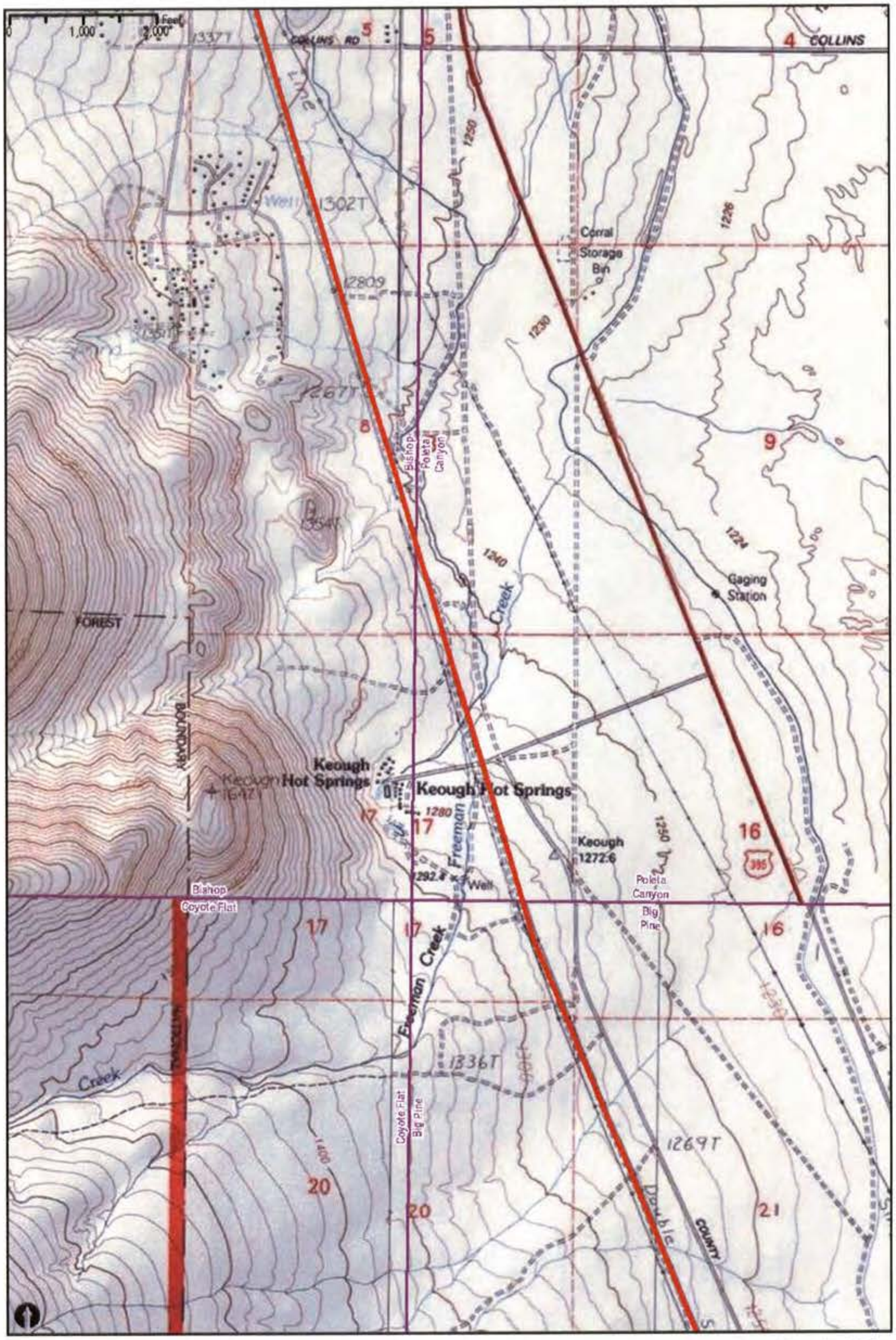

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

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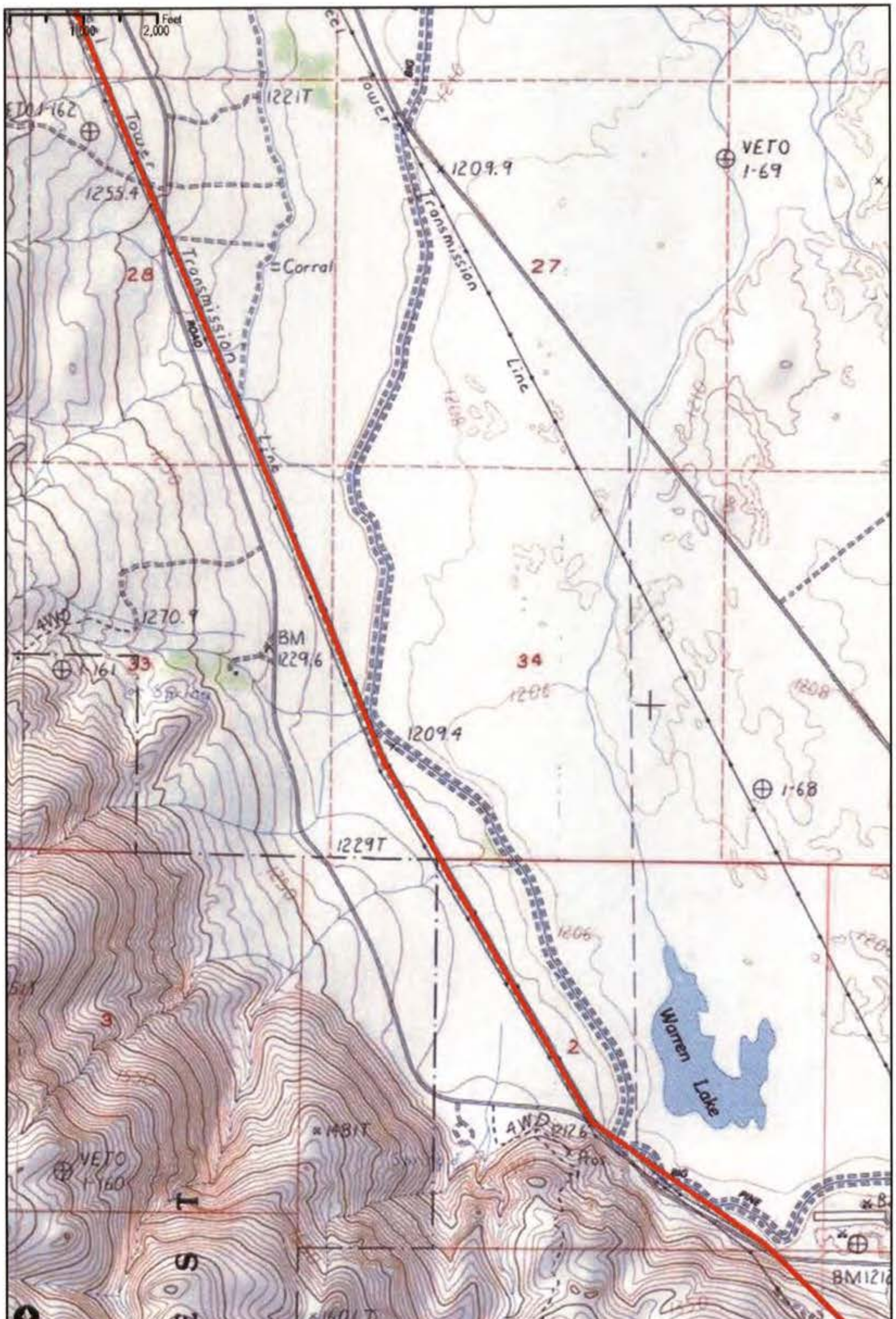

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State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

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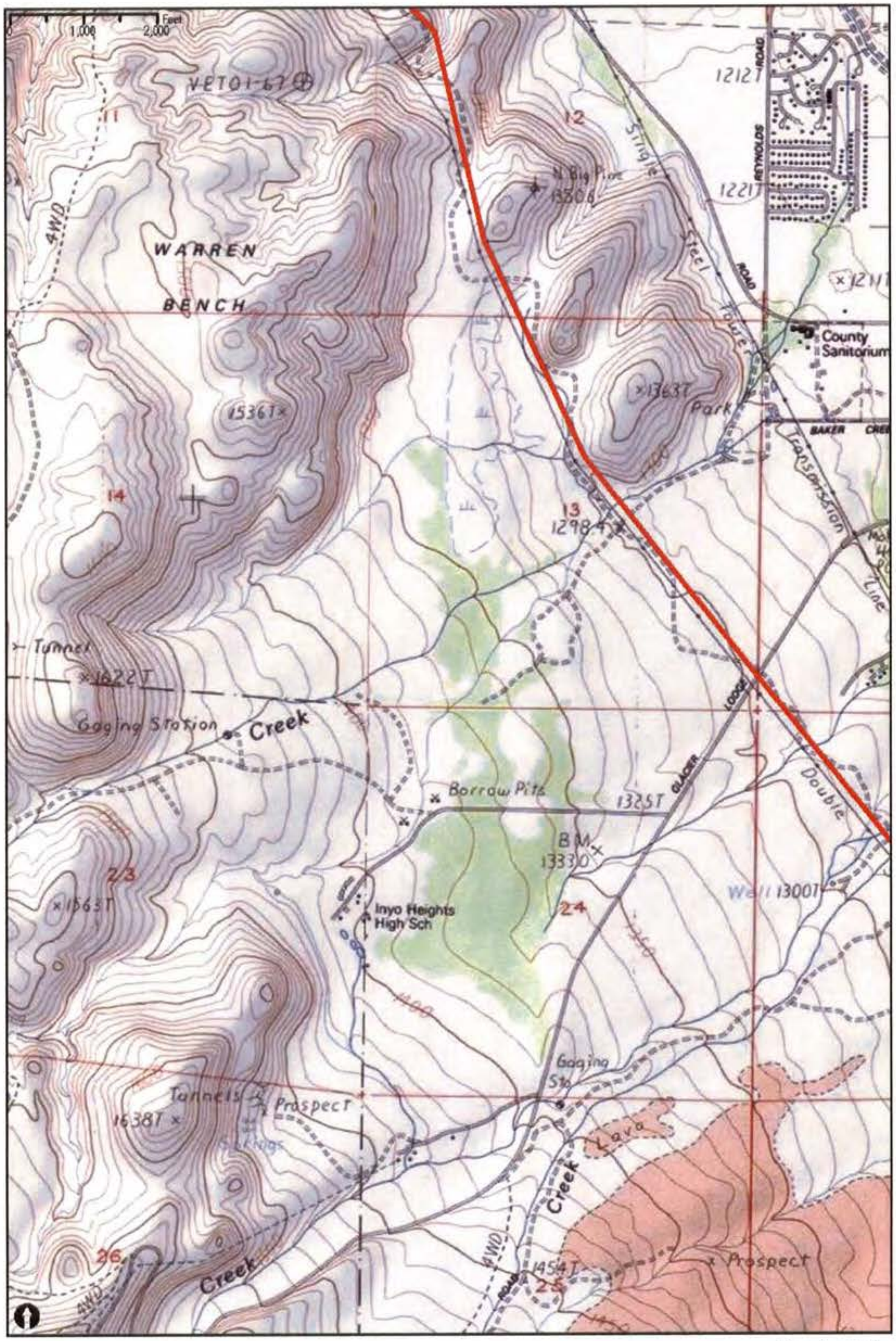

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State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

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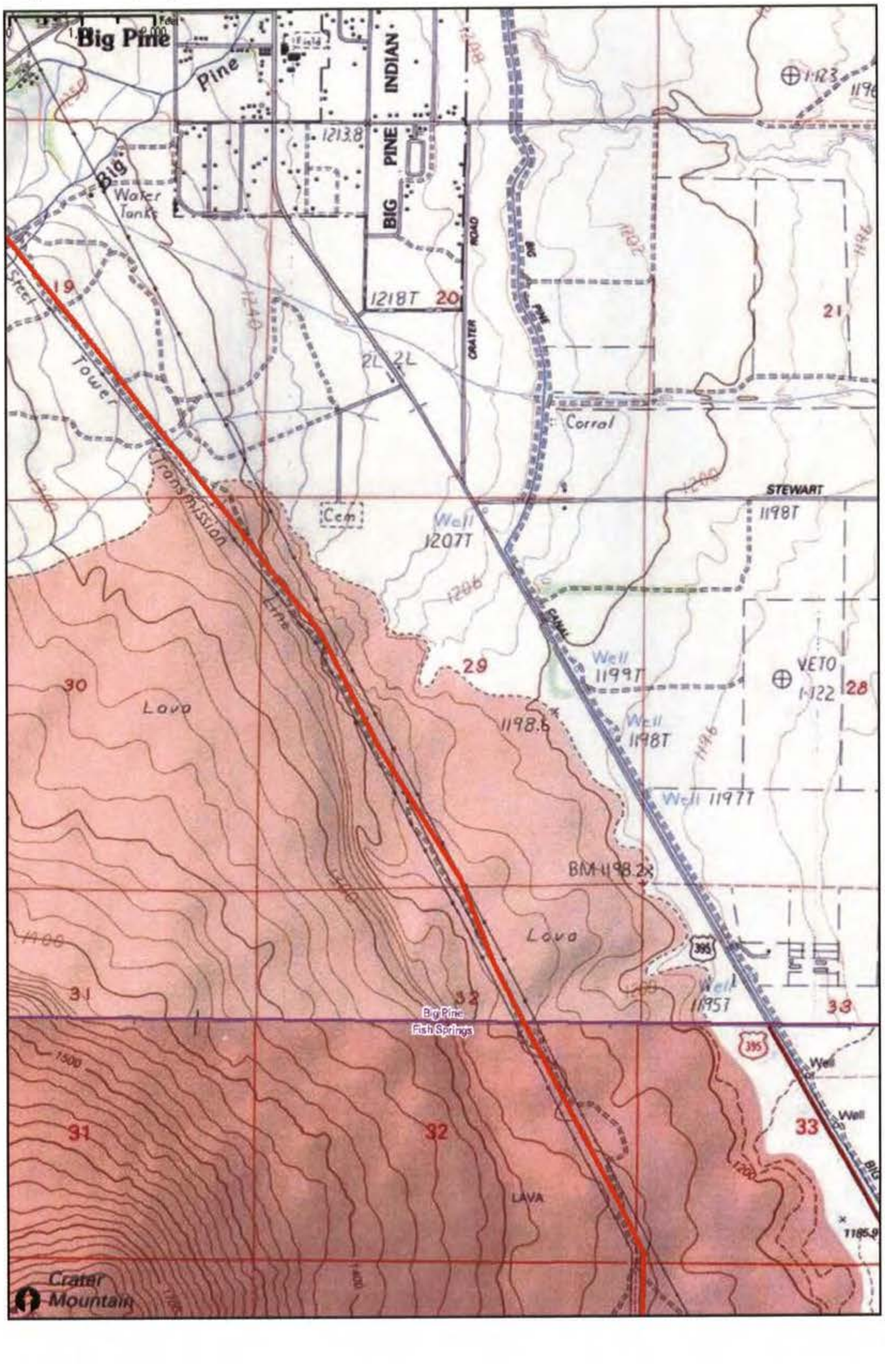
*Scale: 1:24,000
*Date of Map: 1996



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

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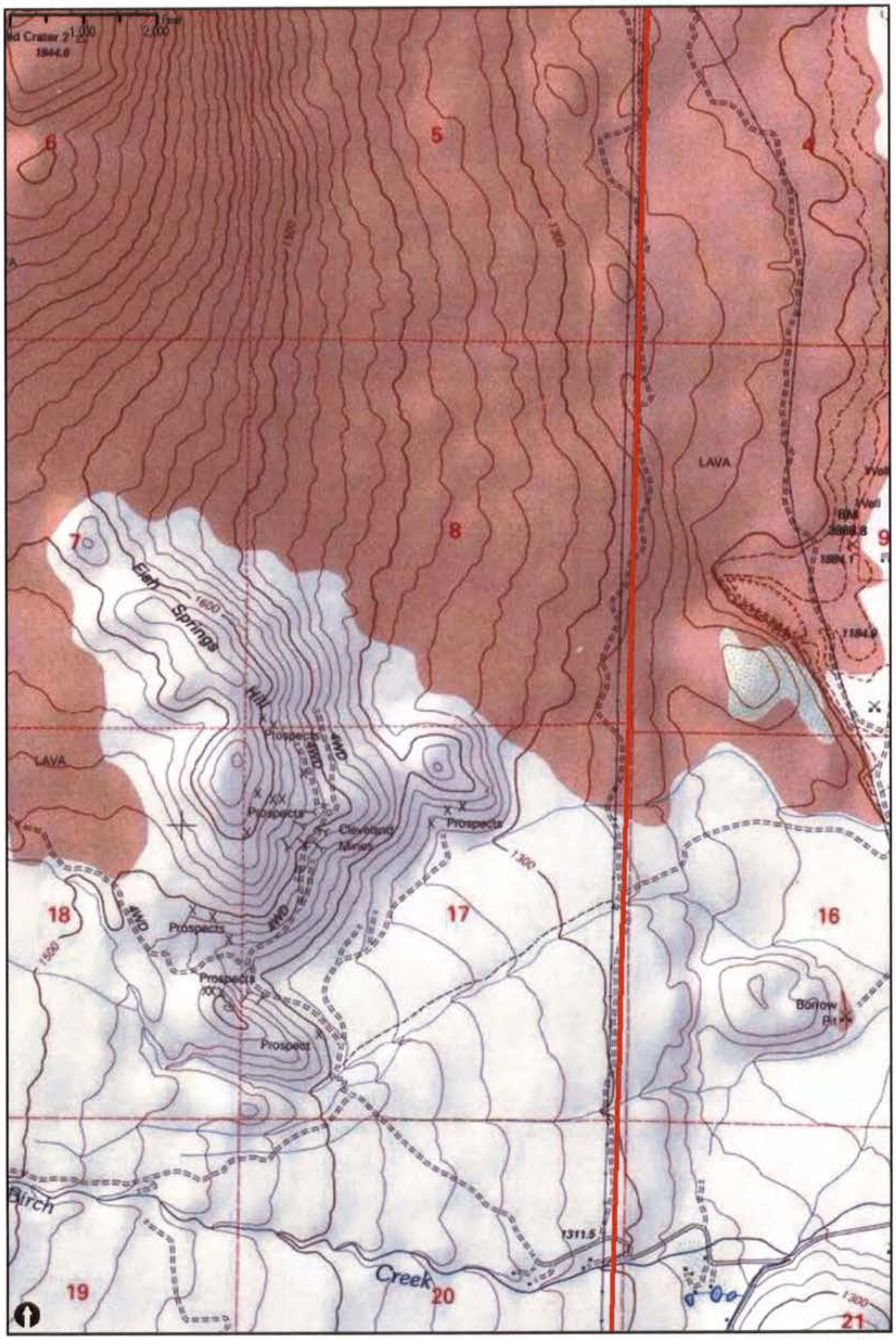

State of California — The Resources Agency DEPARTMENT OF PARKS AND RECREATION **LOCATION MAP**	Primary # P-15-018681 HRI# Trinomial CA-KER-10204 H

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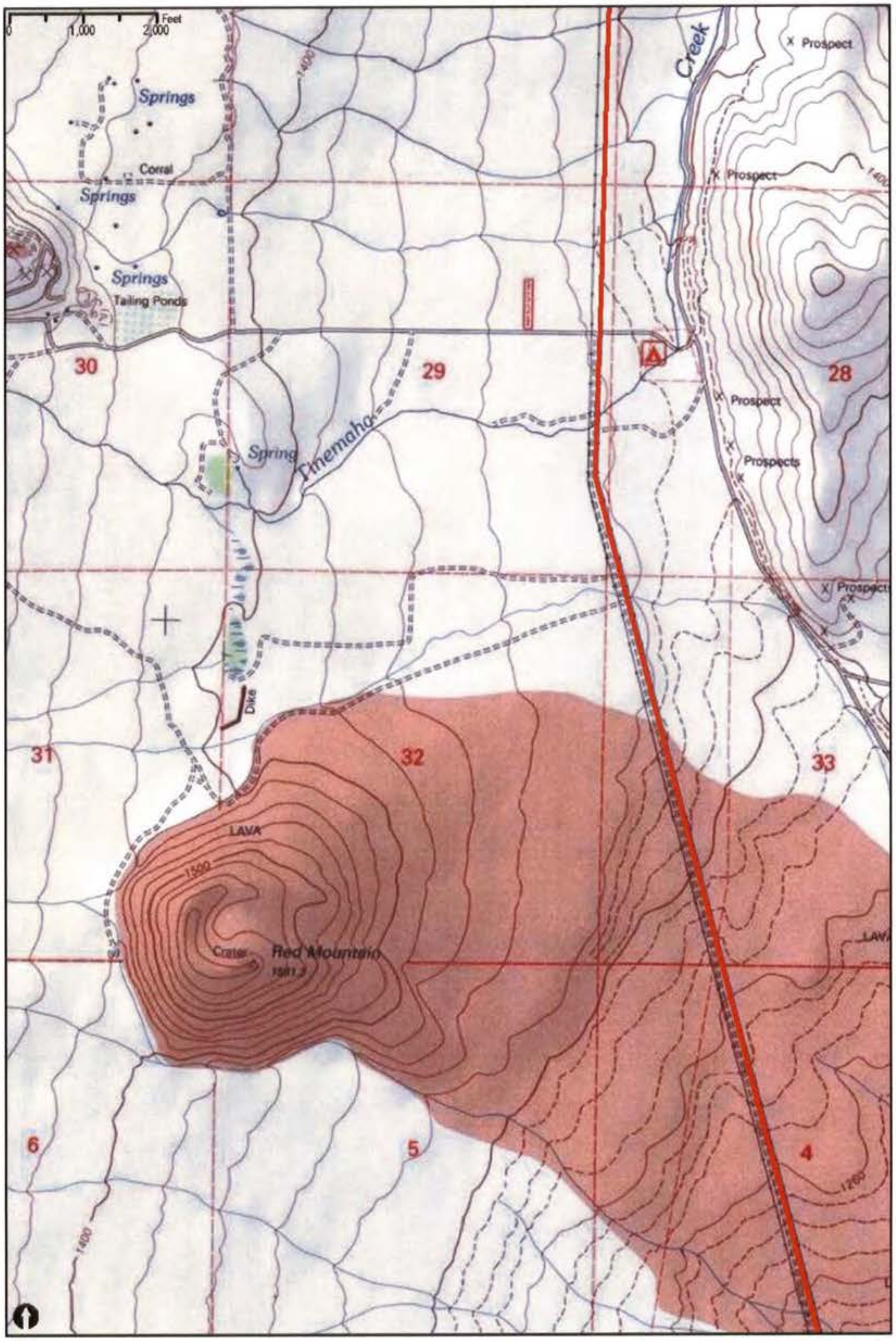
***Map Name: Fish Springs** ***Scale: 1:24,000** ***Date of Map: 1996**



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

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HRI#
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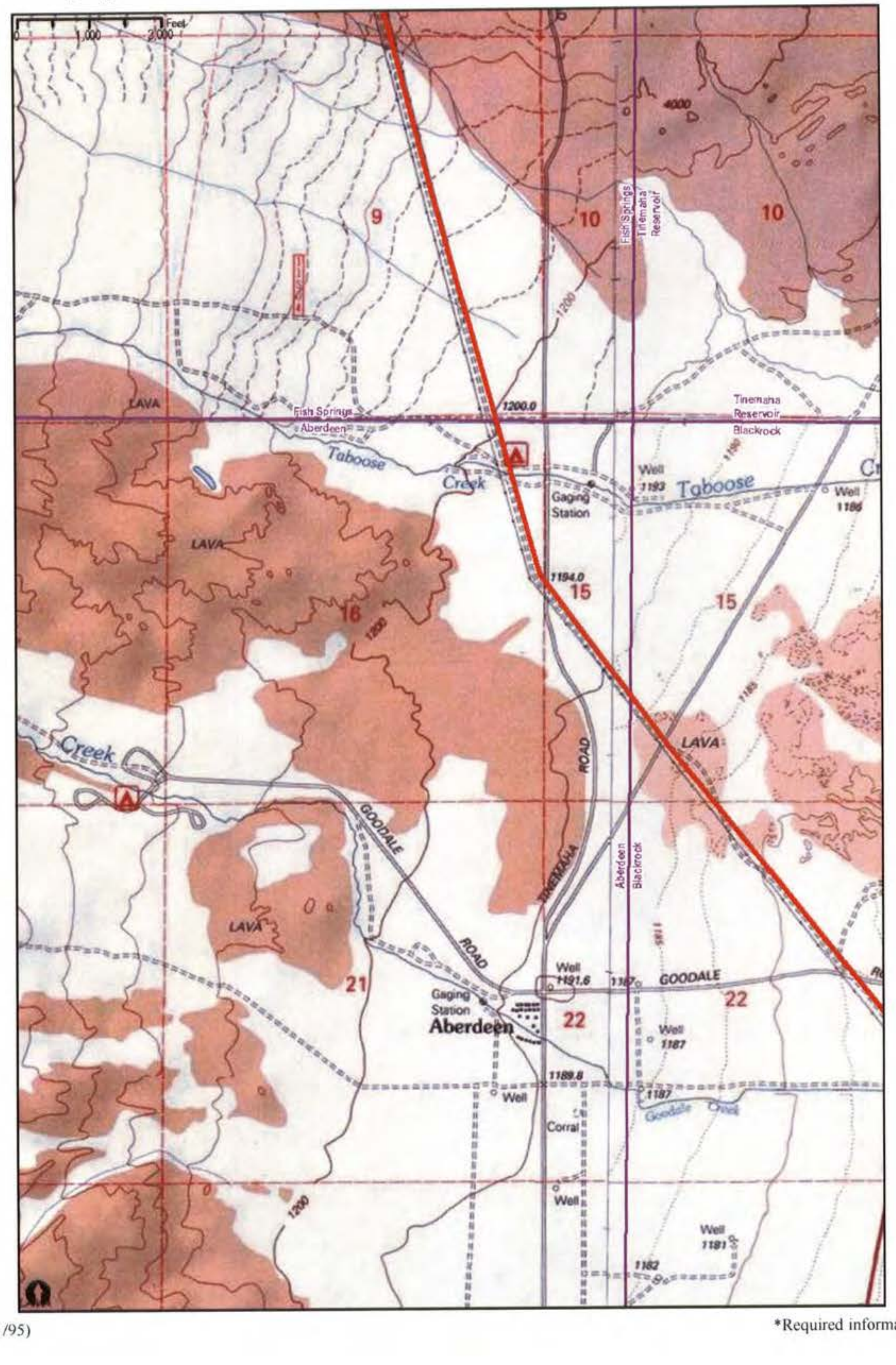

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State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

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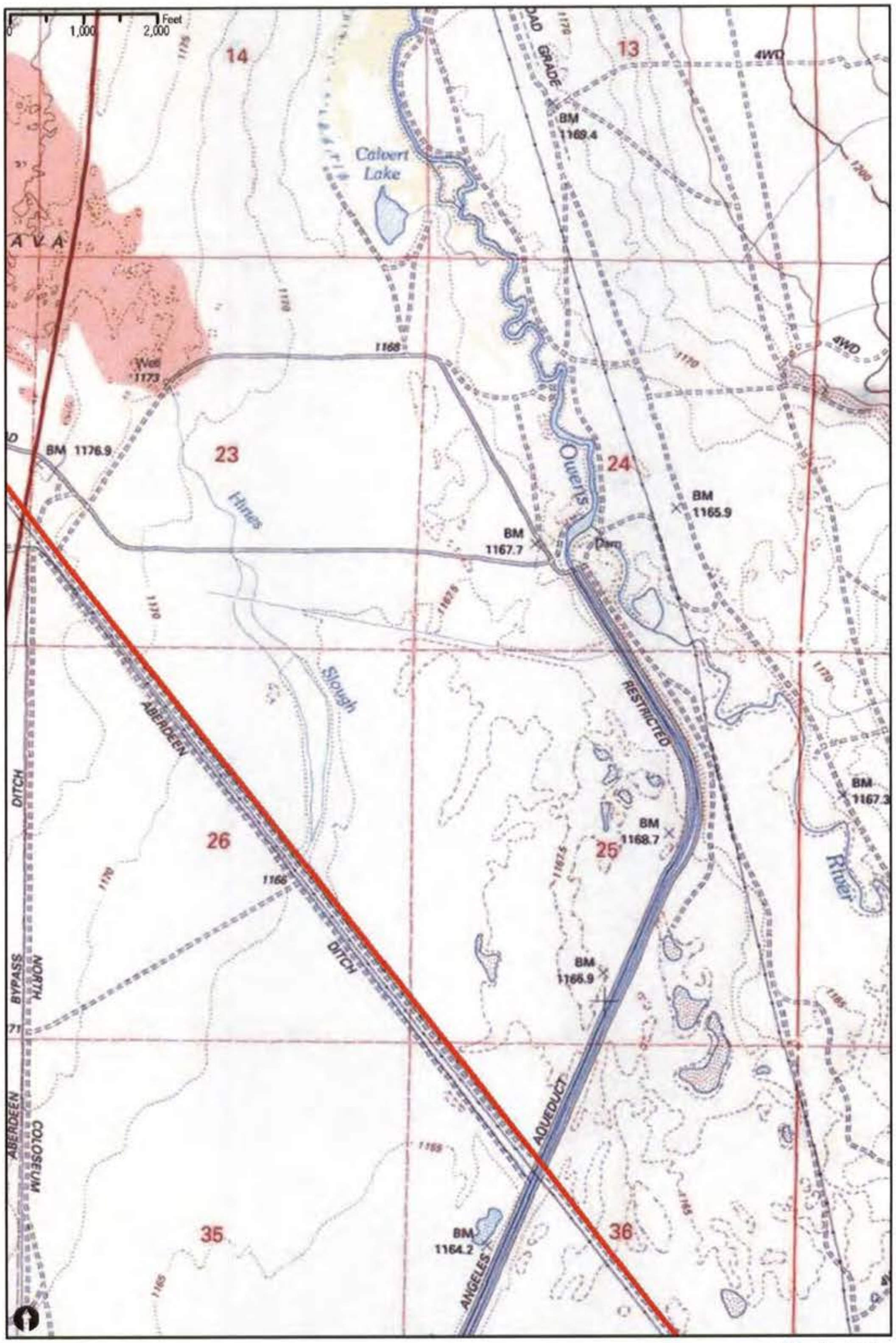

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State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
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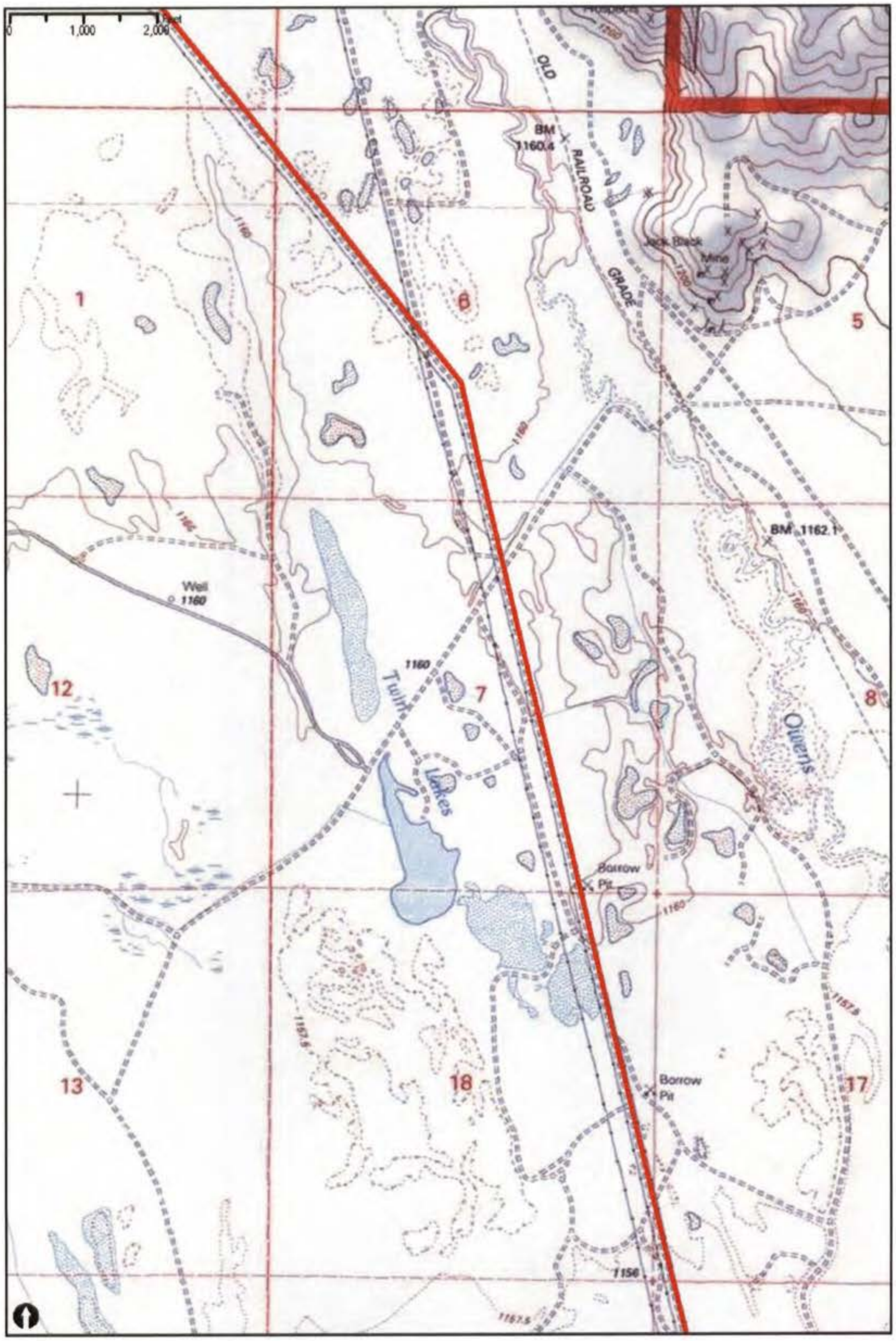

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

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HRI#
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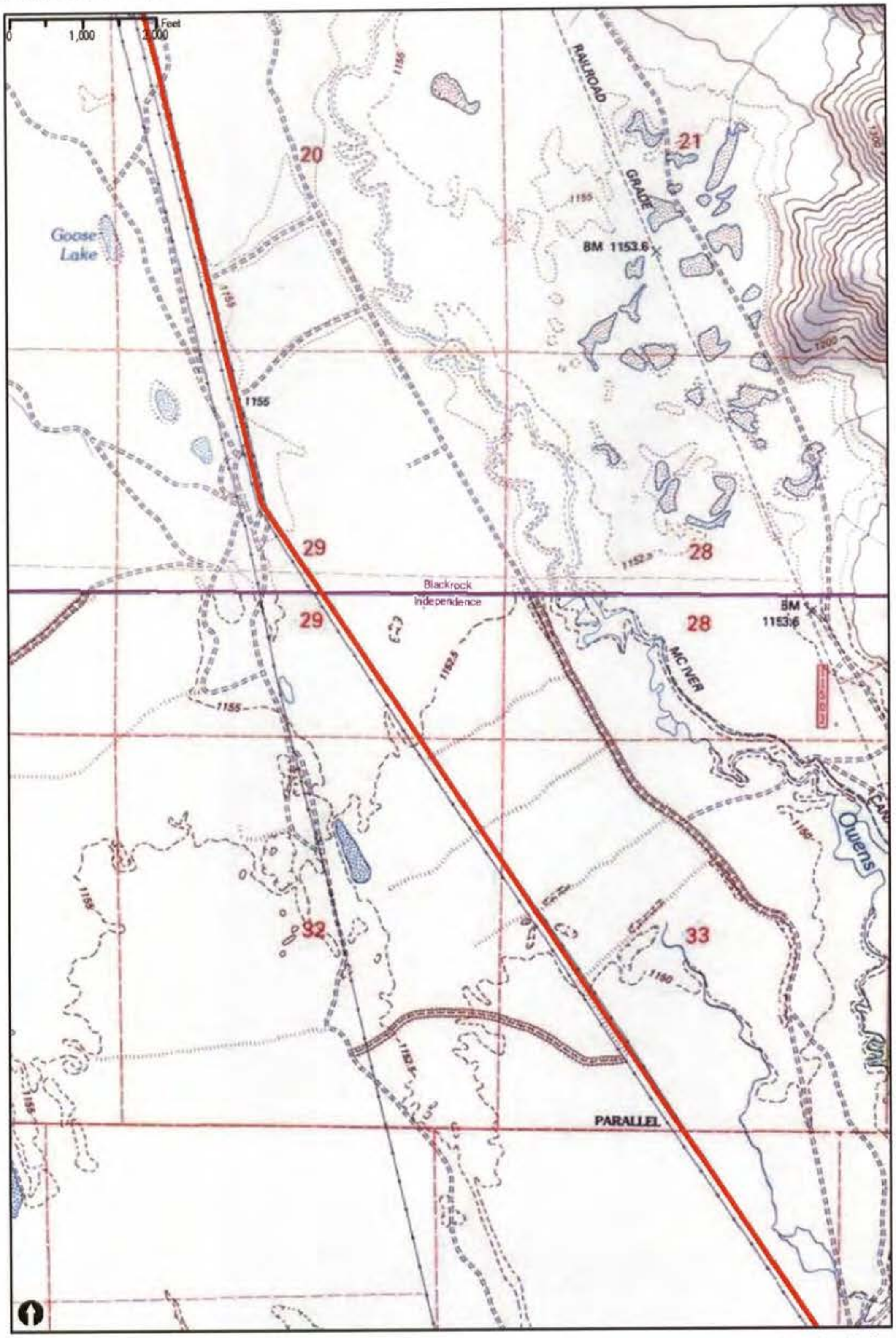
*Map Name: Black Rock/Independence *Scale: 1:24,000 *Date of Map: 1996



DPR 523I (1/95) *Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

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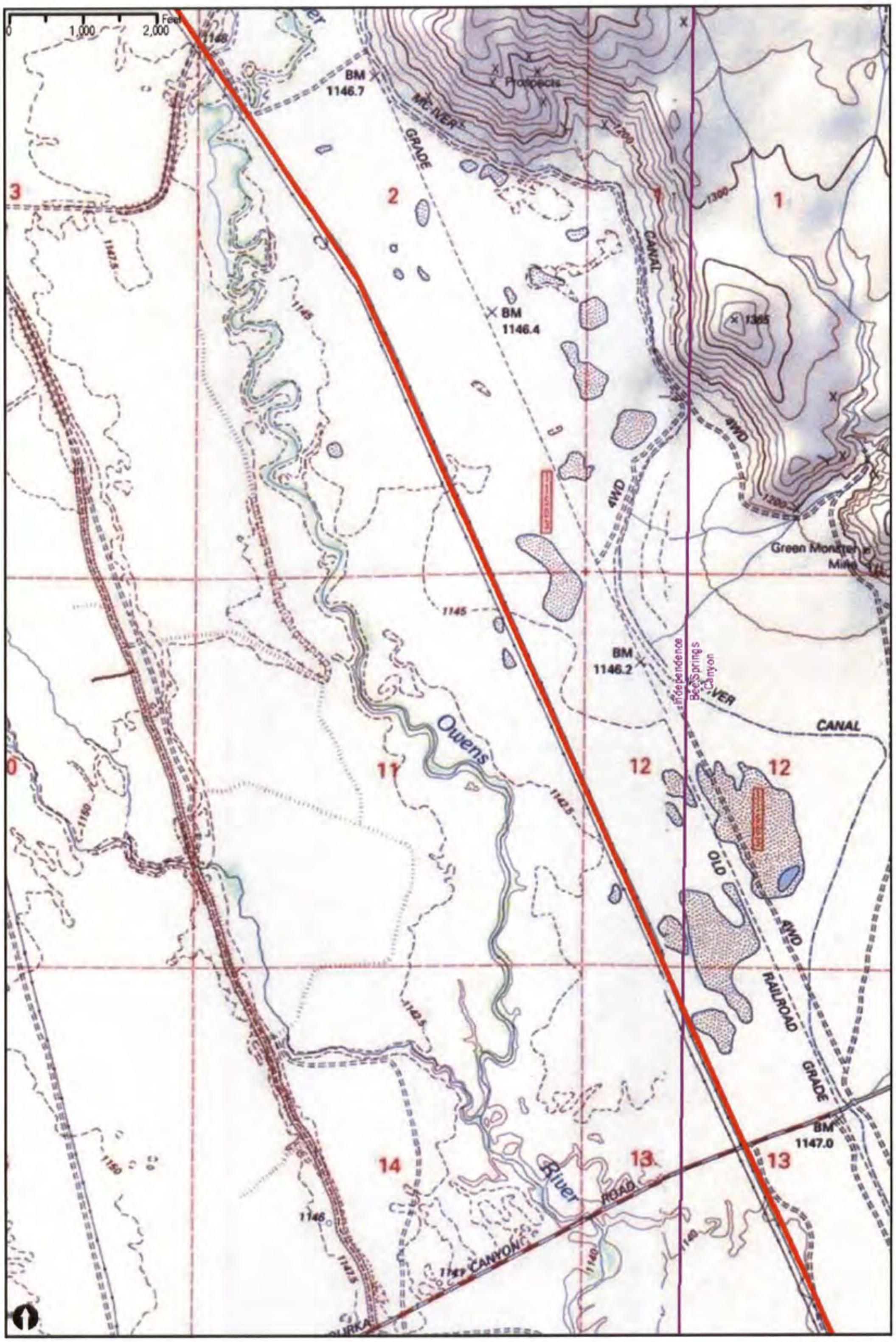

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

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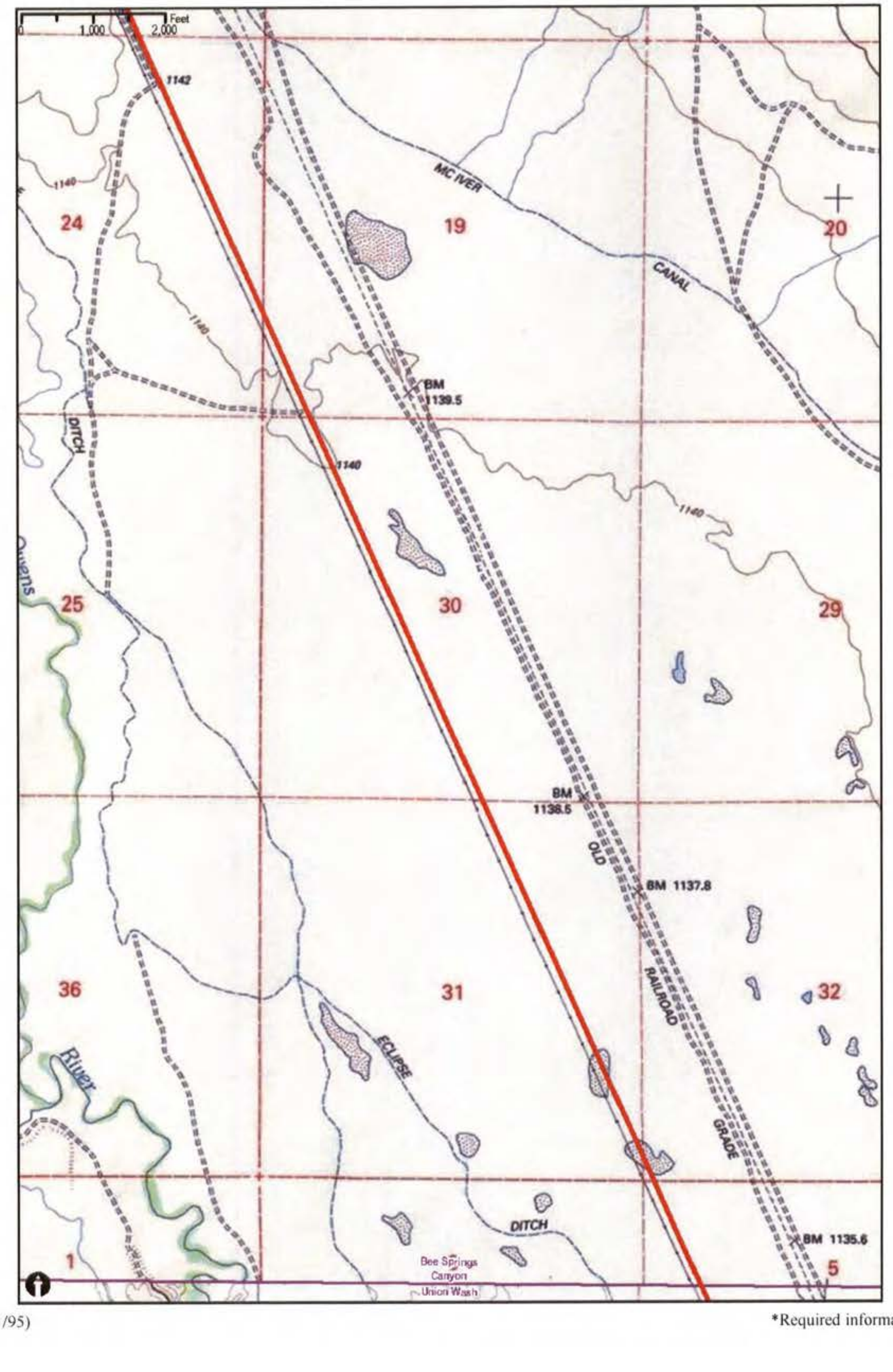


DPR 523I (1/95) *Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

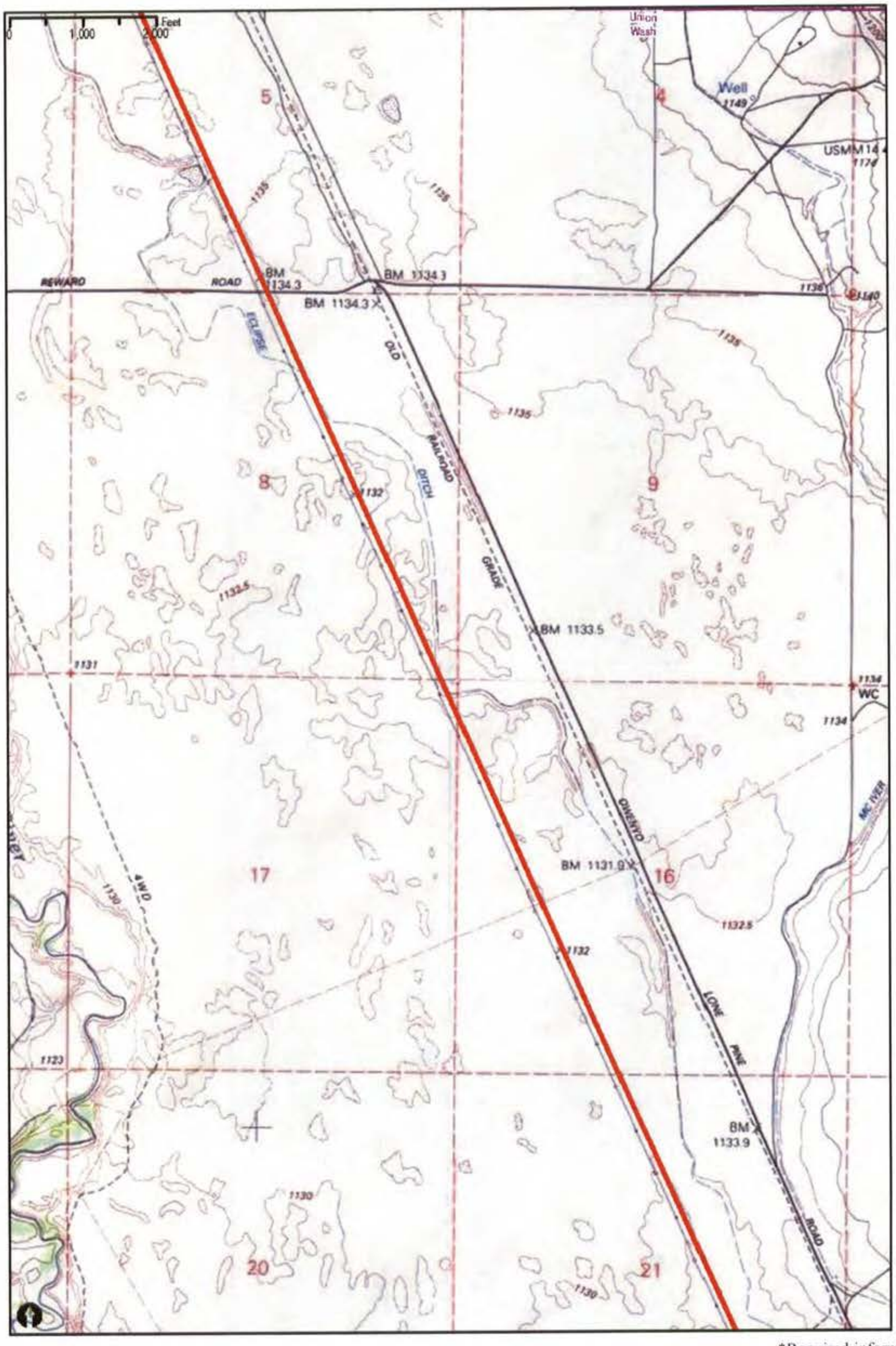
Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.

*Map Name: Union Wash

*Scale: 1:24,000

*Date of Map: 1996



*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

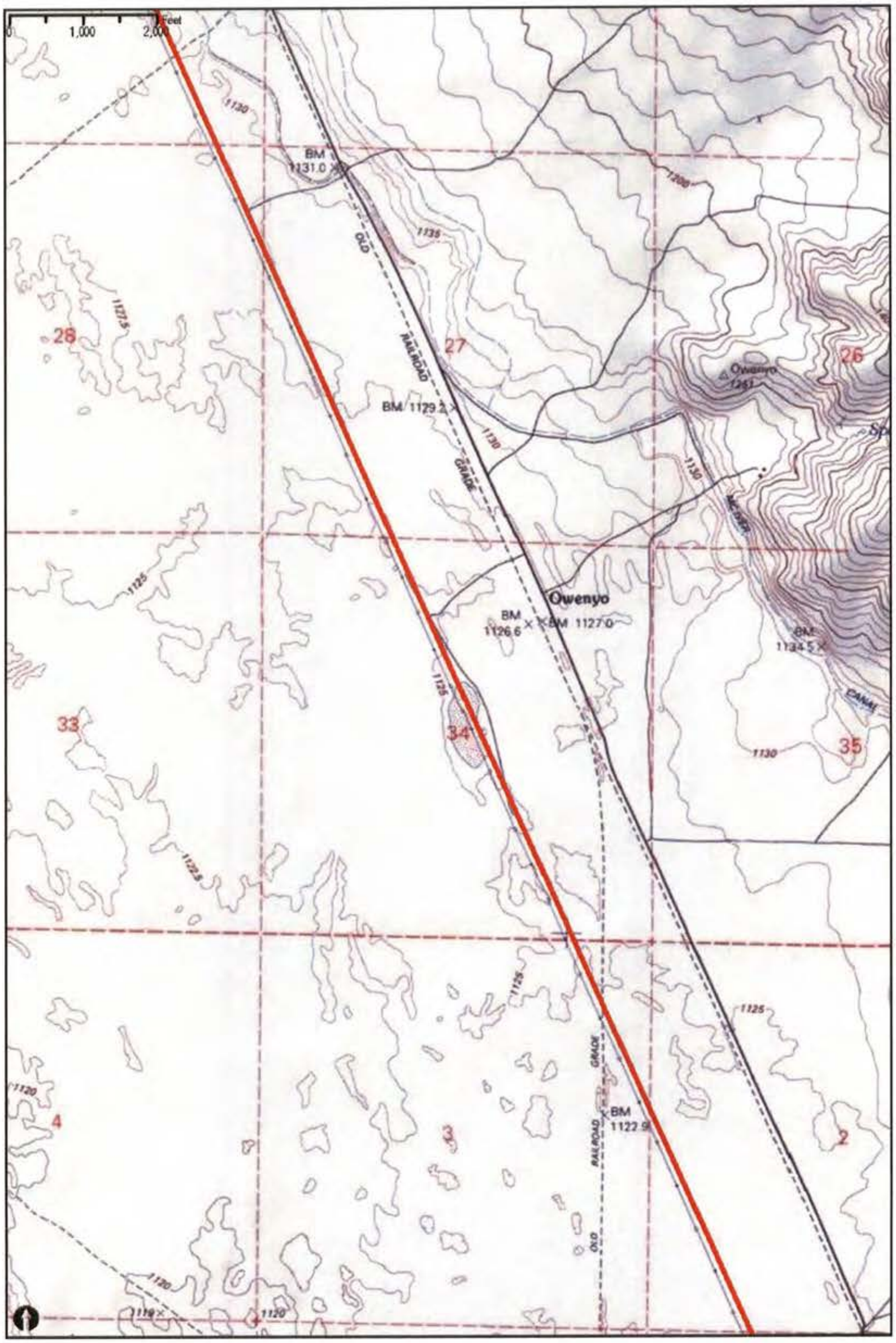
Primary # P-15-018681
HRI#
Trinomial CA-KER-10204H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.

*Map Name: Union Wash

*Scale: 1:24,000

*Date of Map: 1996



*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

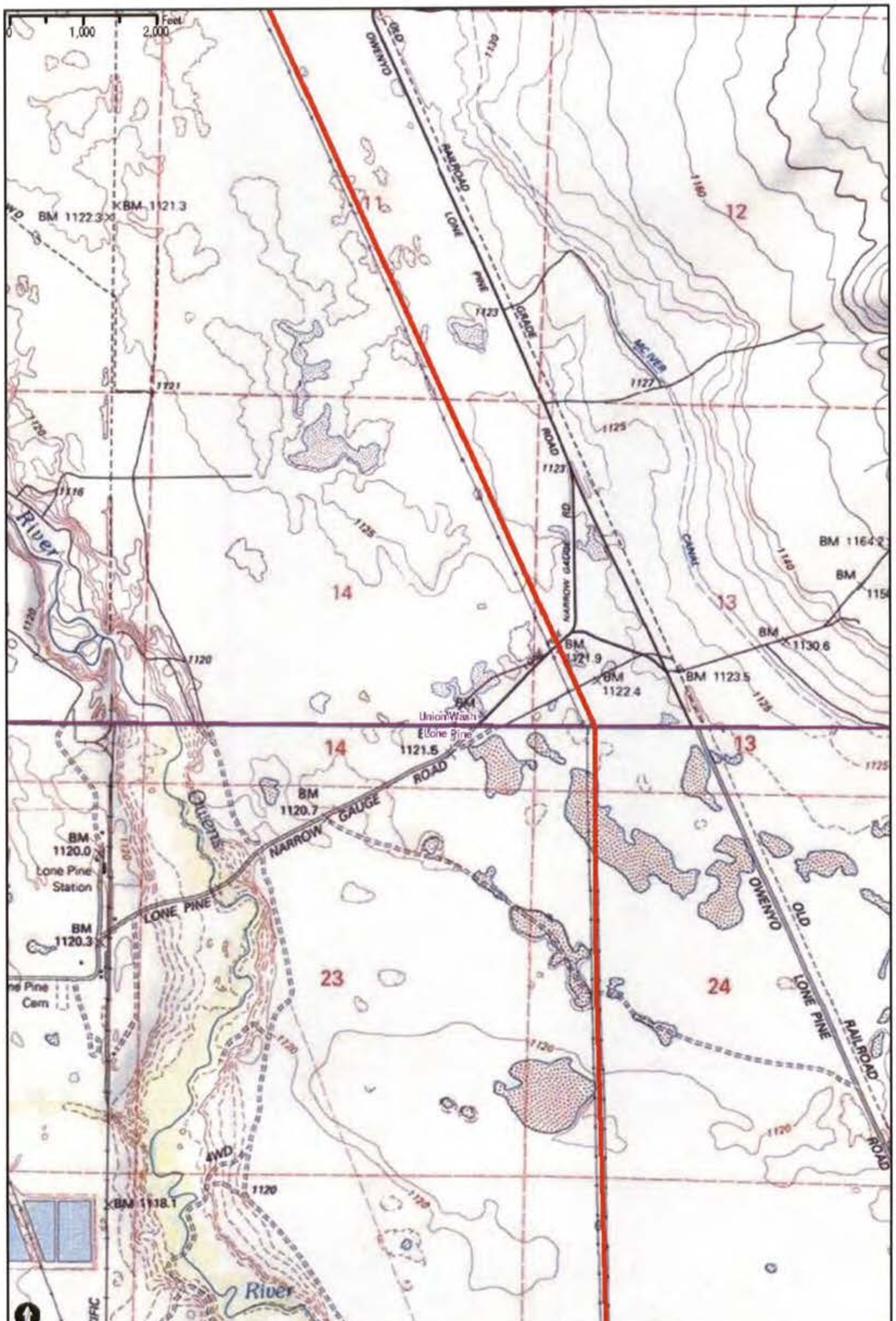
Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.

*Map Name: Union Wash/Lone Pine

*Scale: 1:24,000

*Date of Map: 1996



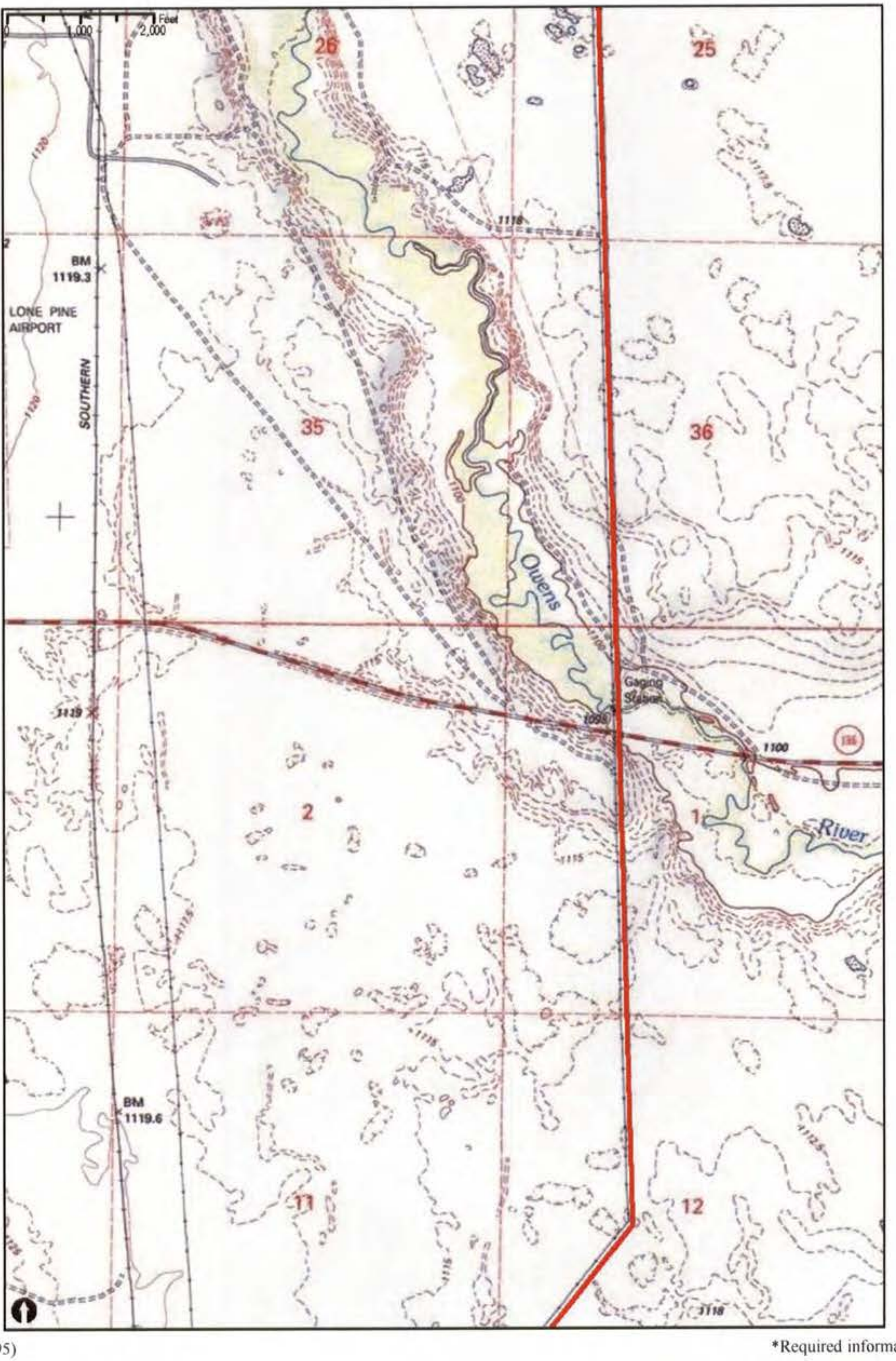
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

***Resource Name or #:** LADWP Owens Gorge 230kV transmission line.

***Map Name: Lone Pine** ***Scale: 1:24,000** ***Date of Map: 1996**



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

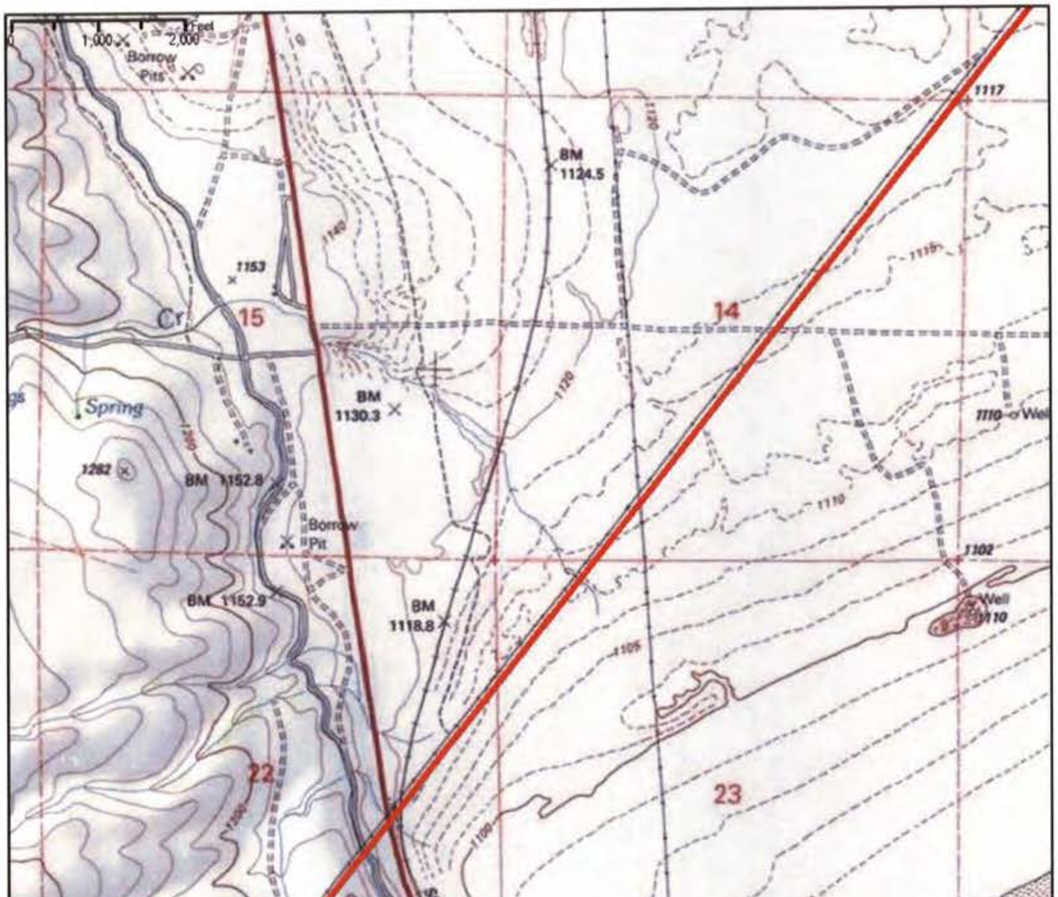
Primary # P-15-018681
HRI#
Trinomial CA-KER-10204H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.

*Map Name: Lone Pine

*Scale: 1:24,000

*Date of Map: 1996

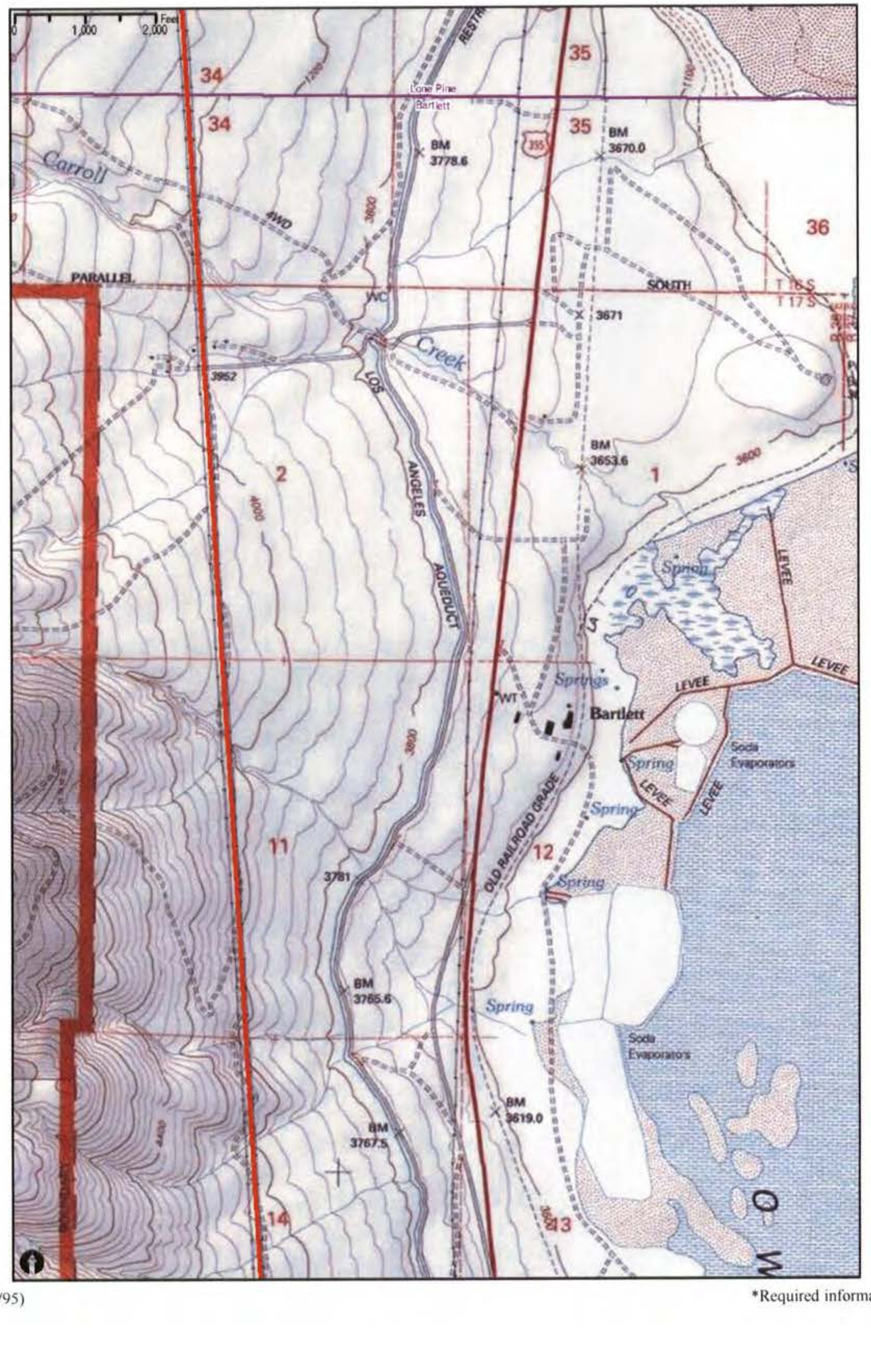


*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.
*Map Name: Lone Pine/Bartlett
*Scale: 1:24,000
*Date of Map: 1996



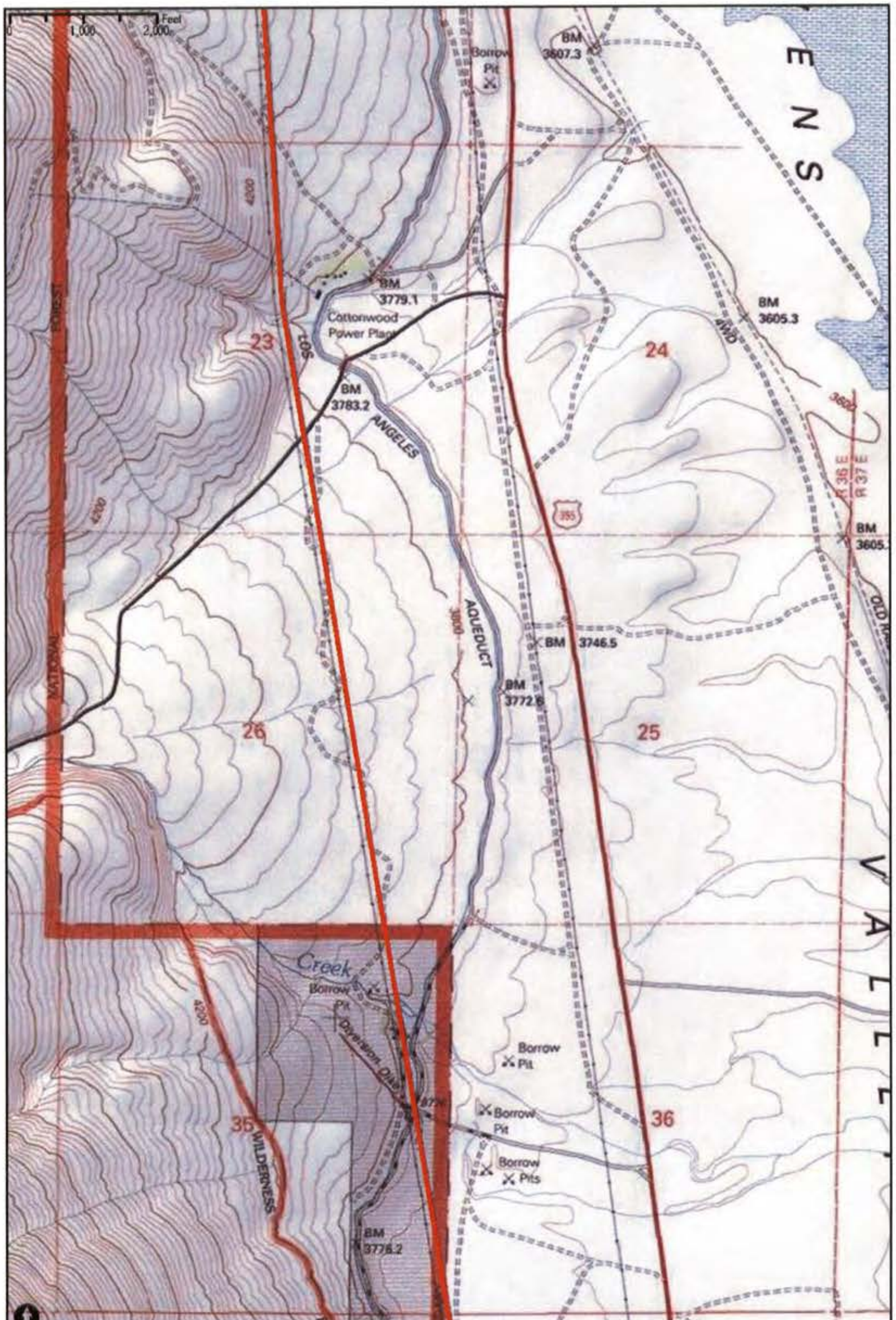
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.

*Map Name: Bartlett *Scale: 1:24,000 *Date of Map: 1996



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204H

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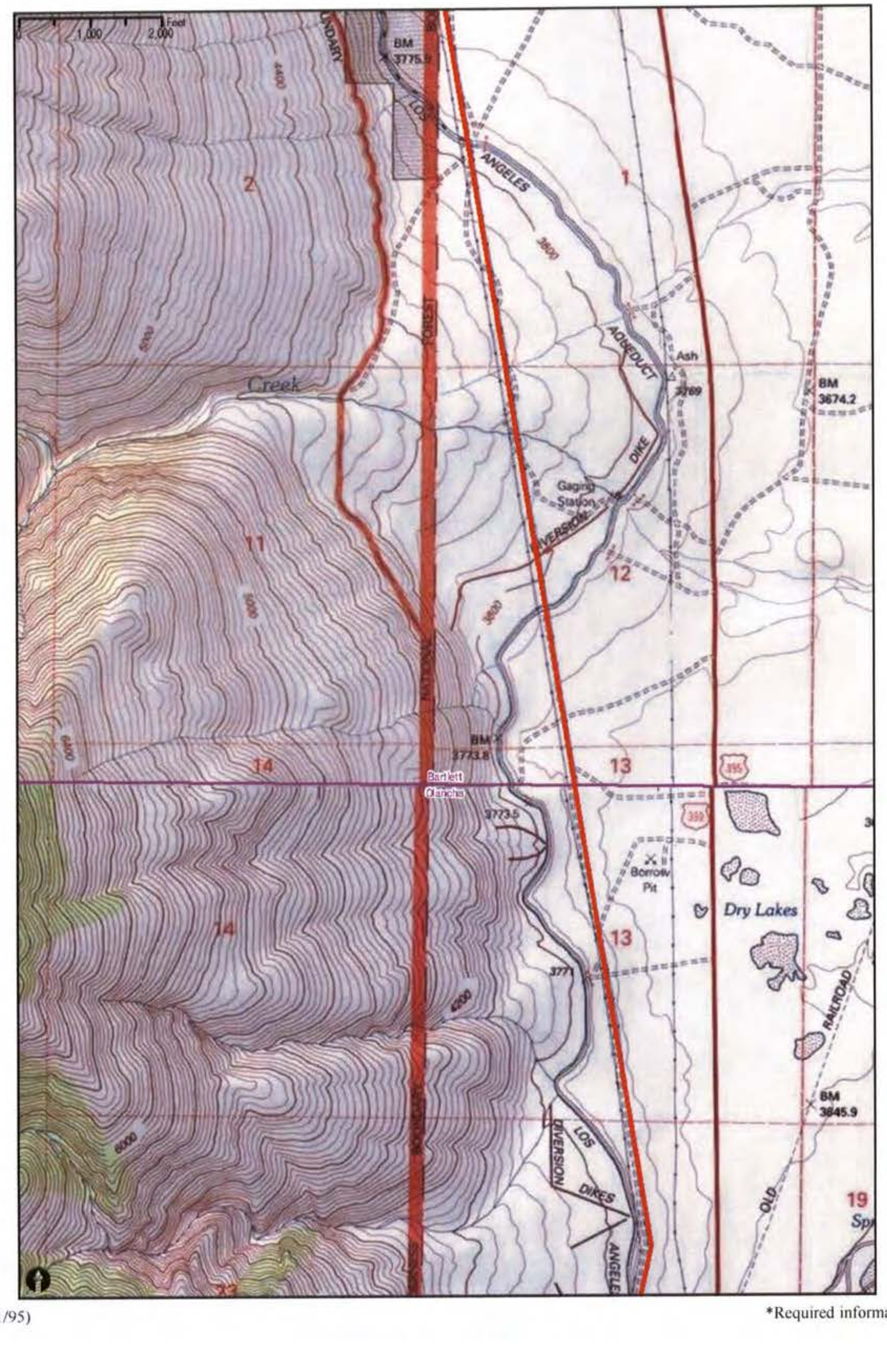
*Resource Name or #: LADWP Owens Gorge 230kV transmission line.
*Map Name: Bartlett/Olancha
*Scale: 1:24,000
*Date of Map: 1996



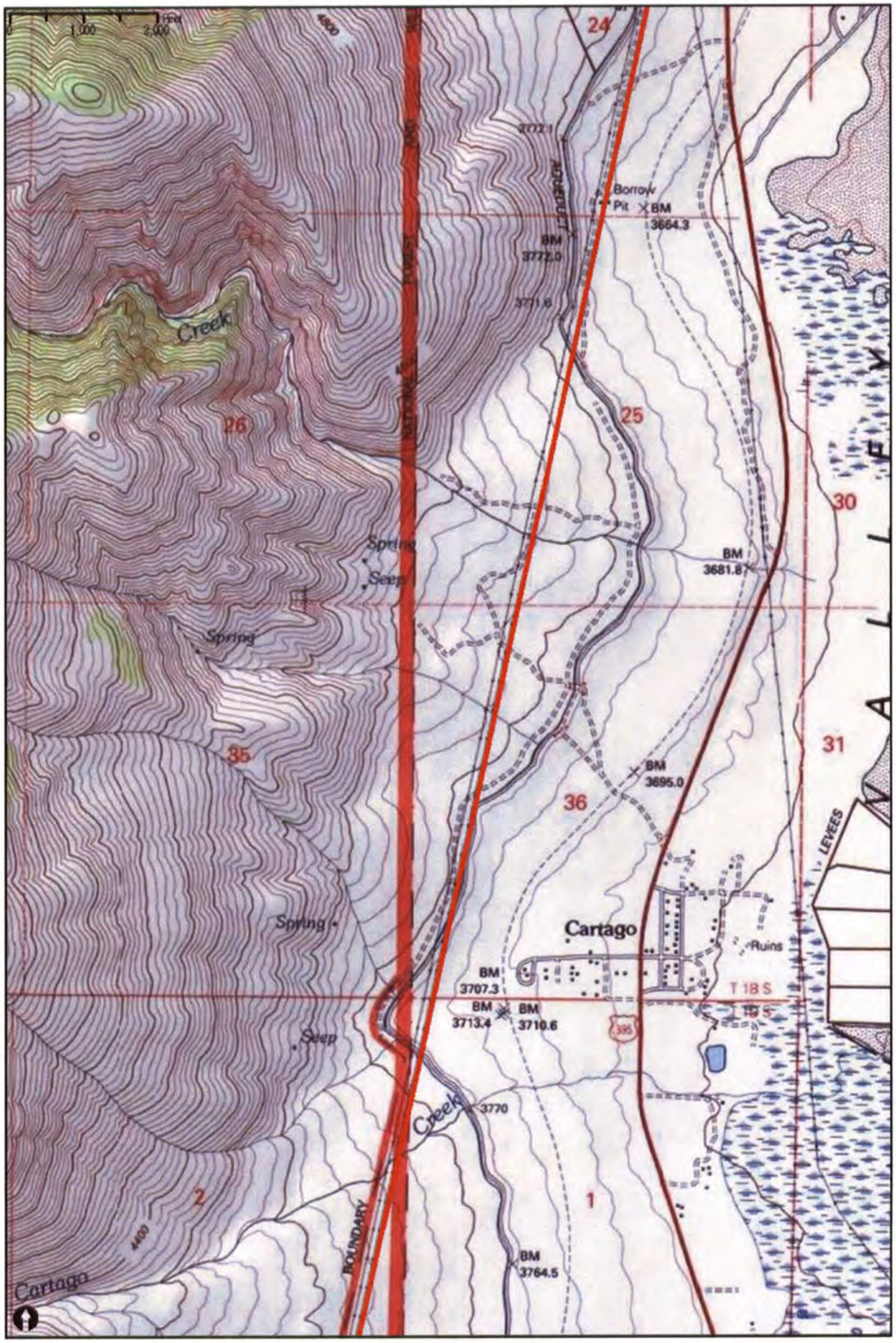
DPR 523I (1/95)
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.

*Map Name: Olancha *Scale: 1:24,000 *Date of Map: 1996



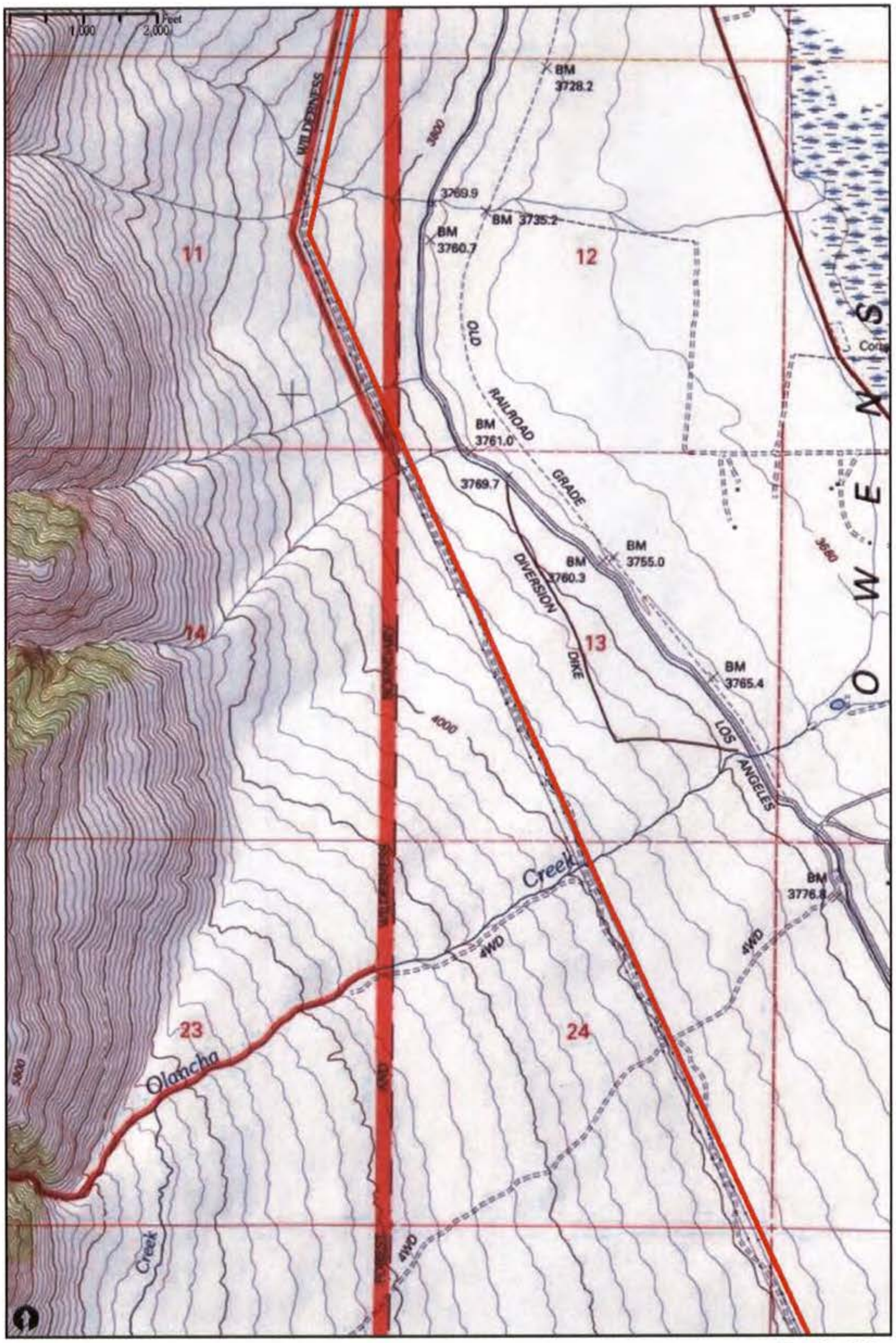
DPR 523I (1/95) *Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.

*Map Name: Olancha
*Scale: 1:24,000
*Date of Map: 1996

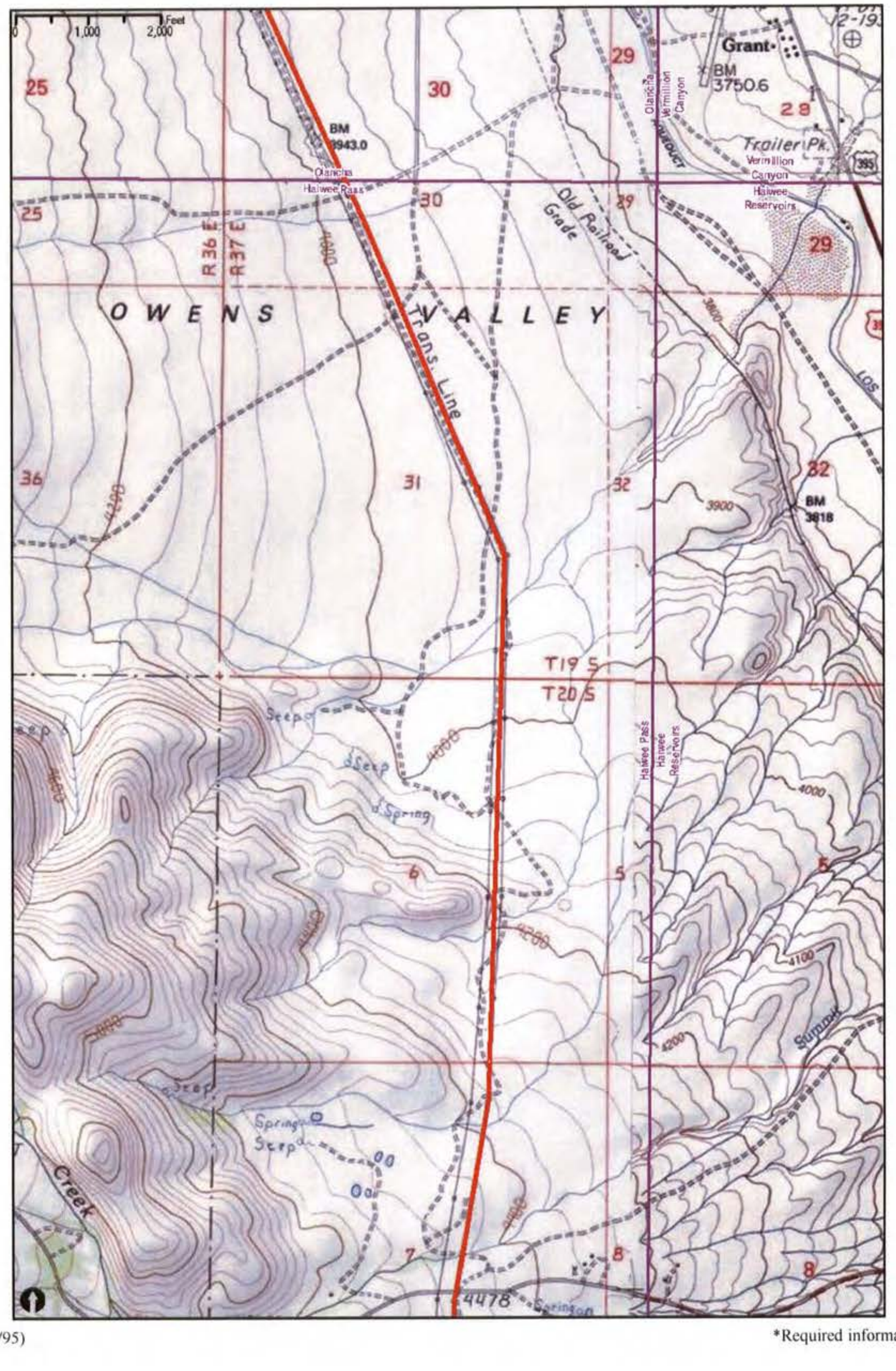


State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.

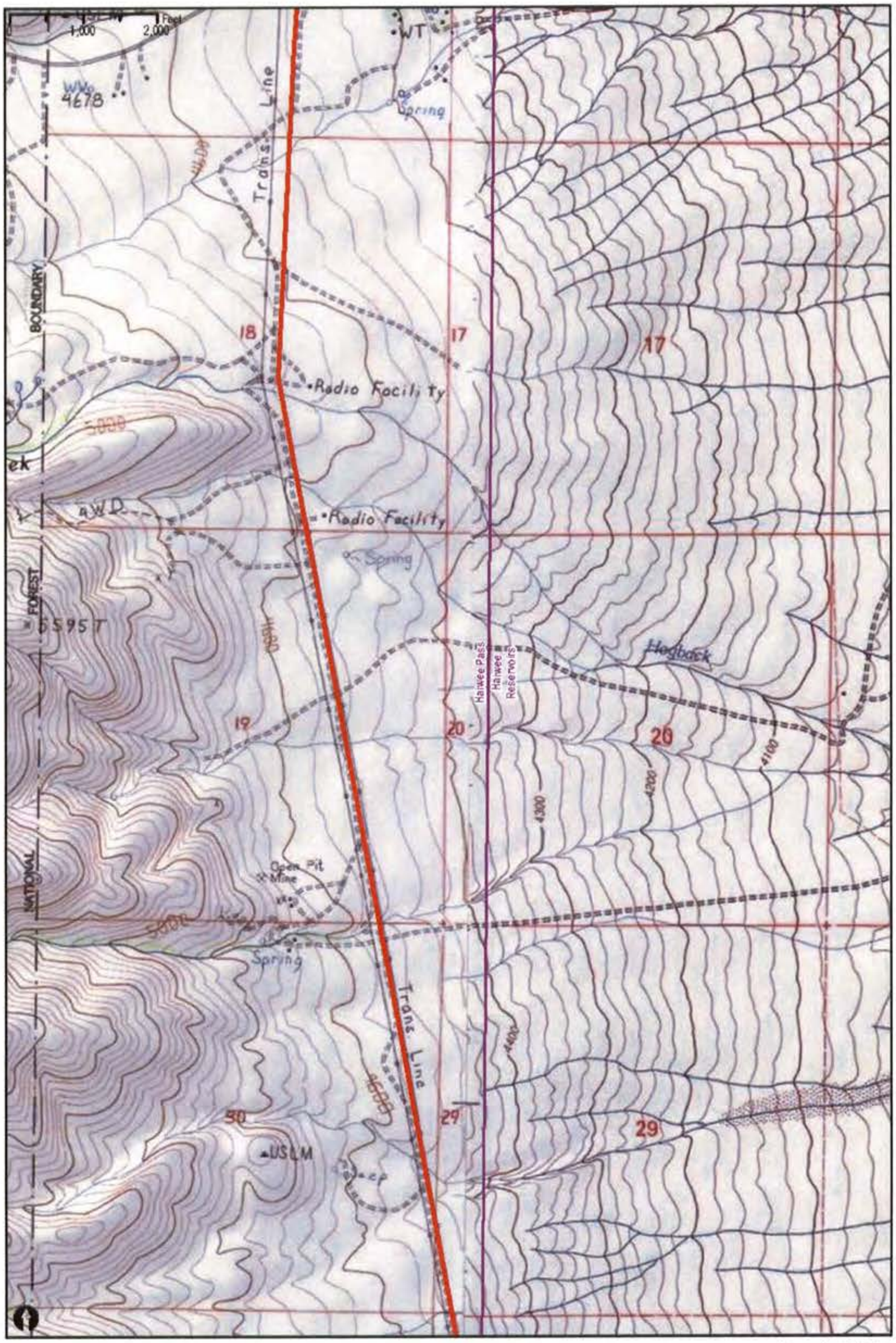
*Map Name: Olancha/Haiwee Pass *Scale: 1:24,000 *Date of Map: 1996



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.
*Map Name: Haiwee Pass
*Scale: 1:24,000
*Date of Map: 1996



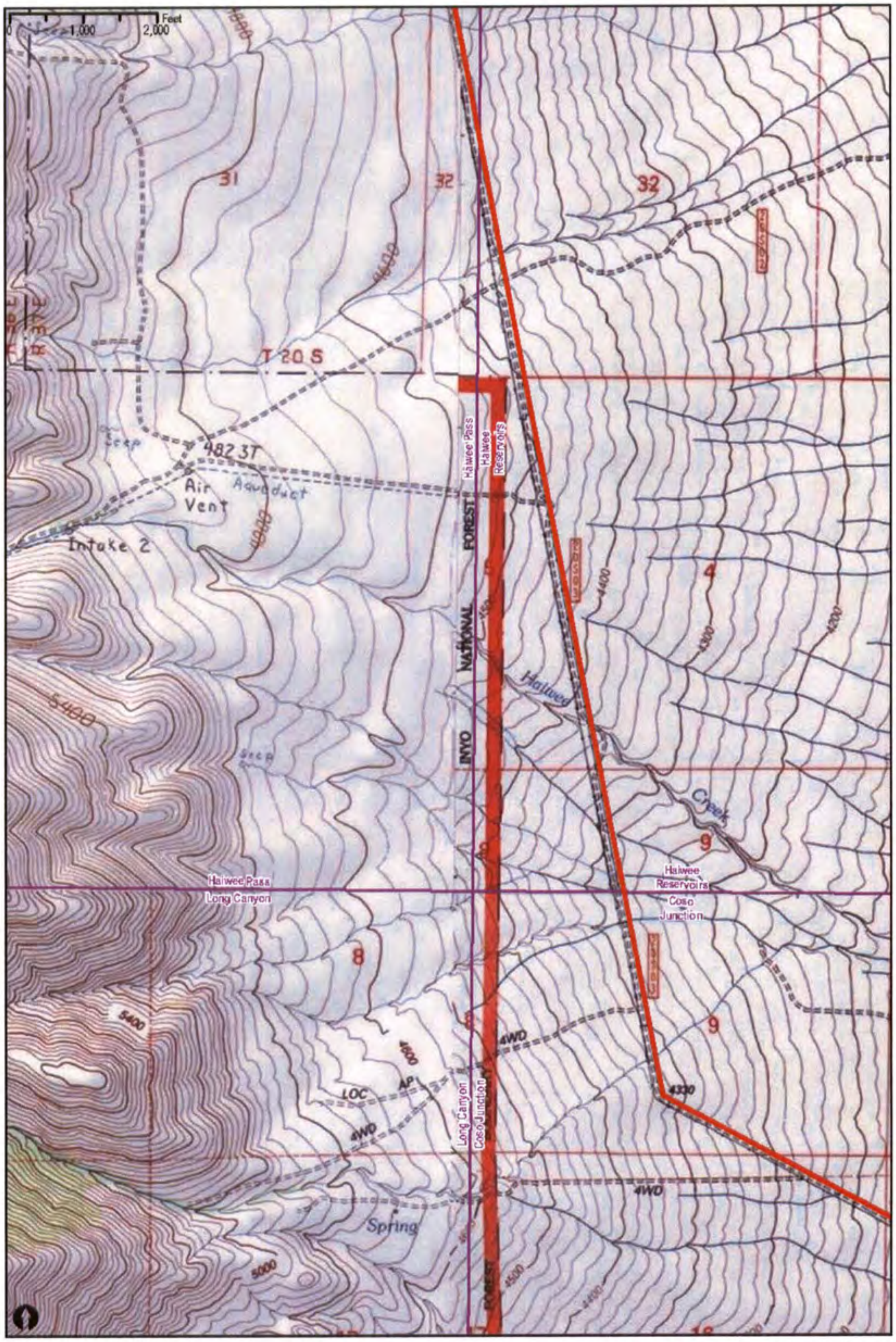
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.

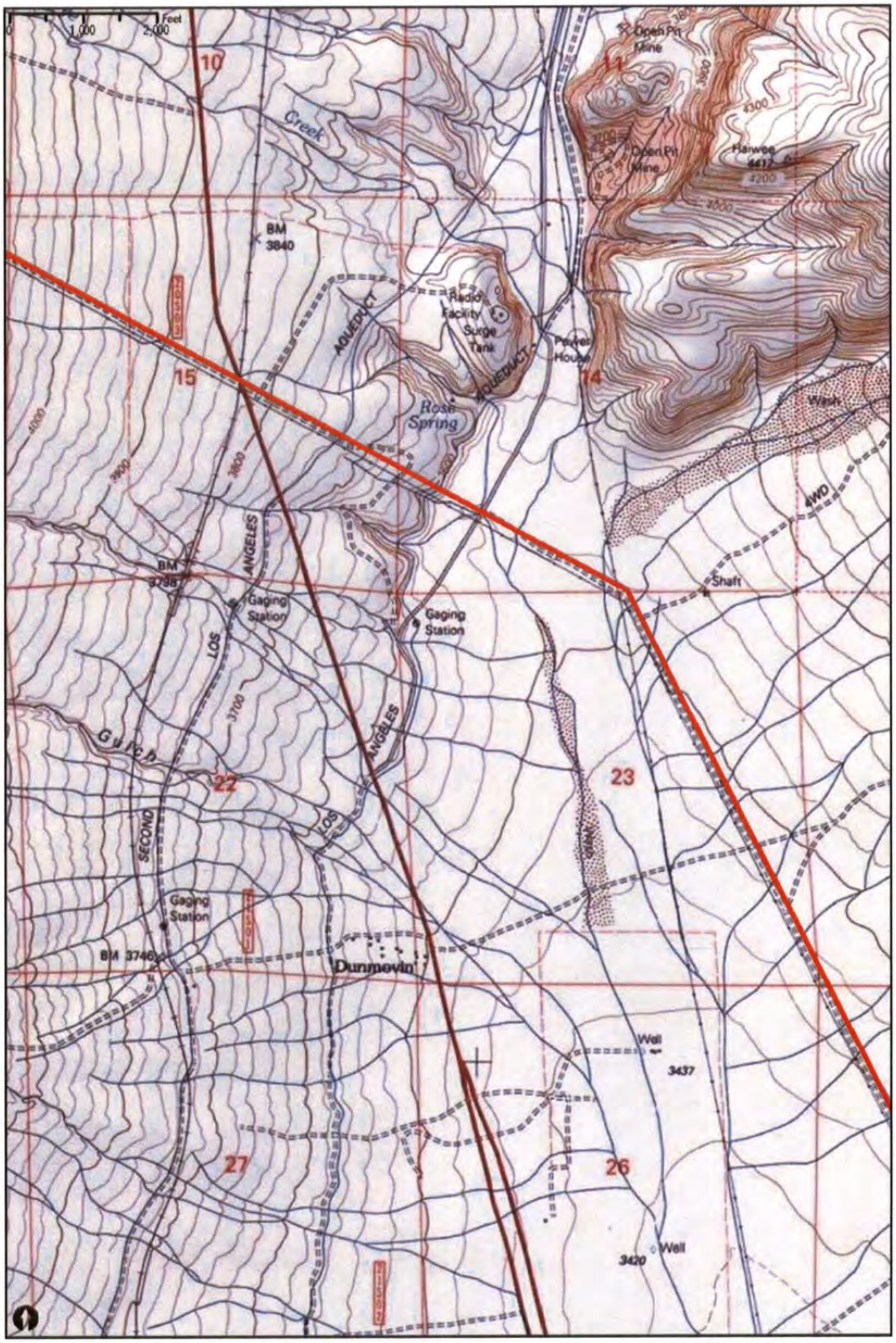
*Map Name: Haiwee Pass/Haiwee Reservoirs. Coso Junction *Scale: 1:24,000 *Date of Map: 1996



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.
*Map Name: Coso Junction
*Scale: 1:24,000
*Date of Map: 1996



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

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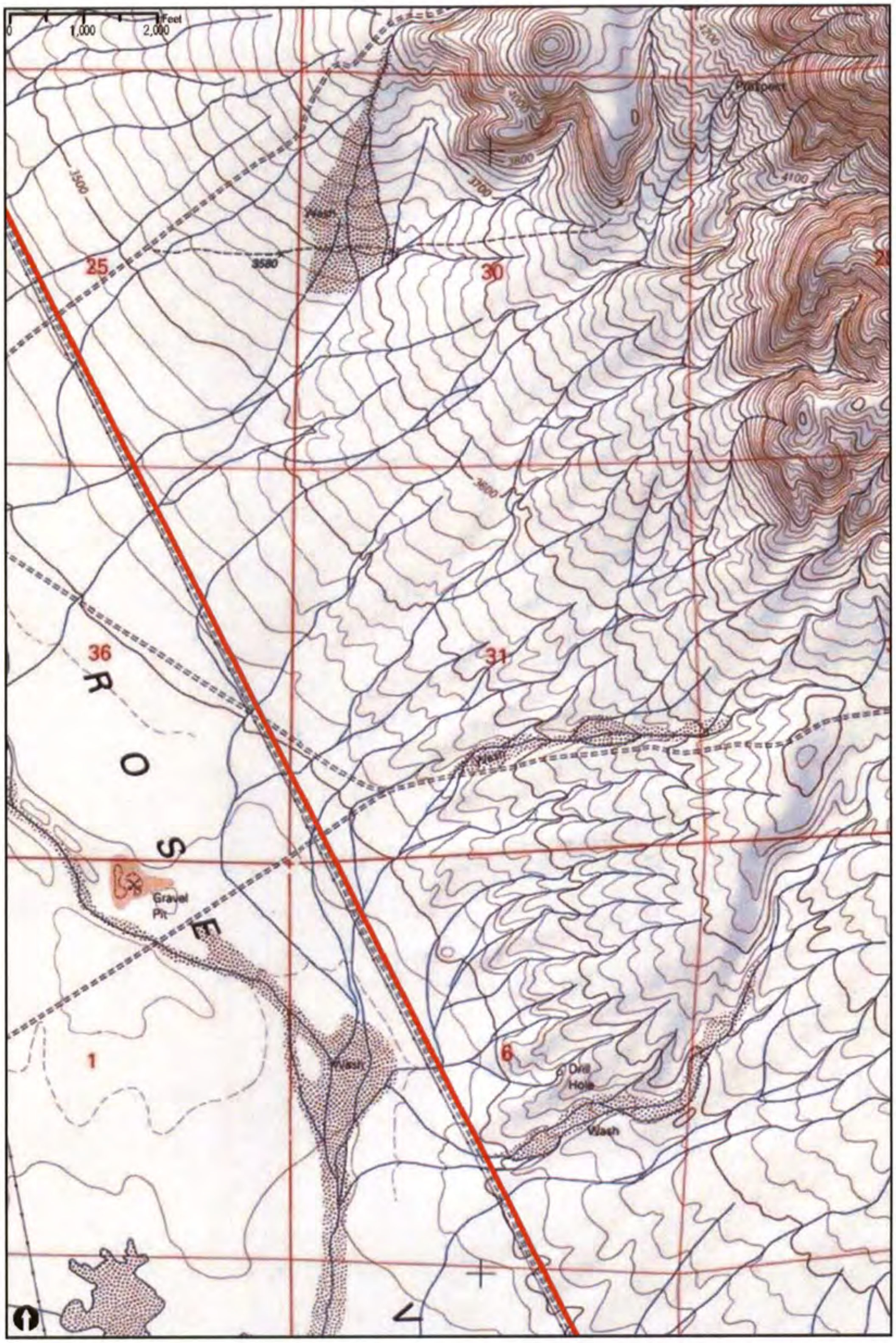
*Resource Name or #: LADWP Owens Gorge 230kV transmission line.
*Map Name: Coso Junction
*Scale: 1:24,000
*Date of Map: 1996



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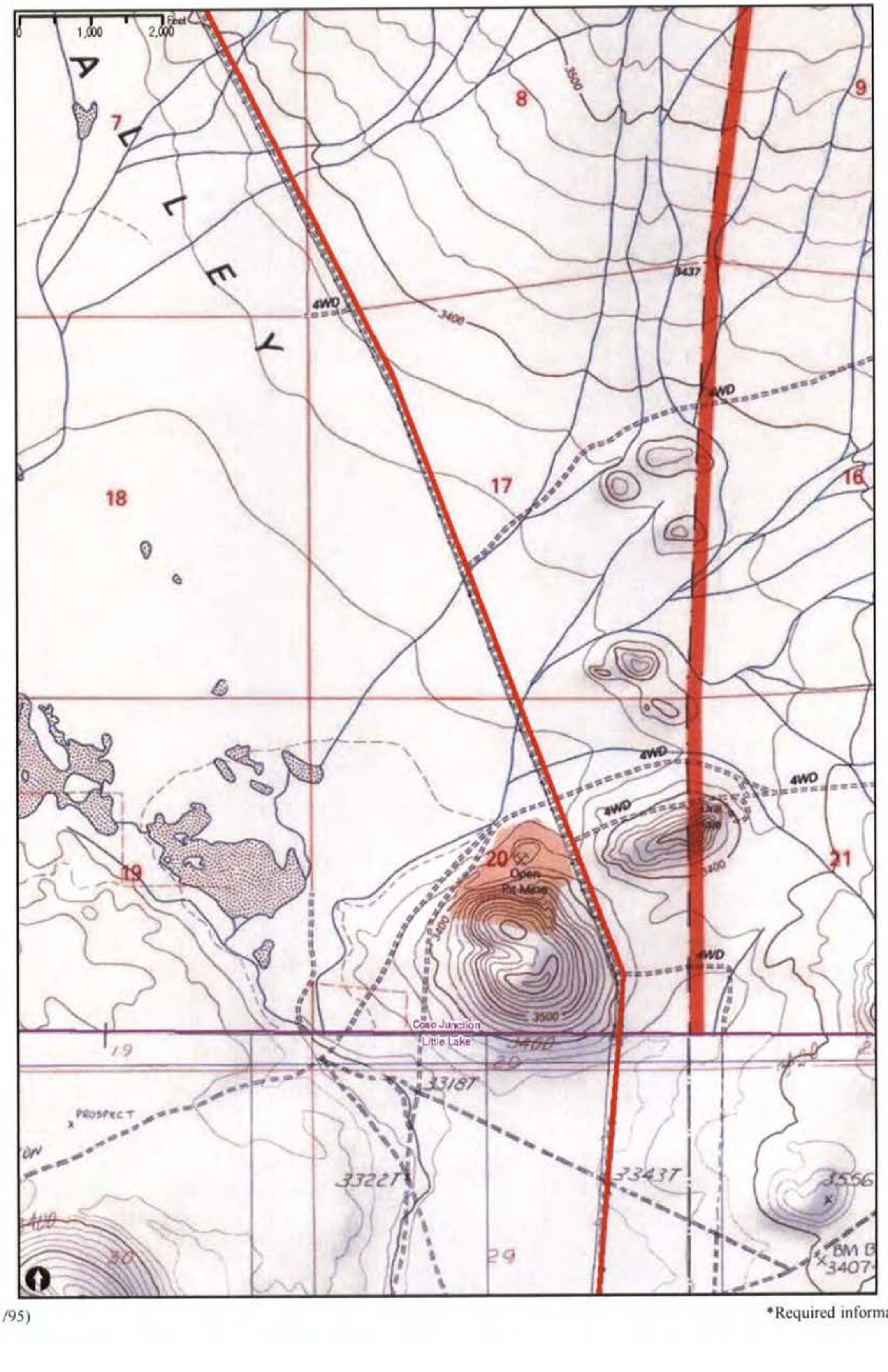
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.
*Map Name: Coso Junction/Little Lake
*Scale: 1:24,000
*Date of Map: 1996



*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

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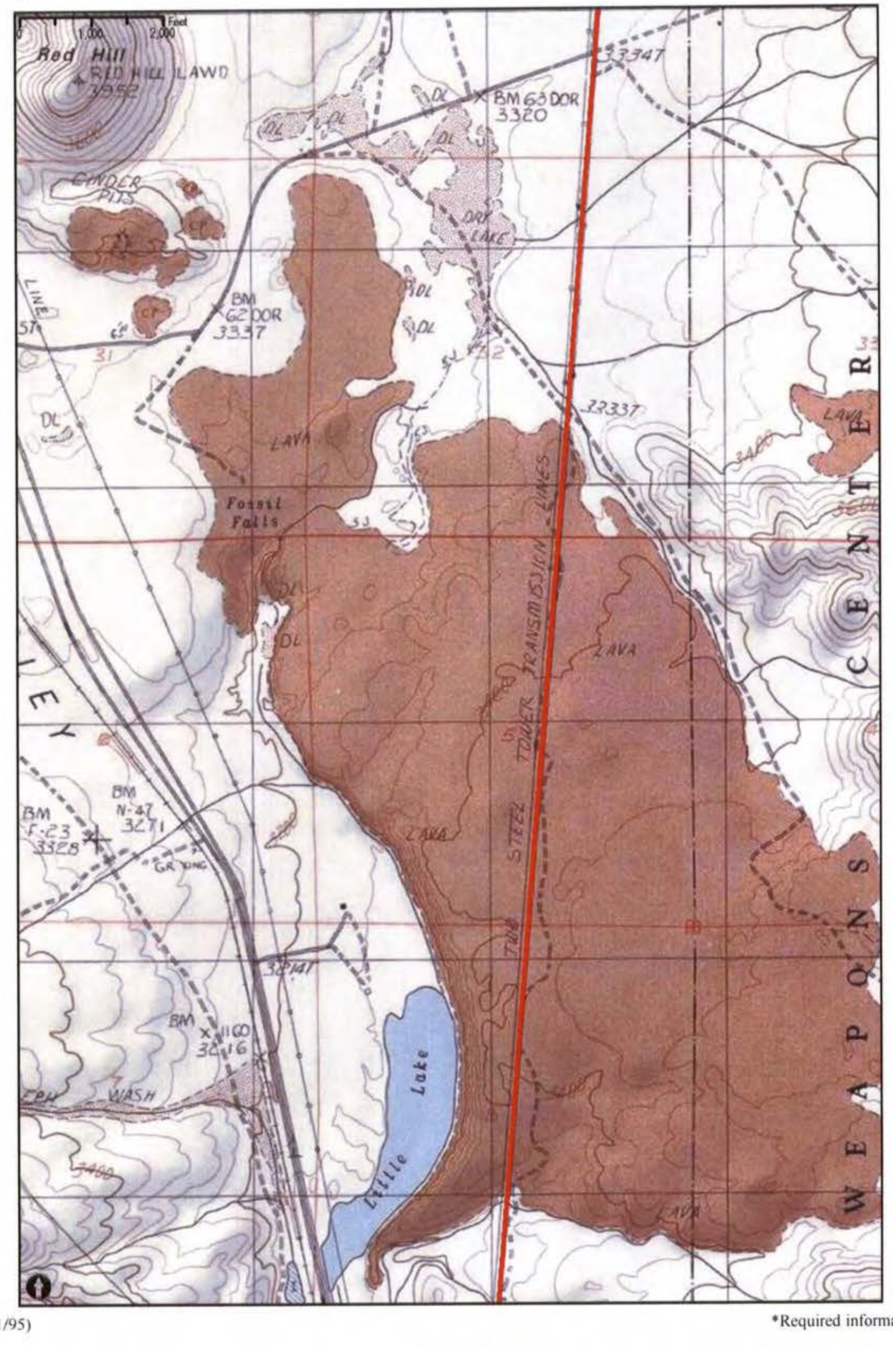
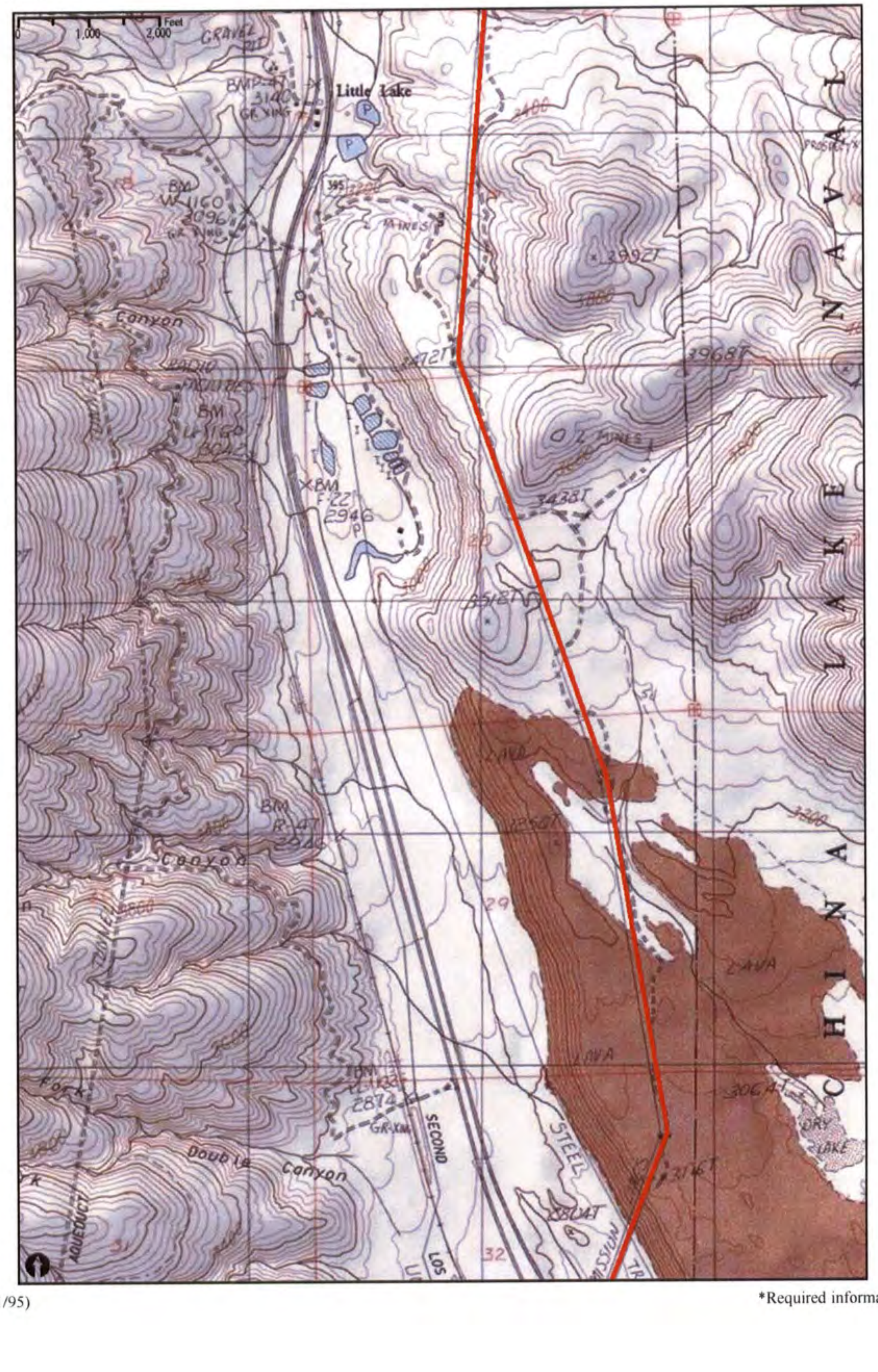
*Map Name: Little Lake *Scale: 1:24,000 *Date of Map: 1996



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.
*Map Name: Little Lake
*Scale: 1:24,000
*Date of Map: 1996



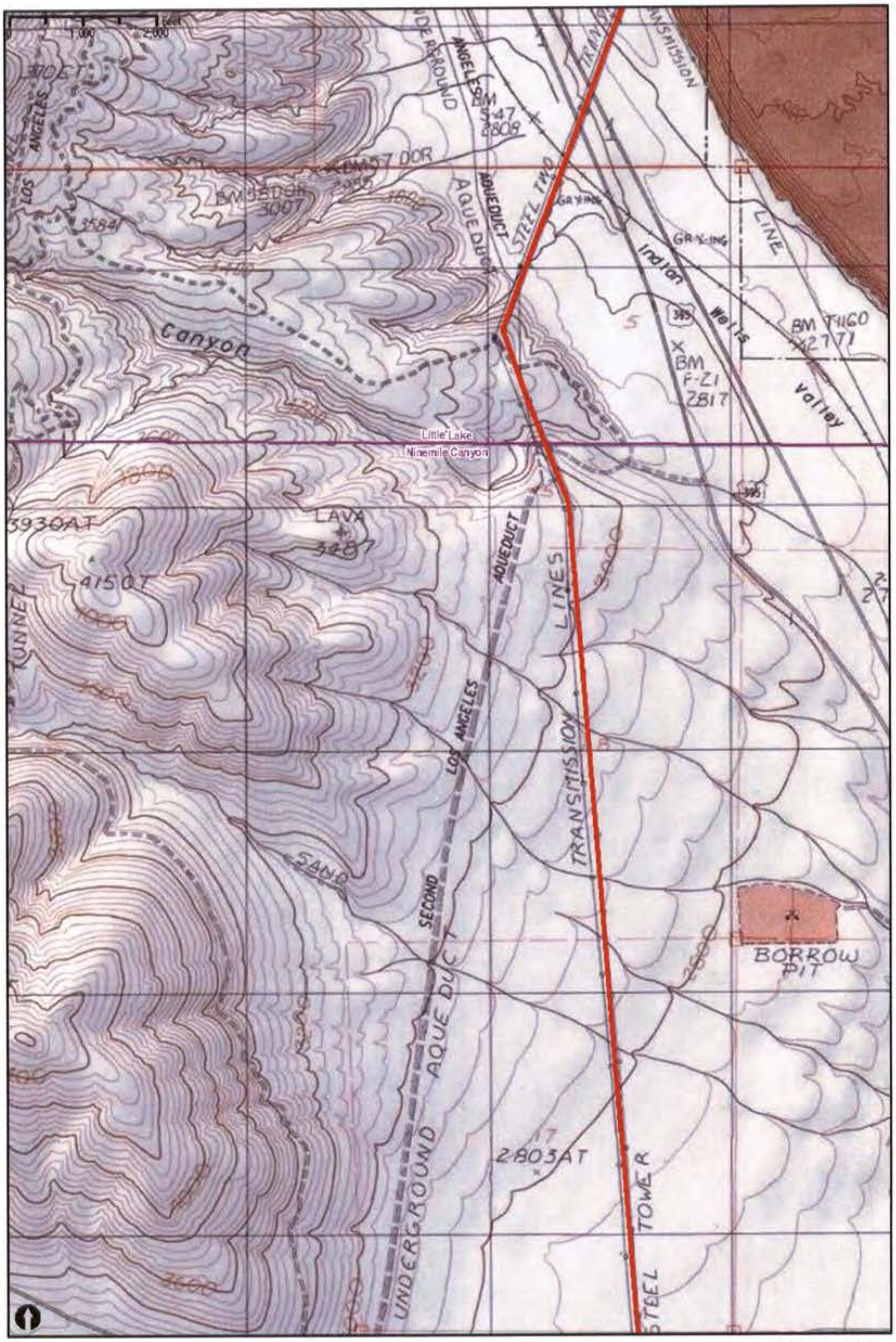
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.

*Map Name: Little Lake/Nine Mile Canyon *Scale: 1:24,000 *Date of Map: 1996



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204H

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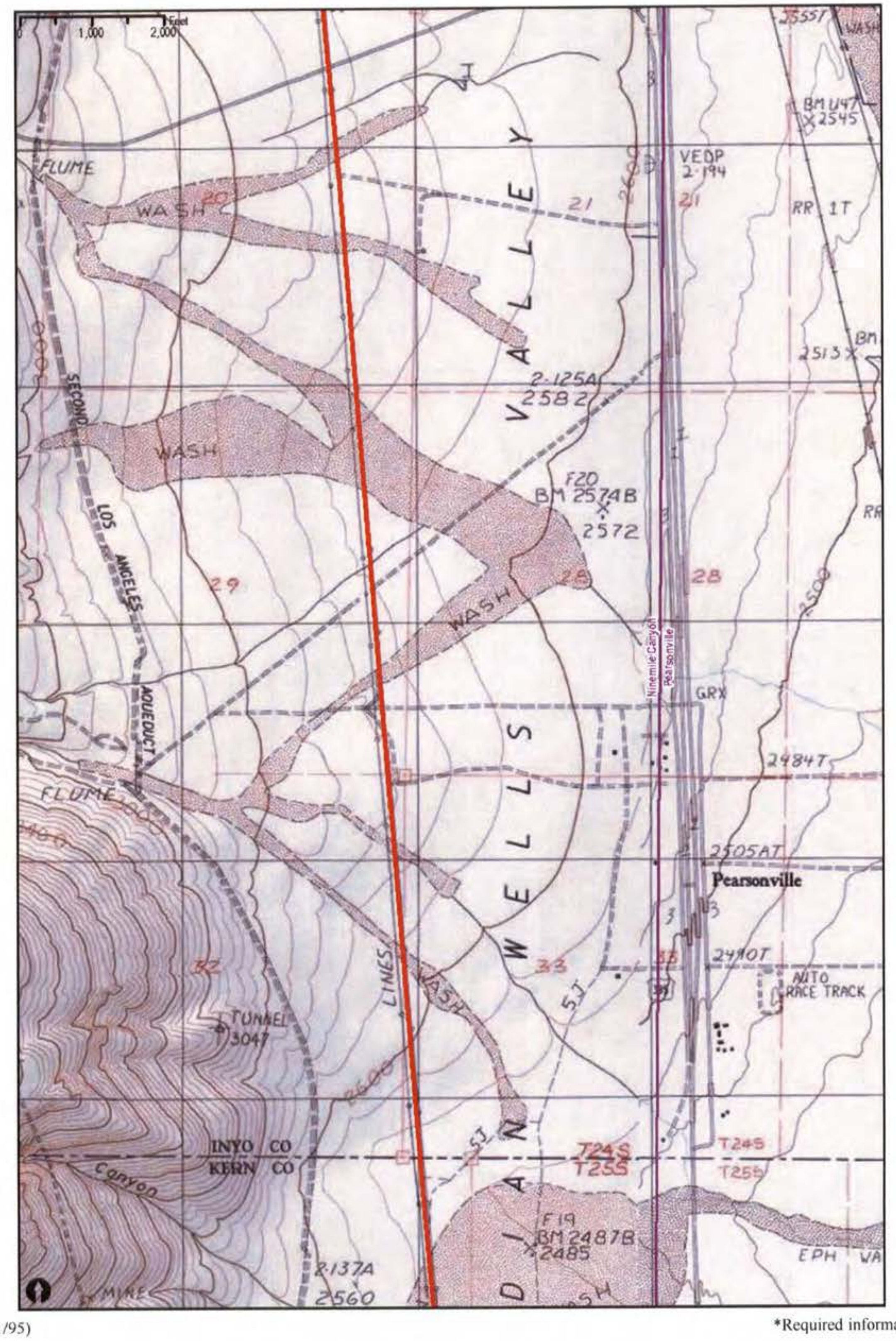
*Resource Name or #: LADWP Owens Gorge 230kV transmission line.
*Map Name: Nine Mile Canyon
*Scale: 1:24,000
*Date of Map: 1996



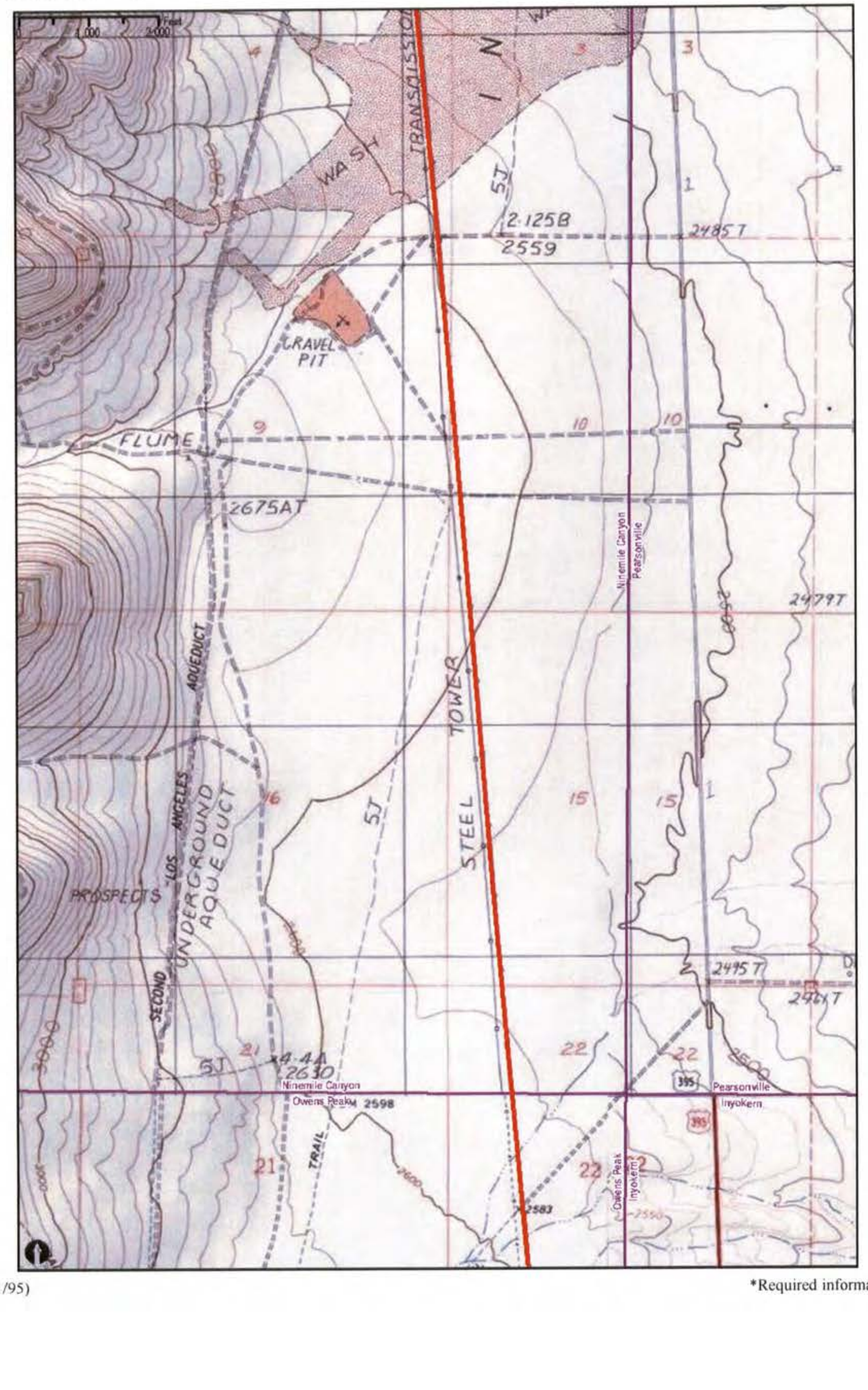
DPR 523I (1/95)

*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204H

***Resource Name or #:** LADWP Owens Gorge 230kV transmission line.
***Map Name: Nine Mile Canyon/Owens Peak** ***Scale: 1:24,000** ***Date of Map: 1996**



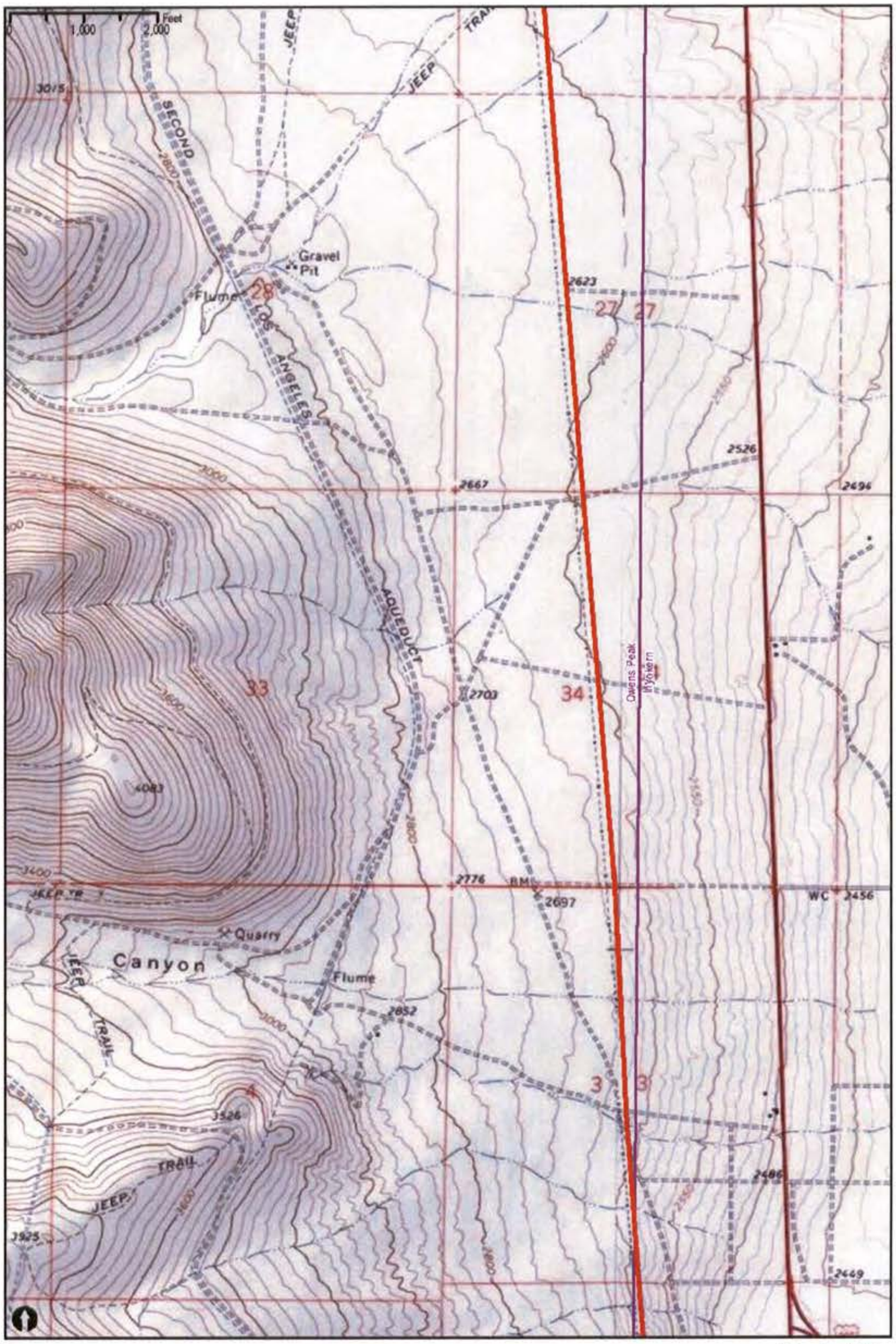
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.

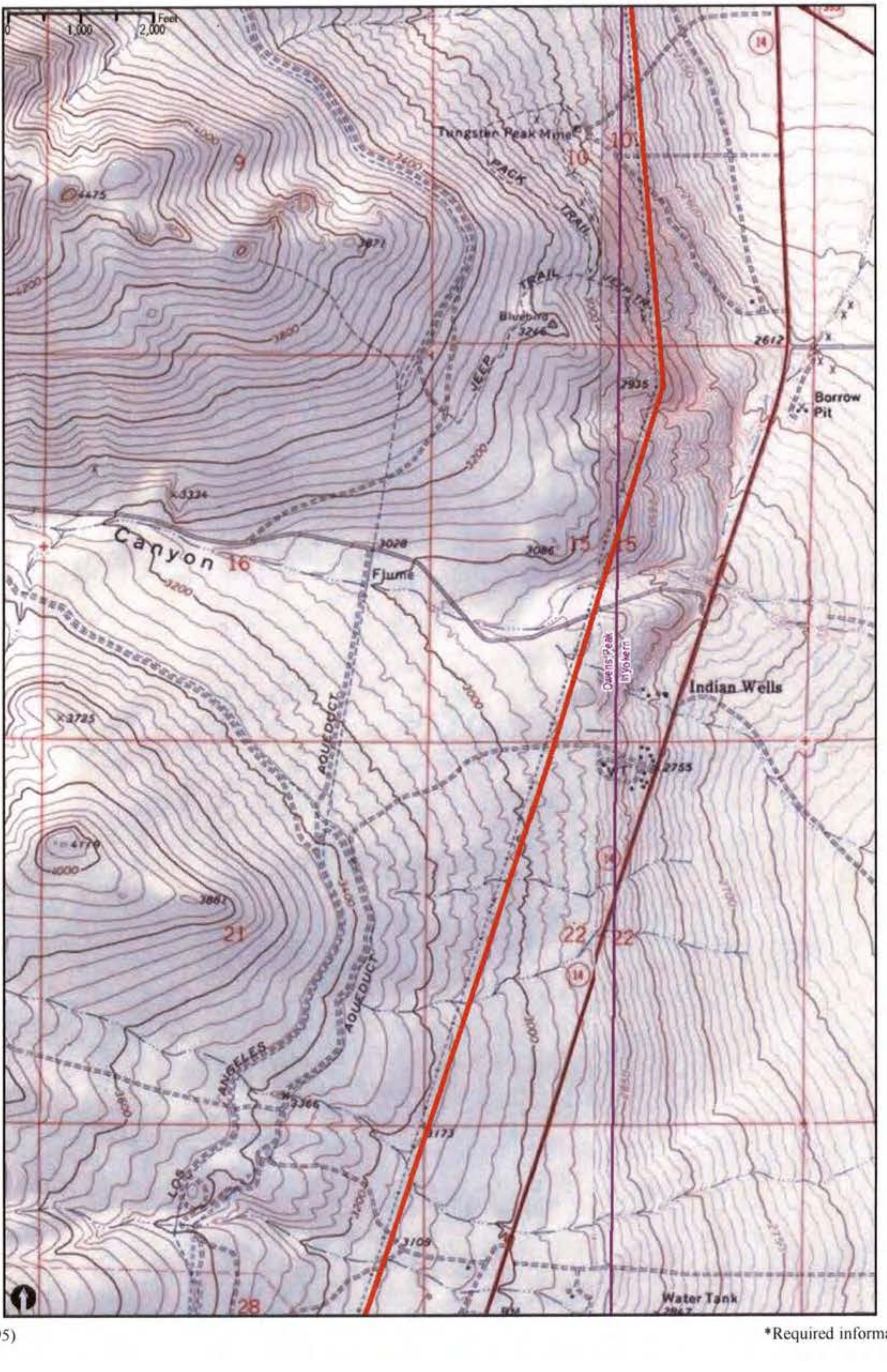
*Map Name: Owens Peak/Inyokern *Scale: 1:24,000 *Date of Map: 1996



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

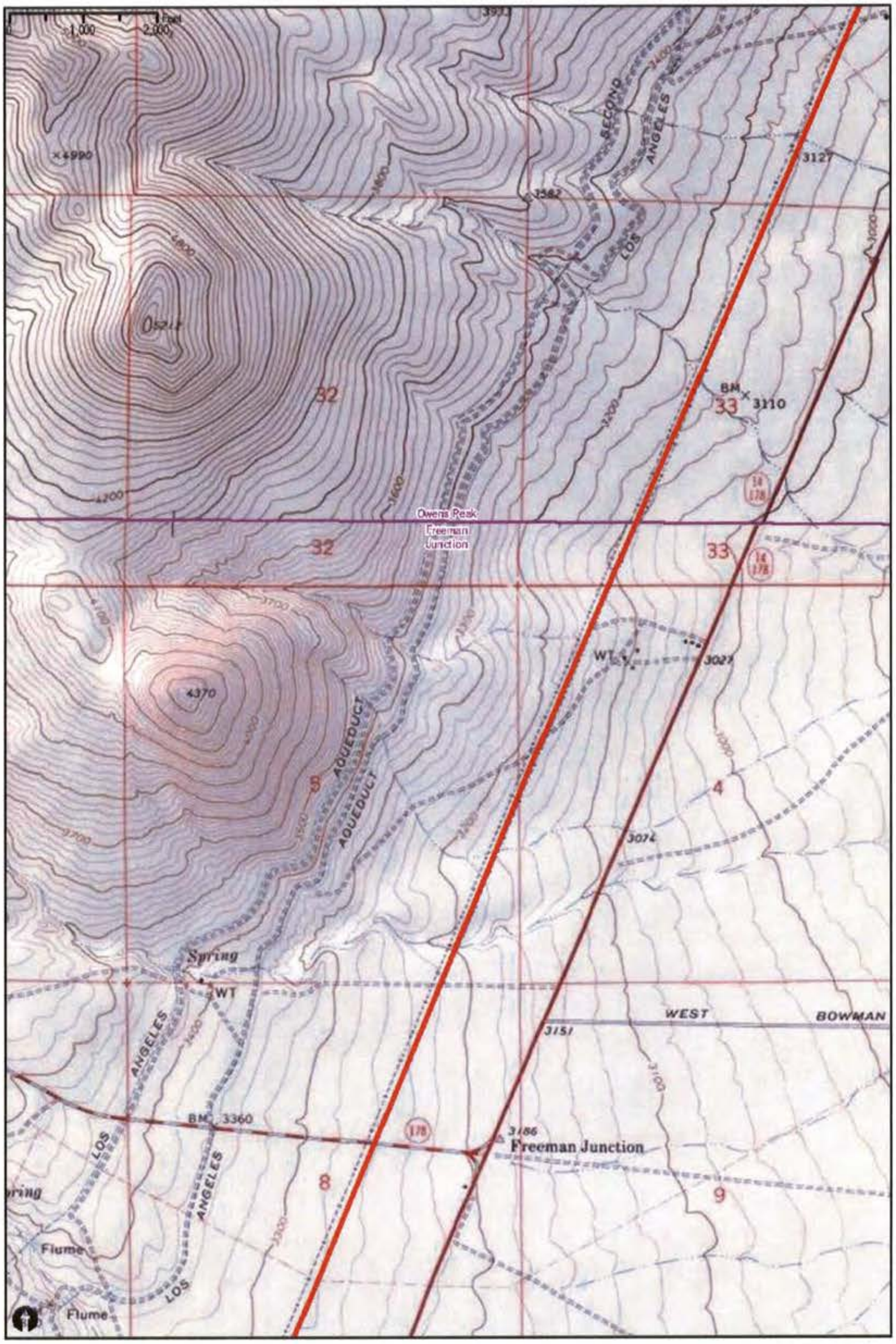
*Resource Name or #: LADWP Owens Gorge 230kV transmission line.
*Map Name: Owens Peak/Inyokern
*Scale: 1:24,000
*Date of Map: 1996



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.
*Map Name: Owens Peak/Freeman Junction *Scale: 1:24,000 *Date of Map: 1996



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

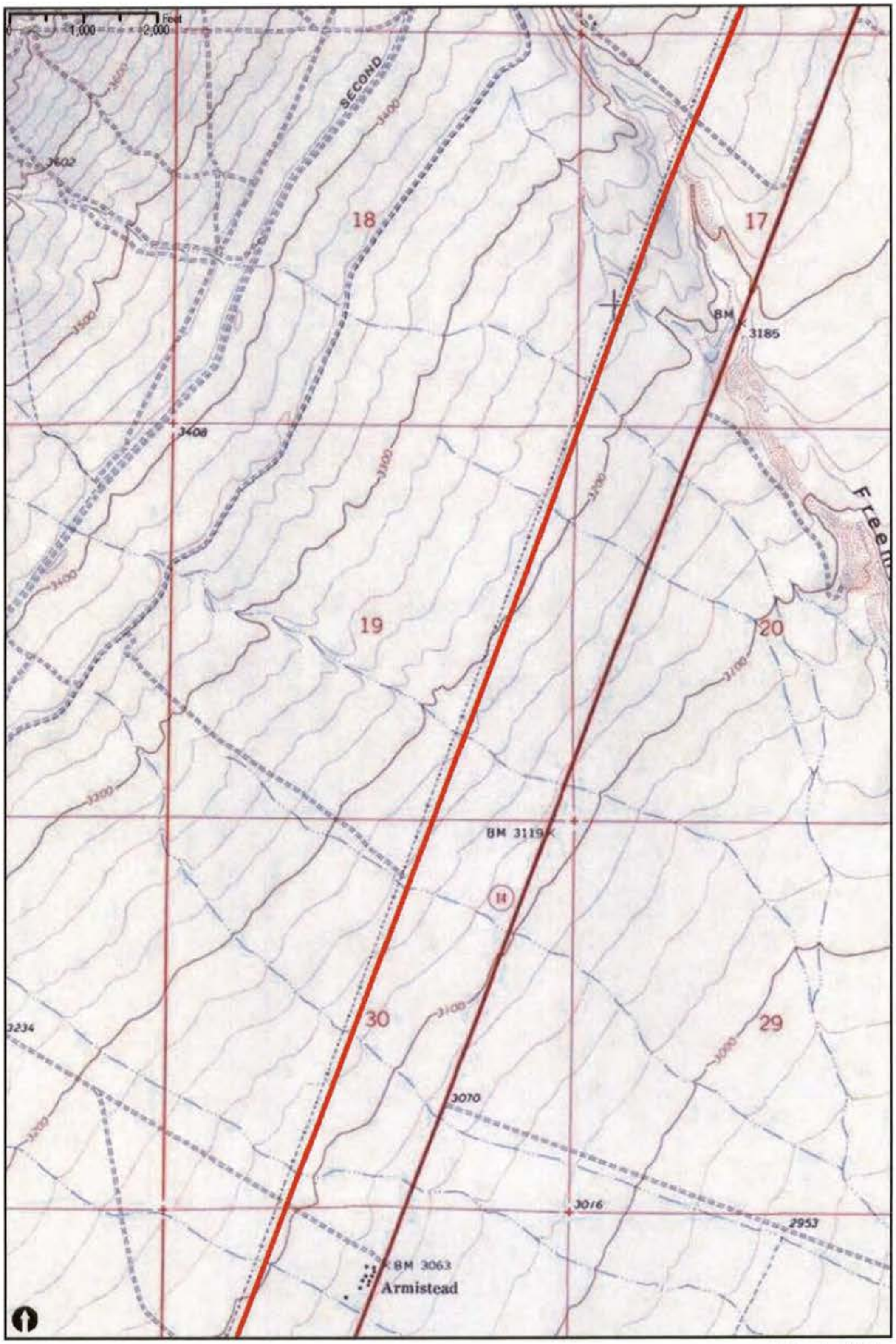
Primary # P-15-018681
HRI#
Trinomial CA-KER-10204H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.

*Map Name: Freeman Junction

*Scale: 1:24,000

*Date of Map: 1996



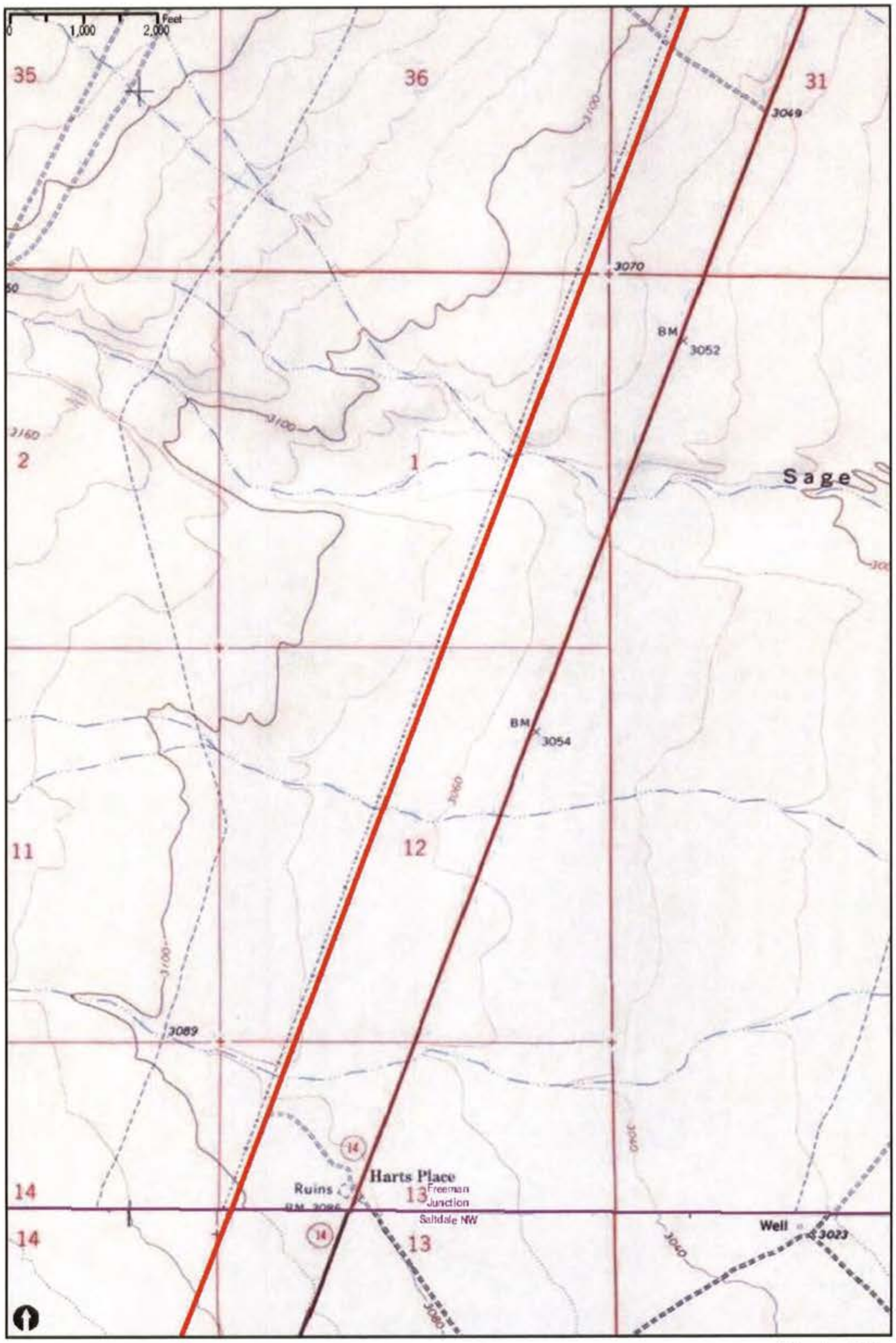
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.

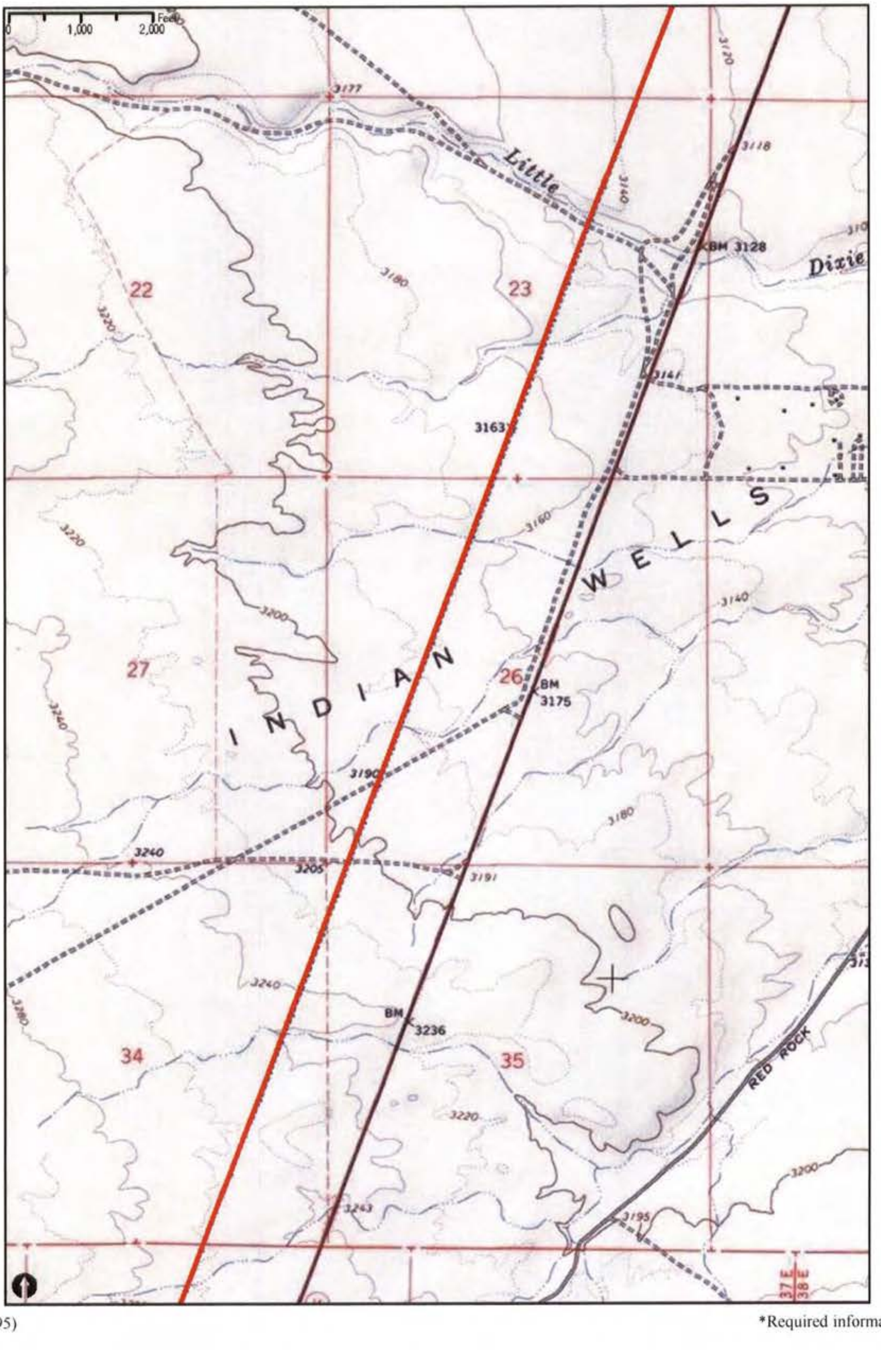
*Map Name: Freeman Junction/Saltdale NW *Scale: 1:24,000 *Date of Map: 1996



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204H

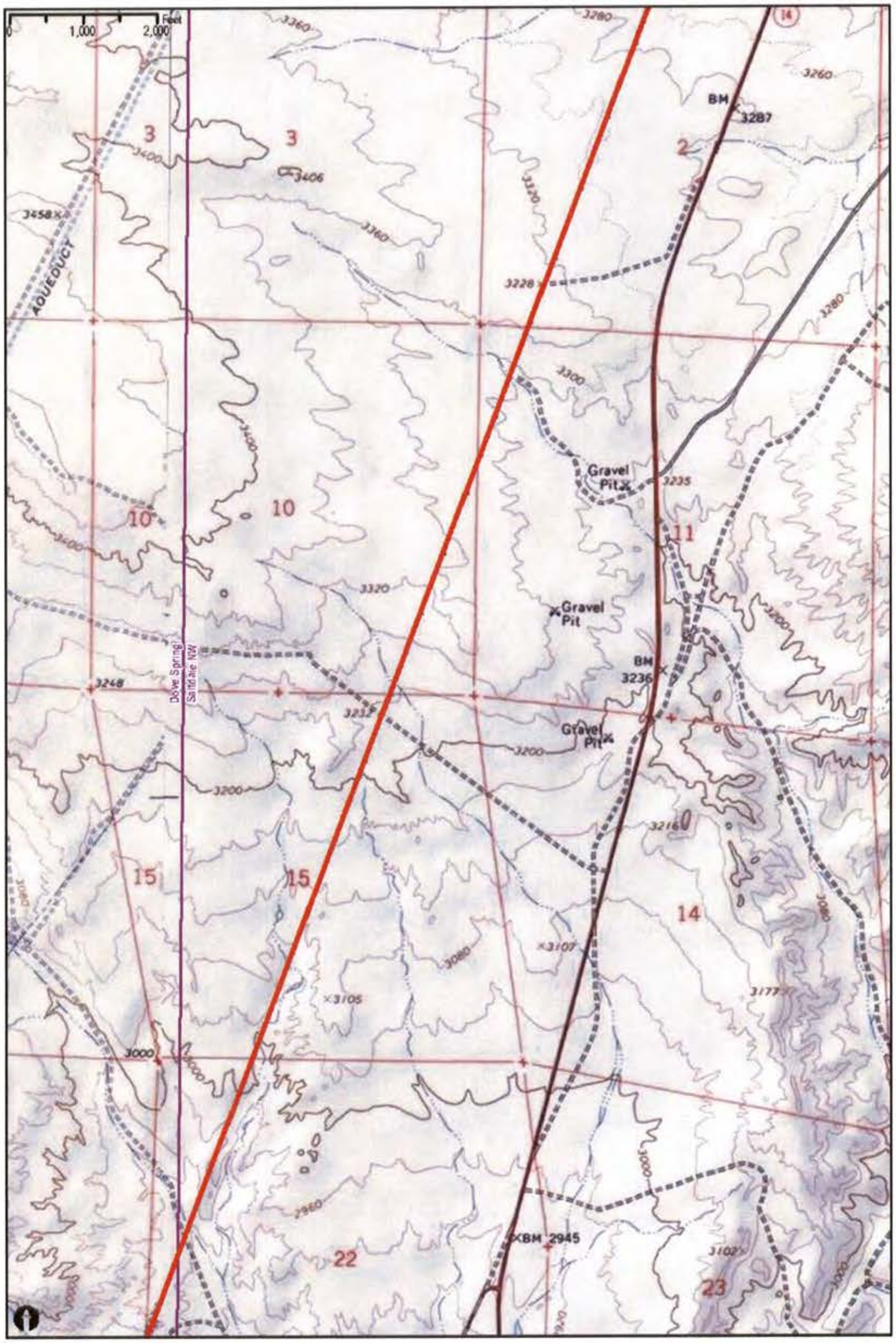
***Resource Name or #:** LADWP Owens Gorge 230kV transmission line.
***Map Name: Saltdale NW** ***Scale: 1:24,000** ***Date of Map: 1996**



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.
*Map Name: Saltdale NW/Dove Spring
*Scale: 1:24,000
*Date of Map: 1996



*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

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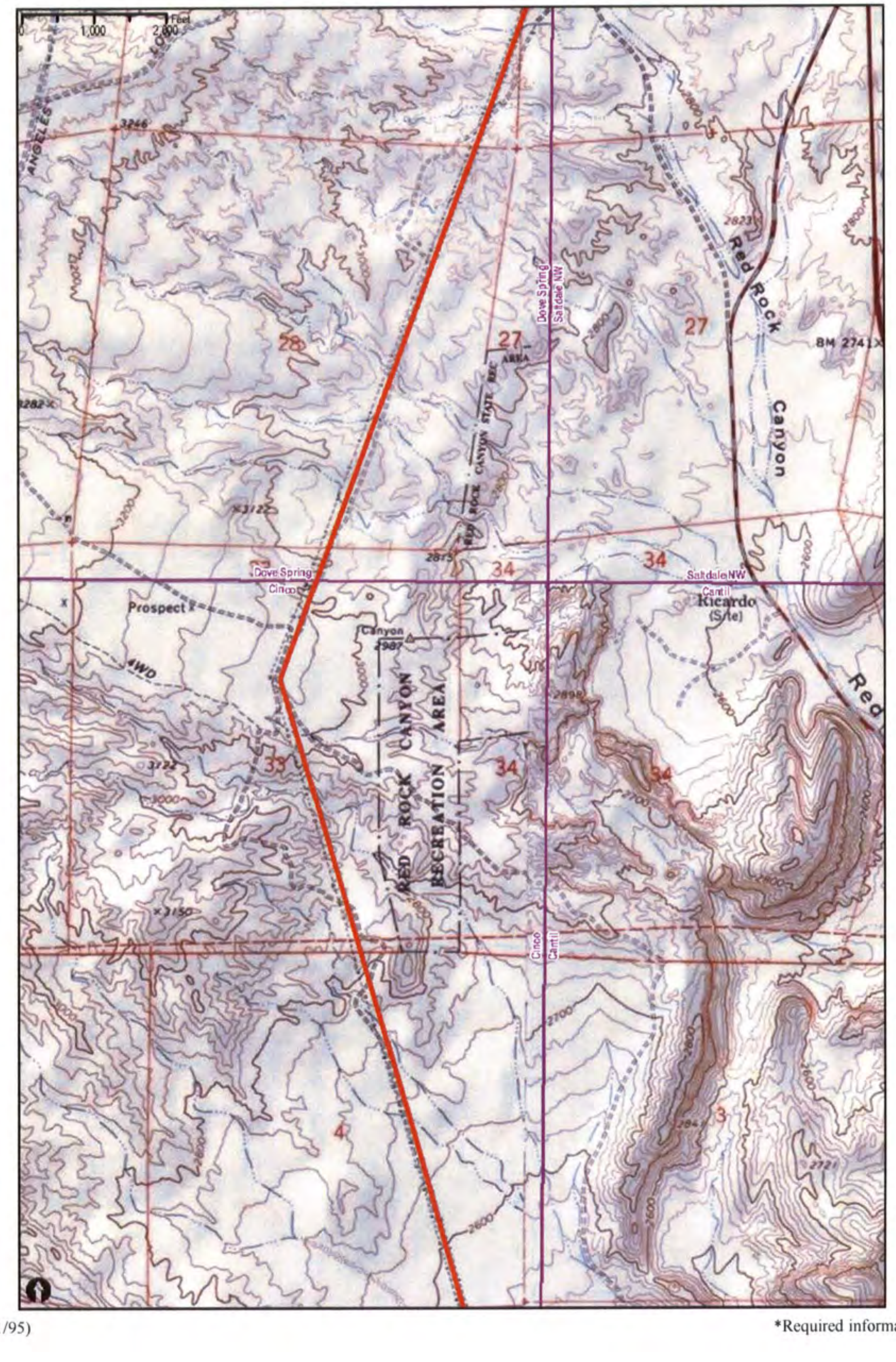
*Resource Name or #: LADWP Owens Gorge 230kV transmission line.
*Map Name: Dove Spring/Cinco
*Scale: 1:24,000
*Date of Map: 1996

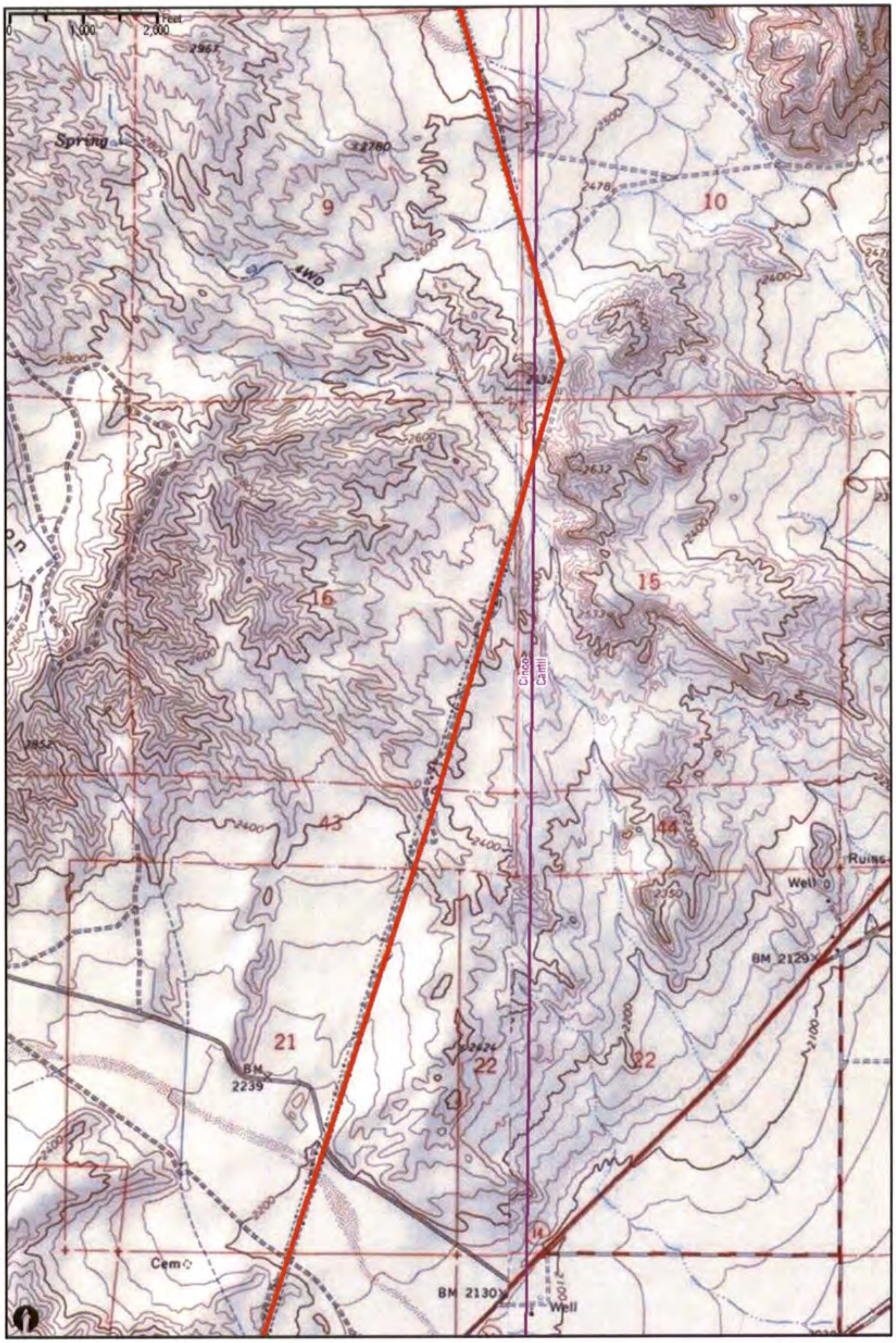


DPR 523I (1/95)
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

***Resource Name or #:** LADWP Owens Gorge 230kV transmission line.
***Map Name: Cinco/Cantil** ***Scale: 1:24,000** ***Date of Map: 1996**



 *Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204H

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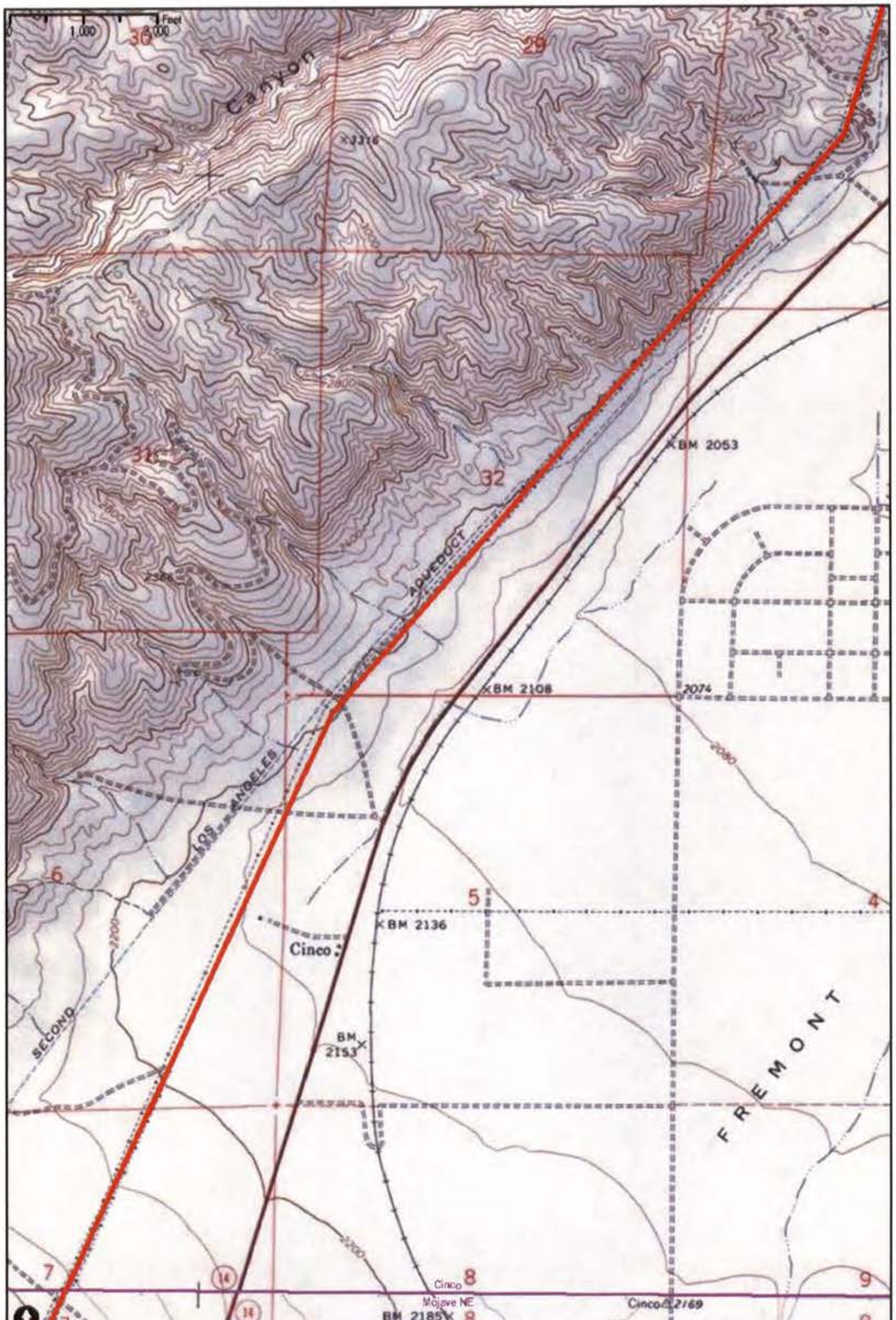
*Resource Name or #: LADWP Owens Gorge 230kV transmission line.
*Map Name: Cinco/Mojave NE
*Scale: 1:24,000
*Date of Map: 1996



DPR 523I (1/95)
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

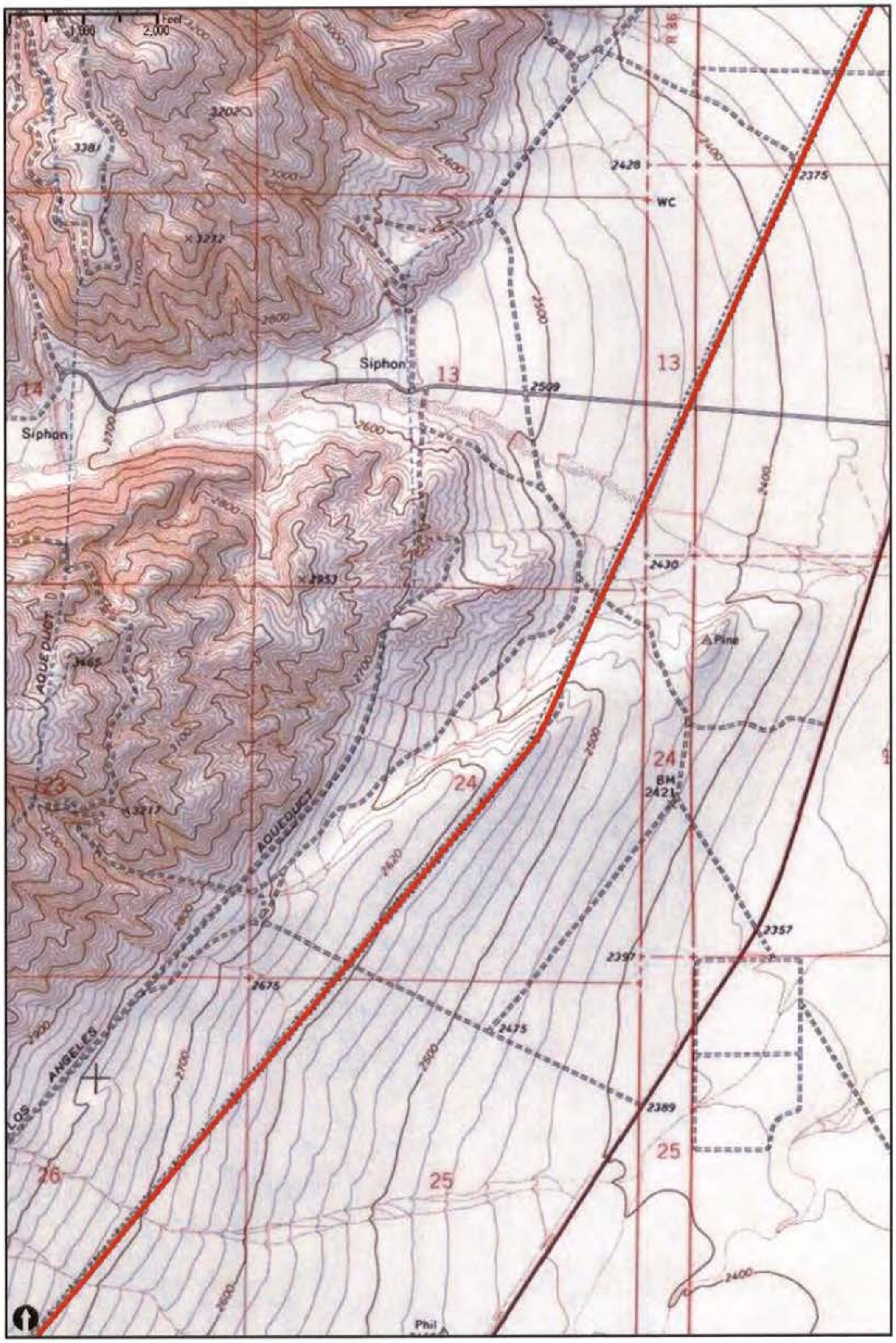
Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.

*Map Name: Mojave NE

*Scale: 1:24,000

*Date of Map: 1996

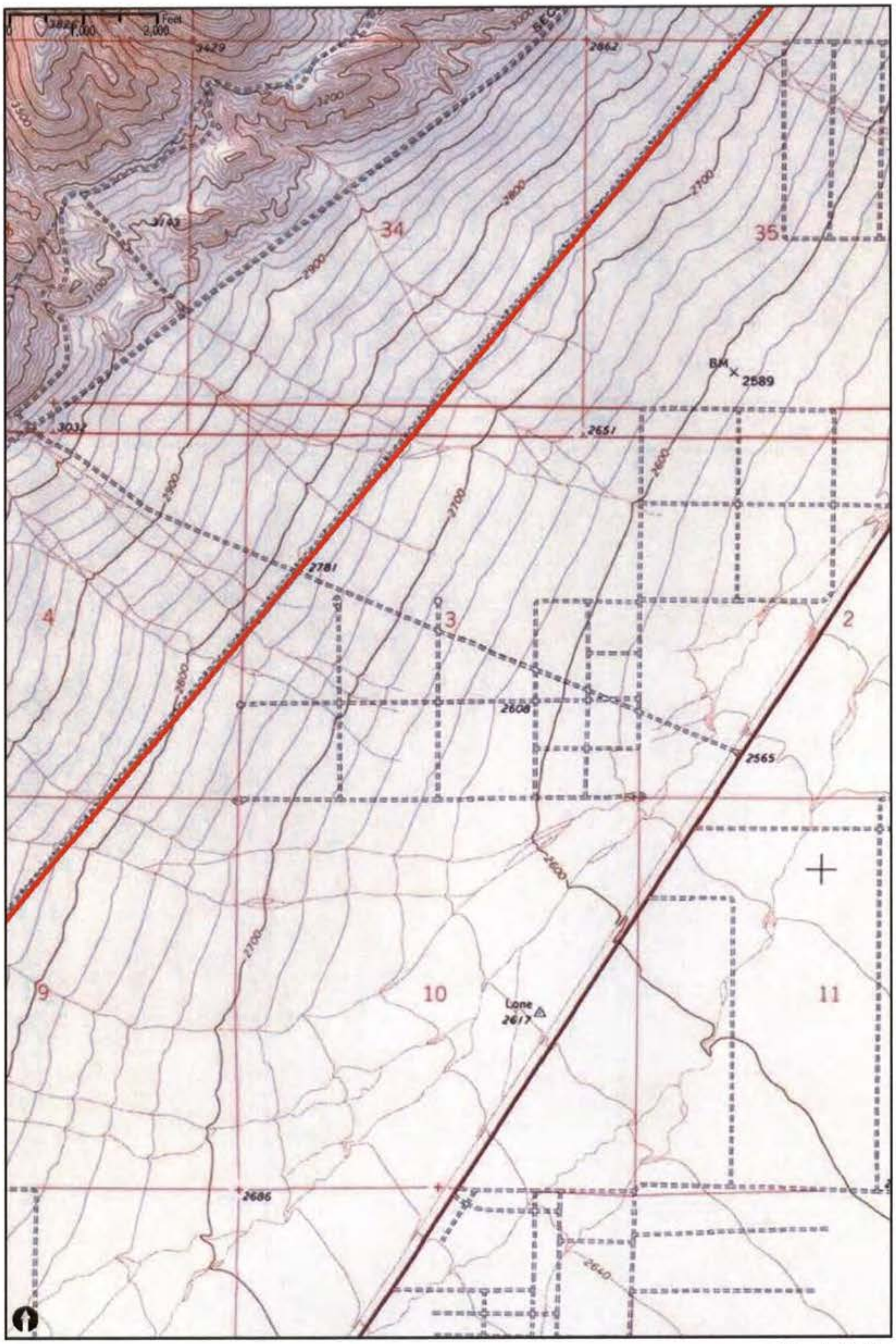


*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.
*Map Name: Mojave NE
*Scale: 1:24,000
*Date of Map: 1996

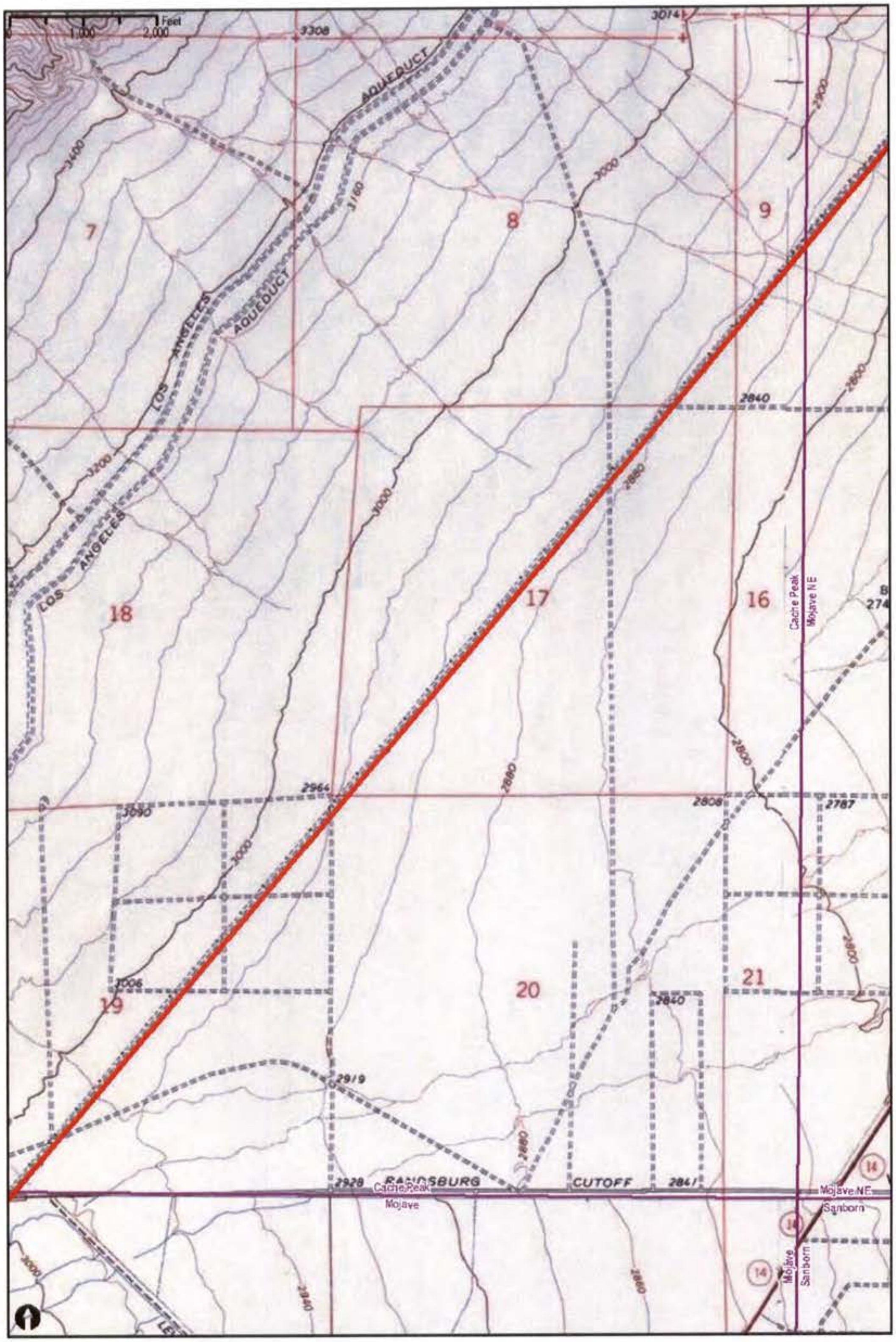


*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.
*Map Name: Mojave NE/ Cache Peak
*Scale: 1:24,000
*Date of Map: 1996

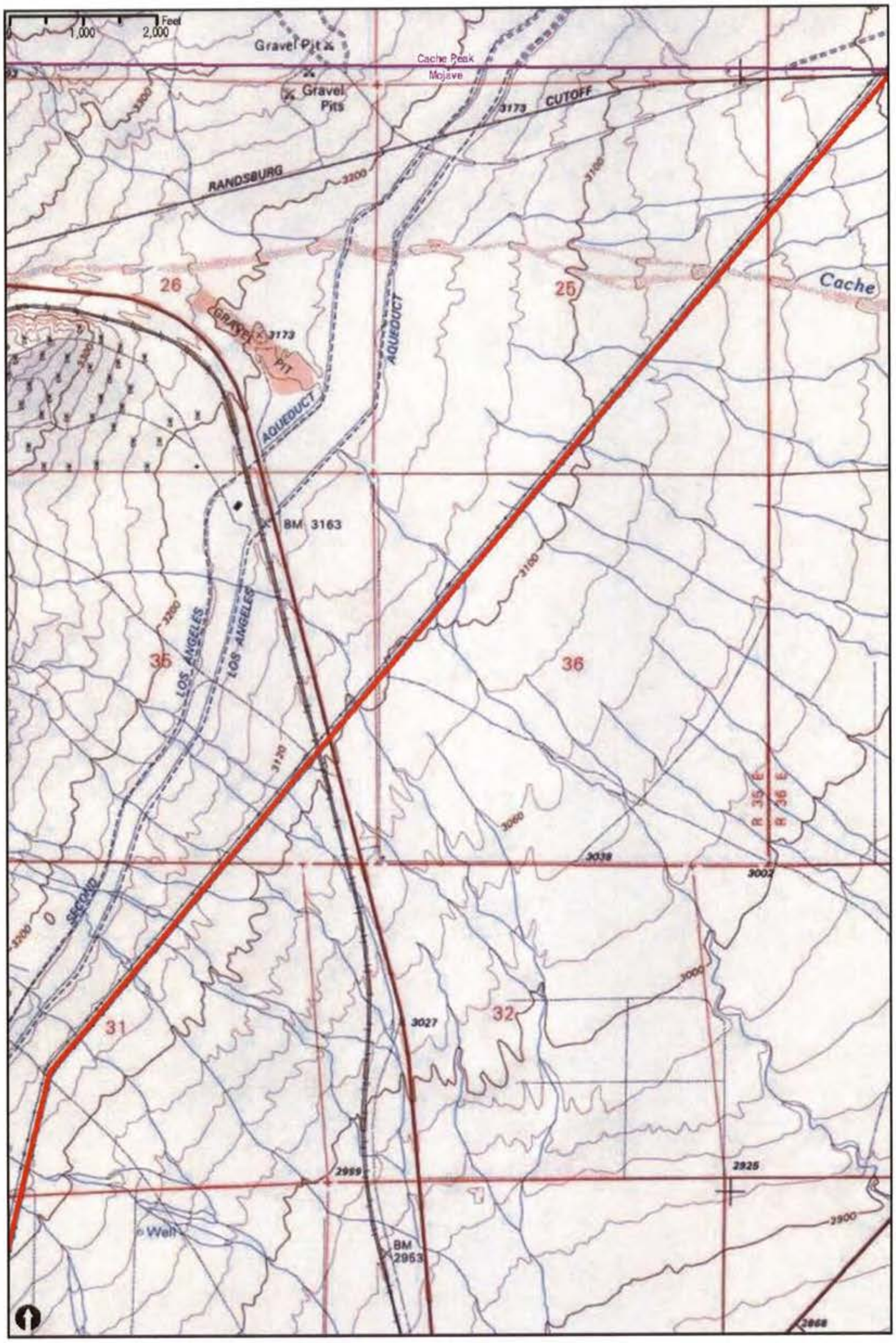


*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.
*Map Name: Mojave
*Scale: 1:24,000
*Date of Map: 1996

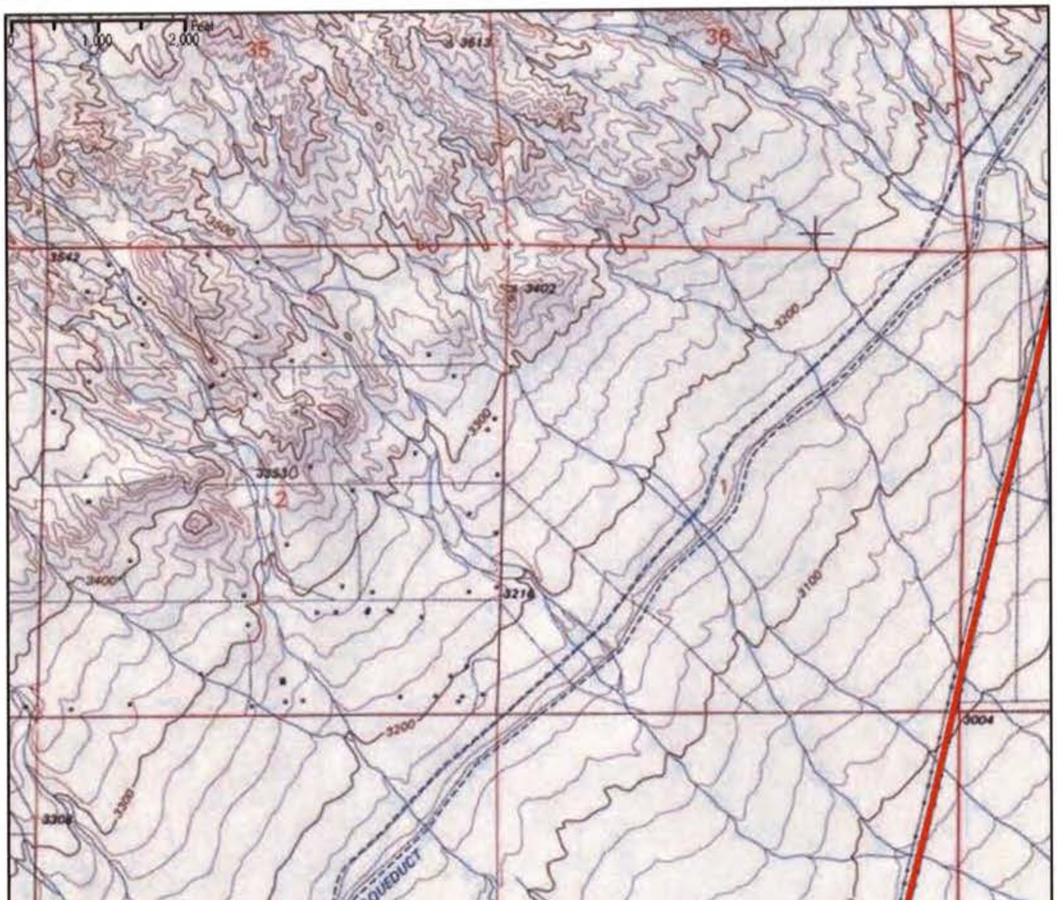


*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204H

*Map Name: Mojave
*Resource Name or #: LADWP Owens Gorge 230kV transmission line.
*Scale: 1:24,000
*Date of Map: 1996



*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

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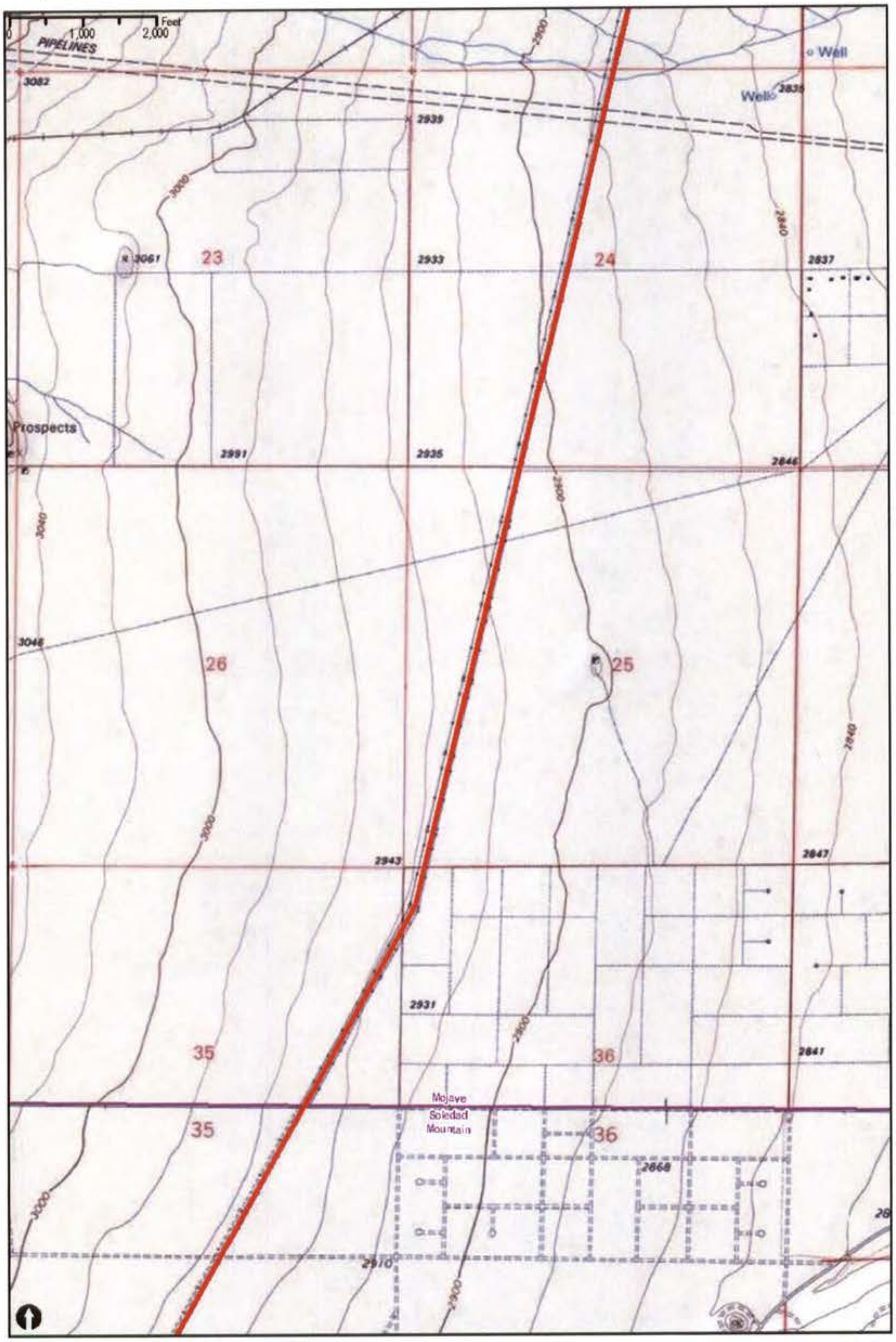
*Resource Name or #: LADWP Owens Gorge 230kV transmission line.
*Map Name: Mojave/Soledad Mountain
*Scale: 1:24,000
*Date of Map: 1996



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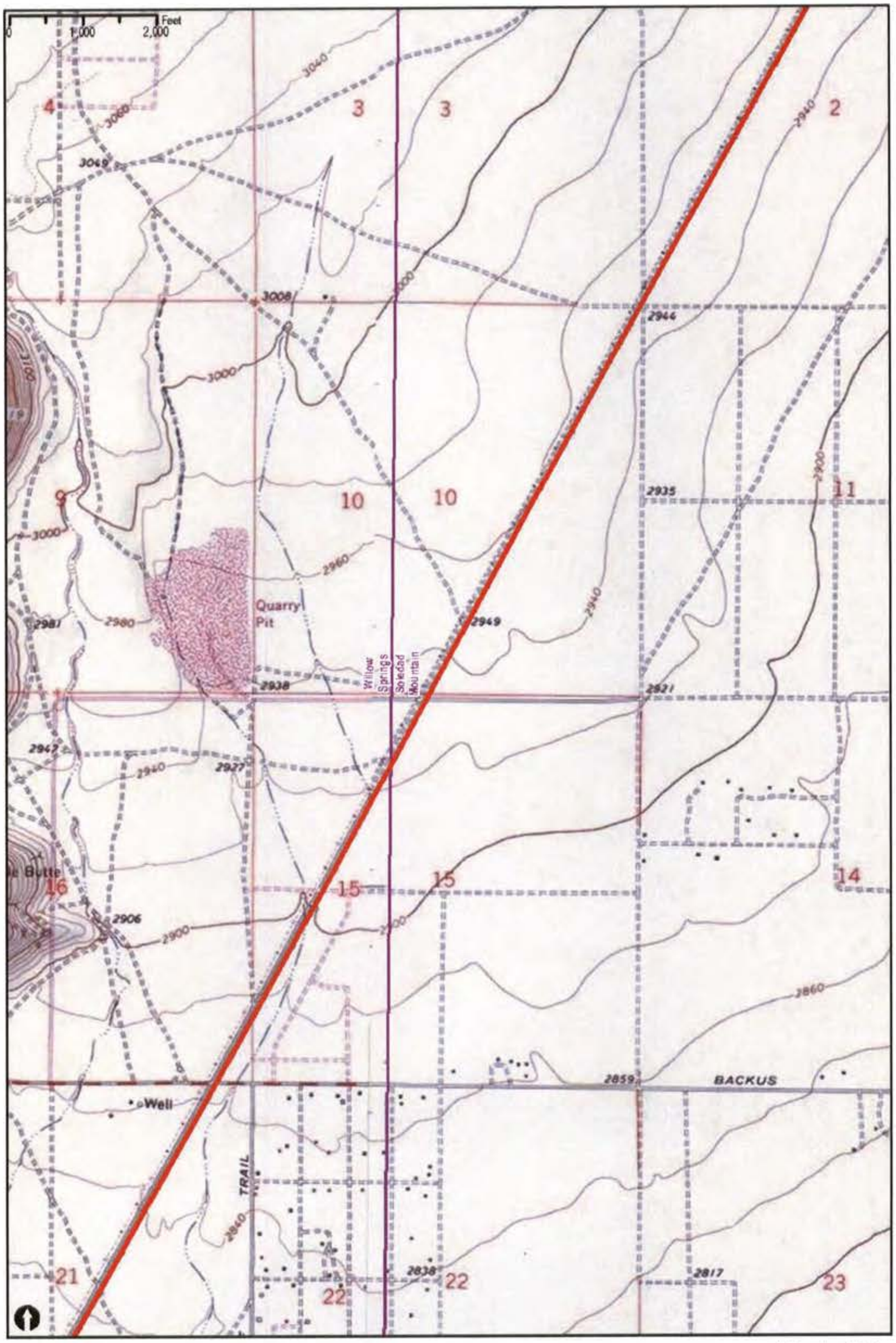
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.

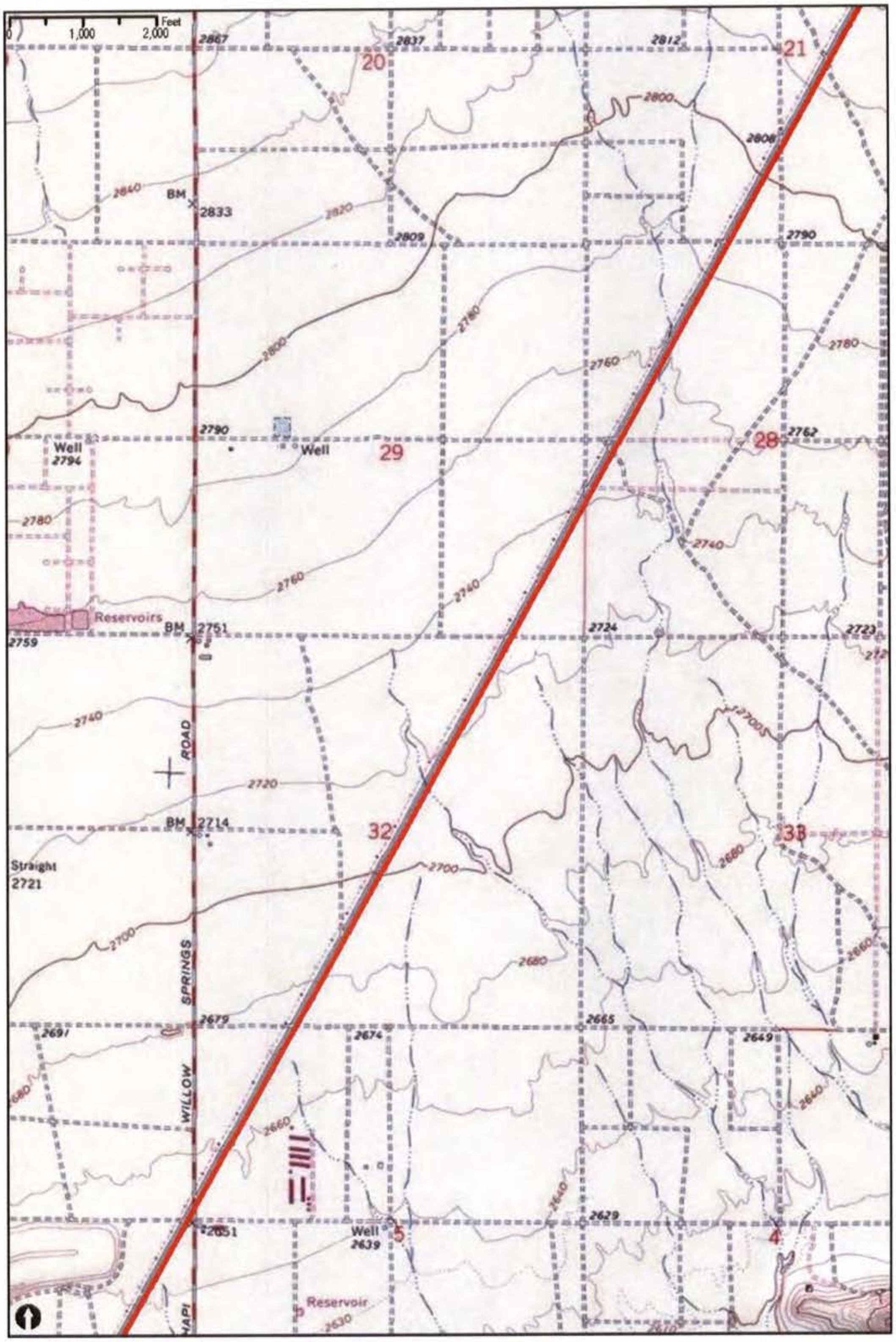
*Map Name: Soledad Mountain/Willow Springs *Scale: 1:24,000 *Date of Map: 1996



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.
*Map Name: Willow Springs
*Scale: 1:24,000
*Date of Map: 1996



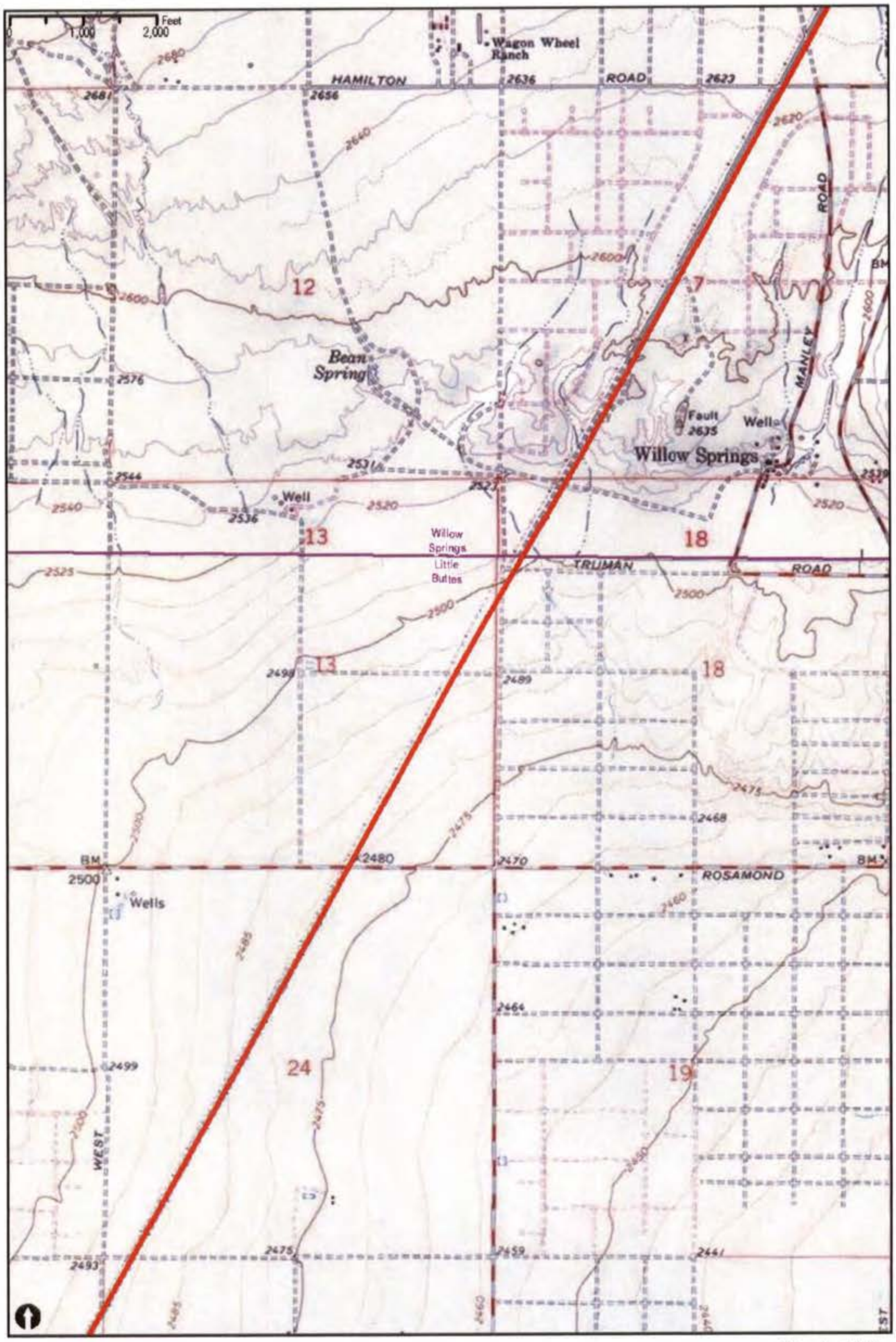
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.

*Map Name: Willow Springs/Little Buttes *Scale: 1:24,000 *Date of Map: 1996



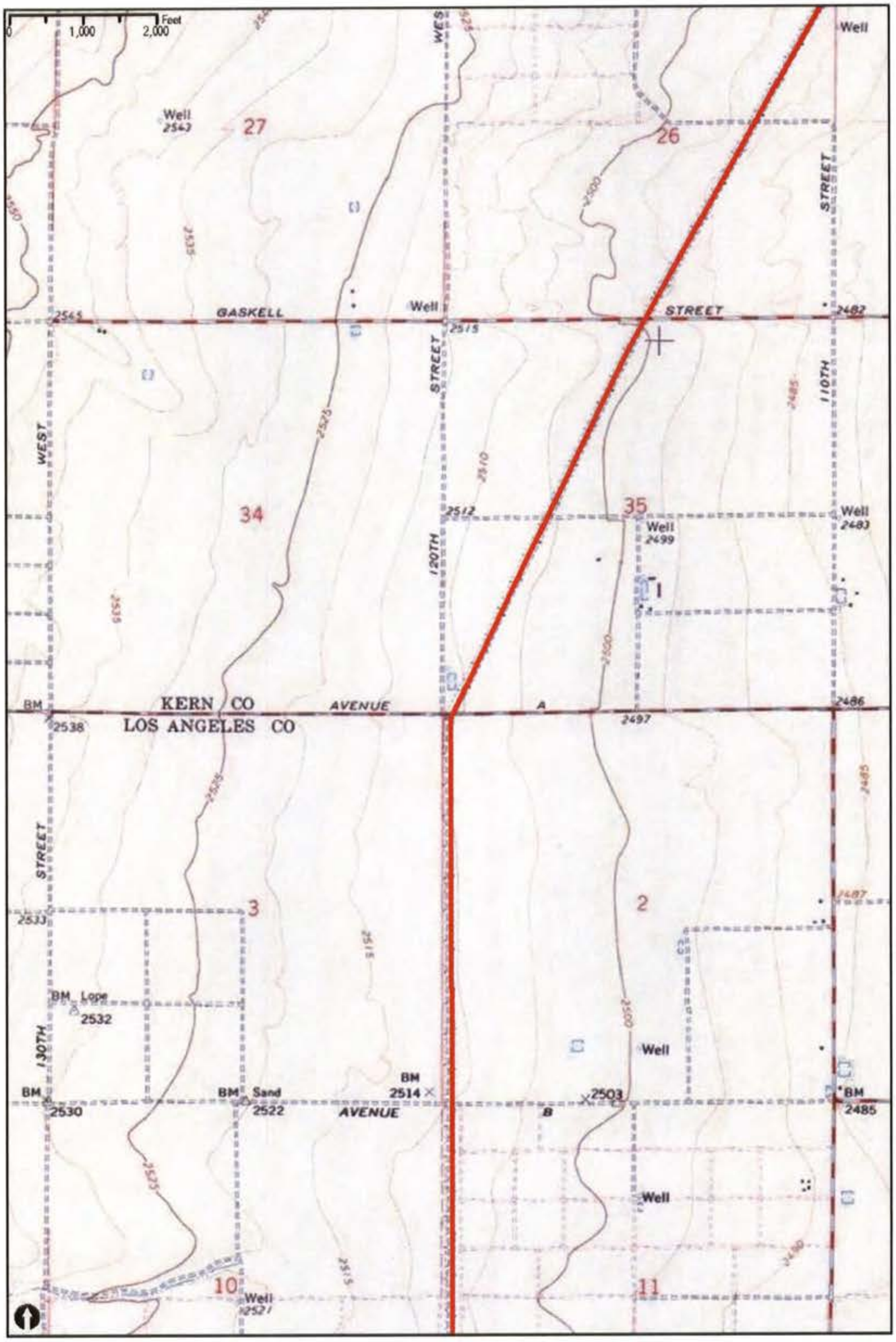
DPR 523I (1/95)

*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.
*Map Name: Little Buttes
*Scale: 1:24,000
*Date of Map: 1996

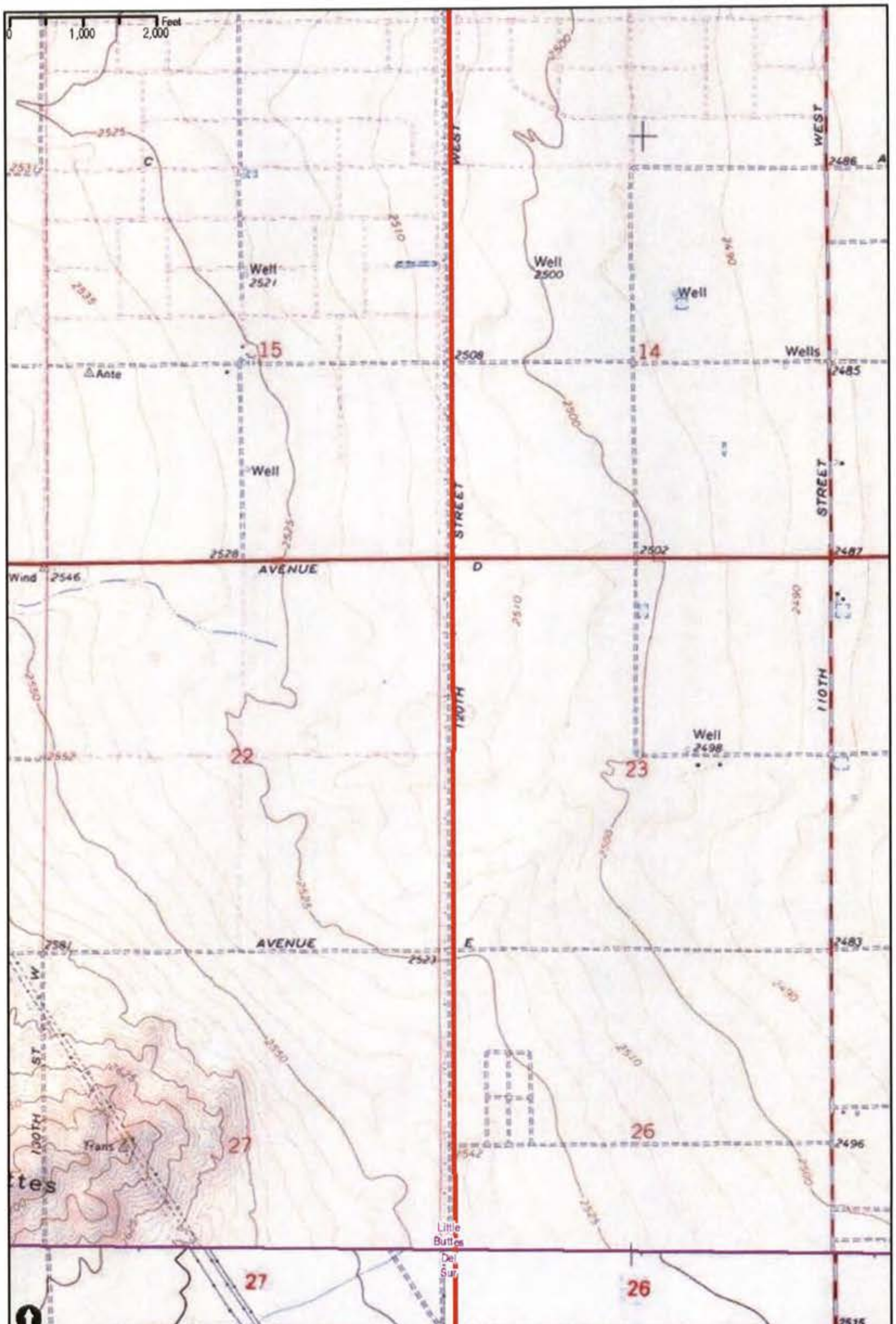


DPR 523I (1/95)
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204H

Page 67 of 78
*Resource Name or #: LADWP Owens Gorge 230kV transmission line.
*Map Name: Little Buttes/Del Sur
*Scale: 1:24,000
*Date of Map: 1996



*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

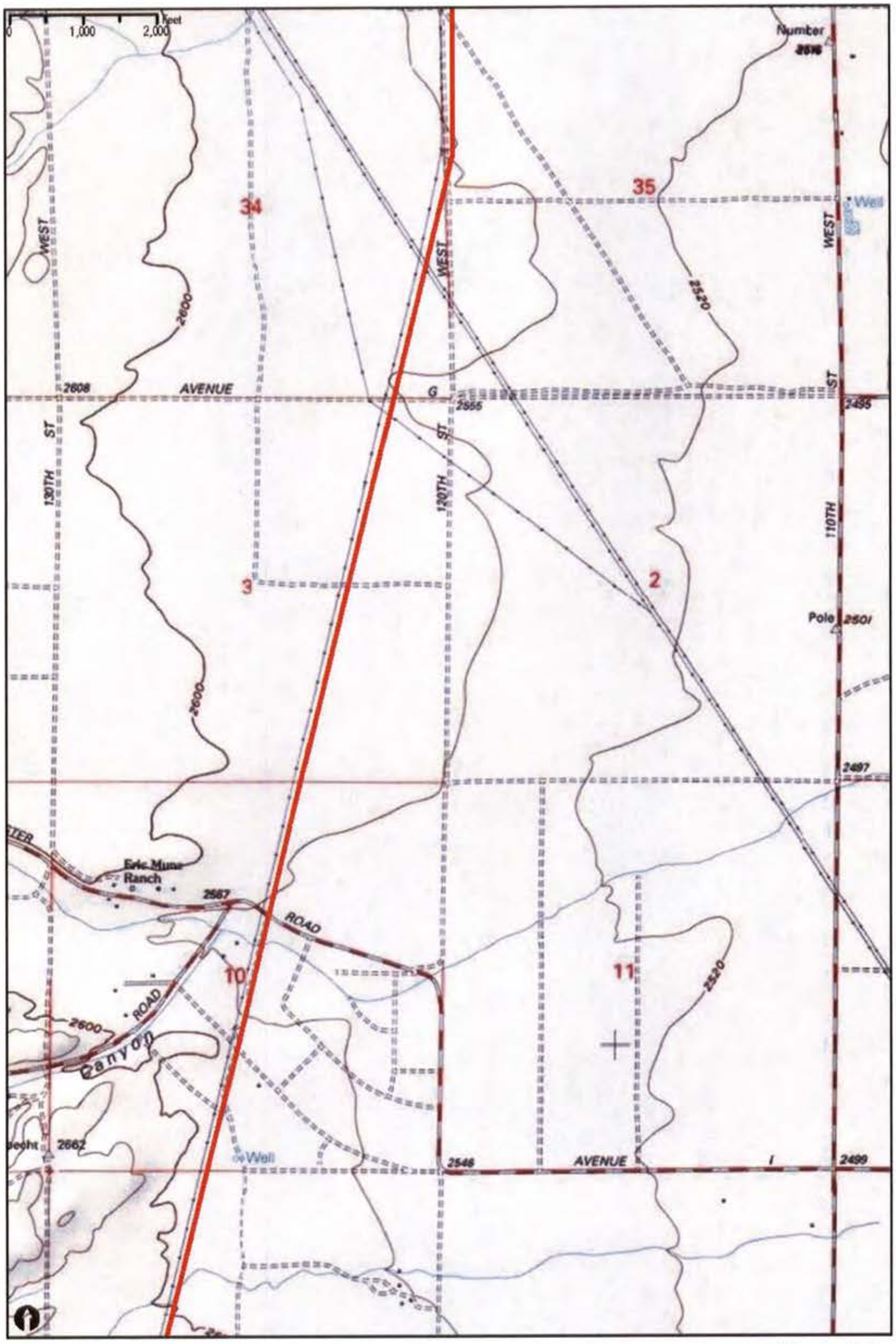
Primary # P-15-018681
HRI#
Trinomial CA-KER-10204H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.

*Map Name: Del Sur

*Scale: 1:24,000

*Date of Map: 1996

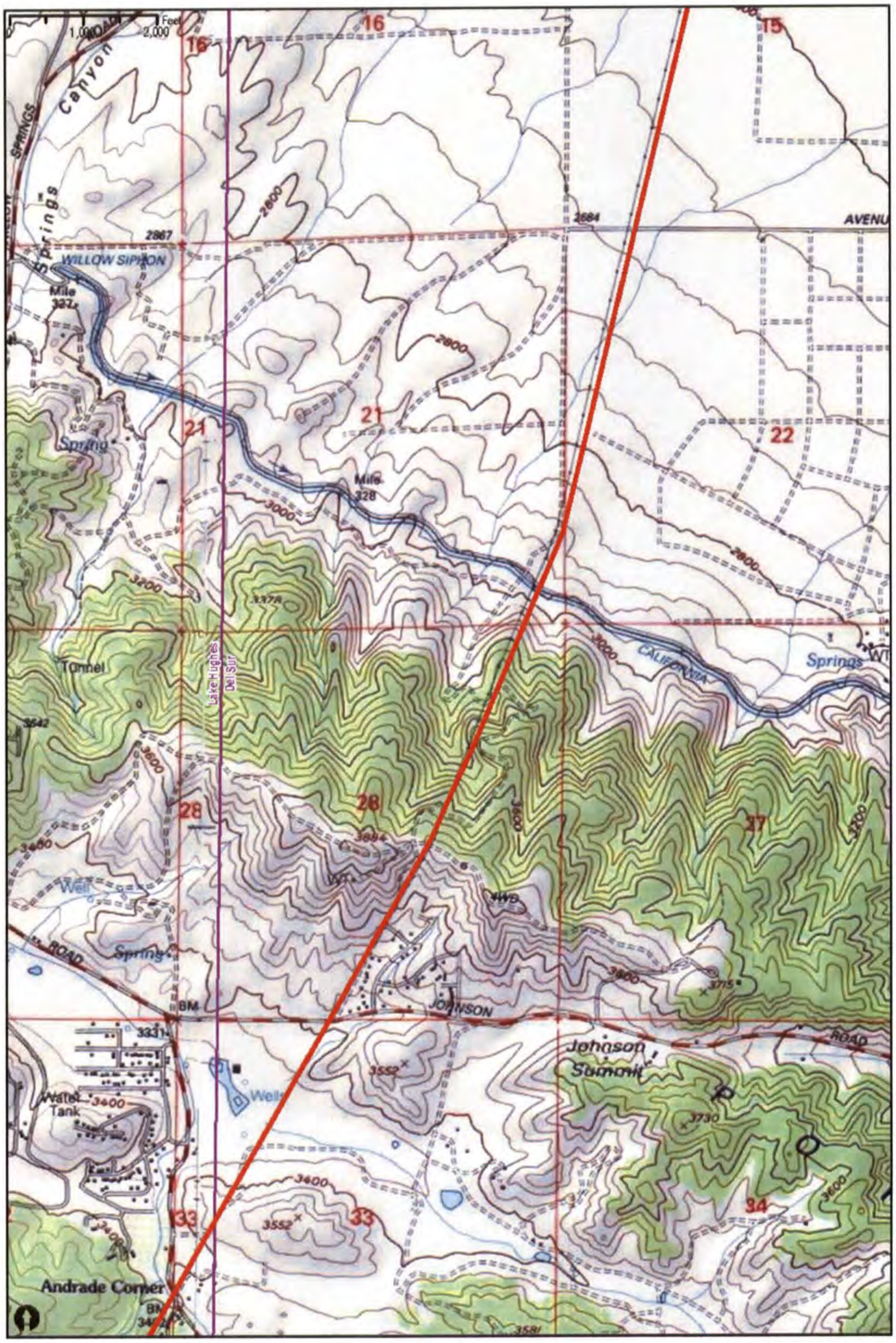


*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.
*Map Name: Del Sur/Lake Hughes
*Scale: 1:24,000
*Date of Map: 1996

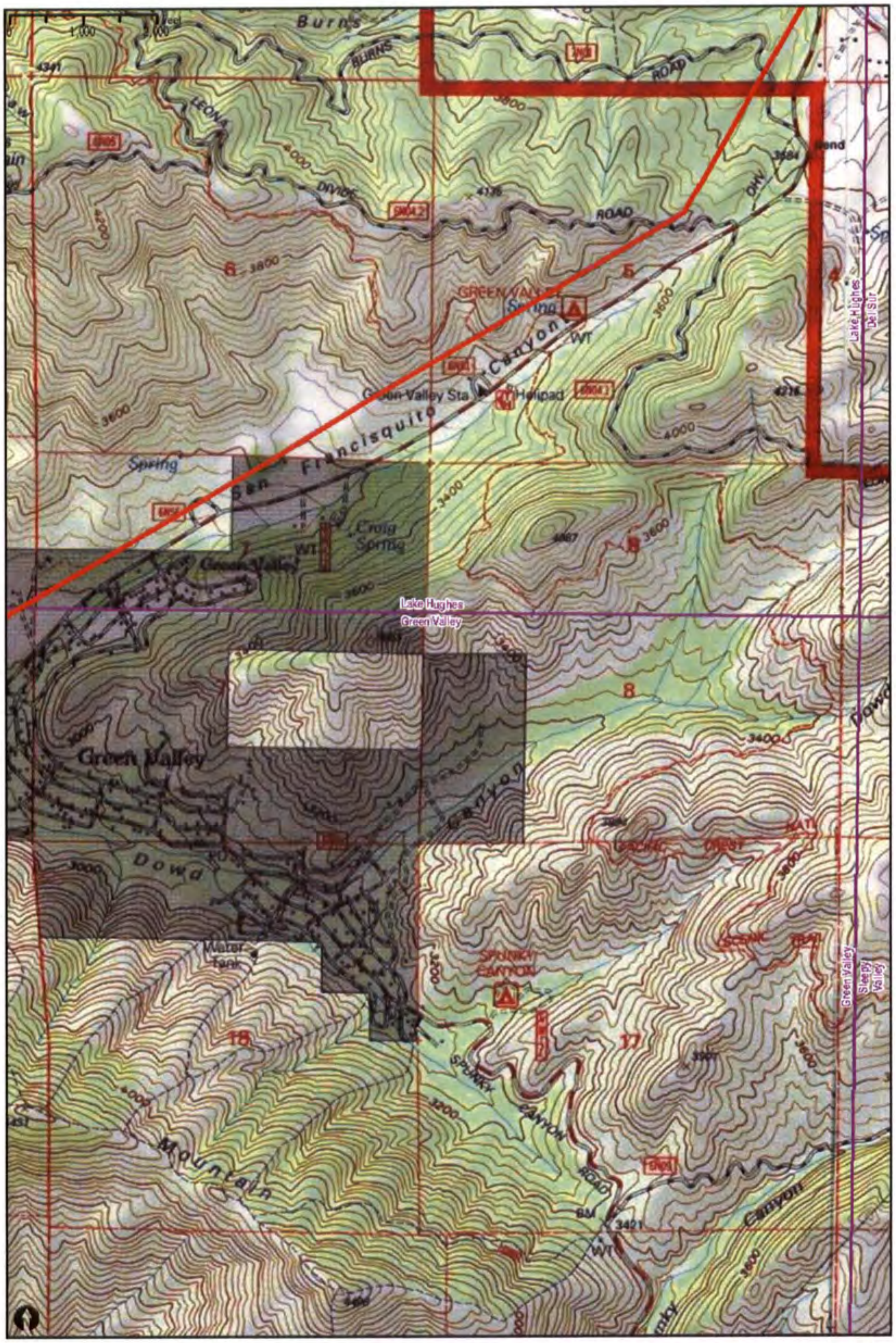


*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.
*Map Name: Lake Hughes/Green Valley
*Scale: 1:24,000
*Date of Map: 1996



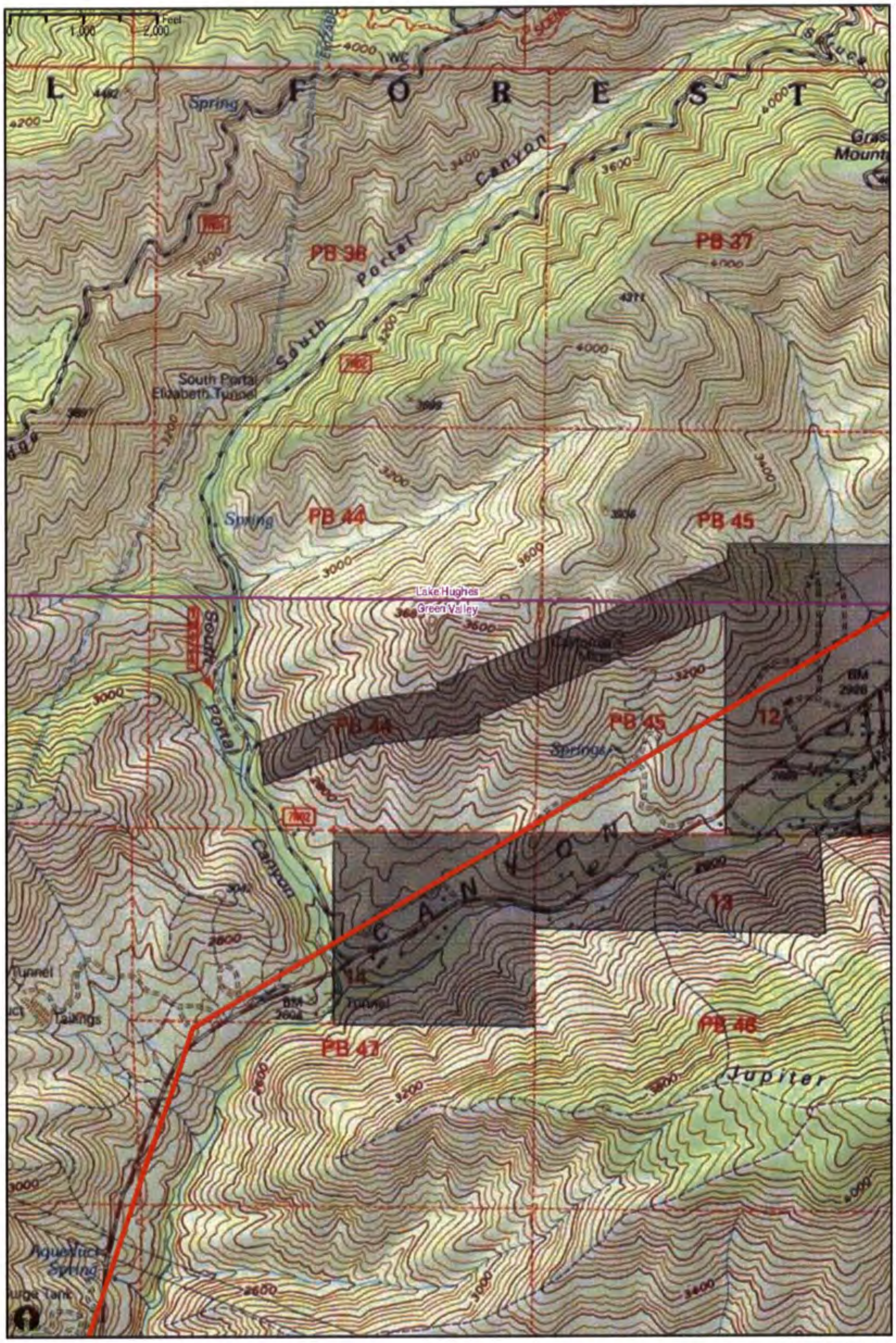
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204H

***Resource Name or #:** LADWP Owens Gorge 230kV transmission line.

***Map Name: Lake Hughes/Green Valley** ***Scale: 1:24,000** ***Date of Map: 1996**

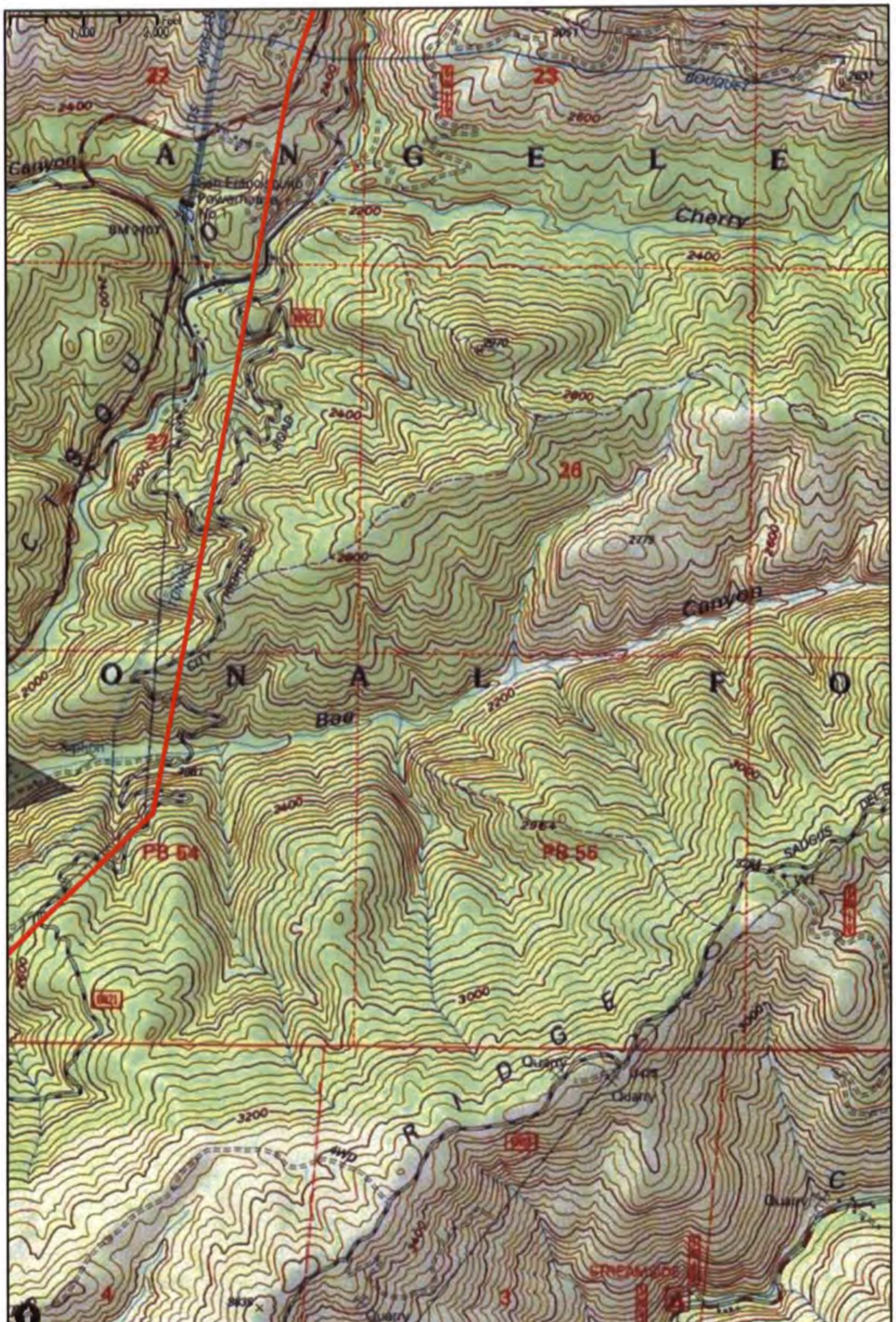


State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.

*Map Name: Green Valley *Scale: 1:24,000 *Date of Map: 1996



DPR 523I (1/95)

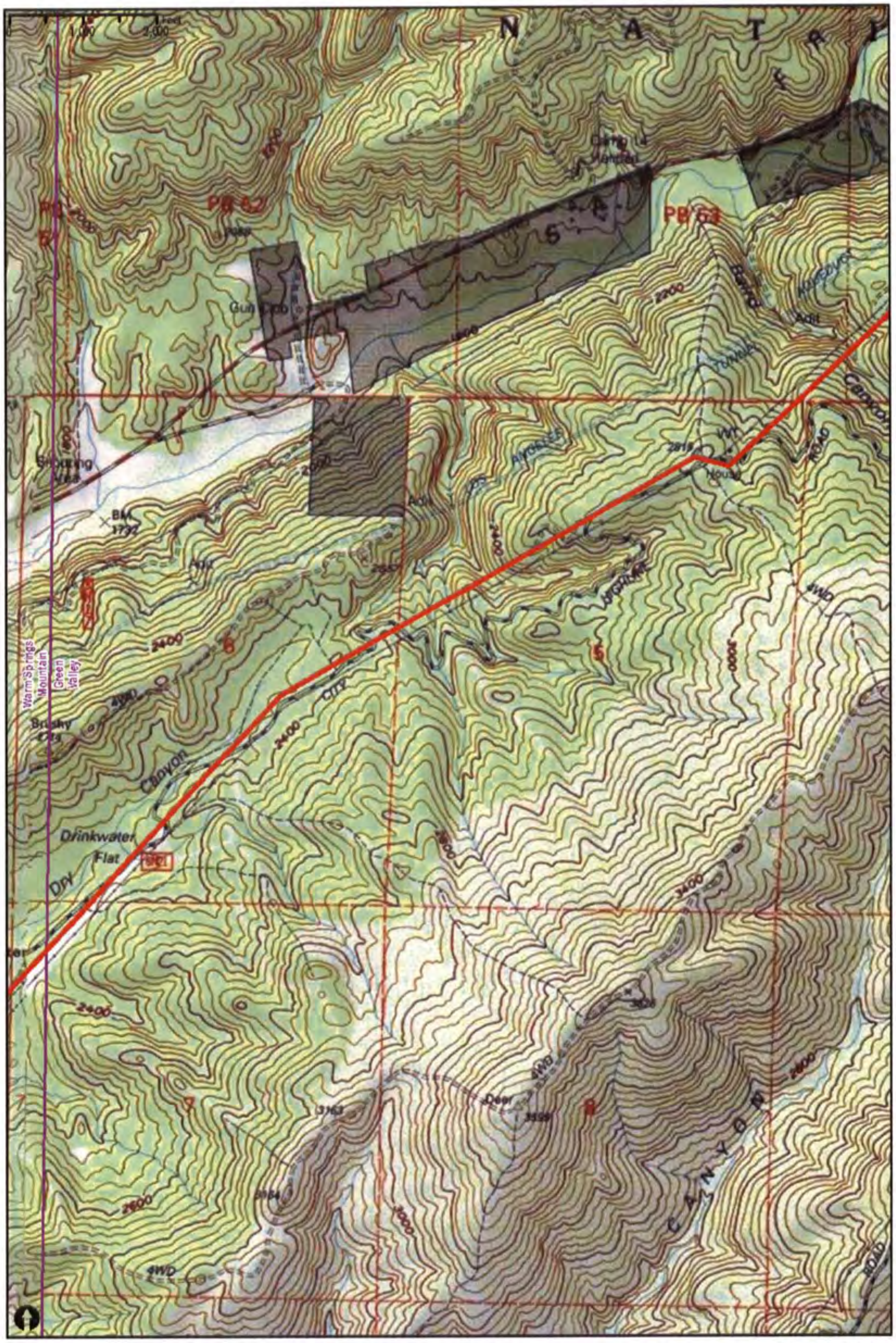
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.

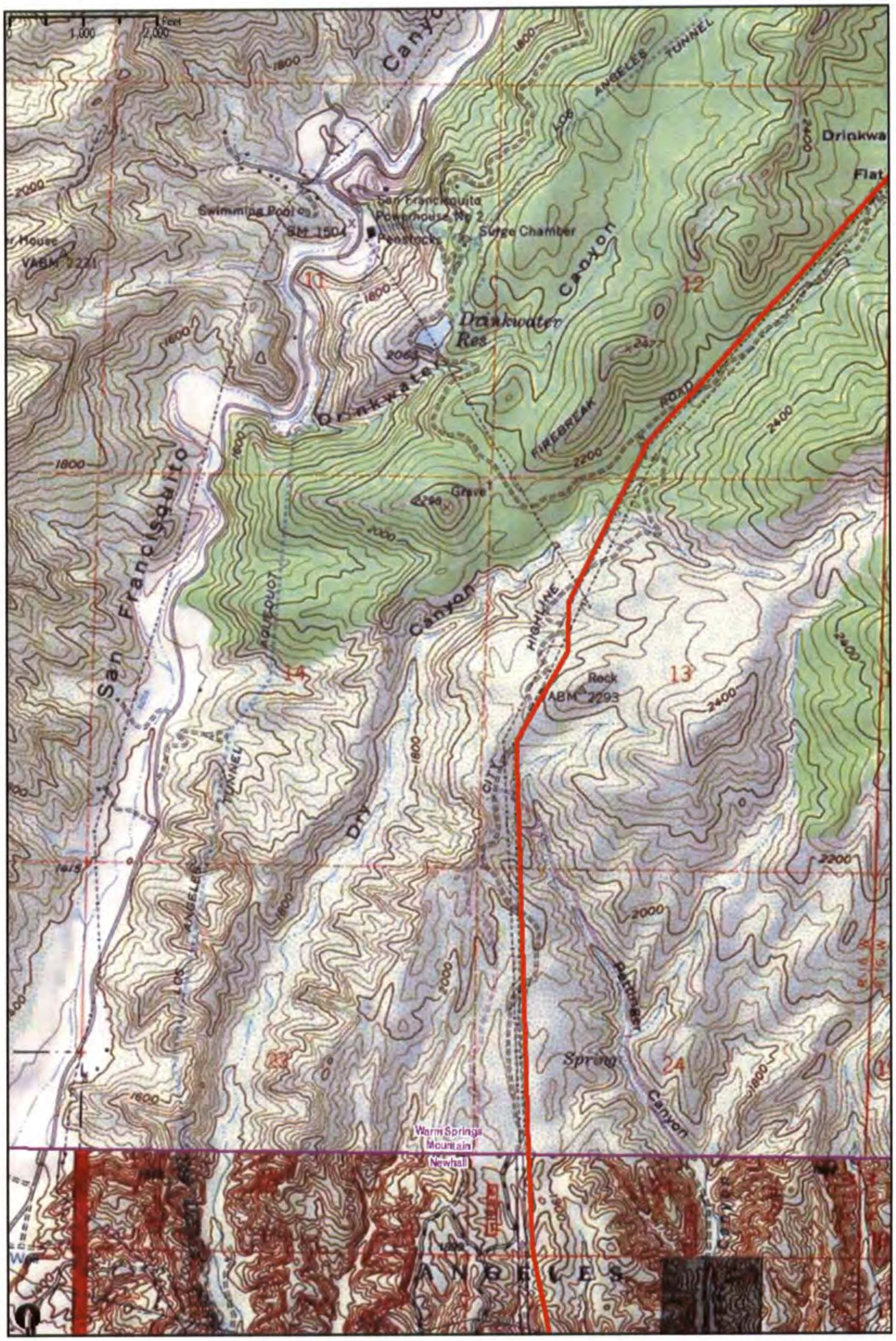
*Map Name: Green Valley/Warm Springs Mtn *Scale: 1:24,000 *Date of Map: 1996



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.
*Map Name: Warm Springs Mtn/Newhall *Scale: 1:24,000 *Date of Map: 1996

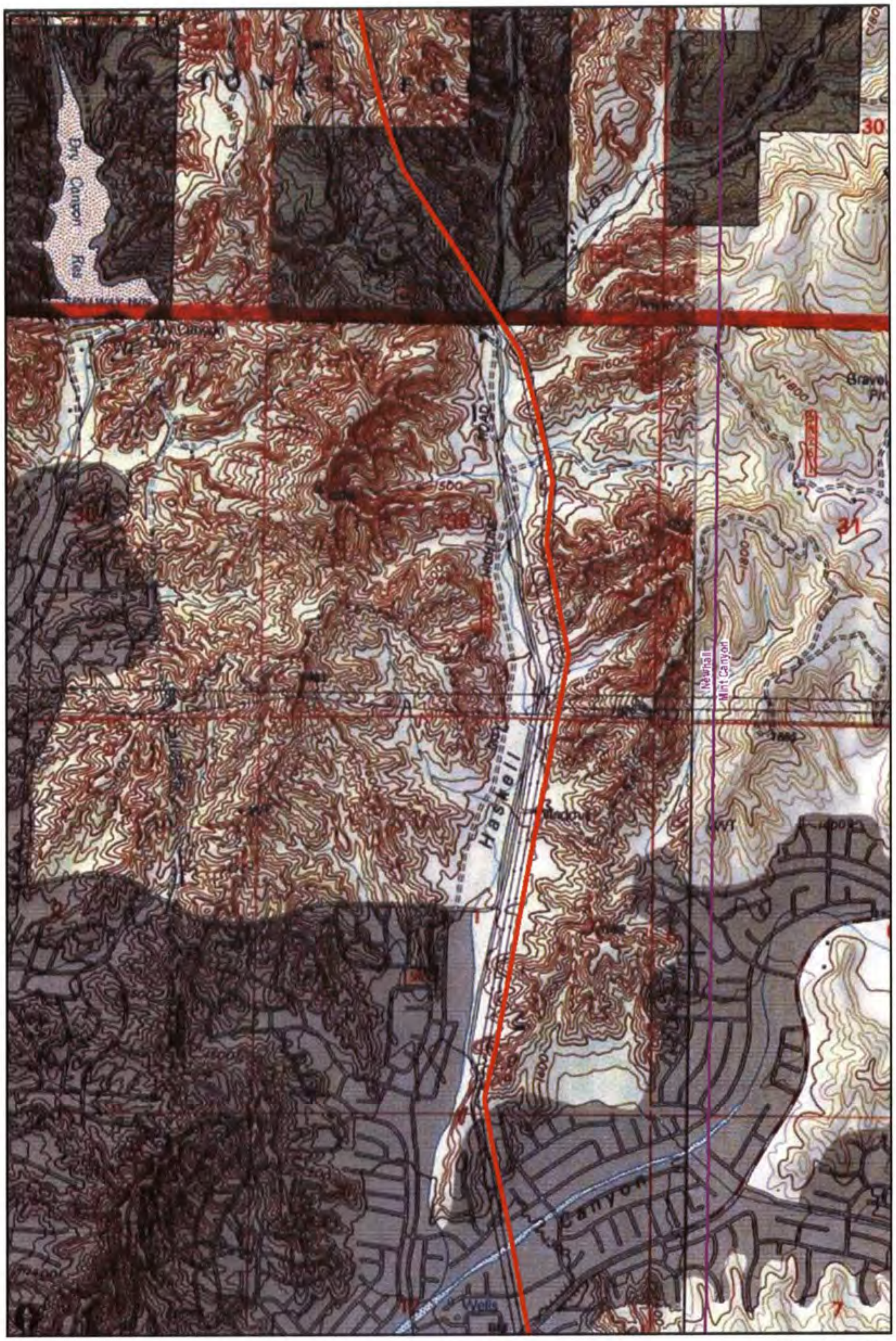


State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.
*Map Name: Newhall
*Scale: 1:24,000
*Date of Map: 1996



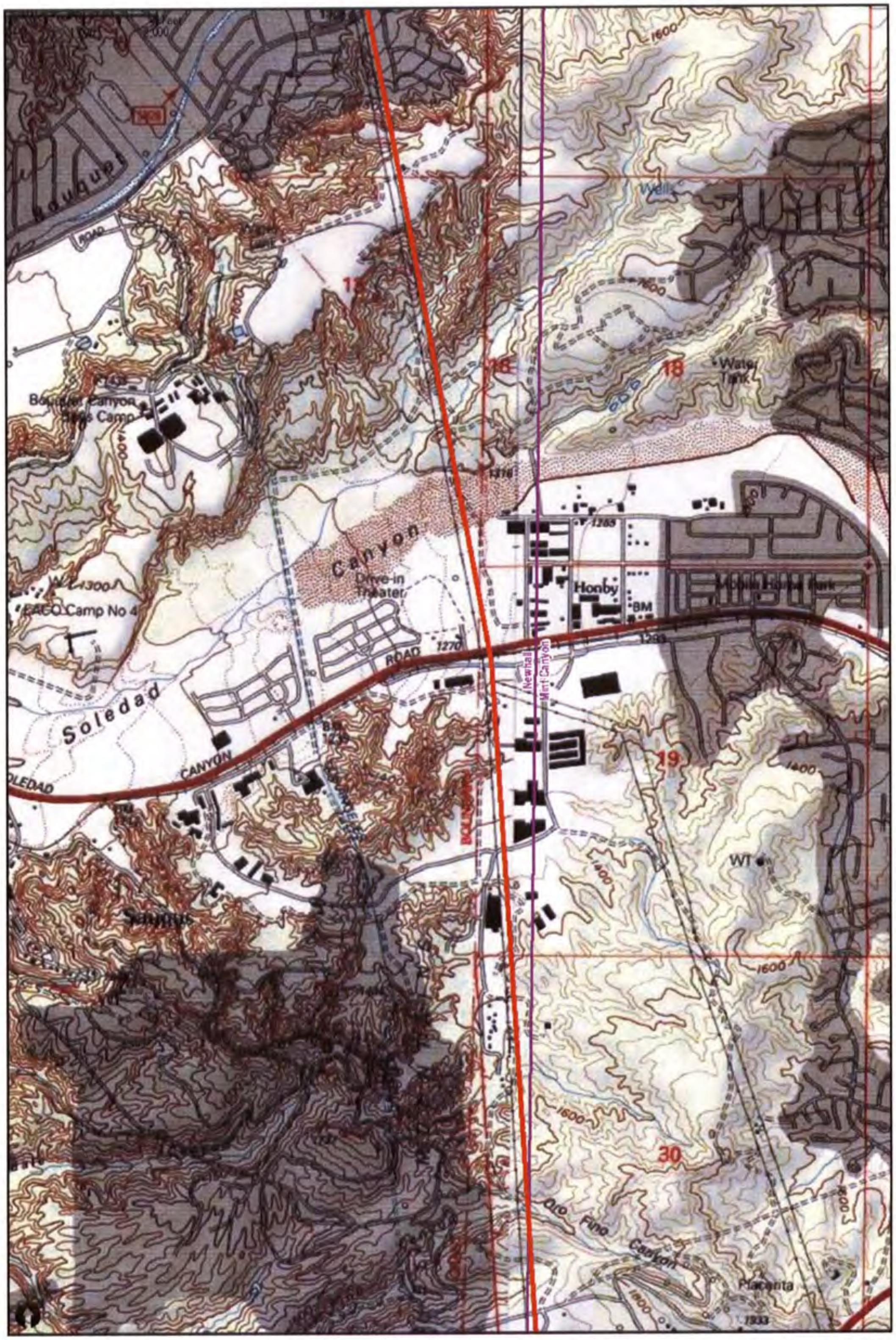
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.

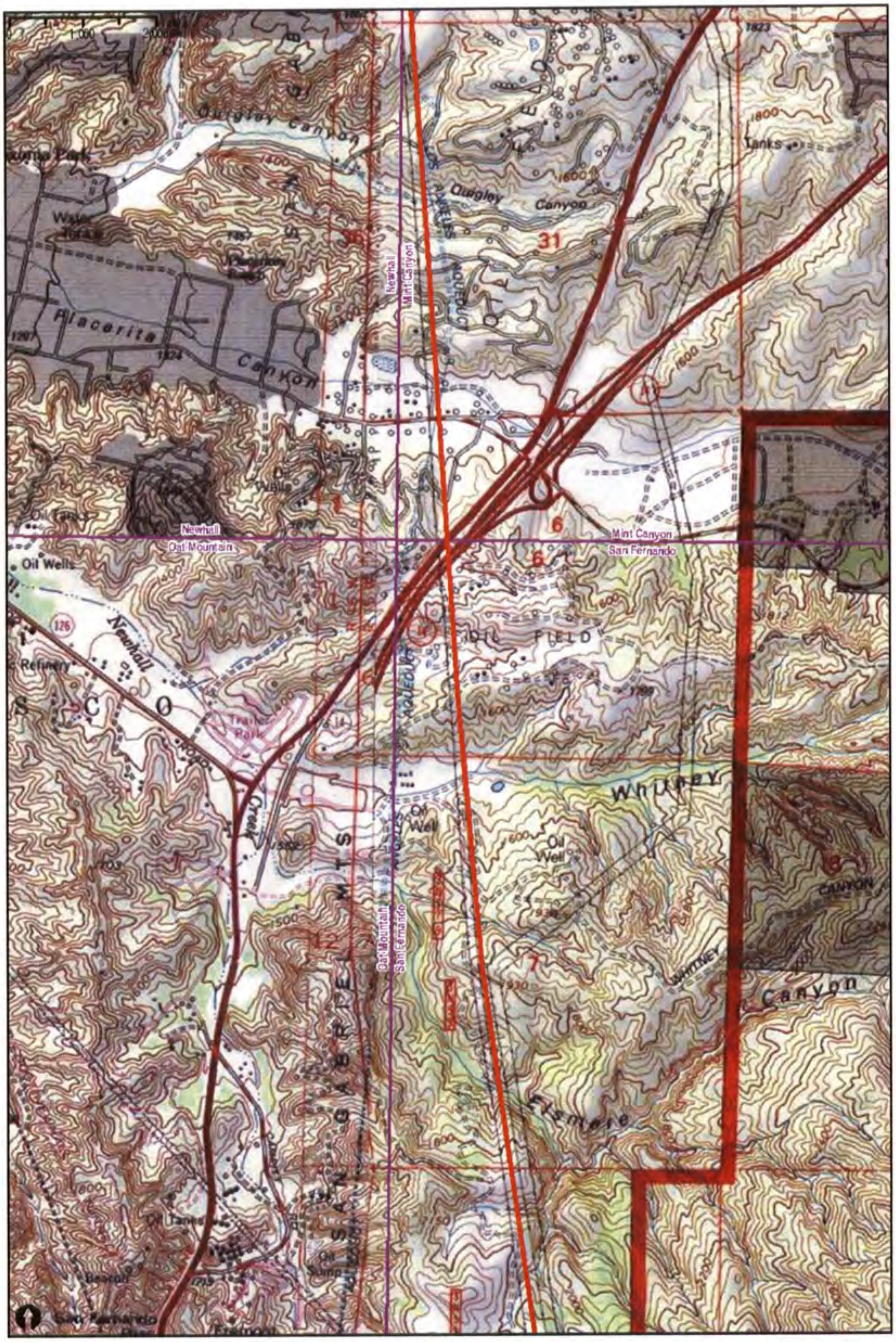
*Map Name: Newhall/Mint Canyon *Scale: 1:24,000 *Date of Map: 1996



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.
*Map Name: Mint Canyon/San Fernando *Scale: 1:24,000 *Date of Map: 1996

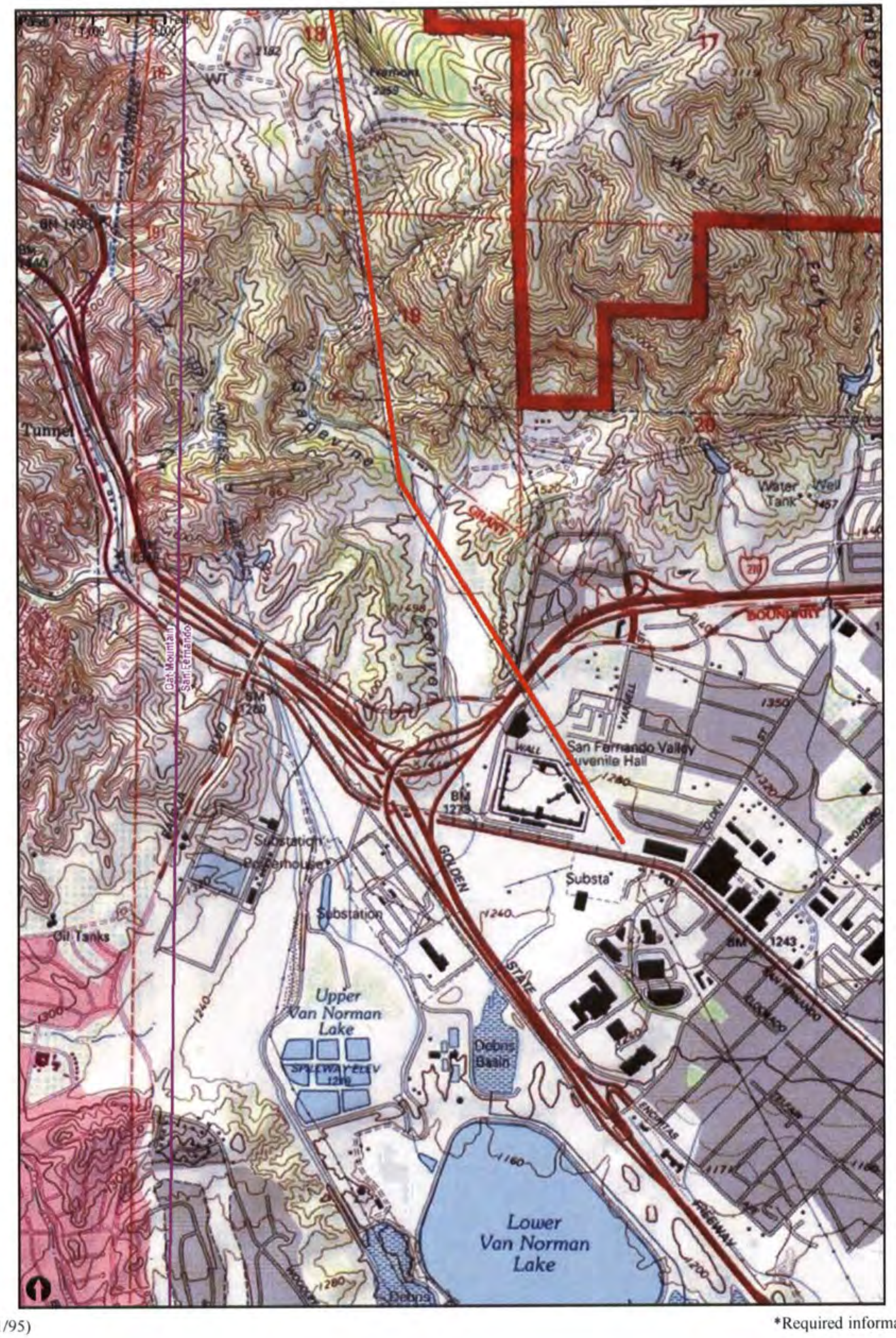


State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-018681
HRI#
Trinomial CA-KER-10204 H

*Resource Name or #: LADWP Owens Gorge 230kV transmission line.

*Map Name: San Fernando
*Scale: 1:24,000
*Date of Map: 1996



DPR 523I (1/95)
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LINEAR FEATURE RECORD

Primary # P-15-00349H
HRI #
Trinomial

Resource Name or #: (Assigned by recorder) Resource ID 25, First Los Angeles Aqueduct

L1. Historic and/or Common Name: First Los Angeles Aqueduct

L2a. Portion Described: ☐ Entire Resource ☒ Segment ☐ Point Observation **Designation:**

b. Location of point or segment: (Provide UTM coordinates, legal description, and any other useful locational data. Show the area that has been field inspected on a Location Map)

Section 1: Northern terminus: 11S 367740.53 mE, 3861810.45 mN; Southern terminus: 11S 367400.23 mE, 3859494.92 mN;
Section 2: Western terminus: 11S 367801.08 mE, 3863252.57 mN; Eastern terminus: 11S371872.74 mE; 3864216.88 mN;
Section 3: Western terminus: 11S 373897.04 mE, 3865316.21 mN; Eastern terminus: 11S 377153.69 mE; 3866793.75 mN

L3. Description: (Describe construction details, materials, and artifacts found at this segment/point. Provide plans/sections as appropriate.)

Three segments of the Los Angeles Aqueduct traverse the study area for a total of 6.5 miles. All segments are channelized at this location, beneath the ground at Aqueduct Road. The larger aqueduct system beyond these segments spans 215 miles and comprises concreted aqueducts, reservoirs, dams, siphons, and other features. The primary character-defining feature at these segments is the aqueduct's undisturbed, underground nature.

L4. Dimensions: (In feet for historic features and meters for prehistoric features)

a. Top Width:
b. Bottom Width:
c. Height or Depth:
d. Length of Segment:
Section 1: 9,675'; Section 2: 14,066';
Section 3: 12,302'

L4e. Sketch of Cross-Section (include scale) **Facing:**

L5. Associated Resources:

L6. Setting: (Describe natural features, landscape characteristics, slope, etc., as appropriate.)

L7. Integrity Considerations:
(See continuation sheet.)

L8a. Photograph, Map or Drawing

L8b. Description of Photo, Map, or Drawing (View, scale, etc.)
View of First Los Angeles Aqueduct facing north, photo taken east of 172nd Street West, Rosamond, Kern County, California

L9. Remarks:
(See continuation sheet.)

L10. Form Prepared by: (Name, affiliation, and address)
Katrina Castaneda, ICF
555 W 5th St Ste 3100,
Los Angeles, CA 90013

L11. Date: January 6, 2021

***Recorded by:** Stephanie Hodal and Margaret Roderick ***Date:** 12/28/21 ☐ Continuation ■ Update

L7. Integrity Considerations (continued):

Field survey by ICF on December 28th, 2021 of the segment within the study area confirmed the physical conditions previously noted in the the 2015 SWCA recordation. Due to its concealed underground location and unchanged setting, this resource retains integrity of materials, association, design, feeling, location, workmanship, and setting.
The resource remains ineligible for listing to the CRHR.

L9. Remarks (continued):

Previous Evaluations:
Julia Costello, Judith Marvin, and Judy Tordoff of Foothill Resources, Ltd., first recorded the First Los Angeles Aqueduct in 1992. Although they did not provide a formal evaluation of the resource, they remarked that the Los Angeles Aqueduct, along with construction camps, railroad spurs, pump sites, and other related features, could be eligible as an NRHP district.

In 2006, a report on the Los Angeles Aqueduct similarly found it eligible for listing to the NRHP as the First Los Angeles Aqueduct Historical Archaeological District. In 2010, A. Fergusson, H. Calicher, R. Rolston, and N. Lawson of CH2M Hill remarked that this segment appears to be a contributing element to the entire resource's overall eligibility under CRHR Criterion 1 for its successful development of the City of Los Angeles and to the development of southern California and under Criterion 2 for its strong association to William Mulholland, whose large-scale engineering projects, such as the Aqueduct, shaped the city's development.

This resource qualifies as a historical resource under CEQA because of previous evaluations that found it eligible for the NRHP and has a 2S2/2D2 status code. It remains unclear whether the SHPO ever concurred with the previous NRHP evaluation of the Los Angeles Aqueduct, or if the resource is actually listed in the CRHR.

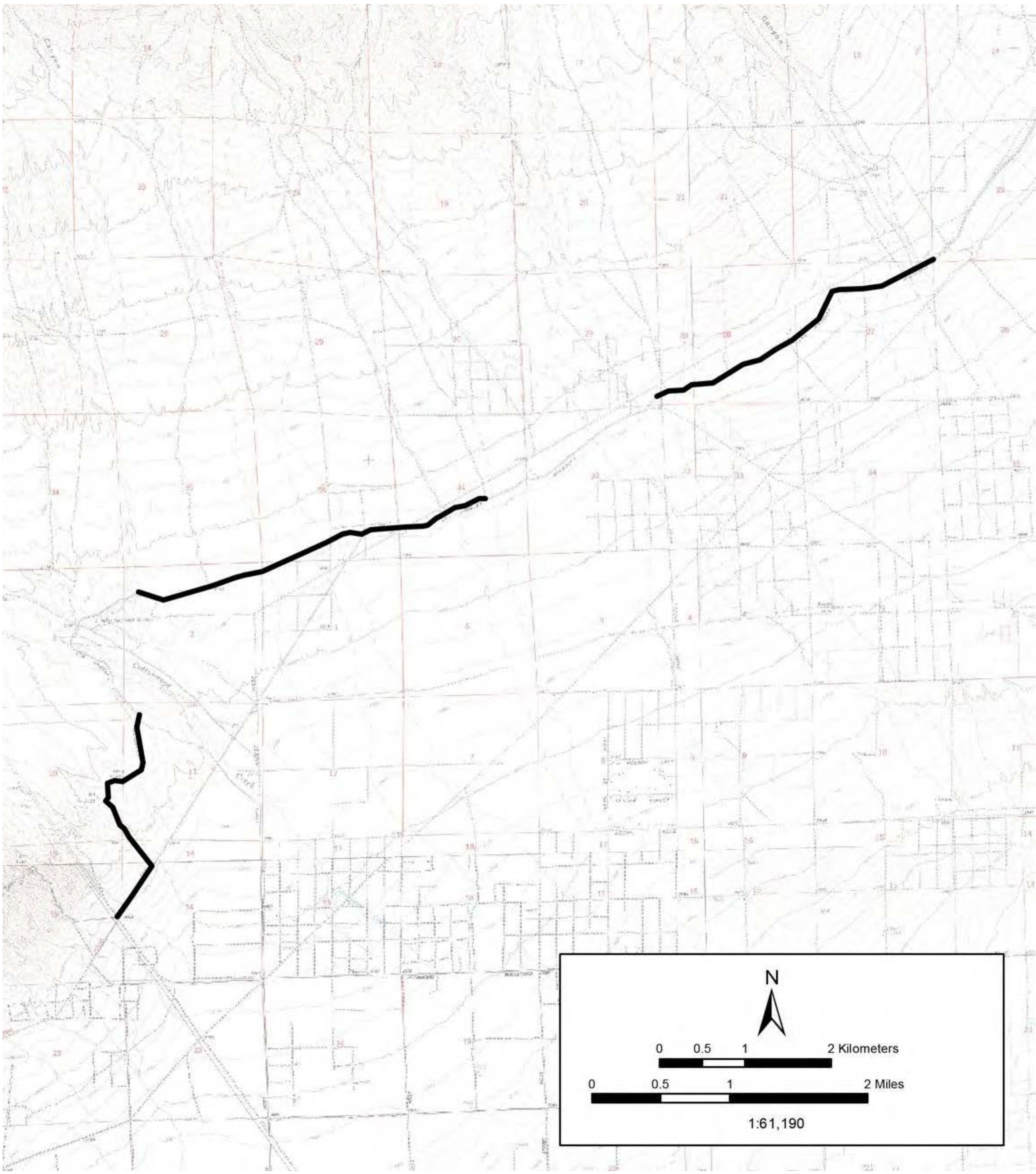
State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary #
HR #
Trinomial

Location Map

Page 3 **of** 3 ***Resource Name or #:** (Assigned by recorder) Resource ID 25, First Los Angeles Aqueduct

***Map Name:** USGS 7.5' Fairmont Butte, Tylerhorse Canyon, Willow ***Scale:** 1:24,000 ***Date of Map:** 12/28/2021



UPDATE

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #: P-15-003549
HRI #
Trinomial CA-KER-3549H
NRHP Status Code

Other Listings
Review Code | Reviewer | Date

Page 1 of 4 | *Resource Name or #: Los Angeles Aqueduct

P1. Other Identifier: P-15-3549 (Kern County), CA-LAN-2105/H (Los Angeles County), CA-INY-4592/H (Inyo County)

***P2. Location:** ☒ Not for Publication ☐ Unrestricted ***a. County:** Kern

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad:** *Mojave* and *Monolith* **Date:** 1973 and 1995 **T** 11N;**R** 13W; **Secs** 22 and 27**;** S.B. **B.M.**

c. Address: City: Zip:

d. UTM: Zone: 11 ; North end: 386495 mE/ 3877650 mN; South end: 386660mE/ 3876100mN (G.P.S.) NAD 27

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation: The first and second Los Angeles Aqueducts are located in Inyo, Kern, and Los Angeles Counties.

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries) The first Los Angeles Aqueduct has been previously recorded multiple times. Two site numbers have been assigned to this resource in Kern County (15-3535 and 15-3549). None of the recordings for either number within Kern County provide an evaluation of the aqueduct; however, a 2006 report on the Los Angeles Aqueduct (Nilsson et al. 2006) recommends the First Los Angeles Aqueduct Historical Archaeological District to be considered eligible for nomination to the National Register of Historic Places. This district would consist of the Aqueduct as well as an additional 80 resources associated with the construction of the First Los Angeles Aqueduct, including 23 labor camps, 13 construction camps, the Jawbone division headquarters, and 35 debris scatters, definitively associated with the aqueduct. No site record has yet been prepared for this district. The first Los Angeles Aqueduct extends for approximately 230 miles from the takeout at the Owens River in the Owens Valley to the San Fernando Valley in the City of Los Angeles. This aqueduct, primarily developed by William Mullholland, an engineer for the Los Angeles Department of Water and Power, was built between 1907 and 1913. This system was reinforced in parts during the 1960s. The second Los Angeles Aqueduct was constructed between 1965 and 1970 and extends for approximately 180 miles from the Owens Valley to the LA Basin. These aqueducts provide approximately 430 million gallons of water per day to the City of Los Angeles. *This update is for the section which crosses Jawbone Canyon.*

***P3b. Resource Attributes:** (List attributes and codes) AH6, water conveyance feature

***P4. Resources Present:** ☐Building ☒Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)

P5b. Description of Photo: (View, date, accession #) Jawbone Siphon

***P6. Date Constructed/Age and Sources:** ☒Historic ☐Prehistoric ☐Both

***P7. Owner and Address:**
Los Angeles Department of Water and Power
P.O. Box 30808
Los Angeles, CA 90030

***P8. Recorded by:** (Name, affiliation, and address)
A Fergusson, H. Calicher, R.Rolston, N. Lawson
CH2M HILL
6 Hutton Centre, Suite 700
Santa Ana, California 92707

***P9. Date Recorded:** November 2010

***P10. Survey Type:** (Describe) Intensive pedestrian survey

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Lawson et al. 2010: "Class III Survey of the North Sky River Project, Kern County, California".

***Attachments:** ☐NONE ☐Location Map ☐Sketch Map ☐Continuation Sheet ☐Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☒Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☒Photograph Record ☐ Other (List):

UPDATE

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LINEAR FEATURE RECORD

Primary # 15-3535
HRI #
Trinomial CA-KER-3535/H

 Resource Name or #: (Assigned by recorder)

L1. Historic and/or Common Name: First Los Angeles Aqueduct

L2a. Portion Described: ☐ Entire Resource ☒ Segment ☐ Point Observation **Designation:**

b. Location of point or segment: (Provide UTM coordinates, legal description, and any other useful locational data. Show the area that has been field inspected on a Location Map) This update is for a portion of the First Los Angeles Aqueduct in the Mojave Division. The segment, located west of Mojave, California, extends from Oak Creek Road south to Jackpine Avenue. This portion of the aqueduct consists of covered underground covered conduit.

L3. Description: (Describe construction details, materials, and artifacts found at this segment/point. Provide plans/sections as appropriate.) This segment is the Jawbone Siphon.

L4. Dimensions: (In feet for historic features and meters for prehistoric features)

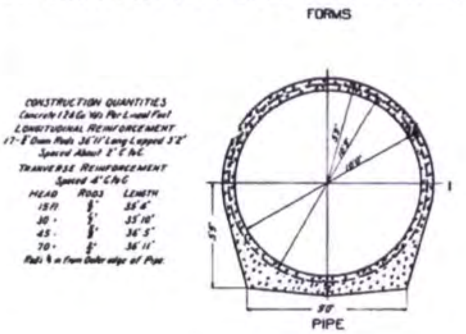
a. Top Width:

b. Bottom Width:

c. Height or Depth:

d. Length of Segment: ½ mile

L4e. Sketch of Cross-Section (include scale) **Facing:** north



L5. Associated Resources: Resources associated with this section include several trash scatters, one section of riveted pipeline, two historic roads, and the remains of a construction camp.

L6. Setting: (Describe nat ural f eatures, l andscape characteristics, s lope, et c., as appr opriate.) The aqueduct runs through a relatively level area with creosote bushes, Joshua trees, cholla, and chamise. Native grasses were also observed in the area.

L7. Integrity Considerations: Reinforcements were made to sections of the First Los Angeles Aqueduct in the 1960s. Overall, however, the aqueduct retains integrity of location, setting, workmanship, materials, design, feeling, and association.

L8b. Description of Photo, Map, or Drawing (View, scale, etc.)

Placing underground conduit in the Mojave Division. View to the north.

L9. Remarks: This segment of the First Los Angeles Aqueduct retains integrity and appears to be a contributing element to the overall eligibility of entire resource to the CRHR. The LA Aqueduct is related to the successful development of the City of Los Angeles and to the development of southern California (Criterion 1). Additionally, the aqueduct was developed by William Mullholland, who was responsible for many other large scale engineering projects, which shaped the development of the City of Los Angeles (Criterion 2).

L8a. Photograph, Map or Drawing

L10. Form Prepared by: (Name, affiliation, and address)

N. Lawson
CH2M HILL
6 Hutton Centre Drive, Suite 700
Santa Ana, CA 92707

L11. Date: December 2010

UPDATE

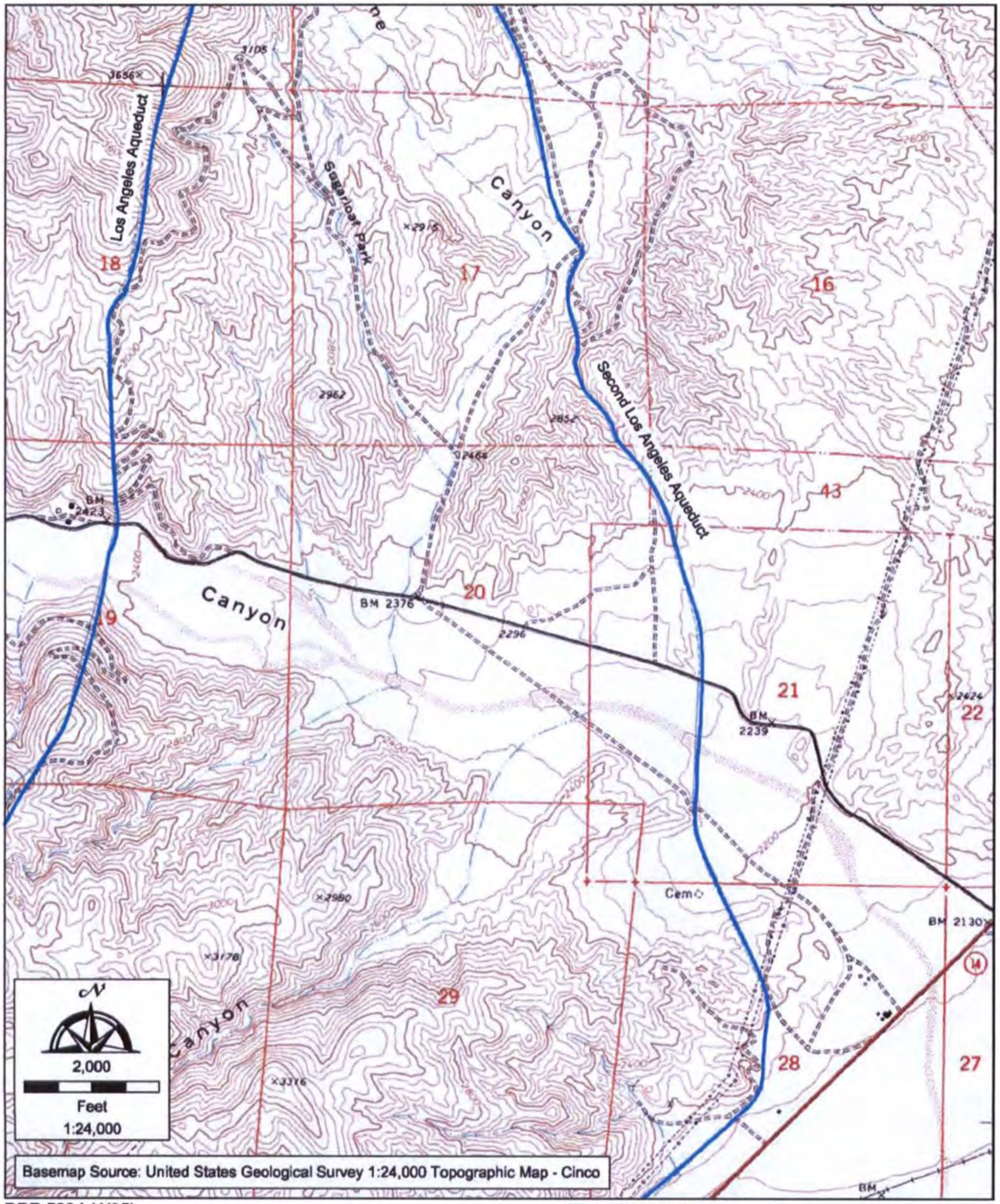
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # 15-3535; 15-3549
HRI#
Trinomial CA-KER-3535/H; CA-KER-3549/H

*Resource Name or #: Los Angeles Aqueduct

*Map Name: Cinco

*Scale: 1:24,000 *Date of Map: 1972 (1994)



*Required information

UPDATE

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary # 15-3535; 15-3549
HRI#
Trinomial CA-KER-3535/H; CA-KER-3549/H

***Resource Name or #** (Assigned by recorder) First Los Angeles Aqueduct

***Recorded by:** S. Fehrenbach (PaleoWest Archaeology) ***Date:** 12/17/2010 ☐ Continuation ☒ Update

Photo 1, 52 Mule Team hauling pipe for the Jawbone Siphon

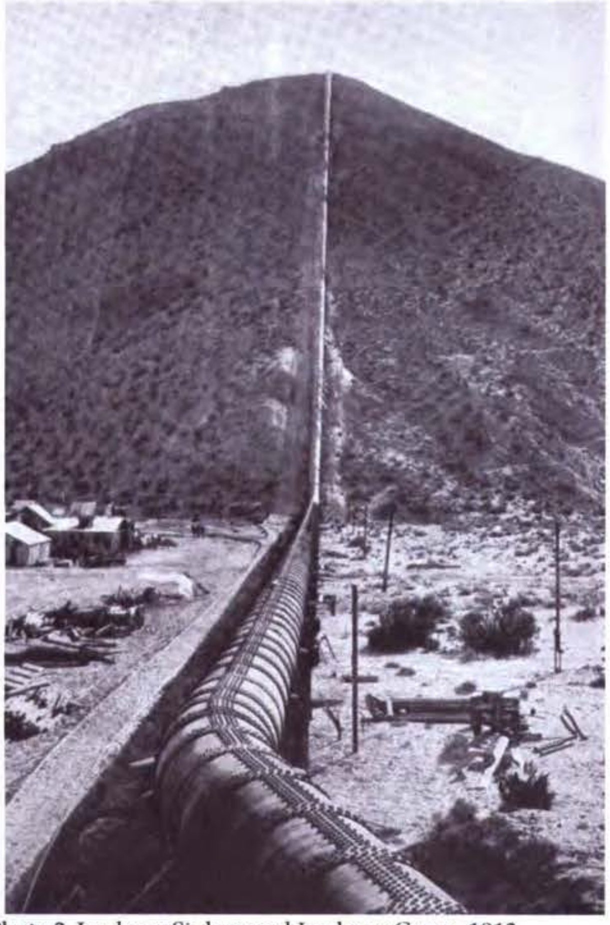


Photo 2, Jawbone Siphon and Jawbone Camp, 1913

***Resource Name or #** CA-KER-3549H

Recorded By: Alyssa Newcomb, Rebekka Knierim ***Date:** February 26, 2015 ☐ Continuation ■ Update

P3a. Description:

Site CA-KER-3549H is the extant Los Angeles Aqueduct, a water conveyance system traversing 215 miles comprising numerous structural features including reservoirs, dams, siphons, tunnels, channels, and spillways. Constructed between 1907 and 1913, the aqueduct directs water from the Owen's River in the Eastern Sierra Nevada Mountains southeast to Los Angeles' San Fernando Valley. At its completion in 1913, the aqueduct was the third largest engineering achievement of its time, and the original system is still in use. A 1.7-mile (2.7-km) segment of the aqueduct is adjacent to the current project area to the north. The site was originally recorded in 1992 by J. Costello, J. Marvin, and J. Tordoff of Foothill Resources Ltd. and includes the Alabama gates and spillway, a dynamite location and wash-out channel, and a segment of a concrete-lined open canal. It was determined at that time to be eligible as a NRHP district. In 1993, J. Costello and J. Marvin of Foothill Resources Ltd. updated the site to include two additional segments of the aqueduct and a spillway feature. Another portion of the aqueduct adjacent to the project area was updated in 2000 by J. Underwood of KEA Environmental, Inc. who noted it was in good condition. No changes in status were recommended in the updates.

In 2015, SWCA revisited and updated two sections of CA-KER-3549H as part of the Valentine Solar Project cultural resources surveys. One updated section in the northeast of the project study area is located in the southwest quarter of the southeast quarter of Section 28, Township 10 North, Range 14 West (San Bernardino Base Meridian). In this location, the resource appears to be in identical condition to that observed by previous recorders and SWCA did not identify any new features or other cultural materials. In this location, the aqueduct is covered by concrete slabs that were observed to be in good condition, with no visible cracks and minor exfoliation. Directly adjacent to this segment, to the south, is Aqueduct Road—a heavily utilized unpaved road running parallel to the canal. The road surface is in poor condition from vehicle traffic and water erosion; some of the sediment is being deposited onto the surface of the canal. The second updated section, in the west of the Valentine Solar study area, is located in the northwest quarter of the northeast quarter of Section 2, Township 9 North, Range 15 West (San Bernardino Base Meridian). SWCA did not observe any surface expression of the aqueduct at this point of observation.

***P8. Recorded by:** Alyssa Newcomb and Rebekka Knierim; SWCA Environmental Consultants; 150 S. Arroyo Parkway, 2nd Floor; Pasadena, CA 91105.

***P9. Date Recorded:** February 26, 2015

***P10. Survey Type:** (Describe) Intensive Pedestrian Survey

***P11. Report Citation:** Hoffman, Laura, Alyssa Newcomb, Chris Millington, Benjamin Vargas, and Heather Gibson (2015) Cultural Resources Survey Report for the Valentine Solar Project, Kern County, California. SWCA Environmental Consultants, Pasadena.

Recorded By: Alyssa Newcomb, Rebekka Knierim ***Date:** February 26, 2015 ☐ Continuation ■ Update

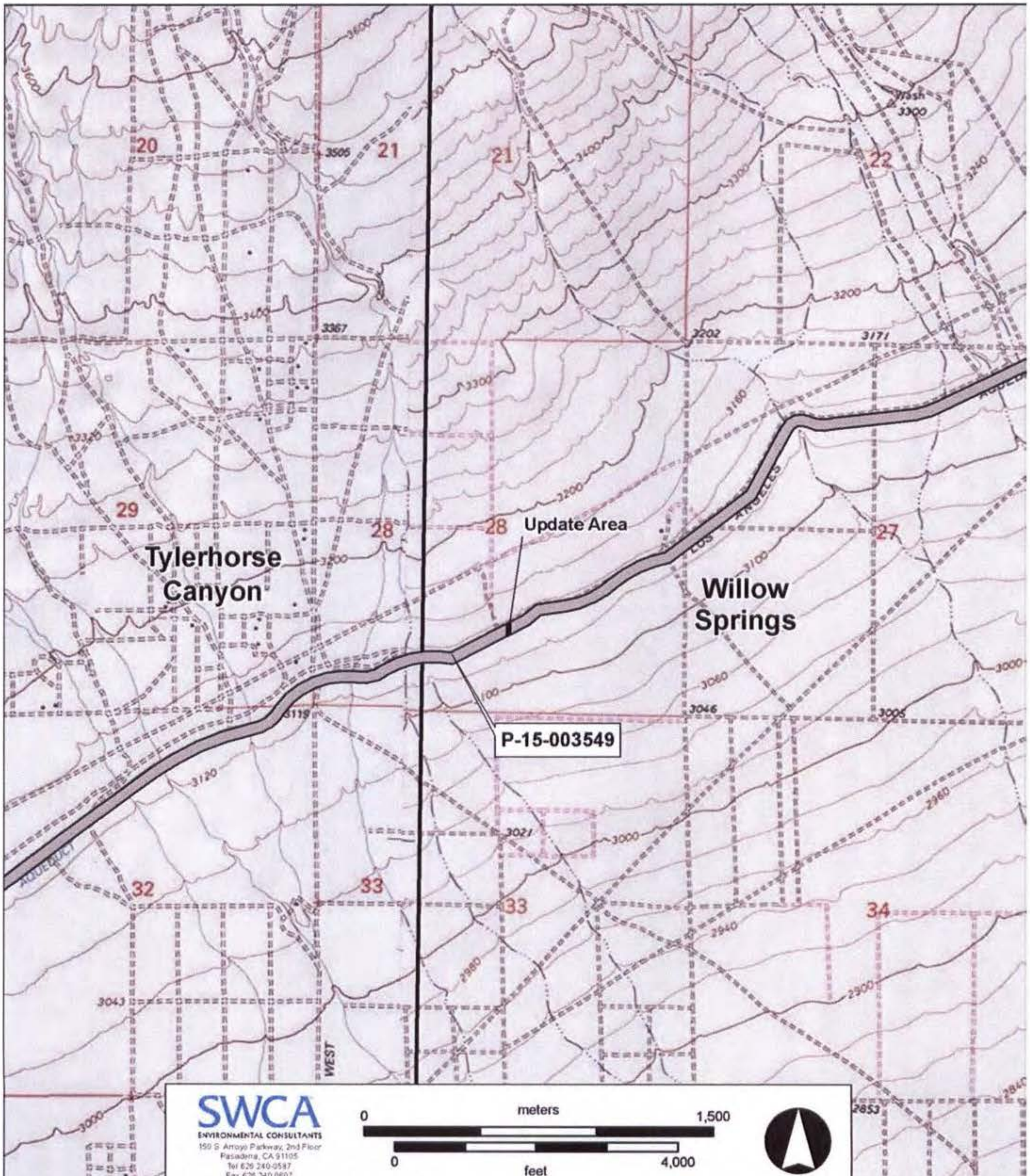
Figure 1. CA-KER-3549H overview; view facing west.

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-0003549 Update
HRI#
Trinomial CA-KER-3549H Update

Page 3 **of** 5 ***Resource Name or #:** CA-KER-3549H

***Map Name:** CA-KER-3549H/P-15-0003549 Location Map ***Scale:** 1:24,000 ***Date of Map:** March 12, 2015



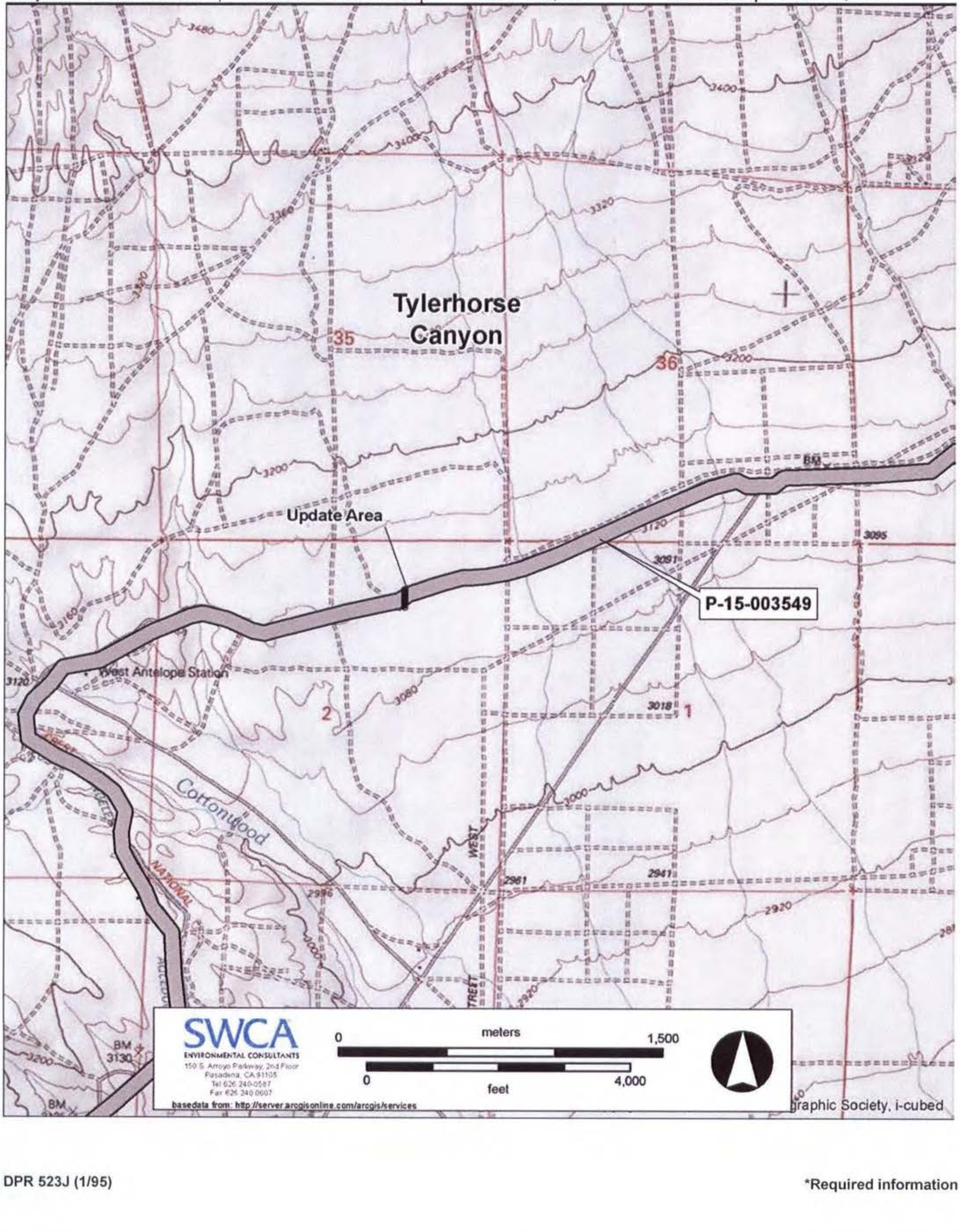
Primary # P-15-0003549 Update
HRI#

LOCATION MAP

Trinomial CA-KER-3549H Update

***Resource Name or #:** CA-KER-3549H

***Map Name:** CA-KER-3549H/P-15-0003549 Location Map ***Scale:** 1:24,000 ***Date of Map:** March 12, 2015



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LINEAR FEATURE RECORD

Primary # P-15-0003549 Update
HRI #
Trinomial CA-KER-3549H Update

 ***Resource Name or #:** CA-KER-3549H

***Drawn By:** William Hayden ***Date:**

L1. Historic and/or Common Name: Los Angeles Aqueduct

L2a. Portion Described: ☐ Entire Resource ☐ Segment ■ Point Observation **Designation:**

b. Location of point or segment: (Provide UTM coordinates, legal description, and any other useful locational data. Show the area that has been field inspected on a Location Map)

Northeastern point: NAD 27 Zone: 11; 374865 mE 3865368 mN; T 10N; R 14W; SW ¼ of SE ¼ of Sec 28; SBBM

Western point: NAD 27; Zone: 11; 368831 mE 3863106 mN; T 9N; R 15W; NW ¼ of NE ¼ of Sec 2, SBBM

L3. Description: (Describe construction details, materials, and artifacts found at this segment/point. Provide plans/sections as appropriate.)

SWCA revisited and updated two sections of CA-KER-3549H as part of the Valentine Solar Project cultural resources surveys. One updated segment in the northeast of the project study area is a location where the aqueduct is crossed by a linear project element (a proposed gen-tie line) in the northeast of the study area. In this location, a point observation was made of the aqueduct. The updated segment is covered by concrete slabs that were observed to be in good condition, with no visible cracks and minor exfoliation. Directly adjacent to the south is Aqueduct Road—a heavily utilized unpaved road running parallel to the aqueduct. The second updated section of the resource, in the west of the project study area, is also a location where the aqueduct is crossed by a linear project element (a proposed gen-tie line). SWCA did not observe any surface expression of the aqueduct at this point of observation.

L4. Dimensions: (In feet for historic features and meters for prehistoric features)

a. Top Width: 16.4 feet
b. Bottom Width: Unknown
c. Height or Depth: Unknown
d. Length of Segment: 55.7 feet

L4e. Sketch of Cross-Section (include scale) **Facing:**

N/A

L5. Associated Resources: The Los Angeles Aqueduct is a water conveyance system traversing 215 miles and comprising numerous structural features including reservoirs, dams, siphons, tunnels, channels, and spillways.

L6. Setting: (Describe natural features, landscape characteristics, slope, etc., as appropriate.) The depositional setting for the site and greater vicinity is deflated alluvium derived from mountains to the north containing poorly sorted sub-rounded to sub-angular gravels of various material types. Sediments within the site boundary were classified in the field as sandy silt with approximately 30 percent of the matrix composed of gravel inclusions up to 3 cm in length. The vegetation community is characterized by species associated with the creosote scrub community, represented primarily by creosote, which occurs in moderate density. Additional plant species include Joshua trees, sagebrush, Mormon tea, and seasonal native and non-native grasses.

L8a. Photograph, Map or Drawing

L7. Integrity Considerations: The concrete slabs are in good condition with no visible cracks and minor exfoliation. Aqueduct Road is to the south running parallel, and the road surface is in poor condition from vehicle traffic and water erosion.

L8b. Description of Photo, Map, or Drawing
Overview of Los Angeles Aqueduct facing east, Feb. 26, 2015, photo# DSCN0304

L9. Remarks: None.

L10. Form Prepared by:
Alyssa Newcomb
SWCA
Environmental Consultants
150 S. Arroyo Parkway, 2nd Floor
Pasadena, CA 91105

L11. Date: March 11, 2015

UPDATE

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # P-15-003549 (UPDATE)
HRI #
Trinomial CA-KER-3549H (UPDATE)
NRHP Status Code

Other Listings
Review Code Reviewer Date

***Resource Name or #:** Los Angeles Aqueduct (UPDATE)

P1. Other Identifier: Los Angeles Aqueduct (LAN-2105H and INY-4592H)

*** P2. Location:** ☑ Not for Publication ☐ Unrestricted ***a. County:** Kern

*** USGS Quad(s):** Mojave (1973), Monolith (1992)

Sec. 15, T11N R13W SBB&M
Sec. 22, T11N R13W SBB&M
Sec. 15, T11N R13W SBB&M
Sec. 22, T11N R13W SBB&M

c. Address:

d. UTM (NAD 83):

Zone 11 ;	385820 mE	3877789 mN	(Begin)
Zone 11 ;	386628 mE	3878459 mN	(Begin)
Zone 11 ;	385868 mE	3877668 mN	(End)
Zone 11 ;	386508 mE	3878481 mN	(End)

e. Other Locational Data:

This linear resource consists of a segment of the Los Angeles Aqueduct that traverses the pipeline corridor near the town of Mojave. From the intersection of Oak Creek Road and State Route 58 in Mojave, travel west on Oak Creek Road for approximately 4.3 miles before its intersection with the aqueduct and the two pipeline corridors.

*** P3a. Description:**

This record serves as an update to a half-mile segment of the Los Angeles Aqueduct water conveyance system that was previously recorded in 2000 by KEA Environmental, Inc. Other segments of the system within Kern and Inyo counties have been documented by Costello and Marvin (1992, 1994). See Continuation Sheet.

*** P3b. Resource Attributes:** AH02(Foundations/structure pads), AH06(Water conveyance system), AH07(Roads/trails/railroad grades)

*** P4. Resources Present:** ☐ Building ☑ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (isolates, etc.)

***P5b. Description of Photo:**
Overview of buried conduit with access point in foreground. PG&E pipeline in background. View to the north.

***P6. Date Constructed/Age & Sources:**
☑ Historic ☐ Prehistoric ☐ Both
1907-1913, based on historic documents.

***P7. Owner and Address:**
Caltrans/Local Roads, Private

***P8. Recorded by:**
R. Kellawan, D. Martinez and C. Connolly, Far Western, 2727 Del Rio Place Suite A, Davis CA 95618

***P9. Date Recorded:** 4/22/2013

***P10. Survey Type:**
Intensive

*** P11. Citation:** Higgins, Courtney, Rebecca Kellawan, Daron Duke and Thomas Lucas (2013) Cultural Resource Inventory of Approximately 5,300 Acres for PG&E Pipelines 300 A and B, San Bernardino and Kern Counties, California. And Kern Counties, California

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary # P-15-003549 (UPDATE)
HRI #
Trinomial CA-KER-3549H (UPDATE)
NRHP Status Code

Other Listings
Review Code Reviewer Date

 ***Resource Name or #:** Los Angeles Aqueduct (UPDATE)

* **Attachments:** ☐ None ☑ Location Map ☑ Sketch Map ☑ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other:

***Resource Name or #:** Los Angeles Aqueduct (UPDATE)

***Recorded By:** R. Kellawan, D. Martinez and C. Connolly ***Date:** 4/22/2013

*P3a. Description (continued):

In 1992, Costello and Marvin recorded the Alabama Gates in Inyo County and a segment of conduit that extends from Alabama Gates to the south for about one mile. Their survey designated three features: Alabama Gates and Spillway, a dynamited location and wash-out channel from the May 12, 1926 bombing, and a section of the concrete-lined open canal. In 1994, they recorded a segment of the system that extends from Highway 14, at the north end, to Highway 58 in Kern County. Their work identified three features that include the first Los Angeles Aqueduct (1907-1913), the second Los Angeles Aqueduct (1967-1972), and Cameron Gates and Spillway (Costello and Marvin 1994). In 2000, KEA Environmental recorded a portion of the system that overlaps the All American Pipeline, roughly the same segment as this update describes. The segment was declared to be in good condition.

In April of 2013, this resource was encountered within the right-of-way of PG&E's gas lines 300 A and B and was surveyed a quarter-mile to the northeast and southwest of the pipeline corridor. This segment of the conduit is composed of a subsurface concrete box with several access points (man-holes). The manholes or access points protrude roughly two feet from the top of the conduit and are constructed out of concrete and steel rebar. The conduit measures 12 feet wide and 10 feet deep. According to Garret (1993, cited by Costello and Marvin 1993) the original (1907-1913) system was reinforced with concrete ribbing in the 1960s. A parallel segment of the New Los Angeles Aqueduct was also examined, but it courses underground at this location and appeared to be nothing more than a maintained dirt road.

The first iteration of the Los Angeles Aqueduct was constructed between 1907-1913 and is depicted on the Mojave 1915 30-minute topographic map. The Second Los Angeles Aqueduct was constructed parallel and just west of the first conduit between 1967 and 1972 and is depicted on the Mojave 1973 7.5-minute quadrangle map. The entire system and its associated resources include roads, open ditches, concreted aqueducts, tunnels, siphons, dams, reservoirs, and power plants. The Aqueduct construction employed thousands of men and provided the impetus for the construction of the Southern Pacific Railway from Mojave to carry cement, men and supplies to the construction sites. Numerous temporary labor camps were also constructed along the system with such facilities as hospitals, mess halls, bunk houses, barns, shops and homes (Costello and Marvin 1992: 8-9). The system has been determined eligible to the National Register of Historic Places.

References:

Costello, Julia and Judith Marvin
1994 Supplemental Archaeological Survey Report and Historic Study Report for the Mojave By-Pass; 09-KER-58; P.M. 107.7/118.0; EA 243400; Contract No:09H077. Prepared by Foothill Resources, Ltd., Mokelumne Hill, Ca. for Caltrans District 9.

1992 Archaeological Survey Report and Historic Study Report for Highway 395, Alabama Gates Four Lane Project, Inyo County, California. Caltrans Contract No. 09H078. Submitted to Richard Weaver, Caltrans District 9, September 1992.

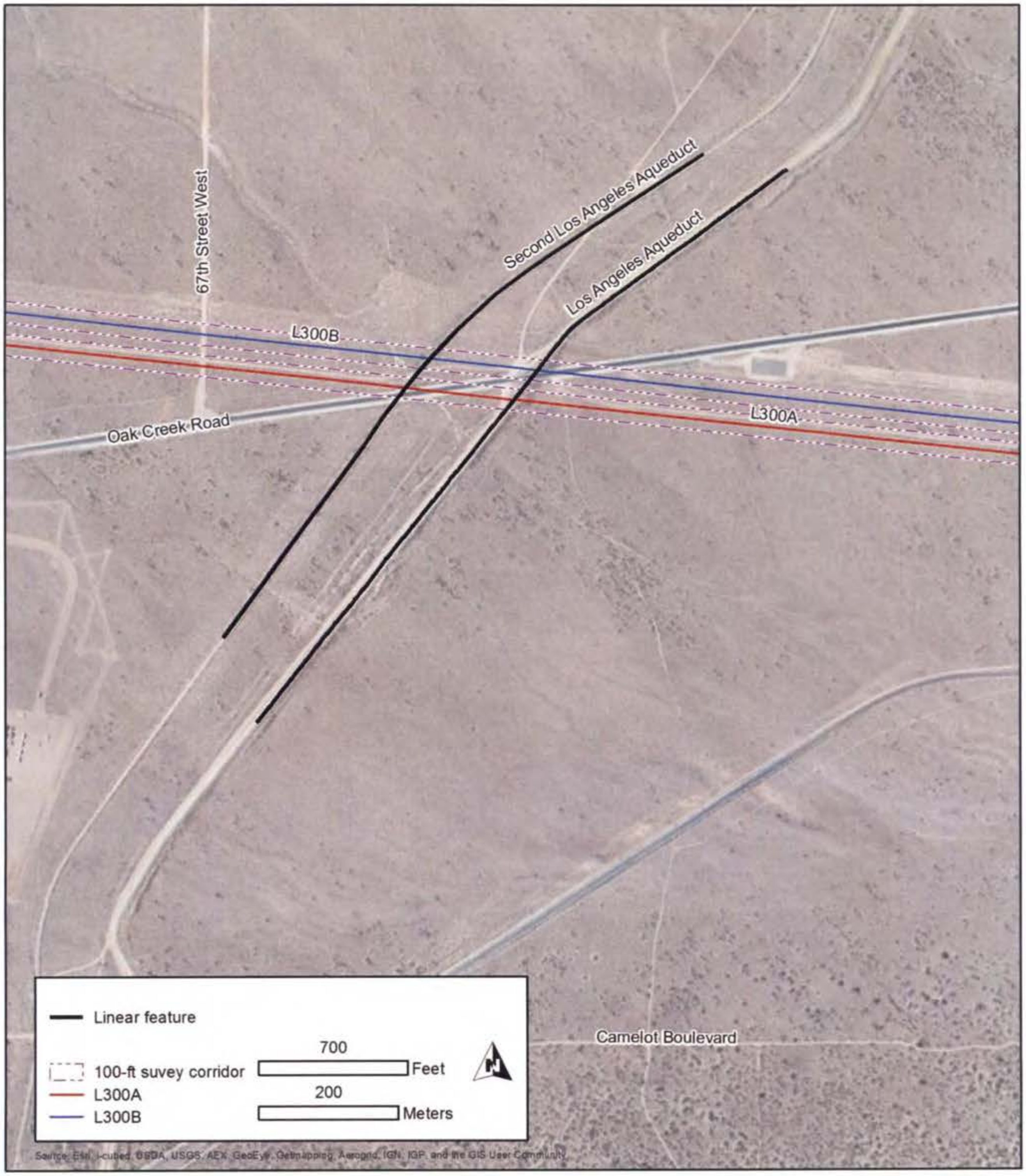
Garrett, Tom
1993 Personal communication. Notes on file, Foothill Resources, Ltd.,
Mokelumne Hill.

Cultural Resources Survey of the All American Pipeline Conversion Project from Mettler, Kern County, California to Daggett, San Bernardino County, California.

State of California - The Resources Agency DEPARTMENT OF PARKS AND RECREATION **SKETCH MAP**	**Primary #** P-15-003549 (UPDATE) **HRI #** **Trinomial** CA-KER-3549H (UPDATE)

 ***Resource Name or #:** Los Angeles Aqueduct (UPDATE)

***Drawn by:** Darla Rice ***Date:** 4/22/2013



darla 7/22/2013 9:17:39 AM

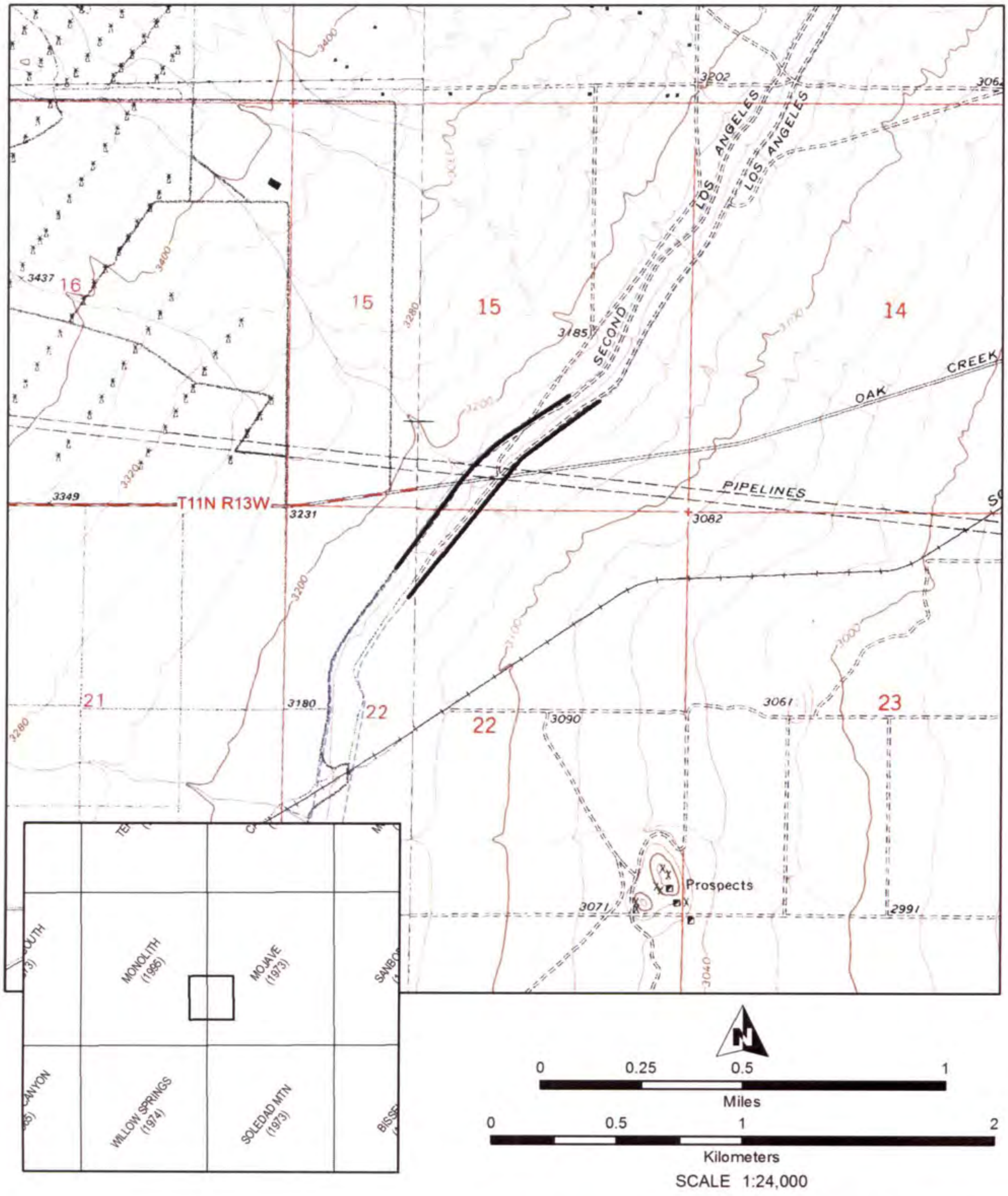
State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

UPDATE

LOCATION MAP

Primary # P-15-003549 (UPDATE)
HRI #
Trinomial CA-KER-3549H (UPDATE)

***Resource Name or #:** Los Angeles Aqueduct (UPDATE)



darla 7/22/2013 8:23:32 AM

State of California - The Resources Agency DEPARTMENT OF PARKS AND RECREATION **CONTINUATION SHEET**	**Primary #** P-15-003549 (UPDATE) **HRI #** **Trinomial** CA-KER-3549H (UPDATE)

***Resource Name or #:** Los Angeles Aqueduct (UPDATE)

Folder: Rotation 1 Optio 35 File: IMGP1935
PG&E pipeline crossing aqueduct, view to the west (View: west)

Folder: Rotation 3 Optio 26 File: IMGP0289
Overview of New LA Aqueduct, view to the south (View: south)

P 15 - 13713

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # P-15-003549
HRI #
Trinomial ~~CA-KER-07607H~~
NRHP Status Code 7 CA-KER-3549H

Other Listings
Review Code ______ Reviewer ______ Date

RECEIVED
FEB 09 2010
By______

*Resource Name or #: JKE-036

P1. Other Identifier: Los Angeles Aqueduct

***P2. Location:** ☐ **Not for Publication** ☑ **Unrestricted** ***a. County:** Kern

***b. USGS Quad:** Freeman Junction (1972); T27S R38E, Sec. 8; MDBM

c. Address:

d. UTM: Zone 11; 417054 mE/ 3940077 mN NAD27 Datum

e. Other Locational Data:

This resource is located southwest of the town of Ridgecrest, on both sides of State Route (SR) 178 from GIS-based post mile 87.49 to 87.56. It is partially within the highway right-of-way and one meter from the edge-of-pavement. From the intersection of SR 178 and SR 14 at Freeman Junction, proceed 0.85 miles west on SR 178 to post mile marker 87.5 (segment datum), which is located at the resource.

***P3a. Description:**

This is an underground segment of the Los Angeles Aqueduct, recorded at a location where it intersects SR 178 in rural Kern County. The City of Los Angeles began construction of the Los Angeles Aqueduct in 1907 and completed its work by the end of 1913. The aqueduct extended 233 miles from Tinemaha Reservoir north of Owens Lake to storage reservoirs in the San Fernando Valley, and supplied municipal water for the Los Angeles area (Hoffman 1981: 138, 147). This undertaking required the construction of 142 tunnels, 60 miles of open canal, 97 miles of concrete pipe, and 12 miles of steel siphons (Chalfant 1922: 374; Kahrl 1982: 159; Harding 1960: 123). The aqueduct runs along the east side of the Sierra Nevada following the general route of US 395 and SR 14. (See Linear Feature Record and Continuation Sheet)

***P3b. Resource Attributes:** HP20 (Canal)

***P4. Resources Present:** ☐ Building ☑ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

***P5b. Description of Photo:**
Photograph 1. JKE-036, 01, N -- 9988; facing north, aqueduct with SR 178 in the foreground.

***P6. Date Constructed/Age & Sources:**
☑ Historic ☐ Prehistoric ☐ Both
1913 (Hoffman 1981)

***P7. Owner and Address:**
Los Angeles Department of Water and Power, 111 N Hope Street
Los Angeles, CA 90012

***P8. Recorded by:**
Steven J. Melvin and Rebecca Flores, JRP Historical Consulting, LLC, 1490 Drew Ave, Suite 110, Davis, CA 95618

***P9. Date Recorded:** 5/14/2009

***P10. Survey Type:**
Reconnaissance

***P11. Citation:** Leach-Palm et al. 2010. Cultural Resources Inventory of Caltrans Districts 9 Rural Conventional Highways in Inyo and Mono Counties. Submitted to Caltrans District 9, Bishop, CA.

***Attachments:** ☐ None ☑ Location Map ☑ Sketch Map ☑ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☑ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other:

P-15-13713

State of California - The Resources Agency DEPARTMENT OF PARKS AND RECREATION **LINEAR FEATURE RECORD**	Primary # P-15-0003549 HRI # ~~CA-KER-07697H~~ Trinomial CA-KER-3549H

 ***Resource Name or #:** JKE-036

L1. Historic and/or Common Name: Los Angeles Aqueduct

L2a. Portion Described: ☐ Entire Resource ☑ Segment ☐ Point Observation **Designation:**

L2b. Location of Point or Segment:

The canal is located between GIS-based post miles 87.49 and 87.56 on SR 178.

Segment UTMs: 417068mE/ 3940336mN to 417070mE/ 3940192mN

L3. Description:

The resource at this location is an underground aqueduct covered by concrete panels. The panels, level with the surrounding terrain, are about 20 feet wide. There are dirt service roads along both sides of the conduit.

L4. Dimensions:

- **a. Top Width:** 20 feet
- **b. Bottom Width:** n/a
- **c. Height or Depth:** n/a
- **d. Length of Segment:** 100 feet

L5. Associated Resources:

None

L4e. Sketch of Cross-Section: **Facing:** South

Not to scale

L6. Setting:

This segment of the Los Angeles Aqueduct is located at the eastern base of the Sierra Nevada at Freeman Canyon, and the west side of Brown Valley. The terrain is desert with sage and other desert vegetation.

L7. Integrity Considerations:

Concrete panels covering the aqueduct have been added.

L8b. Description of Photo, Map, or Drawing

JKE-036, 02, S -- 9989; facing south, view of aqueduct taken from SR 178.

L9. Remarks:

L10. Form Prepared By:

S. Melvin, JRP Historical Consulting, LLC, 1490 Drew Ave, Suite 110, Davis CA 95618

L11. Date: 5/14/2009

P-15-13713

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary # P-15-0003549
HRI #
Trinomial ~~CA-KER-07687H~~

***Resource Name or #:** JKE-036

CA-KER-3549 H

***Recorded By:** S. Melvin and R. Flores, JRP Historical Consulting, LLC ***Date:** 5/14/2009 ☑ Continuation ☐ Update

P3a. Description (continued):

References:

Chalfant, W.A. The Story of Inyo. Chicago: W.A. Chalfant, 1922.

Harding, S.T. Water in California. Palo Alto: NP Publications, 1960.

Hoffman, Abraham. Vision or Villainy: Origins of the Owens Valley-Los Angeles Water Controversy. College Station: Texas A&M University Press, 1981.

Kahrl, William L. Water and Power. Berkeley: University of California Press, 1982.

USGS. "Searles Lake," 1:125000, topographic map, 1915.

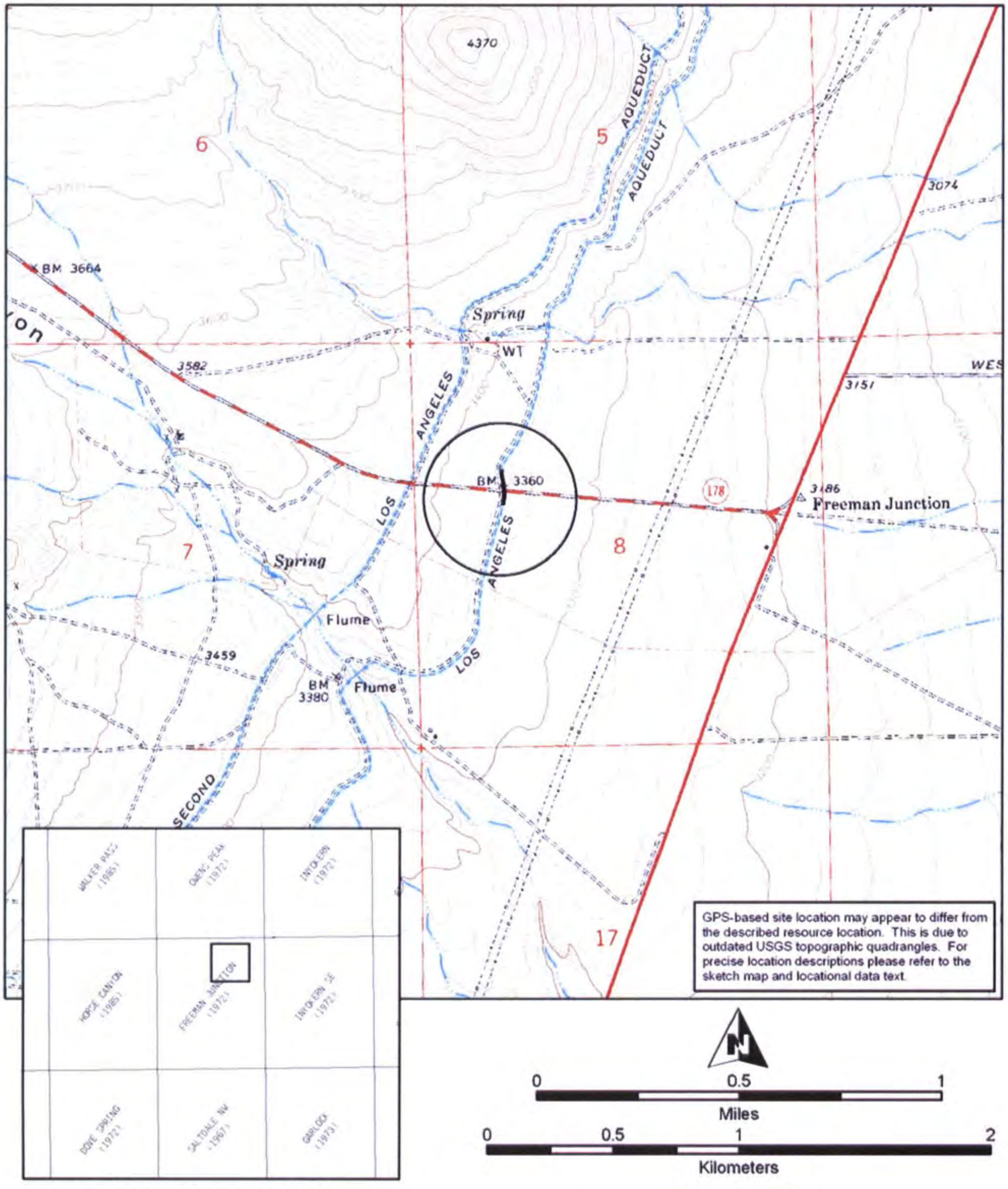
State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-0003549
HRI #
Trinomial ~~CA-KER-07687~~H
CA-KER-3549H

***Resource Name or #:** JKE-036

***Map Name:** Freeman Junction (1972)

***Year:** 1972



Key to USGS 7.5' quads depicted

*Required Information

P-15-13713

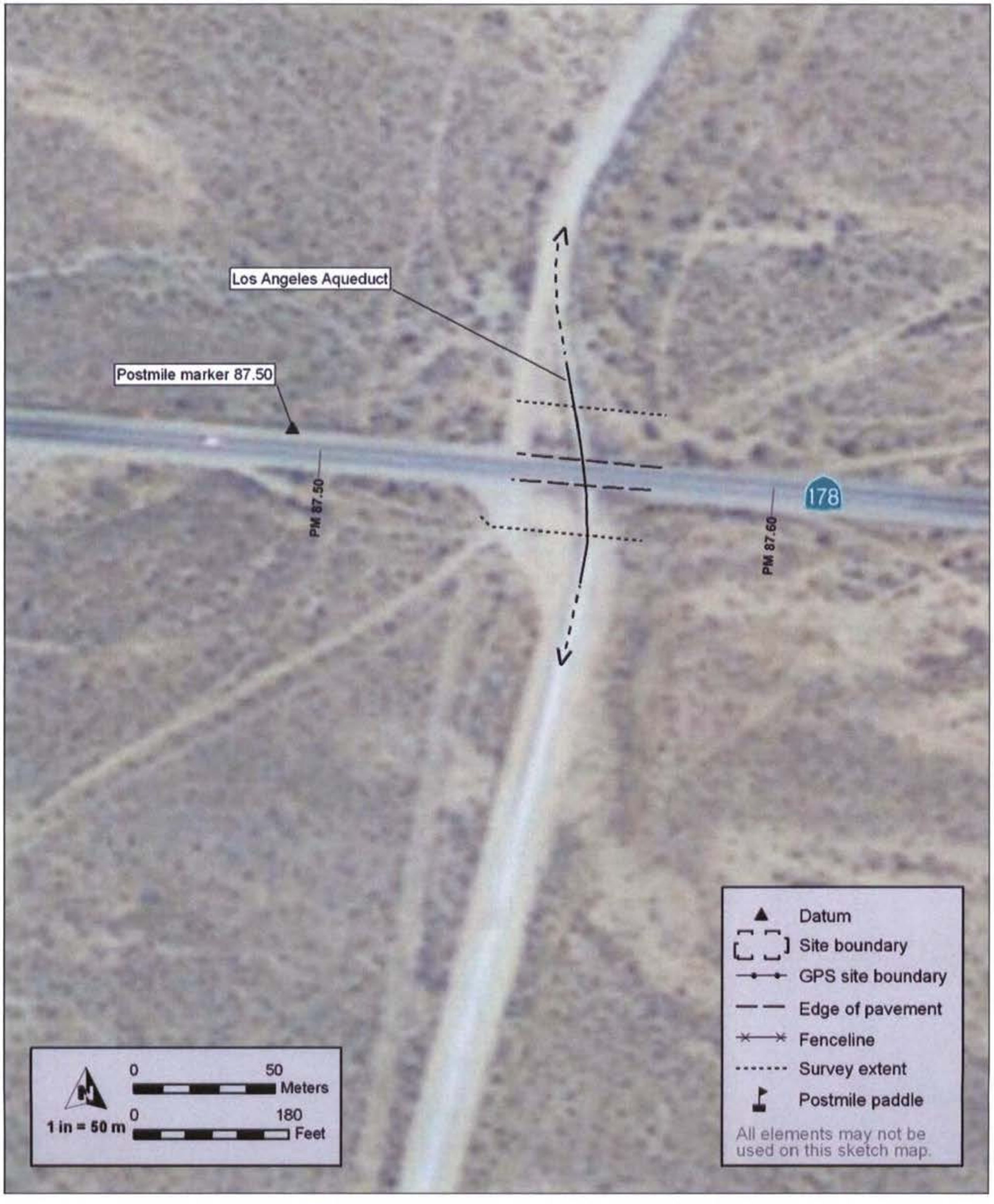
State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
SKETCH MAP

Primary # P-15-0003549
HRI #
Trinomial ~~CA-KER-007607H~~ CA-KER-3549H

***Resource Name or #:** JKE-036

***Drawn By:** Far Western and JRP Historical Consulting, LLC

***Date:** 05/14/2009



Sketch map is based on 2009 GPS data collected within the highway right-of-way.

update

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # P-15-0003549
HRI #
Trinomial CA-KER-3549H Update
NRHP Status Code
Other Listings
Review Code Reviewer Date

***Resource Name or #:** (Assigned by recorder)

P1. Other Identifier: Los Angeles Aqueduct - LAN-2105H in Los Angeles County, INY-4592H in Inyo County

***P2. Location:** ☒ Not for Publication ☐ Unrestricted
***a. County** Kern **and** P2c, P2e, and P2b or P2d. (Attach Location Map as necessary.)
***b. USGS 7.5' Quad** Mojave Date 1992 T 11 N; R 13 W: S ¼ of SW ¼ of Sec 15 ; MD B.M.
c. Address **City** **Zip**
d. UTM: (Give more than one for large and/or linear resources) **Zone:** 11 ; 386520 mE / 3877990 mN
***e. Other Locational Data:** (E.g., parcel #, directions to resource, elevation, etc., as appropriate.) From the town of Mojave take Oak Creek Road WSW for about 4.3 miles. At this point, Oak Creek Road crosses the Los Angeles Aqueduct.

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.) This is the Los Angles Aqueduct, constructed between 1907 and 1913. It measures 12 feet across and 10 feet deep, with concrete walls. It was recorded in 1992 by Costello, Marvin and Tordoff as a concrete-lined open canal with associated gates and spillway, and a dynamited location and wash-out channel from a May 12, 1926 bombing. The current survey relocated the aqueduct in good condition, within the 100' survey corridor of the All American Pipeline. For a discussion of the Los Angeles Aqueduct see Underwood, Jackson. 2000. *Archaeological Survey of Portions of the Los Angeles Aqueduct Between Freeman Canyon and Indian Wells Canyon*. KEA Environmental, Inc. Document on file with the Southern San Joaquin Valley information Center, Cal State Bakersfield.

***P3b. Resource Attributes:** (See attributes and codes) HP 20. Canal/aqueduct

***P4. Resources Present:** ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)

P5b. Description of Photo: (View, date, accession #) None

***P6. Date Constructed / Age and Sources:** ☒ Historic ☐ Prehistoric ☐ Both

***P7. Owner and Address:**
Los Angeles Department of Water and Power

***P8. Recorded by:** (Name, affiliation, and address) Dr. J. Underwood
KEA Environmental, Inc.
1420 Kettner Blvd., Ste. 620
San Diego, CA 92101

***P9. Date Recorded:**
11/28/00

***P10. Survey Type:** (Describe)
Intensive pedestrian survey

***P11. Report Citation:** (Cite Survey report and other sources, or enter "none.") *Cultural Resources Survey of the All American Pipeline Conversion Project from Mettler, Kern County, California to Daggett, San Bernardino County, California.*

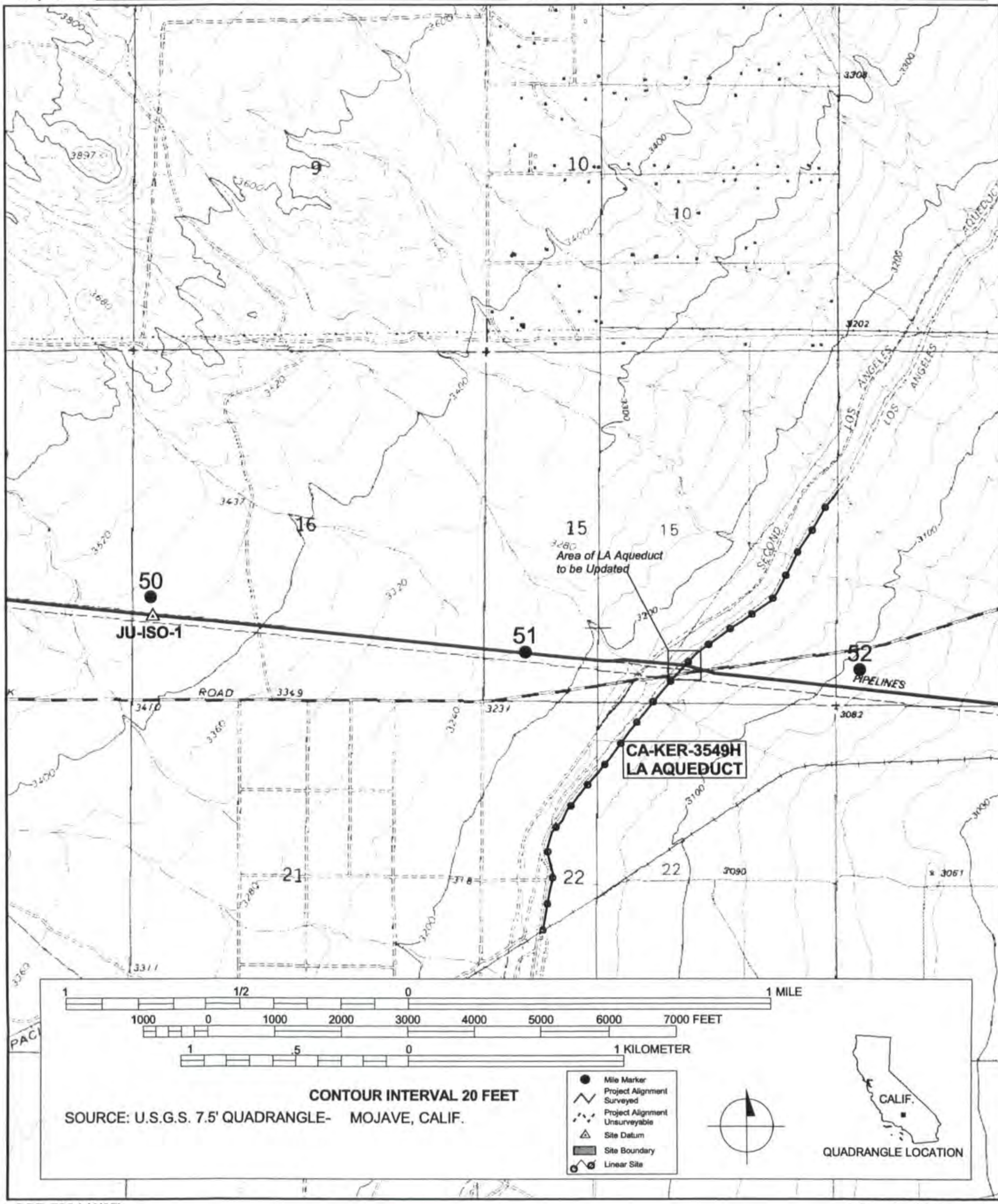
*Attachments: ☐ None ☒ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Linear Resource Record ☐ Archaeological Record ☐ District Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List)

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-15-0003549
HRI #
Trinomial CA-KER-3549H Update

Page 2 of 2 * Resource Name or # (Assigned by recorder)

* Map Name: MOJAVE * Scale: 1:24,000 * Date of Map: 1992



DPR 523J (1/95) *Required Information

P-15-003549

update

ARCHAEOLOGICAL SITE RECORD

Permanent Trinomial: CA-KER-3549-H
Temporary Number:
Historic Name: Los Angeles Aqueduct Addendum

1. **County:** Kern

2. **USGS Quad:** Mojave, 7.5 minute, 1973

3. **UTM Coordinates:**
First LA Aqueduct
South point = Zone 11, 391780 m easting 3885600 m northing
North point = Zone 11, 392520 m easting 3887080 m northing
Second LA Aqueduct
South point = Zone 11, 391710 m easting 3885820 m northing
North point = Zone 11, 392400 m easting 3886640 m northing

4. **Legal Description:** These recorded segments of the Los Angeles Aqueduct cross Sections 35, 26, 25, (T32S, R35E, MDBM).

5. **Map Coordinates:**
First LA Aqueduct
South point = 77 mm south 236 mm east
North point = 16 mm south 267 mm east
Second LA Aqueduct
South point = 66 mm south 233 mm east
North point = 13 mm south 262 mm east

6. **Elevation:** from 3173 feet AMSL in the south to 3163 feet AMSL in the north.

7. **Location:** The Los Angeles Aqueduct crosses Highway 58 4 miles north of Mojave and heads northeast 1 mile before it crosses the Randsburg Cutoff Road.

8. **Time Period:** Historic.
Temporal Periods Represented:
___ **Pre-Colonization (1500-1769**
___ **Spanish Mexican (1769-1848)**
___ **Early American (1848-1880)**
_X_ **Turn of the Century (1880-WWI)**
_X_ **Early Twentieth Century (WWI-1945)**
_X_ **Post WWII (1945-present)**
Estimated Specific Dates; explain: First LA Aqueduct - 1908, when construction commenced, to the present; Second LA Aqueduct - 1967, when construction commenced, to the present.

9. **Site Description:** This site includes segments of the water conveyance systems and related features of the Los Angeles Aqueduct system. The first phase of the aqueduct construction, completed between 1908 and 1913, brought the waters of the Owens River over 215 miles into the San Fernando Valley. The portion of the site recorded in detail in this site form includes the Cameron Gates in Kern County and extends from Highway 14 in the north to Highway 58 in the south.

P-15-003549

10. Area: Each aqueduct is 1 mile in length x 12 feet wide for a total area of 68,640 square feet (6,376 square meters).

11. Depth: The first LA Aqueduct is 10 feet, 1 inch deep, Second LA Aqueduct is unknown

12. Features: Three features have been identified within the surveyed section of the Aqueduct:

Feature 1, First Los Angeles Aqueduct: The feature includes the concrete lined conduit of the aqueduct. It was constructed ca. 1908 and measures 10 feet, 1 inch deep and 12 feet wide, with concrete walls 8 to 12 inches thick (Los Angeles 1916). This section was reinforced in the 1960s with concrete ribbing (Tom Garrett, personal communication 1993).

Feature 2, Second Los Angeles Aqueduct: This section of the aqueduct was constructed between 1967 and 1972. It is also a lined concrete conduit. The takeout for this segment is 80 miles north, at Haiwee Reservoir (Tom Garrett, personal communication 1993).

Feature 3, Cameron Gates: This feature includes the watergates and operating mechanisms, the housing that covers the gates, and the spillway that carries water from the aqueduct into Cameron Wash. They are located .8 miles north of Highway 58 along the aqueduct. The watergates are housed in a rectangular board formed concrete structure with flat concrete roof. There is a metal vent in the east rear upper wall, with a metal door in the front west wall. The building is two stories high in the rear, with double metal gates and concrete baffles leading to a concrete trough which spills into Cameron Wash. The date of their construction is unknown, but they were in existence in the 1950s (Jerry Sterling, personal communication 1993).

13. Artifacts: None noted

14. Non-Artifactual Constituents and Faunal Remains: None

15. Date Recorded: 7 October 1993.

16. Recorded by: J. Costello, J. Marvin

17. Affiliation and Address: Foothill Resources, Ltd., P.O. Box 288, Mokelumne Hill, California 95245.

18. Human Remains: None

19. Site Disturbance: General maintenance of the aqueduct, 1960s reinforcing of the First LA Aqueduct

20. Nearest Water: Cache Creek, which crosses east-west beneath the aqueduct

21. Vegetation Community: Scrub-scale and creosote

P-15-003549

22. Vegetation on Site: Same

23. Site Soil: Sandy, gravelly, light brown loam

24. Surrounding Soil: Same

25. Geology: Basin and Range

26. Landform: Alluvial plain

27. Slope: Level

28. Exposure: Open

29. Landowner and Address: Unknown

30. Historical Information: The Los Angeles Aqueduct system (CA-INY-4591-H, CA-KER-3549-H) stretched from its takeout on the Owens River at Aberdeen to the San Fernando Valley, a distance of 215 miles, passing just north of Mojave.

The Los Angeles Aqueduct was planned and developed primarily by William Mulholland, a native of Ireland and the engineer for the Los Angeles Department of Water and Power (DWP). Financed by a bond issue approved by the voters of Los Angeles, the system involved the construction of roads, open ditches, concreted aqueducts, tunnels, siphons, dams, reservoirs, and power plants before Owens River water finally reached the San Fernando Valley. Completed in five short years (1908-1913), the aqueduct was to forever alter the composition of the Owens Valley and the L. A. basin, as well as establishing a permanent presence in Mojave.

Aqueduct construction employed thousands of men and animals, as well as huge modern steam and electric shovels. It provided the impetus for the construction of the Southern Pacific Railway from Mojave to its connection with the Carson and Colorado at Owenyo to carry cement, men, and supplies to the construction sites. In addition, numerous temporary labor camps were constructed at various sites along the system complete with hospital facilities, mess halls, bunk houses, barns, shops, and homes for engineers and their families (Costello and Marvin 1992:8-9).

Mojave became not only a base camp for construction, but between 1907 and 1913 was the headquarters for the DWP crews (Burmeister 1968). Many of the homes built by DWP for their employees are still extant at Sage, the name for the company's establishment just north of Mojave, as well as the headquarters building and maintenance facilities.

Supplies, men, and equipment were funnelled through Mojave from Los Angeles to the Owens Valley. Cement from a huge plant at Monolith, east of town near Tehachapi, was freighted to the railroad for shipment to various points along the canal. Major activity was also taking place in Mojave: during the fiscal year ending June 30, 1910, DWP constructed 62,400 feet of covered conduit at a cost of $31,200 for excavation and $405,600 for concrete lining (Los Angeles 1909:22).

This original system is still in use today, although it was reinforced in the 1960s (Tom Garrett, personal communication 1993). In 1967 construction was started on additional pipeline sections to provide yet more Owens Valley water for the growing demands of Los Angeles. This project was completed in 1972 (Jerry Sterling, personal communication 1993). Headquarters for this segment of the aqueduct is still located in Mojave, with 55 employees responsible for its maintenance (Mojave Chamber of Commerce 1992).

P-15-003549

31. References:

Burmeister, Eugene
1968 "Mojave from 1876." *Bakersfield News Bulletin,* June 16, 1968.
Costello, Julia G., and Judith Marvin
1992 *Supplemental Archaeological Survey Report and Historic Study Report for the Highway 395, Alabama Gates Four Lane Project, Inyo County, California.* Foothill Resources, Ltd., Mokelumne Hill. Submitted to Caltrans District 9, INY 395 P. M. 58.8/66.5, Contract No. 09H078.
Garrett, Tom
1993 Personal communication. Notes on file, Foothill Resources, Ltd., Mokelumne Hill.
Los Angeles, City of
1909 *Fourth Annual Report of the Chief Engineer of the Los Angeles Aqueduct to the Board of Public Works.* Department of Water and Power, Los Angeles.
1916 *Complete Report on Construction of the Los Angeles Aqueduct, with Introductory Historical Sketch.* Illustrated with maps, drawings, and photographs. Department of Public Services.
Mojave Chamber of Commerce
1992 *Community Economic Profile for Mojave, Kern County, California.* Chamber of Commerce, Mojave.
Sterling, Jerry
1993 Personal communication. Notes on file, Foothill Resources, Ltd., Mokelumne Hill.
United States Geological Survey
1915 Mojave Quadrangle, scale 1:125,000.
1943 Mojave Quadrangle, 15 minute series.

32. Name of Project: Supplemental Archaeolgical Survey Report and Historic Study report for the Mojave By-Pass; 09-KER-58; P.M. 107.7/118.0; EA 243400; Contract No: 09H077. By Judith Marvin and Julia G. Costello. Prepared by Foothill Resources, Ltd., Mokelllumne Hill, Ca. for Caltrans District 9. 1994.

33. Type of Investigation: Intensive archaeological survey

34. Site Accession Number: None

35. Photos: Black and white, 35 mm; on file at Foothill Resources, Ltd., Mokelumne Hill, CA.

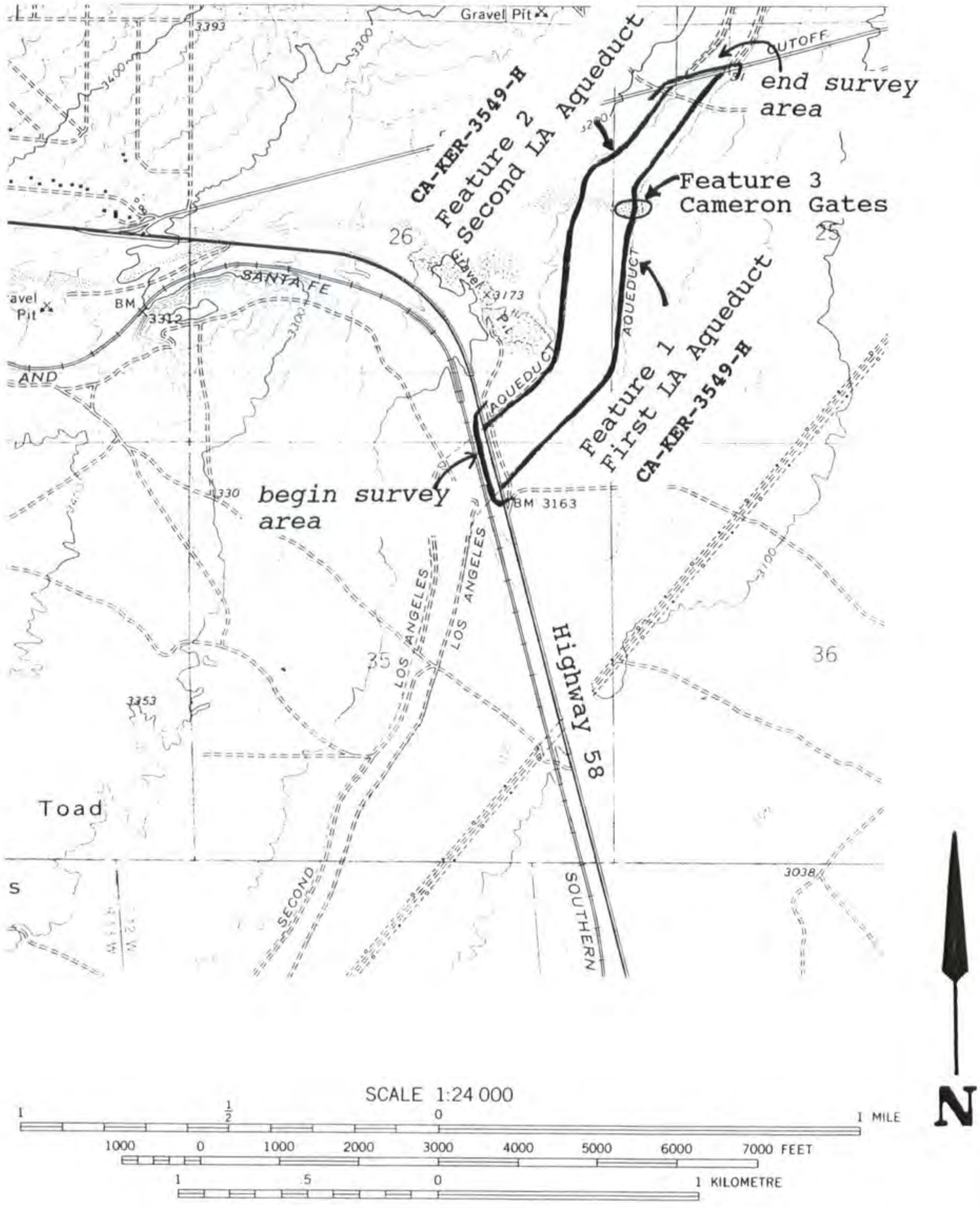
SITE LOCATION MAP

Primary # P-15-003549

Permanent Trinomial: CA-KER-3549-H

Temporary Number:

Historic Name: Los Angeles Aqueduct Addendum

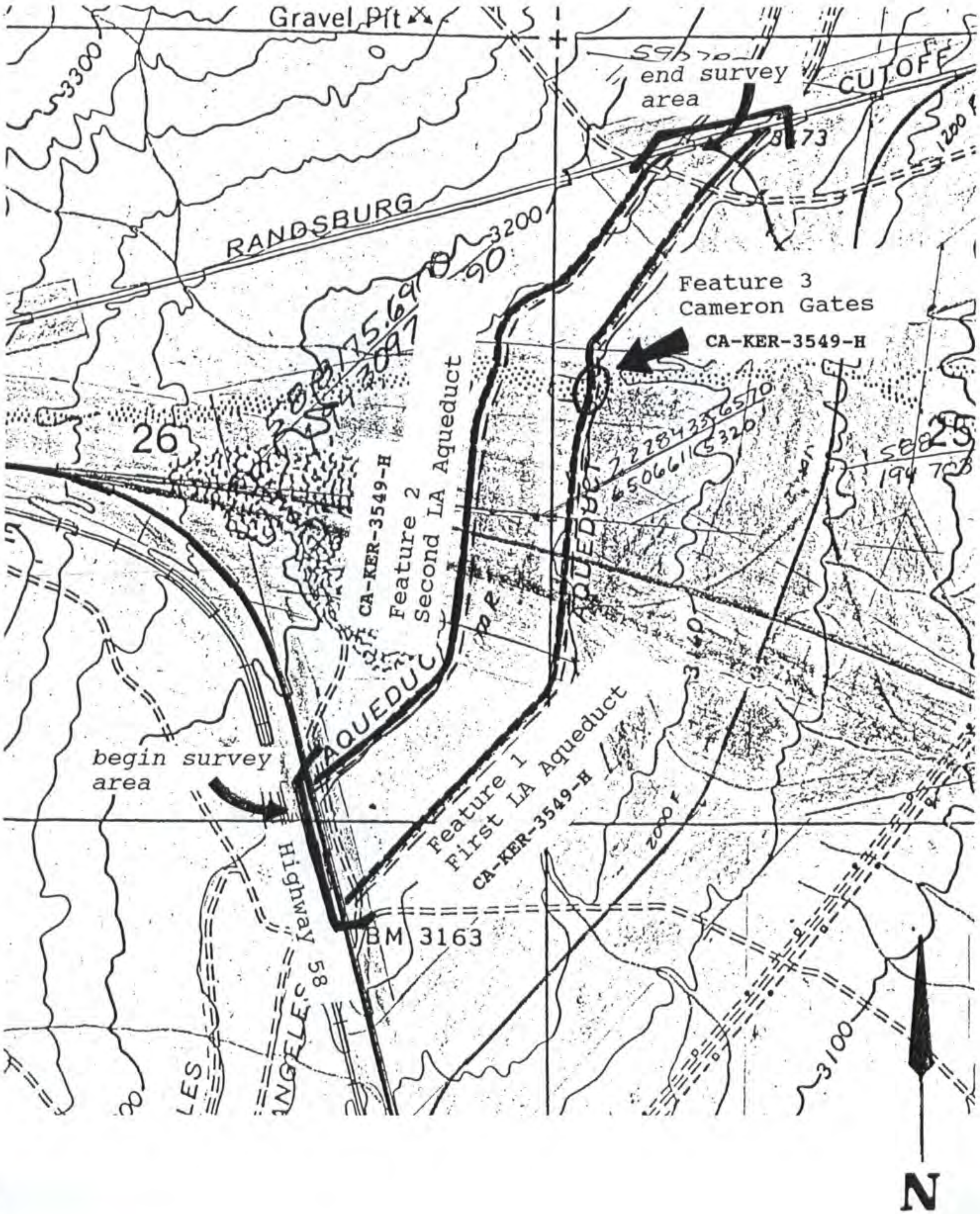


Portion of Mojave Quadrangle, 7.5 minute, 1973

ARCHAEOLOGICAL SITE MAP

Primary # P-15-003549

Permanent Trinomial: CA-KER-3549-H
Temporary Number:
Historic Name: Los Angeles Aqueduct
Addendum

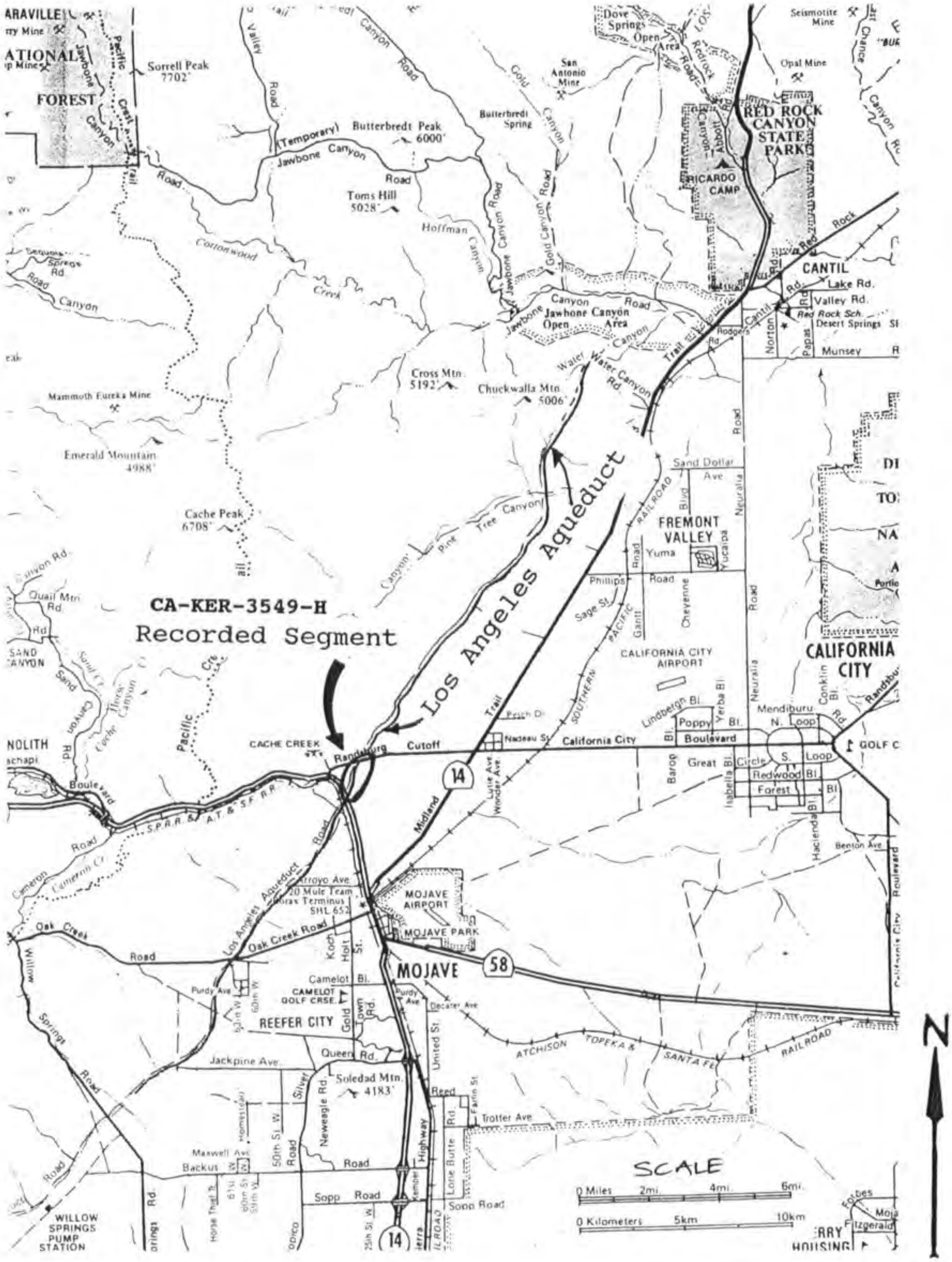


Portion of Mojave Quadrangle, 1973; Scale 1 inch = 1,000 feet
Shaded area shows proposed by-pass alternatives

CONTINUATION SHEET
1 of 2

Primary # P-15-003549

Permanent Trinomial: CA-KER-3549-H
Temporary Number:
Historic Name: Los Angeles Aqueduct
Addendum



A portion of Kern County Map, Compass Maps

P-15-003549

CONTINUATION SHEET
2 of 2

Permanent Trinomial: CA-KER-3549-H
Temporary Number:
Historic Name: Los Angeles Aqueduct Addendum

COVERED CONDUIT
Mojave Division

CONSTRUCTION QUANTITIES
Per lineal foot of Conduit Normal Section

Excavation	*4.23 Cu. Yds.*
Concrete in Conduit	*0.536 Cu. Yds.*
Concrete in Cover	*0.280 Cu. Yds.*
Steel in Cover	*13.75 Lbs.*

HYDRAULIC PROPERTIES

S =	*.00035*
A =	*93.95*
P =	*26.65*
R =	*3.53*
V =	*4.59*
Q =	*4.31*
n =	*.014*
C =	*130.7*

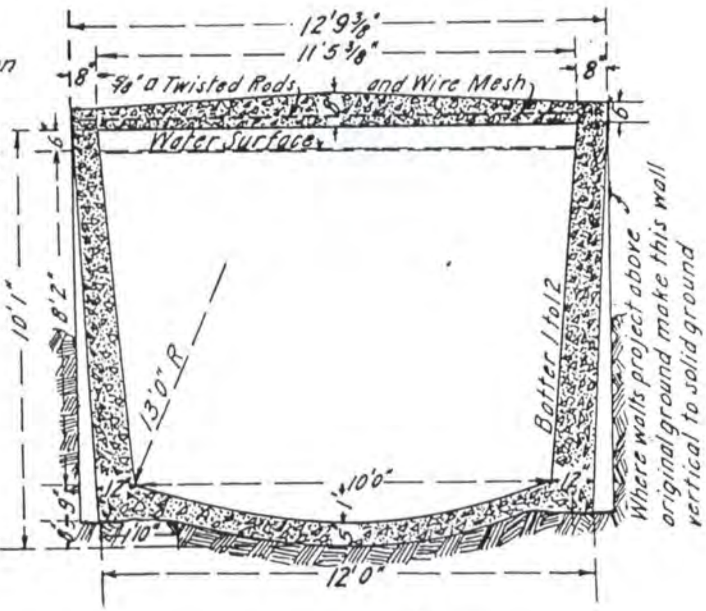


Diagram of a Covered Conduit, Mojave Division
First Los Angeles Aqueduct (City of Los Angeles 1916)

P-15-003549
CA-KER-3549 H

MACKO
ARCHAEOLOGICAL
CONSULTING

Permanent Trinomial:
Supplement____
Other Designations: ATT-R-11
CA-Iny-4590H

Archaeological Site Record

1. **County:** Kern

2. **USGS Quad:** Monolith (7.5') 212D **Photorevised:** 1973

3. **UTM Coordinates--Zone:** 11;
North: 385550**m Easting** 3876310**m Northing**
South: 385530**m Easting** 3876110**m Northing**

4. **Township** 11N **Range** 13W; W**1/2 of Section** 22 **Base Mer.** SBBM

5. **Map Coordinates** -- **mmS** --**mmE** 6. **Elev.** 3160

7. **Location:** Travel 1.6 miles south of Mojave on Highway 14 to Purdy Avenue and 5.0 miles west to where road crosses buried aqueduct. Old road that parallels aqueduct is 0.1 mile further west.

8. **Prehistoric**____ **Historic** X **Protohistoric**____ 9. **Site Description:** The Los Angeles Aqueduct was built between 1908 and 1911 to provide water to the City of Los Angeles. The road is noted on the 1915 edition of the Mojave (1:125,000) USGS map, which is based on survey data obtained in 1912 and 1913.

10. **Area:** 40m (N-S) X 6m (E-W); **How Determined:** Map Data

11. **Depth:** 0 cm; **How Determined:** N/A

12. **Features:** None

13. **Artifacts:** None in Association

14. **Non-Artifactual Constituents & Faunal Remains:** None

15. **Date Recorded:** March 11, 1993 16. **Recorded By:** M. Macko

17. **Affiliation and Address:** Macko Archaeological Consulting 9701 Allison Circle, Huntington Beach, California (714) 965-3294.

18. **Human Remains:** No

19. **Site Disturbances:** Road has been graded many times but has not been improved beyond graded dirt.

20. **Nearest Water:** Numerous small ephemeral washes draining to the east.

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Permanent Trinomial: CA-Ker- H
Supplement____
Other Designations: ATT-R-11
CA-Iny-4590H

Archaeological Site Record

21. Vegetation Site Vicinity: Saltbush Scrub/ Joshua Tree

22. Vegetation On-Site: Same

23. Site Soil: Sandy Silt **24. Surrounding Soil:** Same

25. Geology: Alluvium

26. Landform: Valley Bottom

27. Slope: 0 **Exposure:** 360

29. Landowner Name & Address: AT&T Easement.

30. Remarks: None

31. References: Macko (1993) Cultural Resources Investigation of the Proposed AT&T Lightguide System, Victorville to Bakersfield, California.

32. Name of Project: AT&T Lightguide Project (Fiber Optic) -- Victorville-Bakersfield

33. Type of Investigation: Intensive Survey

34. Site Accession No. N/A **Curated At:** N/A **35. Photos:** Yes

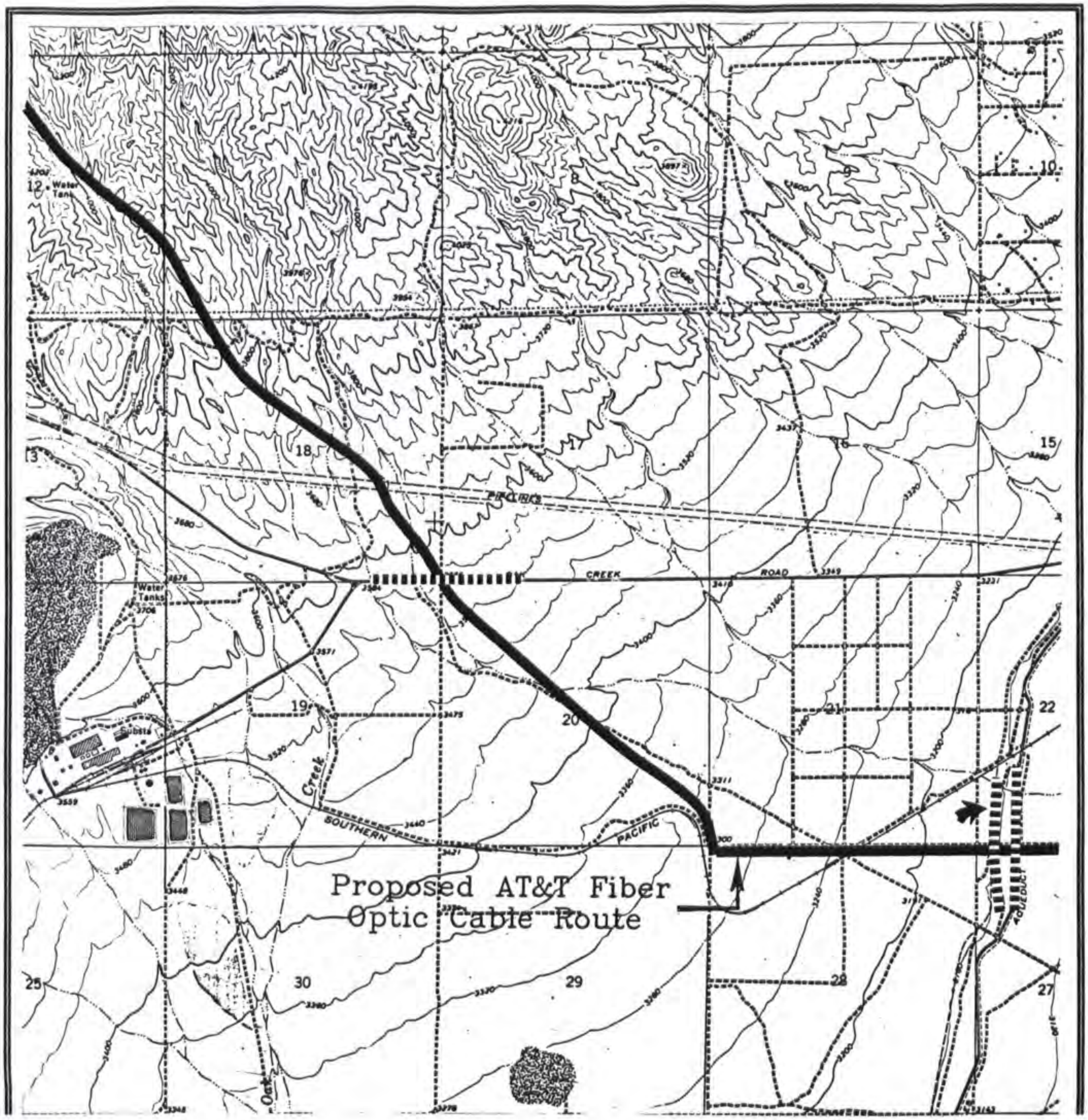
P-15-0035.49

MACKO ARCHAEOLOGICAL CONSULTING

Permanent Trinomial: CA-Ker-

Other Designations: AT&T-R-11

Archaeological Site Location Map



P-15-003549

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Permanent Trinomial: CA-Ker-3549H
Supplement____
Other Designations: ATT-H-3
CA-Iny-4591H
Los Angeles Aqueduct

Archaeological Site Record

1. **County:** Kern

212 D

2. **USGS Quad:** Monolith (7.5') **Photorevised:** 1973

3. **UTM Coordinates--Zone:** 11;
North: 385690**m Easting** 3876310**m Northing**
South: 385680**m Easting** 3876110**m Northing**

4. **Township** 11N **Range** 13W; W**1/2 of Section** 22 **Base Mer.** SBBM

5. **Map Coordinates** -- **mmS** --**mmE** 6. **Elev.** 3160

7. **Location:** Travel 1.6 miles south of Mojave on Highway 14 to Purdy Avenue and 5.0 miles west to where road crosses buried aqueduct.

8. **Prehistoric**___ **Historic** X **Protohistoric**___ 9. **Site Description:** The Los Angeles Aqueduct was built between 1908 and 1911 to provide water to the City of Los Angeles. The site record prepared as a primary record for the site is attached. The Aqueduct is noted on the 1915 edition of the Mojave (1:125,000) USGS map, which is based on survey data obtained in 1912 and 1913.

10. **Area:** 40m (N-S) X 6m (E-W); **How Determined:** Map Data

11. **Depth:** 0 cm; **How Determined:** N/A

12. **Features:** None

13. **Artifacts:** None in Association

14. **Non-Artifactual Constituents & Faunal Remains:** None

15. **Date Recorded:** March 11, 1993 16. **Recorded By:** M. Macko

17. **Affiliation and Address:** Macko Archaeological Consulting 9701 Allison Circle, Huntington Beach, California (714) 965-3294.

18. **Human Remains:** No

19. **Site Disturbances:** None.

20. **Nearest Water:** Numerous small ephemeral washes draining to the east.

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Permanent Trinomial: CA-Ker- H
Supplement____
Other Designations: ATT-H-3
CA-Iny-4591H
Los Angeles Aqueduct

Archaeological Site Record

21. Vegetation Site Vicinity: Creosote Bush Scrub

22. Vegetation On-Site: Same

23. Site Soil: Sandy Silt **24. Surrounding Soil:** Same

25. Geology: Alluvium

26. Landform: Valley Bottom

27. Slope: 0 **Exposure:** 360

29. Landowner Name & Address: AT&T Easement.

30. Remarks: None

31. References: Macko (1993) Cultural Resources Investigation of the Proposed AT&T Lightguide System, Victorville to Bakersfield, California.

32. Name of Project: AT&T Lightguide Project (Fiber Optic) -- Victorville-Bakersfield

33. Type of Investigation: Intensive Survey

34. Site Accession No. N/A **Curated At:** N/A **35. Photos:** Yes

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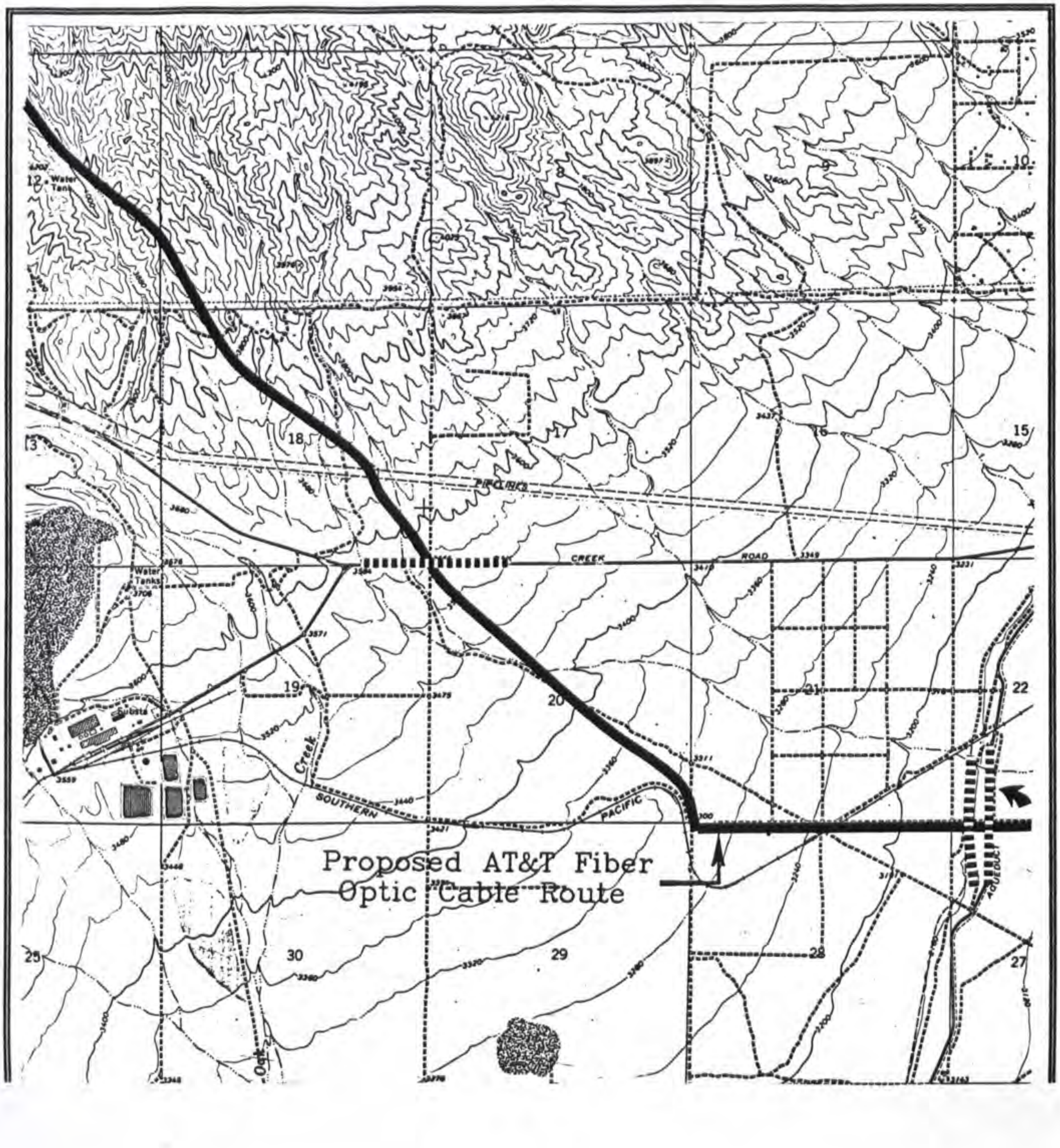
MACKO ARCHAEOLOGICAL CONSULTING

Permanent Trinomial: CA-Ker-

Other Designations: AT&T-H-3



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ARCHAEOLOGICAL SITE RECORD

 Foothill Resources, Ltd.

Permanent Trinomial: CA-INY-4591H
Supplement:
Temporary Number: AG-3
Historic Name: Los Angeles Aqueduct
Other Designations:
1. **County:** Mono, Inyo, Kern, Los Angeles; Features 1-3: Inyo
2. **USGS Quad Name:** Features 1-3: Union Wash
   Size: 7.5
   Photorevised: 1982
3. **UTM Coordinates:** Features 1-3:
   Zone 11 401990 Easting/4058960 Northing
   Zone 11 402340 Easting/4056110 Northing
4. **Legal Description:** Features 1-3:
   T14S R36E NW & NE 1/4 of SE 1/4 of Section 31
   T15S R36E NE 1/4 of SE 1/4 of Section 6
   T15S R36E NE 1/4 & SE 1/4 of NE 1/4 of Section 7
5. **Map Coordinates:** N.A.
6. **Elevation:** varies
7. **Location:** The site begins east of Mono Lake where west-flowing streams are collected into the Lee Vining Intake and ends at the San Fernando powerplant, 340 miles to the south. The aqueduct is clearly depicted on all relevant USGS maps and its above-ground features can generally be easily located.
8. **Time Period:** Historic.
   Temporal Periods Represented:
   ___ **Pre-Colonization (1500-1769)**
   ___ **Spanish Mexican (1769-1848)**
   ___ **Early American (1848-1880)**
   _X_ **Turn of the Century (1880-WWI)**
   _X_ **Early Twentieth Century (WWI-1945)**
   ___ **Post WWII (1945-present)**
   Estimated Specific Dates; explain:
9. **Site Description:** This site includes the water conveyance systems and related features of the Los Angeles Aqueduct system. The first phase of the aqueduct construction, completed between 1908 and 1913, brought the waters of the Owens River over 215 miles into the San Fernando Valley. At that time, as a feat of water engineering, it was surpassed only by the New York City aqueduct system and the Panama Canal. The second phase, completed ca. 1926, extended the canal north to Bishop. The final phase, which tapped the waters of the Mono Lake Basin, was completed in 1940. The portion of the site recorded in detail in this site form includes the Alabama Gates in Inyo County and extends south for about a mile.
10. **Area:** 340 miles long x ca. 100 ft. wide = 179.5 million sq. ft.; or 54.7 million sq. meters.
    Method of Determination: estimate from pacing and map.
11. **Depth:** N.A.
    Method of Determination:

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12. Features and Associated Artifacts: Three Features havebeen identified within the surveyed section of the Aqueduct:

Feature 1: Alabama Gates and Spillway. This feature includes the watergates and operating mechanisms, the housing that covers the gates, and the spillway that carries water back to the Owen's River. There are five gate valves built into the gate housing, currently operated by hydraulic controls powered by a diesel engine. When closed, they contain the water within the aqueduct; when open they allow the aqueduct water to flow down the spillway. The gate housing, rebuilt in 1930, is a modest Mission Revival design with arch windows, a red tile roof, and stucco surface. The spillway is a concrete-lined channel that stretches from the gate house to the Owens River (Mikesell 1990:4-6).

Feature 2: Dynamited Location and Wash-Out Channel, from May 12, 1926 Bombing. Feature 2 is located along the line of the L.A. Aqueduct where it was dynamited May 12, 1926. Its repair is discernible today as a distinctive soil discoloration: it is more yellowish tan and contains fewer rocks than the surrounding area.

The resulting wash out exists today as an eroded channel (see topographic map) which the old county road crosses. Rocks on the eastern (downslope) side of the road may have been placed as a retaining wall during the repair. They currently are tumbled down into the channel in no discernible pattern. The channel, where it crosses the old county road, is about 30 ft. wide and 5-10 ft. deep. It is currently eroded along its sides. It empties through the earthquake scarp into a small wetland extending to Highway 395 and associated with features from the Mt. Whitney Pump Station (AG-4).

Feature 3: Concrete-lined Open Canal. The concrete-lined, open section of the L.A. Aqueduct begins at the north end of the Alabama Hills and extends south to the Hawiwee Powerhouse. The channel is flaring "U" shape with concreted sides 34 feet wide; the walls were raised 2 feet in the 1970s (Mikesell 1990:5) to produce a depth of nearly 18 feet. The uphill side has been carved into the rock of the Alabama Hills while the downhill side is supported by large earthen berms. Concrete "bridges" allow for the passage of runoff from seasonal drainages.

13 Artifacts not Associated with Features: none

14. Other Items Observed: none

15. Date Recorded: 27 August 1992

16. Recorded By: J. Costello, J. Marvin, and J. Tordoff

17. Affiliation and Address: Foothill Resources, Ltd, PO Box 288, Mokelumne Hill, CA 95245.

18. Human Remains: none

19. Site Disturbances: none

20. Nearest Water: The site is a water-conveyance system.

21. Vegetation Community: various

22. Vegetation on Site: various

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Excerpt from: *Archaeological Survey Report and Historic Study Report for Highway 395, Alabama Gates Four Lane Project, Inyo County, California*. Caltrans Contract No. 09H078. Submitted to Richard Weaver, Caltrans District 9, September 1992. Prepared by Julia G. Costello and Judith Marvin, Foothill Resources, Ltd.

AG-3: Los Angeles Aqueduct

This site includes the water conveyance systems and related features of the Los Angeles Aqueduct system. The first phase of Aqueduct construction, completed between 1908 and 1913, brought the waters of the Owens River over 215 miles into the San Fernando Valley. At that time, as a feat of water engineering, it was surpassed only by the New York City aqueduct system and the Panama Canal. The second phase, completed ca. 1926, extended the canal north to Bishop. The final phase, which tapped the waters of the Mono Lake Basin, was completed in 1940.

The portion of the site surveyed as part of this HSR begins at the Alabama Gates and extends south for about a mile. Three features are identified as part of this site: 1) the Alabama Gates and spillway; 2) the dynamited location and wash-out channel, from the bombing of May 12, 1926; and 3) the concrete-lined open channel of the Aqueduct. As additional surveys of other parts of the Aqueduct are made, physical features which are integral parts of this water system should be included as part of this site: reservoirs, dams, siphons, tunnels, channels, spillways, water conveyance features, and power plants. Another portion of this site, the east portal of the Mono Craters Tunnel, has previously been recorded as a site by the U.S. Forest Service (Site No. 05-04-51-1177).

As early as 1890, Fred Eaton, the former mayor of Los Angeles and a large landowner in the Owens Valley, had envisioned an aqueduct to bring waters from the Owens River to the burgeoning metropolis of the Los Angeles basin. The Los Angeles Department of Water and Power (DWP) was enlisted to spearhead the enterprise, promoted by land developers and moguls (Walton 1986:198).

The Los Angeles Aqueduct was planned and developed by William Mulholland, a native of Ireland and Chief Engineer for the DWP. During November 1905, Mulholland, along with a party of Los Angeles councilmen, engineers, and newspaper writers traveled through the Owens Valley, "in order to convey to the inhabitants of the City, the immensity of the Owens River Valley Water project" (Mulholland 1905:5).

That same year the City began purchasing all riparian river lands and all water rights and ditch systems from ten miles north of the diversion at Aberdeen to Owens Lake in the south.

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23. Site Soil: various
24. Surrounding Soil: various
25. Geology: various
26. Landform: various
27. Slope: various
28. Exposure: various
29. Landowner/Tenants: Los Angeles Department of Water and Power, Los Angeles, California.
30. Historical Documentation: (see attached excerpt from report)
31. Remarks: There are numerous physical features which are integral parts of this water system and which could eventually be included as part of this site. These include reservoirs, dams, siphons, tunnels, channels, spillways, water conveyance features, and power plants, as well as the locations of important historical events such as bombings and takeovers. Three such features are located within the present project boundaries: the Alabama Gates and its spillway (Feature 1); the site of the May 12, 1926, bombing of the aqueduct (Feature 2); and the concrete-lined open section of the aqueduct south of Alabama Gates (Feature 3). Another portion of this site, the east portal of the Mono Craters Tunnel, has previously been recorded as a site by the U.S. Forest Service (Site No. 05-04-51-1177).

Other sites related to the history and operations of the Los Angeles Aqueduct--such as construction camps, maintenance roads and facilities, railroad spurs, pump sites and windmills--could potentially be grouped with the L.A. Aqueduct site as a thematic District nomination.
32. Cited References: (see excerpt from report, No. 30)
33. Type of Investigation: Assessment of historic sites. Report: *Archaeological Survey Report and Historic Study Report for Highway 395, Alabama Gates Four Lane Project, Inyo County, California*. Caltrans Contract No. 09H078. Submitted to Richard Weaver, Caltrans District 9, September 1992. Prepared by Julia G. Costello and Judith Marvin, Foothill Resources, Ltd..
34. Collection Curation Facility and Accession Number: None
35. Photos: B&W 35mm photos on file at Foothill Resources, Ltd., Mokelumne Hill, CA.

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The largest purchase was the Rickey Ranch, stretching from Big Pine to Independence. Former mayor Fred Eaton also entered into an agreement to sell his large holdings (Los Angeles 1907a:46).

By December 1907, a hydraulic suction dredge had begun work and a power plant at Division Creek was constructed. A surplus of labor was noted, with 327 men and 180 head of stock employed (Los Angeles 1907b:7-8).

The major portion of the work, however, did not begin until 1908: a cement plant was set up in Mojave; aqueduct buildings were designed, constructed, and moved to camp sites; a large labor force was employed; steam shovels and dredges were purchased; and the construction of the Southern Pacific railroad line from Mojave began with plans to connect with the Carson & Colorado (C&C) narrow gauge at Olancha.

By May of 1908, Mojave was a booming base camp for the completion of the railroad line with 400 men and 900 head of stock employed. By October, 1910, the line reached Owenyo, on the shores of Owens Lake, and connection was made with the C&C, thus completing the 143 mile "Jawbone Line." This was to be the main supply line to the Aqueduct camps for cement from Mojave and food, men, and supplies from the Los Angeles area (Myrick 1962:205-209).

On the opposite side of the valley, construction of the canal was proceeding apace, with suction dredges working in the soft bottomlands and steam and power shovels breaking the hard rock of the Alabama Hills and driving the Elizabeth Tunnel through the San Francisquito Mountains.

Construction was divided into several Divisions. Division headquarters were established in various locations along the route of the Aqueduct under the direction of division engineers and with attendant office staff, surveyors, machinists, medical personnel, and laborers. In addition, 100+ supply camps were set up about 15 miles apart. Each of these had a foreman or labor superintendent in charge of the men, livestock, and camp operations.

Completed early in 1913, the Aqueduct was the third largest engineering feat of its time. Surpassed only by the New York City water system and the Panama Canal, the Aqueduct stretched from its takeout on the Owens River at Aberdeen to the San Fernando Valley, a distance of 215 miles.

Financed by a bond issue approved by the voters of Los Angeles, the system involved the construction of roads, open ditches, concreted aqueducts, tunnels, siphons, dams, reservoirs, and power plants. Completed in five short years, the aqueduct was

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to forever alter the composition and land use patterns of both the Owens Valley and the Los Angeles basin.

Construction of this first segment of the aqueduct system, extending only to Aberdeen above Independence and tapping the waters of the lower Owens Valley, didn't at first appear to affect the valley residents, as this area was not heavily developed or farmed. The early protests which developed in 1904-1905 involved primarily farmers and ranchers, never engaging the concern of the townsfolk and resulting only in letters and petitions to Washington (Walton 1986:199-201).

By the summer of 1919, however, precipitated by a severe drought, Los Angeles began implementing plans to extend the aqueduct further north and encompass the Bishop watershed. A sturdier resistance movement was established and, fueled by the City's use of dynamite to destroy the dam at Convict Lake, became a revolt. Intensified by the continuing drought, by 1922 the farmers' movement had become a coalition of the social classes (Walton 1986:202).

The Alabama Gates, located on the north end of the Alabama Hills where the concreted portion of the canal began, were selected as the place to begin the major battle in the water wars. On May 21, 1924, a dynamite blast tore a hole through the Aqueduct, signalling open revolution. The "shot heard round the world," however, didn't occur until November 16th when several hundred people, including 200 from Bishop, took over the Gates for a period of five days, turning the Aqueduct waters back into the Owens River.

Jokingly referred to as a "picnic" by local residents, banker Mark Watterson, who led the revolt, was joined in the occupation by hundreds of valley farmers, shopkeepers, merchants, and businessmen; people whose livelihoods were at stake (Walton 1986:204-205). Local law enforcement agencies refused to intervene; newspaper reporters from around the world converged on the site and reported daily on events at the Gates; and Tom Mix, in Lone Pine to make a film, sent over an orchestra to entertain the "picnickers" (Kahrl 1982:292).

The public embarrassment that ensued prompted Los Angeles' bankers to come forth with an offer to intercede with the City and force a settlement. After a meeting in L.A. with the bankers, Wilfred Watterson wired his brother Mark that he had the assurance that "strong influences will be brought to bear on the situation to see that justice is done" (Kahrl 1982:293). The farmers and townsfolk dispersed and returned the gates to the control of the City, convinced that they had won concessions. The concessions never materialized (Mikesell 1990:3). Although the occupation focused national attention on the conflict (Hoffman 1981:185) it resulted in little relief for the rebels.

The dynamitings and acts of sabotage continued. On May 12, 1926, a dynamite blast blew a hole in the canal near the Mt. Whitney Pump Plant (AG-4), south of the Gates (Cook nd:9-10). During June and July of 1927, the aqueduct at the southern end of Inyo County was dynamited six times, carrying away 450 feet of the canal (Clark nd:10). The bombings continued until as recently as 1976, when the gatehouse at the Alabama Gates was dynamited (personal communication, Beidelman 1992).

By the early 1930s, utilizing a pattern of "checkerboard purchasing," Los Angeles had acquired 99% of the farm lands and water rights in the valley. The City had also purchased 85% of the town properties, thus making them the landlord of the Owens Valley. The revolt was over.

The 1927 collapse of the Wattersons' Inyo County Bank, in which most of the farmers and the sellers had invested their monies, coupled with the mass exodus of the farmers and merchants who had sold out to the DWP, created a depression in the valley during the decade of the 1930s. Although the DWP leased some lands to former agriculturalists for a few years, most of the newly acquired properties reverted to livestock raising or were left fallow.

The final phase of the Los Angeles Aqueduct system, which tapped the waters of the Mono Basin, was constructed in the 1930s. Although Los Angeles had begun acquiring land and water rights in the Mono Lake area as early as 1912, primarily for a power project, it wasn't until the 1930s that aqueduct construction commenced. Financed by bonds, the City began acquiring more land and water rights, finally completing the project in 1940 (Kahrl 1982:330-350).

In recent years, however, lawsuits have been filed over the environmental damage to Mono Lake and its wildlife habitat caused by the depletion of its water supply. Sympathetic courts and a growing public awareness of the environmental requirements of the Mono Basin have resulted in court decisions that have stopped the diversion of many of the streams into the lake.

The Owens Valley Water District, formed in the early 1980s to protect and promote the water resources of the Owens Valley, has banded together with the DWP to establish a system of water use to allow for the continued development of valley agriculture while maintaining water rights for the vast Los Angeles basin. (personal communication, Jackson 1992). Both agencies recognize the importance of the tourist industry to both the local economy and to the visitors from Los Angeles, and tourism's demands for rushing streams and fertile valleys.

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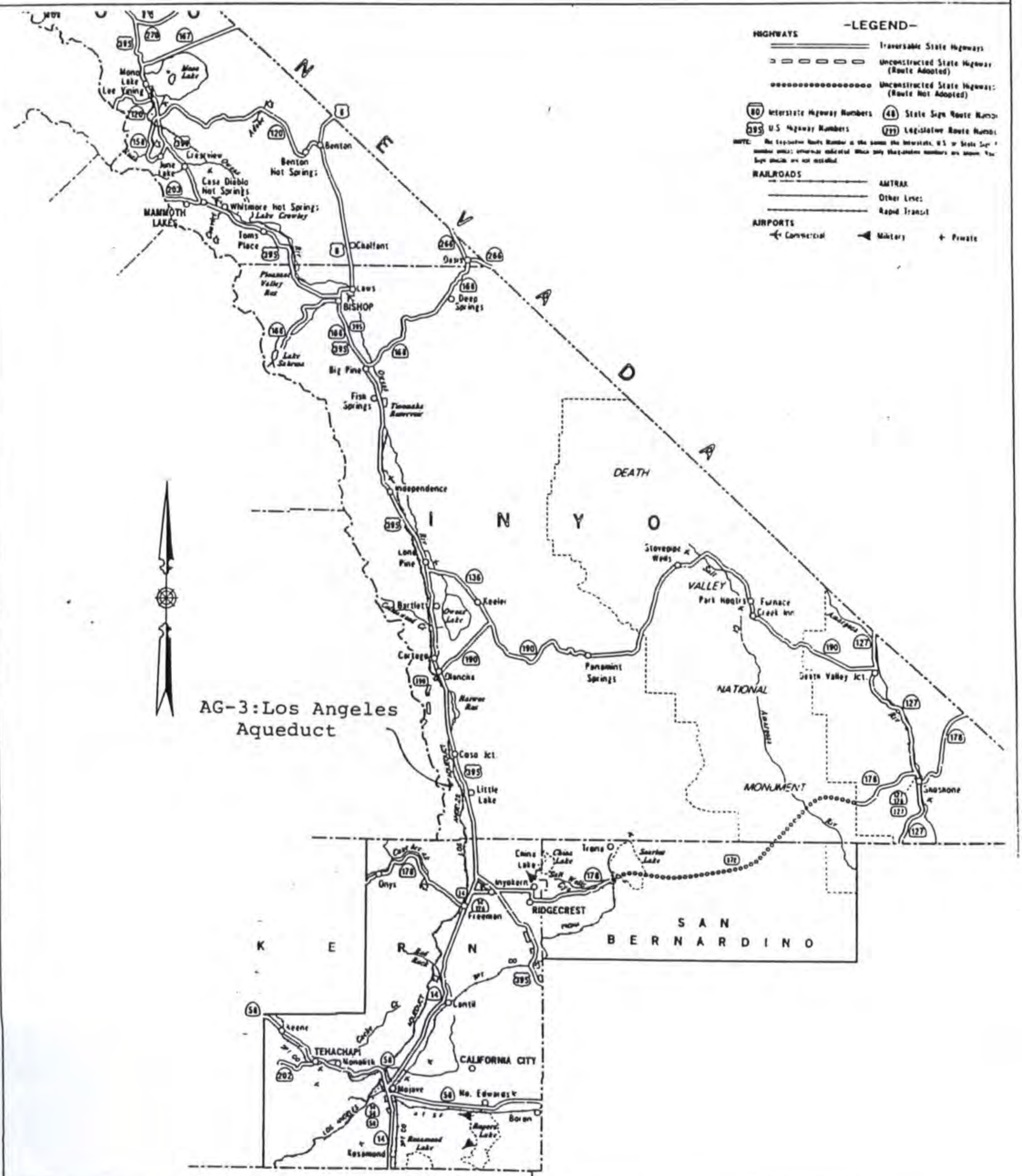
ARCHEOLOGICAL SITE LOCATION MAP

Page 9 of 20.

Permanent Trinomial: CA-INY-4591H / mo. yr.

Temporary Number: AG-3: Los Angeles Aqueduct

Agency Designation:



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ARCHEOLOGICAL SITE LOCATION MAP

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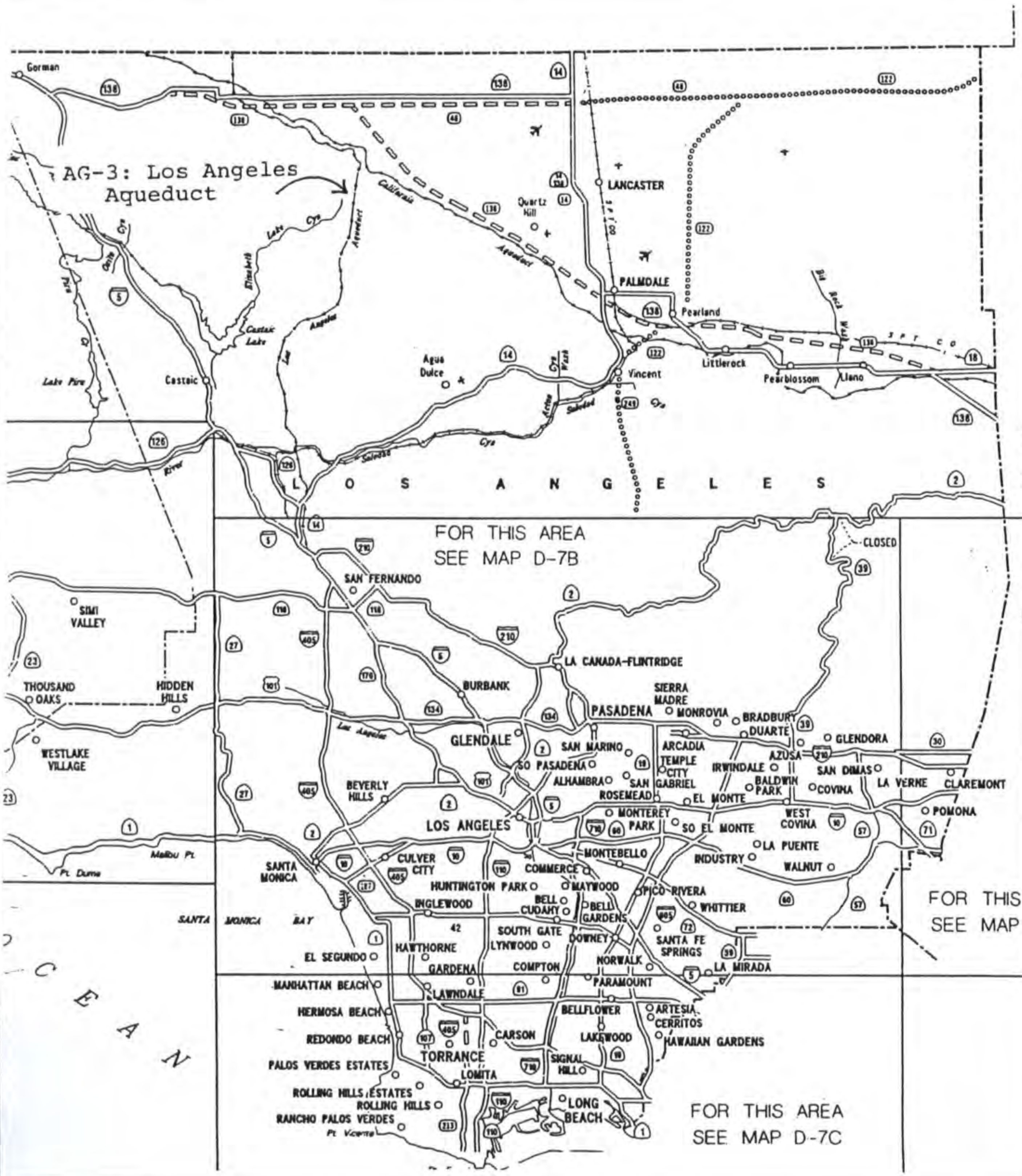
Permanent Trinomial: CA-INY-4591H / mo. yr.

Temporary Number: AG-3: Los Angeles Aqueduct

Agency Designation:



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DEPARTMENT OF PARKS AND RECREATION
ARCHEOLOGICAL SITE MAP

Permanent Trinomial: CA-INY-4591H / ______ mo. yr.

Temporary Number: AG-3: Los Angeles Aqueduct

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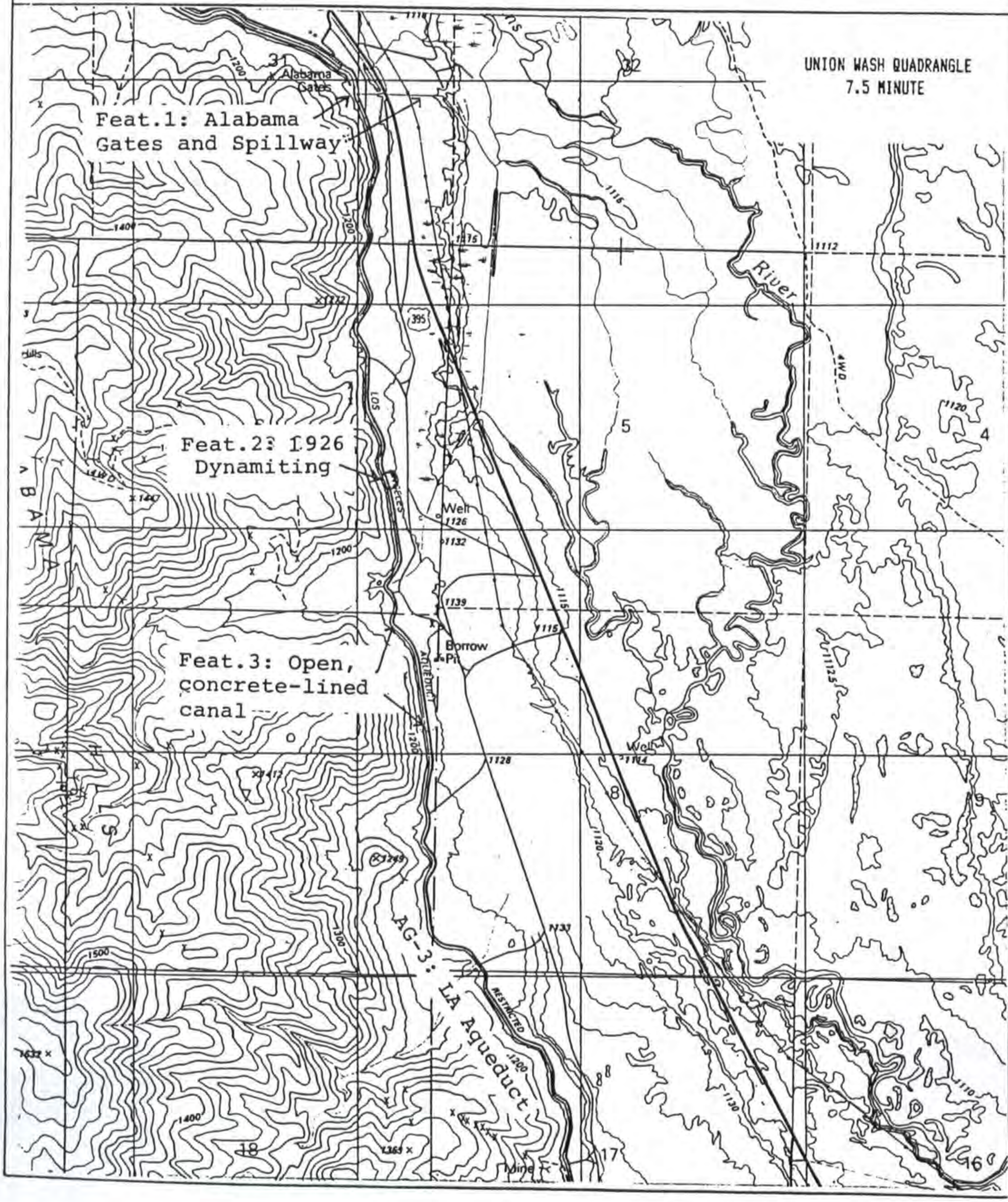
Agency Designation: ______



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DEPARTMENT OF PARKS AND RECREATION

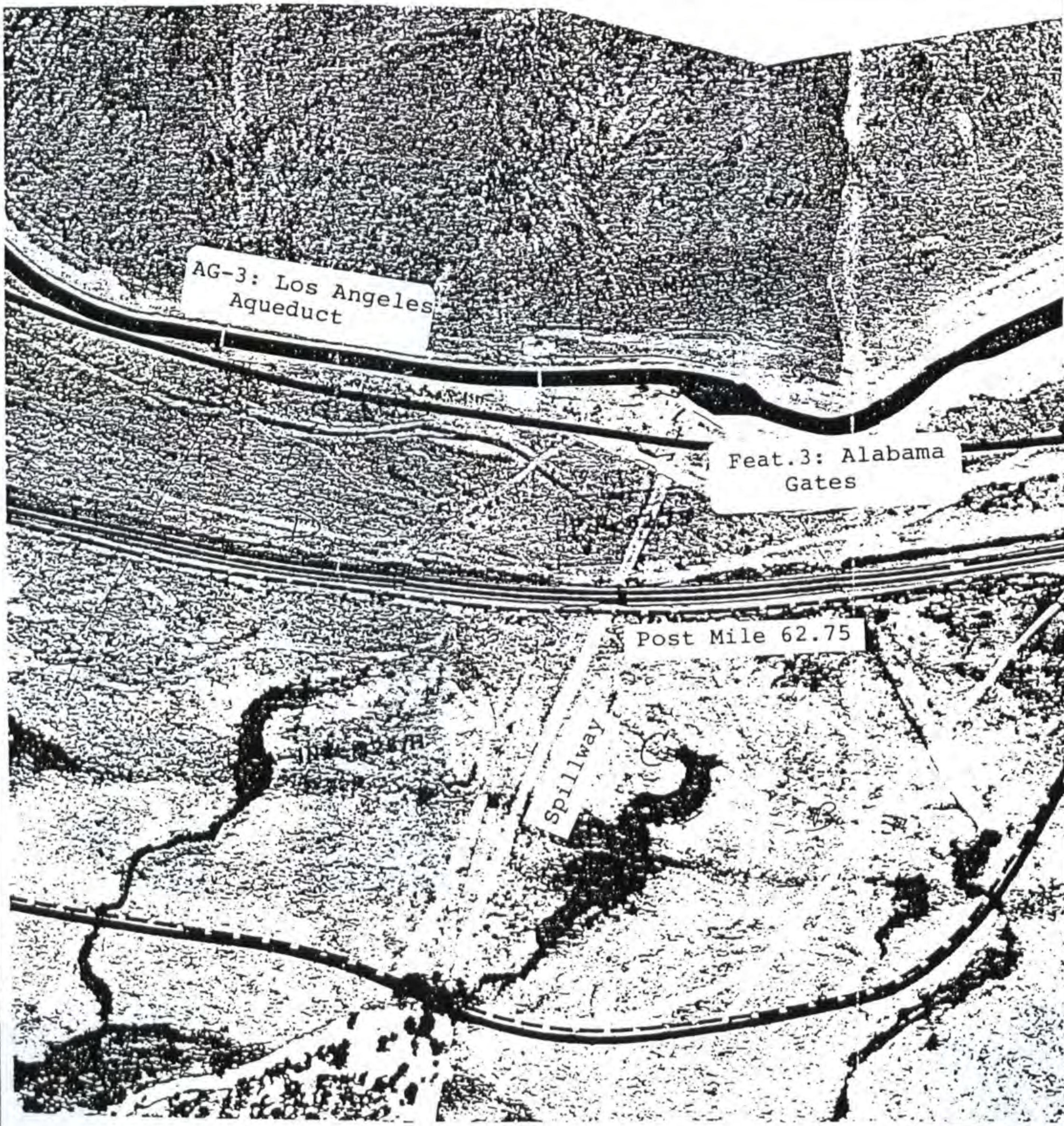
FEATURE RECORD

Permanent Trinomial: CA-INY-4591H / ___ mo. ___ yr.

Temporary Number: AG-3: Los Angeles Aqueduct

Agency Designation: ___

Type of Feature: Feature 1: Alabama Gates and Spillway



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FEATURE RECORD

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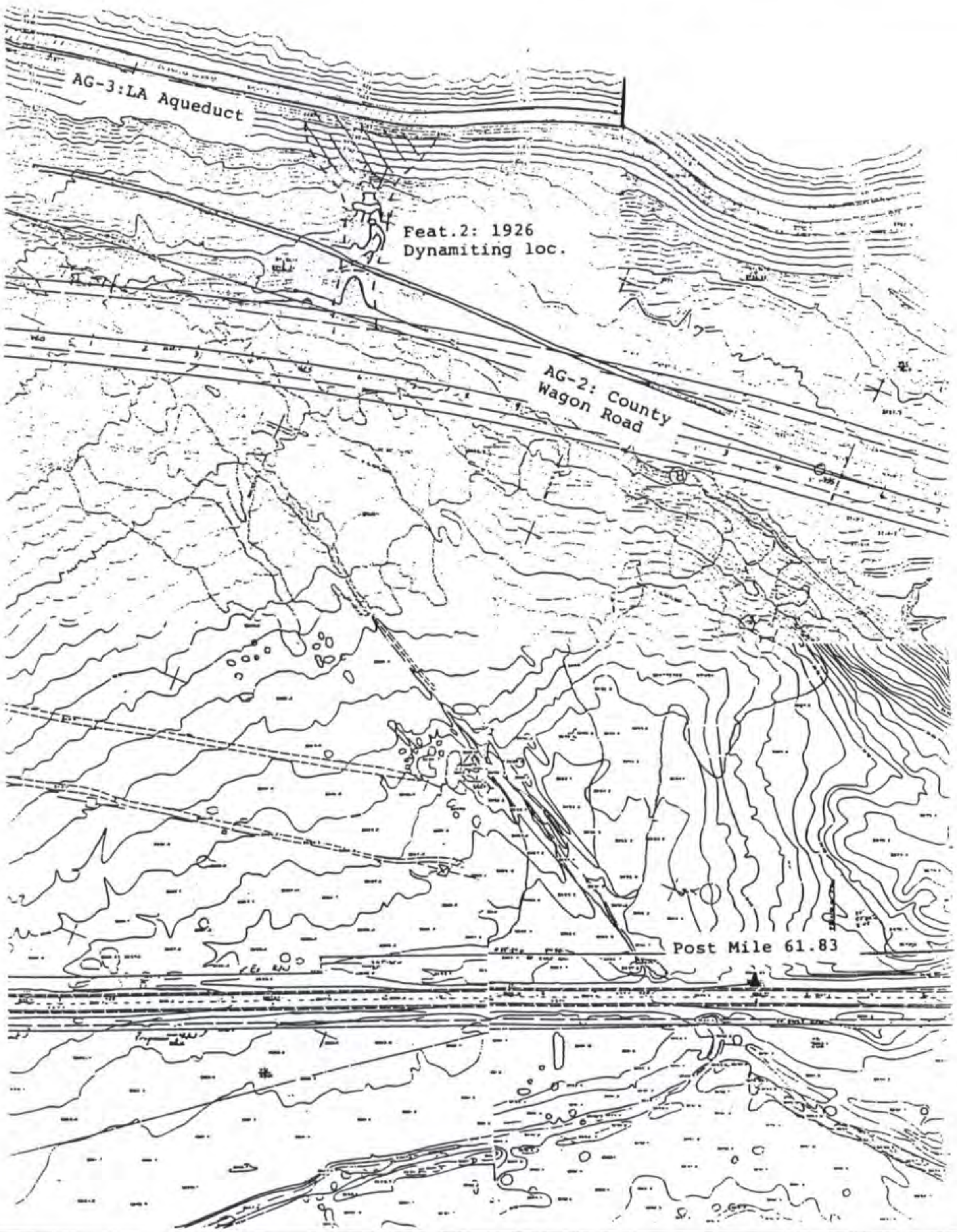
Permanent Trinomial: CA-INY-4591H / mo. yr.

Temporary Number: AG-3: Los Angeles Aqueduct

Agency Designation:

Type of Feature: Feature 2: Section of canal dynamited May 19, 1926



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ARCHEOLOGICAL SITE RECORD
Continuation Sheet

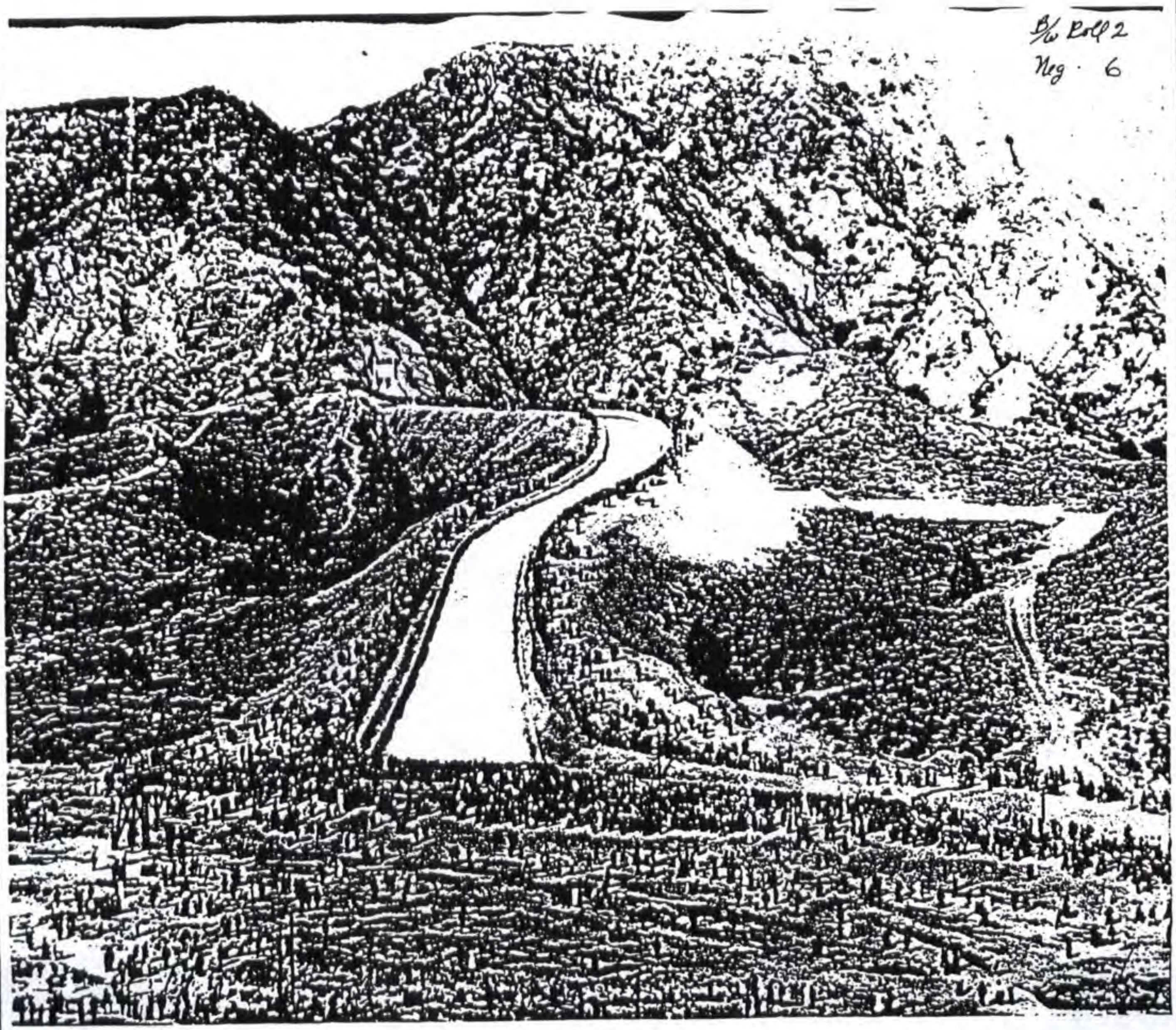
Page 14 of 20 .

Permanent Trinomial: CA-INY-4591H / mo. yr.

Temporary Number: AG-3: Los Angeles Aqueduct

Agency Designation:

Item No.	Continuation
35.	First arrival of Owens Valley water to Los Angeles in the Aqueduct; San Fernando Valley 13 February 1913. (Roll2:6).



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ARCHEOLOGICAL SITE RECORD
Continuation Sheet

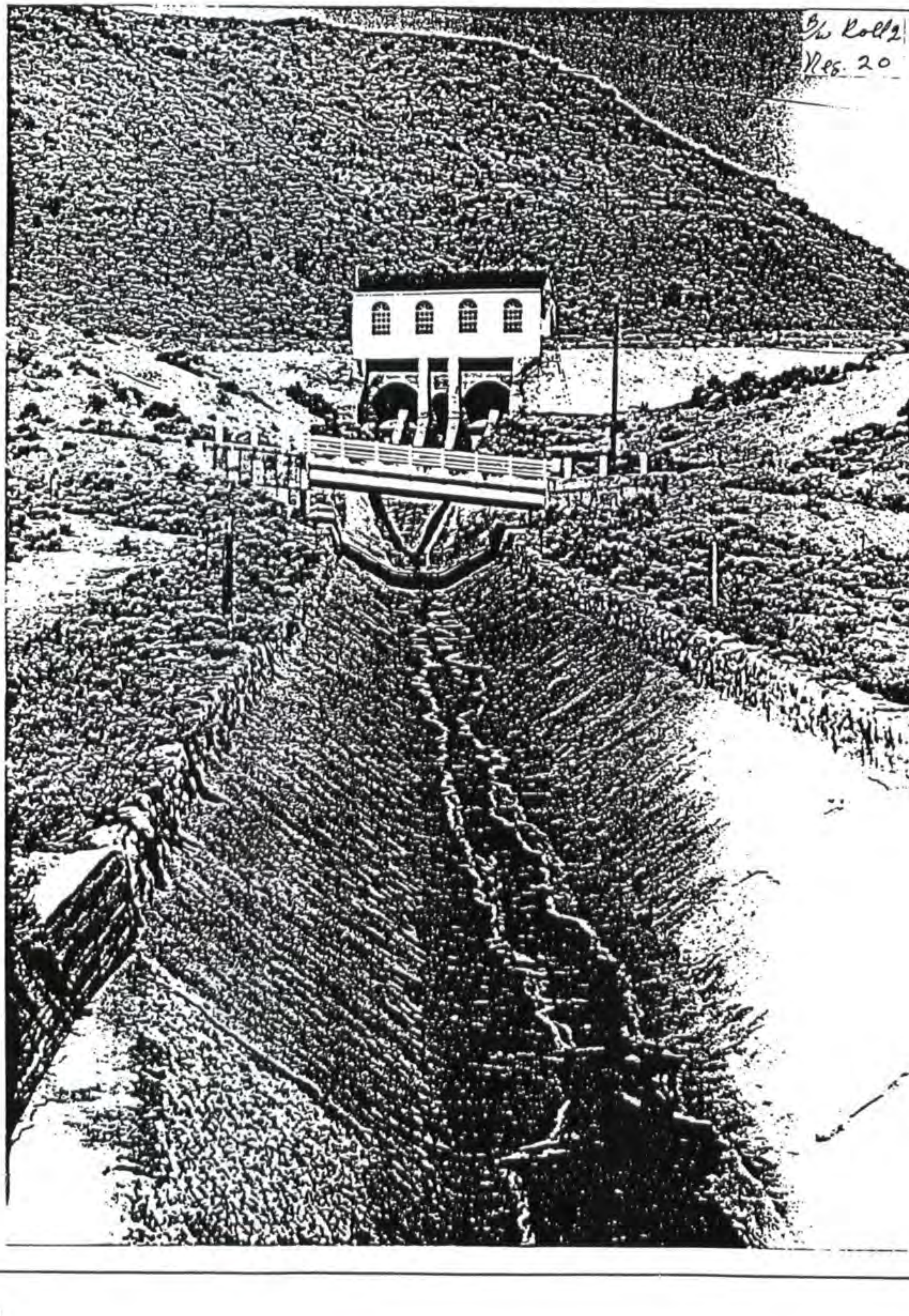
Page 15 of 20 .

Permanent Trinomial: CA-INY-4591H / ______ mo. yr.

Temporary Number: AG-3: Los Angeles Aqueduct

Agency Designation: ______

Item No.	Continuation
35.	Feature 1. Alabama Gates and spillway. (Roll 2:20)



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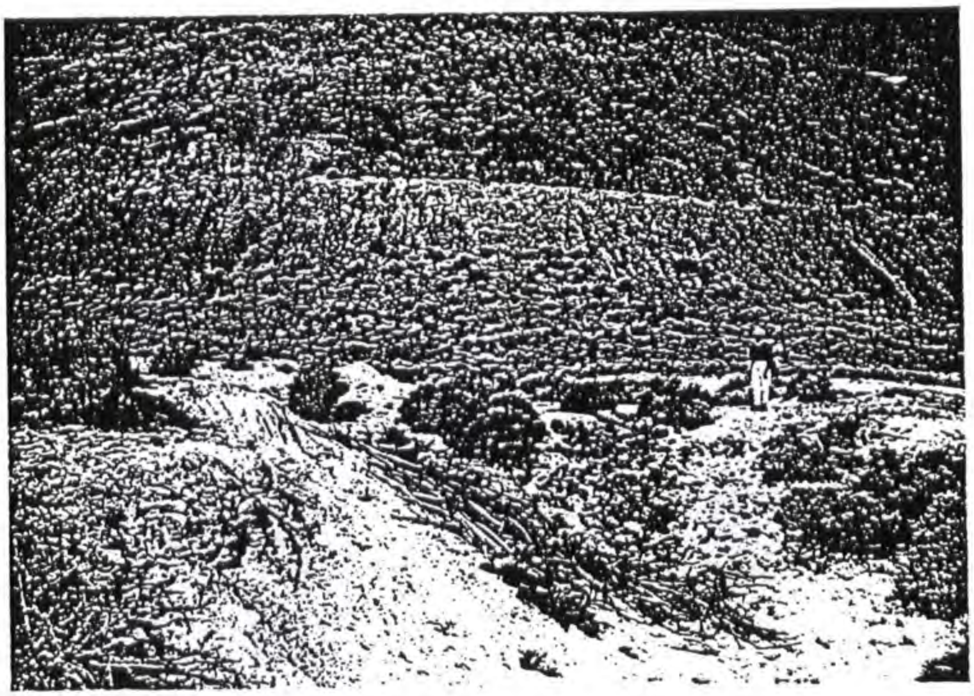
ARCHEOLOGICAL SITE RECORD
Continuation Sheet

Permanent Trinomial: CA-INY-4591H / ______ mo. yr.

Temporary Number: AG-3: Los Angeles Aqueduct

Agency Designation: ______

Item No.	Continuation
35.	Feature 2. Dynamiting location is directly above wash in foreground, on the aqueduct. Figure is standing on edge of County Wagon Road (AG-2) that was washed out by the escaping torrent, and then rebuilt. Bombing date May 19, 1926. (Roll 4:17)



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ARCHEOLOGICAL SITE RECORD
Continuation Sheet

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Permanent Trinomial: CA-INY-4591H / ____
mo. yr.

Temporary Number: AG-3: Los Angeles Aqueduct

Agency Designation: ____

Item No.	Continuation
35.	Page from DWP photo album showing dynamiting damage of May 12, 1926.

P-30

View showing Open Conduit,
Los Angeles Aqueduct, after
Dynamiting. May 12, 1926.

P-31

Wash across highway, caused
by dynamiting of Aqueduct.
May 12, 1926.

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ARCHEOLOGICAL SITE RECORD
Continuation Sheet

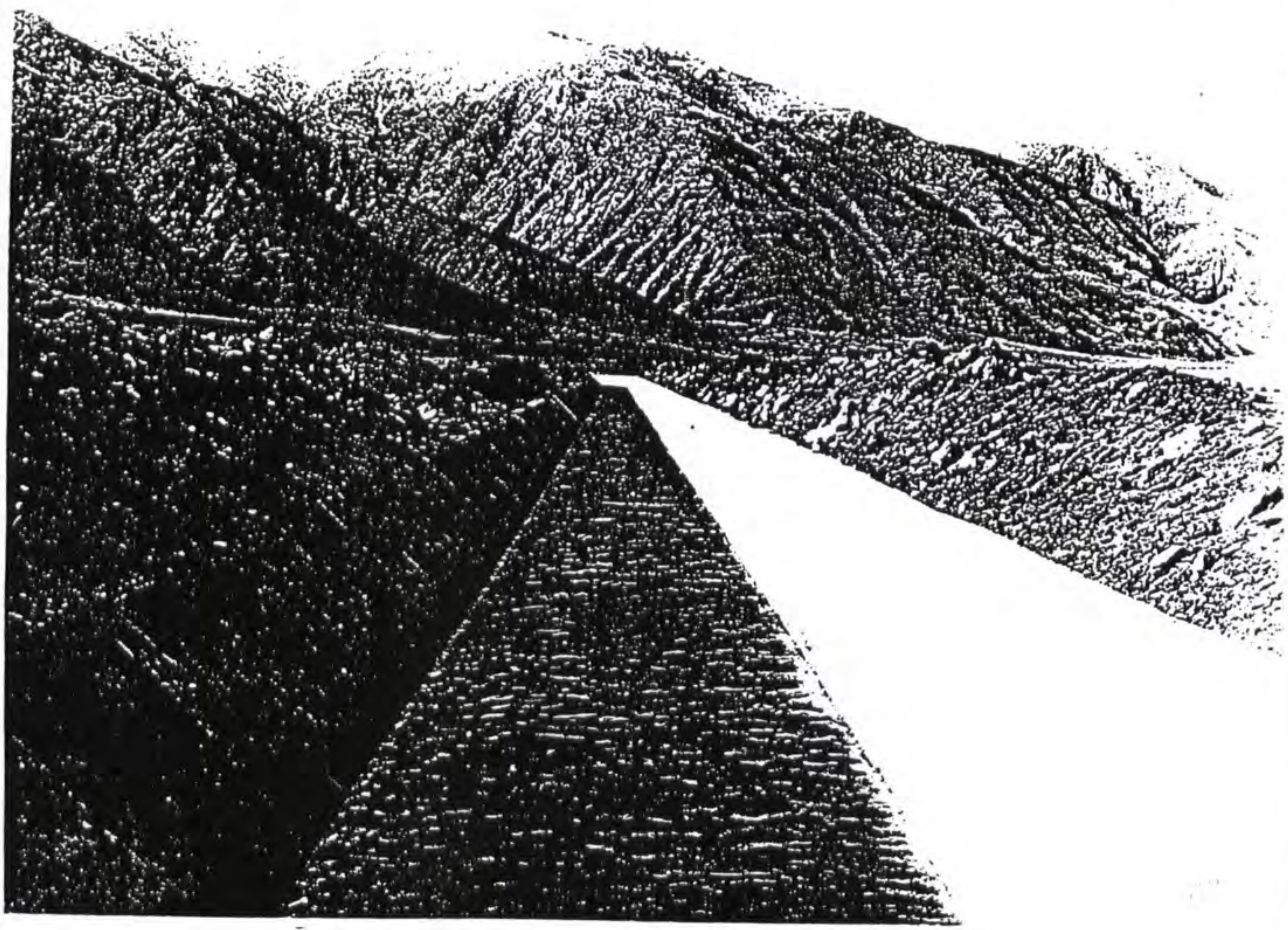
Permanent Trinomial: CA-INY-4591H / mo. yr.

Temporary Number: AG-3: Los Angeles Aqueduct

Agency Designation:

Item No.	Continuation
35.	Early view of concrete-lined, open conduit in Owens Valley. (LADWP Photo No. 1-4000) (Feature 3)

P-2
LADWP-
1-4000



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ARCHEOLOGICAL SITE RECORD
Continuation Sheet

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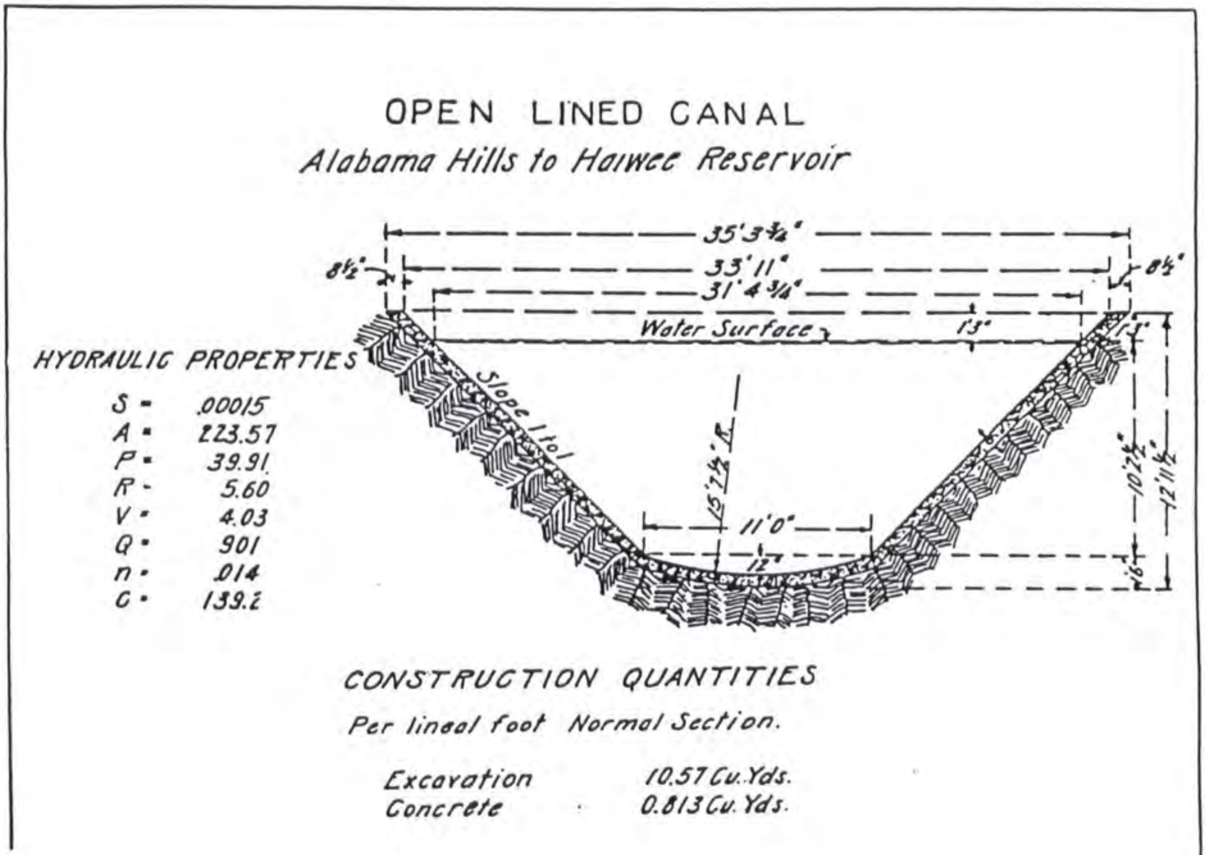
Permanent Trinomial: CA-INY-4591H / ______ mo. yr.

Temporary Number: AG-3: Los Angeles Aqueduct

Agency Designation: ______

Item No.	Continuation
35.	Section drawing of open lined canal from 1916 construction report by the City of Los Angeles. (Feat. 3)



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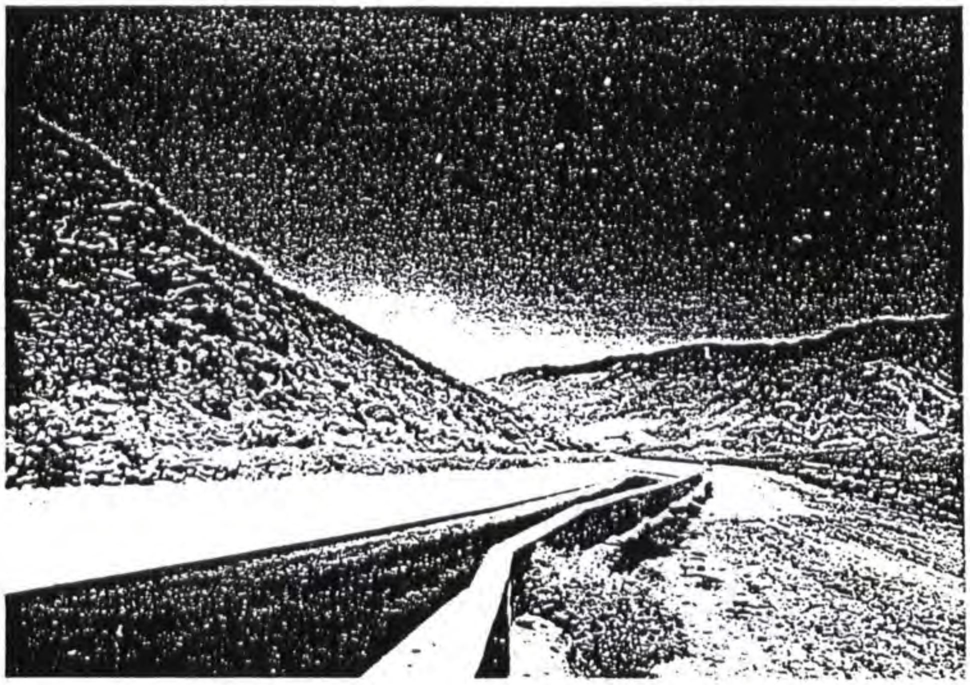
ARCHEOLOGICAL SITE RECORD
Continuation Sheet

Permanent Trinomial: CA-INY-4591H / mo. yr.

Temporary Number: AG-3: Los Angeles Aqueduct

Agency Designation:

Item No.	Continuation
35.	Concrete-lined, open conduit at the Alabama Hills, 1992. The sides were raised 2 feet in the 1970s. (Roll4:13) Feature 3.



Primary # P-15-003549

(LAN-2105H in Los Angeles Co.)

ARCHAEOLOGICAL SITE RECORD

 Foothill Resources, Ltd.

KER-3549H

Permanent Trinomial:
Supplement:
Temporary Number: AG-3
Historic Name: Los Angeles Aqueduct
Other Designations:

Nine Mile Canyon, Horse Cyn, Owens Peak, Dove Springs, Freeman Junction, Saltdale NW, Cinco, Monolith, Mojave NE, Willow Springs, Cache Peak, Tylerhorse Cyn, Mojave, Fairmont Bu, Neenach Sch

1. **County:** Mono, Inyo, Kern, Los Angeles; **Features 1-3: Inyo**
2. **USGS Quad Name:** Features 1-3: Union Wash
   Size: 7.5
   Photorevised: 1982
3. **UTM Coordinates:** Features 1-3:
   Zone 11 401990 Easting/4058960 Northing
   Zone 11 402340 Easting/4056110 Northing
4. **Legal Description:** Features 1-3:
   T14S R36E NW & NE 1/4 of SE 1/4 of Section 31
   T15S R36E NE 1/4 of SE 1/4 of Section 6
   T15S R36E NE 1/4 & SE 1/4 of NE 1/4 of Section 7
5. **Map Coordinates:** N.A.
6. **Elevation:** varies
7. **Location:** The site begins east of Mono Lake where west-flowing streams are collected into the Lee Vining Intake and ends at the San Fernando powerplant, 340 miles to the south. The aqueduct is clearly depicted on all relevant USGS maps and its above-ground features can generally be easily located.
8. **Time Period:** Historic.
   Temporal Periods Represented:
   ___ **Pre-Colonization (1500-1769**
   ___ **Spanish Mexican (1769-1848)**
   ___ **Early American (1848-1880)**
   _X_ **Turn of the Century (1880-WWI)**
   _X_ **Early Twentieth Century (WWI-1945)**
   ___ **Post WWII (1945-present)**
   Estimated Specific Dates; explain:
9. **Site Description:** This site includes the water conveyance systems and related features of the Los Angeles Aqueduct system. The first phase of the aqueduct construction, completed between 1908 and 1913, brought the waters of the Owens River over 215 miles into the San Fernando Valley. At that time, as a feat of water engineering, it was surpassed only by the New York City aqueduct system and the Panama Canal. The second phase, completed ca. 1926, extended the canal north to Bishop. The final phase, which tapped the waters of the Mono Lake Basin, was completed in 1940. The portion of the site recorded in detail in this site form includes the Alabama Gates in Inyo County and extends south for about a mile.
10. **Area:** 340 miles long x ca. 100 ft. wide = 179.5 million sq. ft.; or 54.7 million sq. meters.
    Method of Determination: estimate from pacing and map.
11. **Depth:** N.A.
    Method of Determination:

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12. Features and Associated Artifacts: Three Features havebeen identified within the surveyed section of the Aqueduct:

Feature 1: Alabama Gates and Spillway. This feature includes the watergates and operating mechanisms, the housing that covers the gates, and the spillway that carries water back to the Owen's River. There are five gate valves built into the gate housing, currently operated by hydraulic controls powered by a diesel engine. When closed, they contain the water within the aqueduct; when open they allow the aqueduct water to flow down the spillway. The gate housing, rebuilt in 1930, is a modest Mission Revival design with arch windows, a red tile roof, and stucco surface. The spillway is a concrete-lined channel that stretches from the gate house to the Owens River (Mikesell 1990:4-6).

Feature 2: Dynamited Location and Wash-Out Channel, from May 12, 1926 Bombing. Feature 2 is located along the line of the L.A. Aqueduct where it was dynamited May 12, 1926. Its repair is discernible today as a distinctive soil discoloration: it is more yellowish tan and contains fewer rocks than the surrounding area.

The resulting wash out exists today as an eroded channel (see topographic map) which the old county road crosses. Rocks on the eastern (downslope) side of the road may have been placed as a retaining wall during the repair. They currently are tumbled down into the channel in no discernible pattern. The channel, where it crosses the old county road, is about 30 ft. wide and 5-10 ft. deep. It is currently eroded along its sides. It empties through the earthquake scarp into a small wetland extending to Highway 395 and associated with features from the Mt. Whitney Pump Station (AG-4).

Feature 3: Concrete-lined Open Canal. The concrete-lined, open section of the L.A. Aqueduct begins at the north end of the Alabama Hills and extends south to the Hawiwee Powerhouse. The channel is flaring "U" shape with concreted sides 34 feet wide; the walls were raised 2 feet in the 1970s (Mikesell 1990:5) to produce a depth of nearly 18 feet. The uphill side has been carved into the rock of the Alabama Hills while the downhill side is supported by large earthen berms. Concrete "bridges" allow for the passage of runoff from seasonal drainages.

13 Artifacts not Associated with Features: none

14. Other Items Observed: none

15. Date Recorded: 27 August 1992

16. Recorded By: J. Costello, J. Marvin, and J. Tordoff

17. Affiliation and Address: Foothill Resources, Ltd, PO Box 288, Mokelumne Hill, CA 95245.

18. Human Remains: none

19. Site Disturbances: none

20. Nearest Water: The site is a water-conveyance system.

21. Vegetation Community: various

22. Vegetation on Site: various

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 CA-KER-3549 H

23. Site Soil: various
24. Surrounding Soil: various
25. Geology: various
26. Landform: various
27. Slope: various
28. Exposure: various
29. Landowner/Tenants: Los Angeles Department of Water and Power, Los Angeles, California.
30. Historical Documentation: (see attached excerpt from report)
31. Remarks: There are numerous physical features which are integral parts of this water system and which could eventually be included as part of this site. These include reservoirs, dams, siphons, tunnels, channels, spillways, water conveyance features, and power plants, as well as the locations of important historical events such as bombings and takeovers. Three such features are located within the present project boundaries: the Alabama Gates and its spillway (Feature 1); the site of the May 12, 1926, bombing of the aqueduct (Feature 2); and the concrete-lined open section of the aqueduct south of Alabama Gates (Feature 3). Another portion of this site, the east portal of the Mono Craters Tunnel, has previously been recorded as a site by the U.S. Forest Service (Site No. 05-04-51-1177).

Other sites related to the history and operations of the Los Angeles Aqueduct--such as construction camps, maintenance roads and facilities, railroad spurs, pump sites and windmills--could potentially be grouped with the L.A. Aqueduct site as a thematic District nomination.
32. Cited References: (see excerpt from report, No. 30)
33. Type of Investigation: Assessment of historic sites. Report: *Archaeological Survey Report and Historic Study Report for Highway 395, Alabama Gates Four Lane Project, Inyo County, California*. Caltrans Contract No. 09H078. Submitted to Richard Weaver, Caltrans District 9, September 1992. Prepared by Julia G. Costello and Judith Marvin, Foothill Resources, Ltd..
34. Collection Curation Facility and Accession Number: None
35. Photos: B&W 35mm photos on file at Foothill Resources, Ltd., Mokelumne Hill, CA.

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Excerpt from: *Archaeological Survey Report and Historic Study Report for Highway 395, Alabama Gates Four Lane Project, Inyo County, California*. Caltrans Contract No. 09H078. Submitted to Richard Weaver, Caltrans District 9, September 1992. Prepared by Julia G. Costello and Judith Marvin, Foothill Resources, Ltd.

AG-3: Los Angeles Aqueduct

This site includes the water conveyance systems and related features of the Los Angeles Aqueduct system. The first phase of Aqueduct construction, completed between 1908 and 1913, brought the waters of the Owens River over 215 miles into the San Fernando Valley. At that time, as a feat of water engineering, it was surpassed only by the New York City aqueduct system and the Panama Canal. The second phase, completed ca. 1926, extended the canal north to Bishop. The final phase, which tapped the waters of the Mono Lake Basin, was completed in 1940.

The portion of the site surveyed as part of this HSR begins at the Alabama Gates and extends south for about a mile. Three features are identified as part of this site: 1) the Alabama Gates and spillway; 2) the dynamited location and wash-out channel, from the bombing of May 12, 1926; and 3) the concrete-lined open channel of the Aqueduct. As additional surveys of other parts of the Aqueduct are made, physical features which are integral parts of this water system should be included as part of this site: reservoirs, dams, siphons, tunnels, channels, spillways, water conveyance features, and power plants. Another portion of this site, the east portal of the Mono Craters Tunnel, has previously been recorded as a site by the U.S. Forest Service (Site No. 05-04-51-1177).

As early as 1890, Fred Eaton, the former mayor of Los Angeles and a large landowner in the Owens Valley, had envisioned an aqueduct to bring waters from the Owens River to the burgeoning metropolis of the Los Angeles basin. The Los Angeles Department of Water and Power (DWP) was enlisted to spearhead the enterprise, promoted by land developers and moguls (Walton 1986:198).

The Los Angeles Aqueduct was planned and developed by William Mulholland, a native of Ireland and Chief Engineer for the DWP. During November 1905, Mulholland, along with a party of Los Angeles councilmen, engineers, and newspaper writers traveled through the Owens Valley, "in order to convey to the inhabitants of the City, the immensity of the Owens River Valley Water project" (Mulholland 1905:5).

That same year the City began purchasing all riparian river lands and all water rights and ditch systems from ten miles north of the diversion at Aberdeen to Owens Lake in the south.

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The largest purchase was the Rickey Ranch, stretching from Big Pine to Independence. Former mayor Fred Eaton also entered into an agreement to sell his large holdings (Los Angeles 1907a:46).

By December 1907, a hydraulic suction dredge had begun work and a power plant at Division Creek was constructed. A surplus of labor was noted, with 327 men and 180 head of stock employed (Los Angeles 1907b:7-8).

The major portion of the work, however, did not begin until 1908: a cement plant was set up in Mojave; aqueduct buildings were designed, constructed, and moved to camp sites; a large labor force was employed; steam shovels and dredges were purchased; and the construction of the Southern Pacific railroad line from Mojave began with plans to connect with the Carson & Colorado (C&C) narrow gauge at Olancha.

By May of 1908, Mojave was a booming base camp for the completion of the railroad line with 400 men and 900 head of stock employed. By October, 1910, the line reached Owenyo, on the shores of Owens Lake, and connection was made with the C&C, thus completing the 143 mile "Jawbone Line." This was to be the main supply line to the Aqueduct camps for cement from Mojave and food, men, and supplies from the Los Angeles area (Myrick 1962:205-209).

On the opposite side of the valley, construction of the canal was proceeding apace, with suction dredges working in the soft bottomlands and steam and power shovels breaking the hard rock of the Alabama Hills and driving the Elizabeth Tunnel through the San Francisquito Mountains.

Construction was divided into several Divisions. Division headquarters were established in various locations along the route of the Aqueduct under the direction of division engineers and with attendant office staff, surveyors, machinists, medical personnel, and laborers. In addition, 100+ supply camps were set up about 15 miles apart. Each of these had a foreman or labor superintendent in charge of the men, livestock, and camp operations.

Completed early in 1913, the Aqueduct was the third largest engineering feat of its time. Surpassed only by the New York City water system and the Panama Canal, the Aqueduct stretched from its takeout on the Owens River at Aberdeen to the San Fernando Valley, a distance of 215 miles.

Financed by a bond issue approved by the voters of Los Angeles, the system involved the construction of roads, open ditches, concreted aqueducts, tunnels, siphons, dams, reservoirs, and power plants. Completed in five short years, the aqueduct was

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to forever alter the composition and land use patterns of both the Owens Valley and the Los Angeles basin.

Construction of this first segment of the aqueduct system, extending only to Aberdeen above Independence and tapping the waters of the lower Owens Valley, didn't at first appear to affect the valley residents, as this area was not heavily developed or farmed. The early protests which developed in 1904-1905 involved primarily farmers and ranchers, never engaging the concern of the townsfolk and resulting only in letters and petitions to Washington (Walton 1986:199-201).

By the summer of 1919, however, precipitated by a severe drought, Los Angeles began implementing plans to extend the aqueduct further north and encompass the Bishop watershed. A sturdier resistance movement was established and, fueled by the City's use of dynamite to destroy the dam at Convict Lake, became a revolt. Intensified by the continuing drought, by 1922 the farmers' movement had become a coalition of the social classes (Walton 1986:202).

The Alabama Gates, located on the north end of the Alabama Hills where the concreted portion of the canal began, were selected as the place to begin the major battle in the water wars. On May 21, 1924, a dynamite blast tore a hole through the Aqueduct, signalling open revolution. The "shot heard round the world," however, didn't occur until November 16th when several hundred people, including 200 from Bishop, took over the Gates for a period of five days, turning the Aqueduct waters back into the Owens River.

Jokingly referred to as a "picnic" by local residents, banker Mark Watterson, who led the revolt, was joined in the occupation by hundreds of valley farmers, shopkeepers, merchants, and businessmen; people whose livelihoods were at stake (Walton 1986:204-205). Local law enforcement agencies refused to intervene; newspaper reporters from around the world converged on the site and reported daily on events at the Gates; and Tom Mix, in Lone Pine to make a film, sent over an orchestra to entertain the "picnickers" (Kahrl 1982:292).

The public embarrassment that ensued prompted Los Angeles' bankers to come forth with an offer to intercede with the City and force a settlement. After a meeting in L.A. with the bankers, Wilfred Watterson wired his brother Mark that he had the assurance that "strong influences will be brought to bear on the situation to see that justice is done" (Kahrl 1982:293). The farmers and townsfolk dispersed and returned the gates to the control of the City, convinced that they had won concessions. The concessions never materialized (Mikesell 1990:3). Although the occupation focused national attention on the conflict (Hoffman 1981:185) it resulted in little relief for the rebels.

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The dynamitings and acts of sabotage continued. On May 12, 1926, a dynamite blast blew a hole in the canal near the Mt. Whitney Pump Plant (AG-4), south of the Gates (Cook nd:9-10). During June and July of 1927, the aqueduct at the southern end of Inyo County was dynamited six times, carrying away 450 feet of the canal (Clark nd:10). The bombings continued until as recently as 1976, when the gatehouse at the Alabama Gates was dynamited (personal communication, Beidelman 1992).

By the early 1930s, utilizing a pattern of "checkerboard purchasing," Los Angeles had acquired 99% of the farm lands and water rights in the valley. The City had also purchased 85% of the town properties, thus making them the landlord of the Owens Valley. The revolt was over.

The 1927 collapse of the Wattersons' Inyo County Bank, in which most of the farmers and the sellers had invested their monies, coupled with the mass exodus of the farmers and merchants who had sold out to the DWP, created a depression in the valley during the decade of the 1930s. Although the DWP leased some lands to former agriculturalists for a few years, most of the newly acquired properties reverted to livestock raising or were left fallow.

The final phase of the Los Angeles Aqueduct system, which tapped the waters of the Mono Basin, was constructed in the 1930s. Although Los Angeles had begun acquiring land and water rights in the Mono Lake area as early as 1912, primarily for a power project, it wasn't until the 1930s that aqueduct construction commenced. Financed by bonds, the City began acquiring more land and water rights, finally completing the project in 1940 (Kahrl 1982:330-350).

In recent years, however, lawsuits have been filed over the environmental damage to Mono Lake and its wildlife habitat caused by the depletion of its water supply. Sympathetic courts and a growing public awareness of the environmental requirements of the Mono Basin have resulted in court decisions that have stopped the diversion of many of the streams into the lake.

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ARCHEOLOGICAL SITE LOCATION MAP

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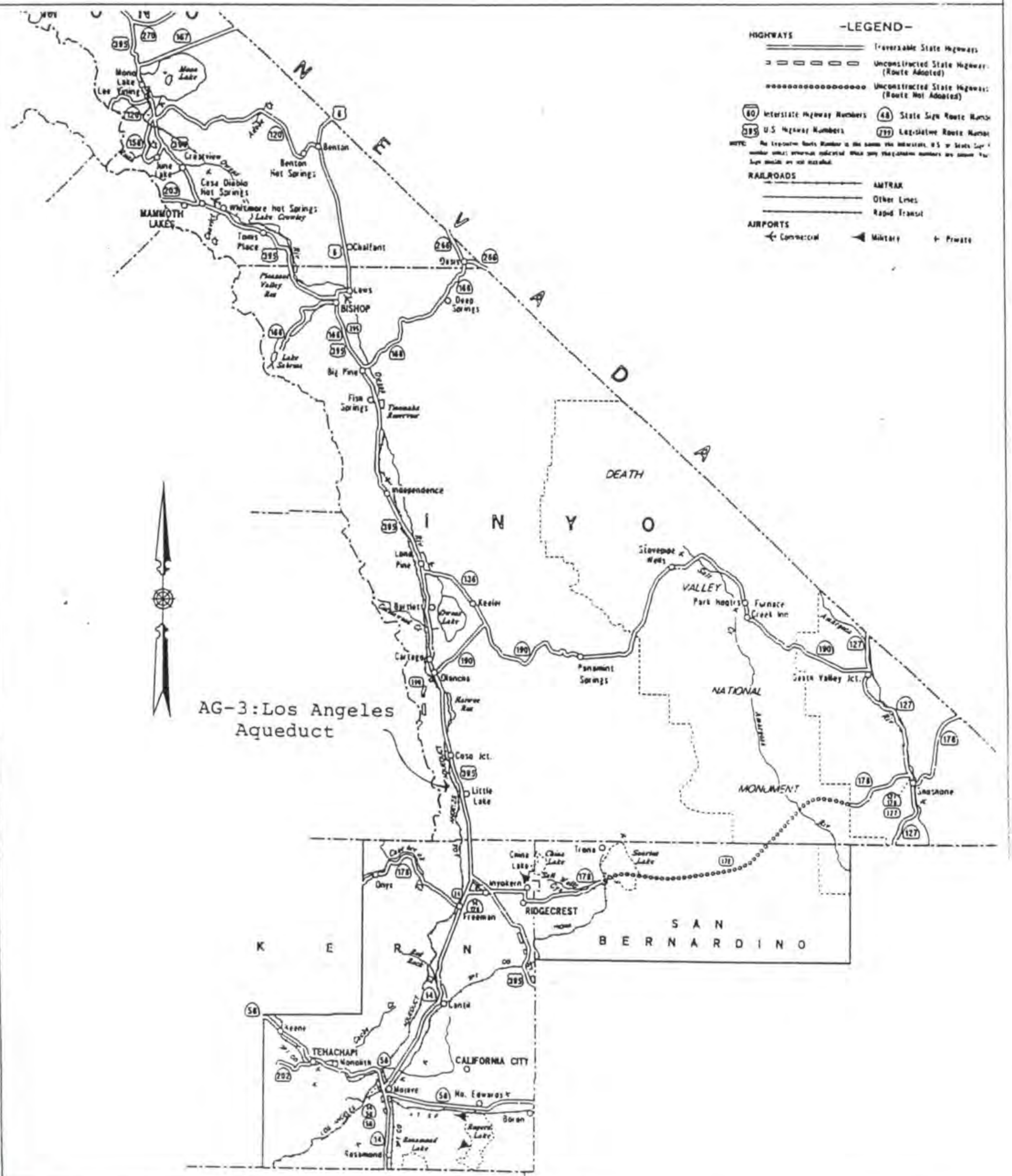
Permanent Trinomial: ______ / ______ mo. yr.

Temporary Number: AG-3: Los Angeles Aqueduct

Agency Designation: ______



P-15-003549
CA-KER-3549H

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

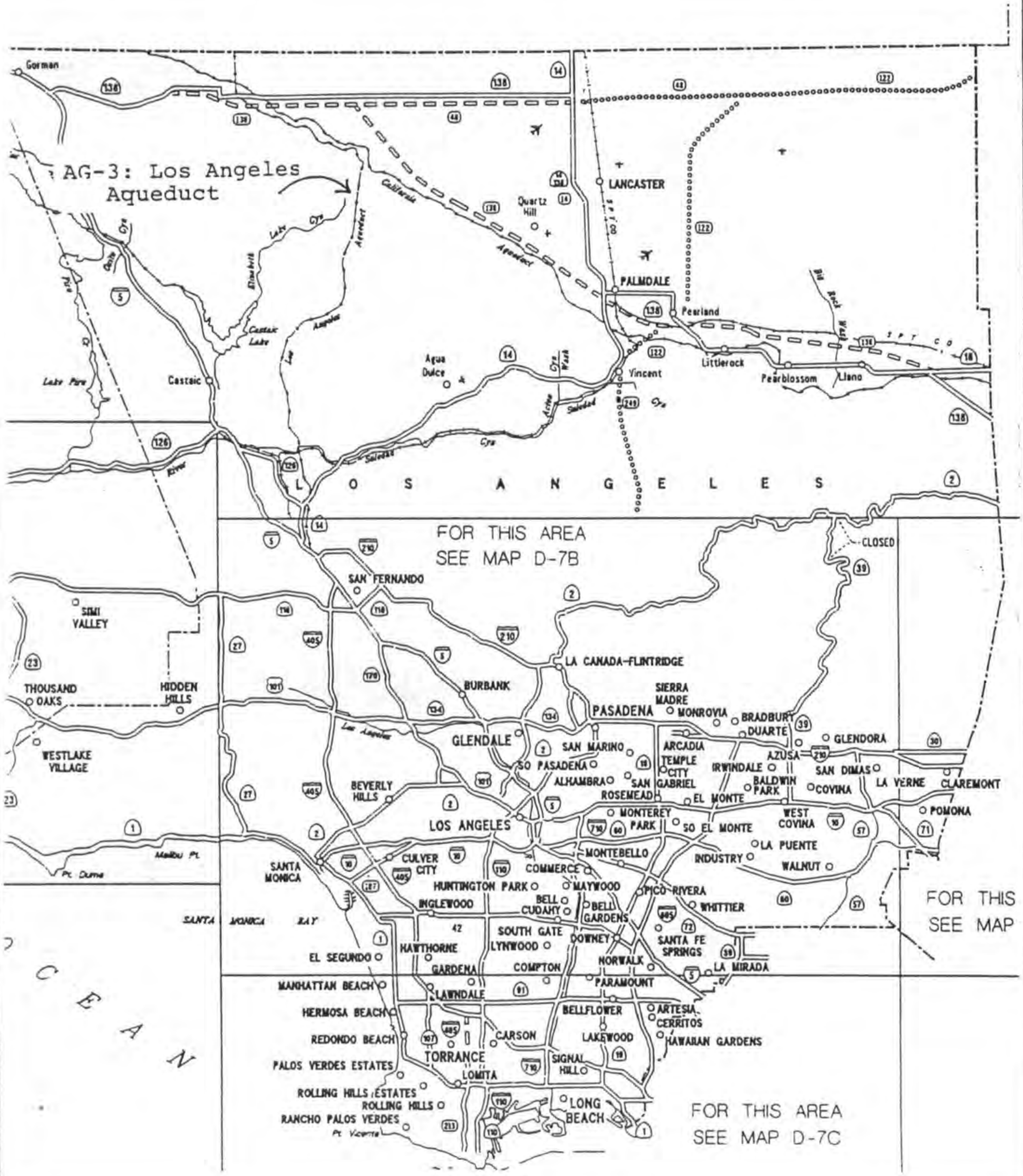
ARCHEOLOGICAL SITE LOCATION MAP

Page 10 of 20.

Permanent Trinomial: ____ / ____ mo. ____ yr.

Temporary Number: AG-3: Los Angeles Aqueduct

Agency Designation: ____



P 15-003549

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

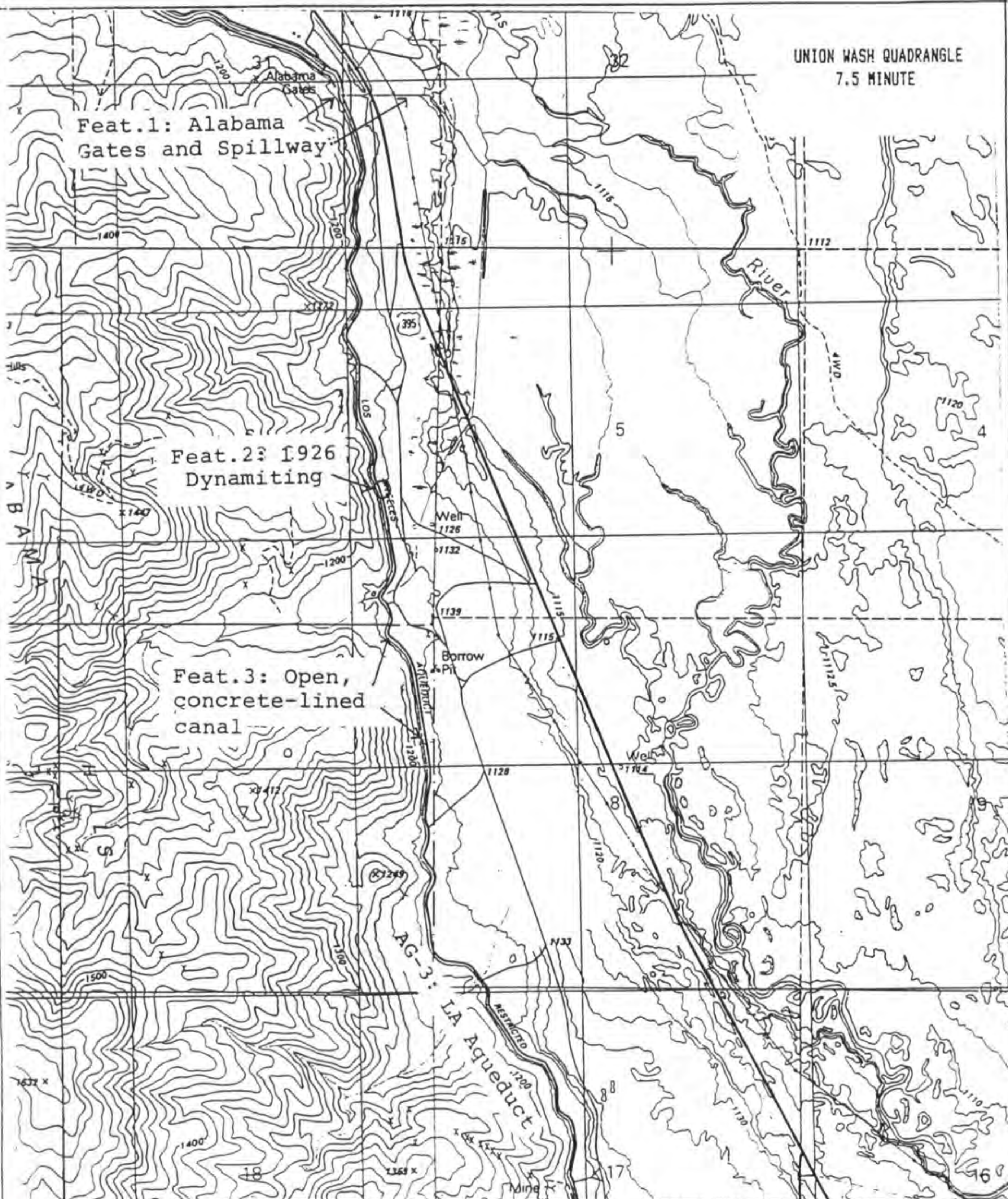
ARCHEOLOGICAL SITE MAP

Page 11 of 20.

Permanent Trinomial: ____ / ____ mo. yr.

Temporary Number: AG-3: Los Angeles Aqueduct

Agency Designation: ____



P-15-003549

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

FEATURE RECORD

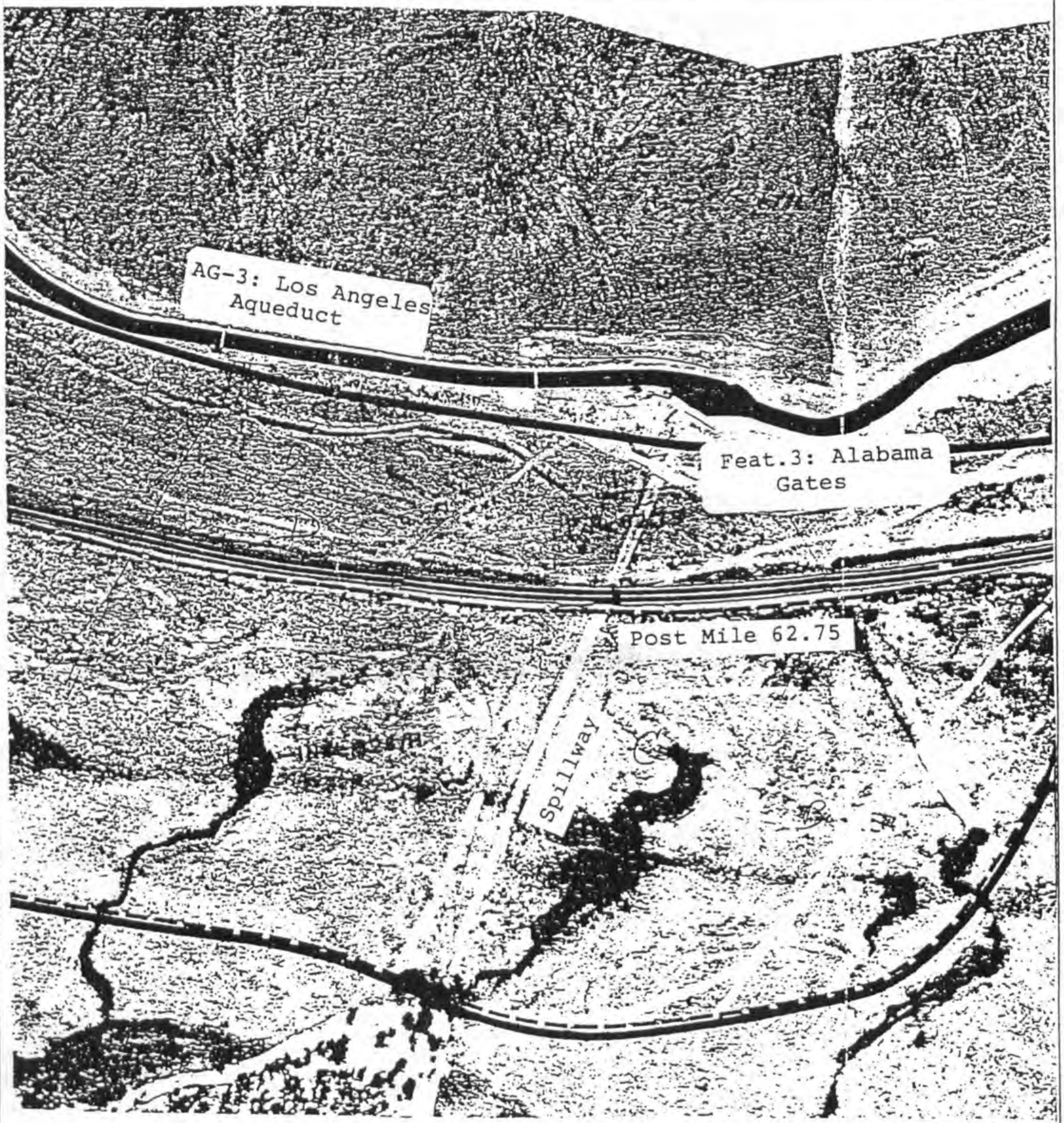
Permanent Trinomial: ______ / ______ mo. yr.

Temporary Number: AG-3: Los Angeles Aqueduct

Page 12 of 20.

Agency Designation: ______

Type of Feature: Feature 1: Alabama Gates and Spillway



P-15-003549

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
ARCHEOLOGICAL SITE RECORD
Continuation Sheet

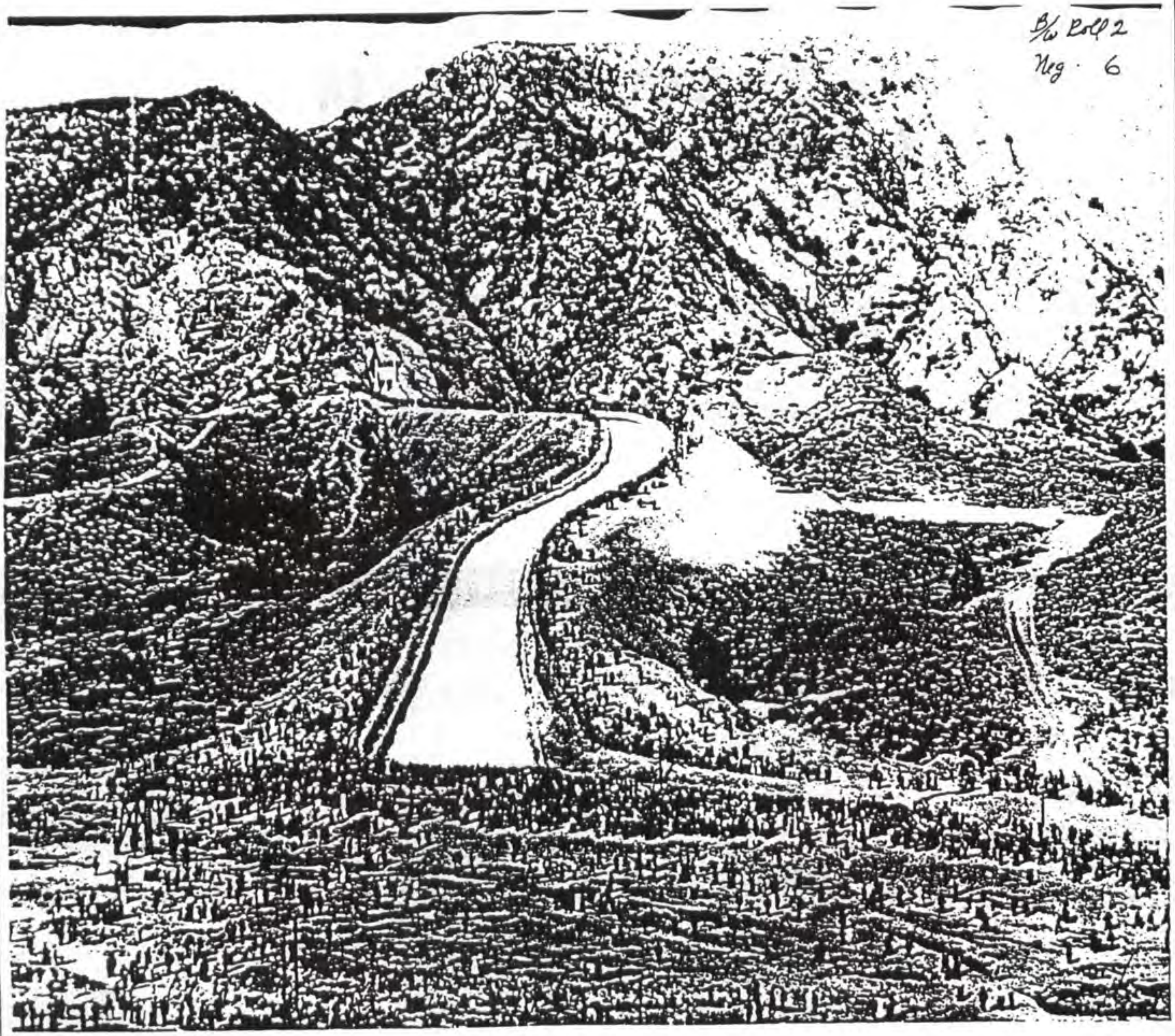
Permanent Trinomial: ______ / ______ mo. yr.

Temporary Number: AG-3: Los Angeles Aqueduct

Agency Designation: ______

Item No.	Continuation
35.	First arrival of Owens Valley water to Los Angeles in the Aqueduct; San Fernando Valley 13 February 1913. (Roll2:6).

B/W Roll 2
Neg. 6



P-15-003549

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

FEATURE RECORD

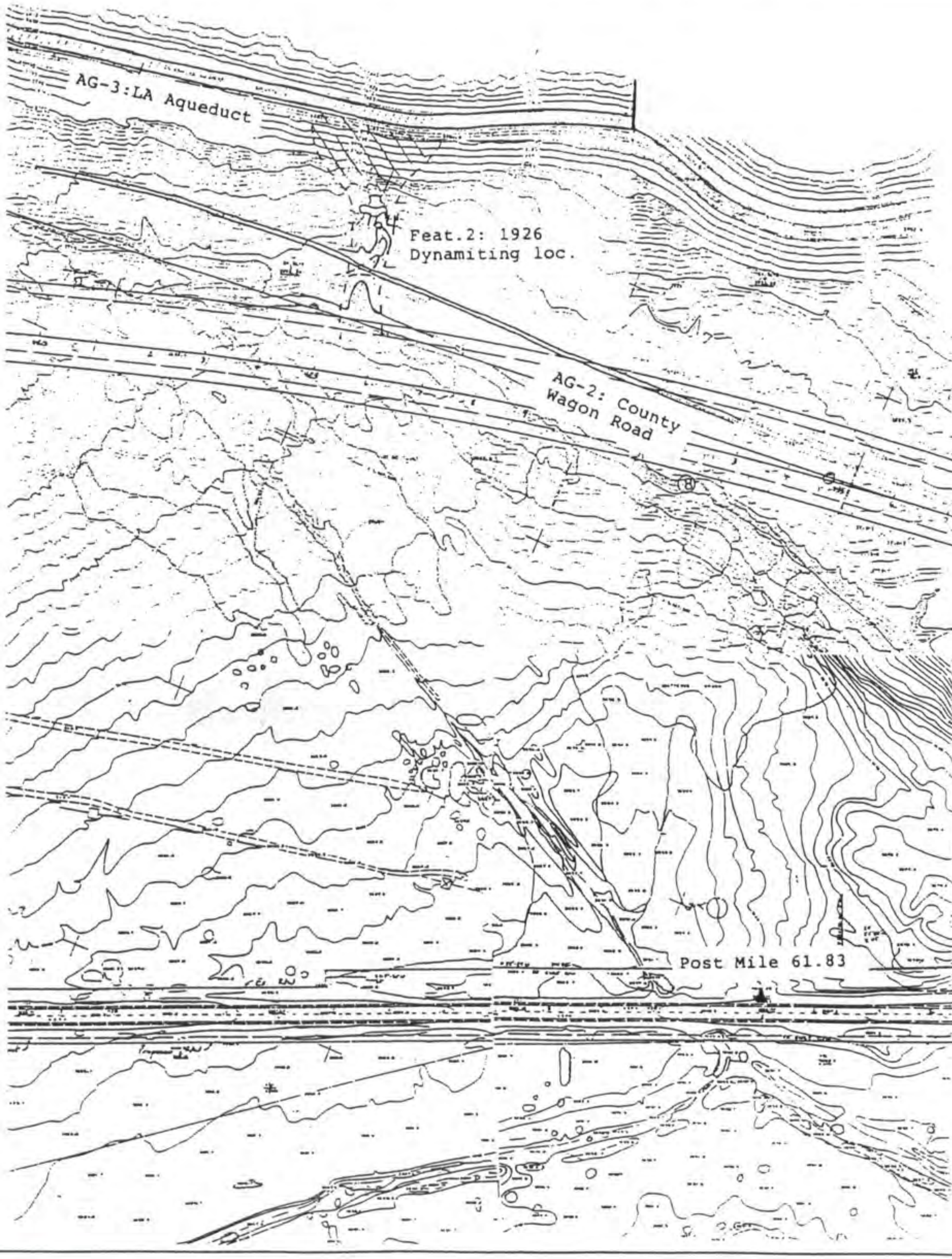
Page 13 of 20.

Permanent Trinomial: ___ / ___ mo. yr.

Temporary Number: AG-3: Los Angeles Aqueduct

Agency Designation: ___

Type of Feature: Feature 2: Section of canal dynamited May 19, 1926



DPR 422D (Rev. 8/82)

P-15-003549

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

ARCHEOLOGICAL SITE RECORD
Continuation Sheet

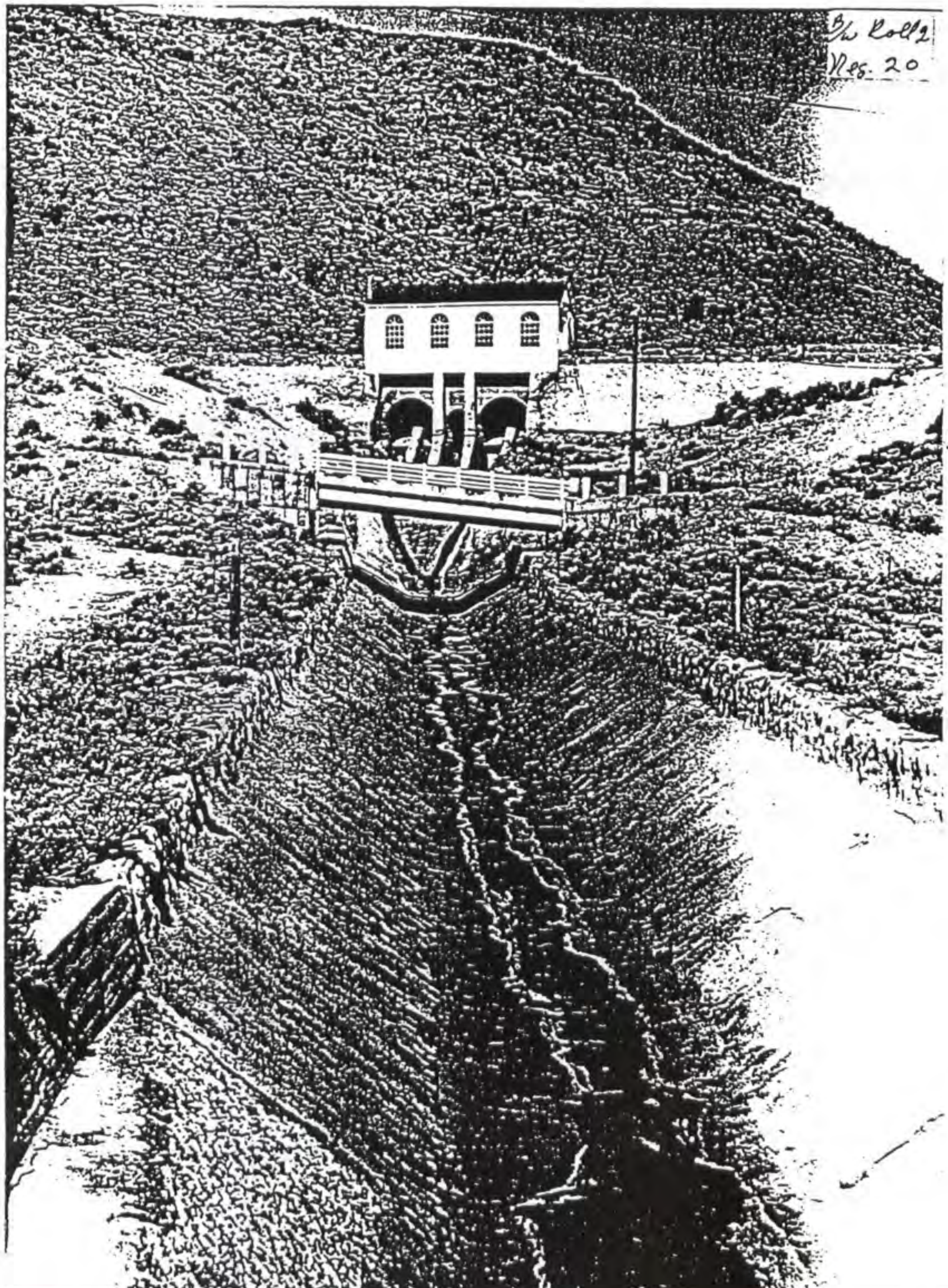
Page 15 of 20.

Permanent Trinomial: ____ / ____
mo. yr.

Temporary Number: AG-3: Los Angeles Aqueduct

Agency Designation: ____

Item No.	Continuation
35.	Feature 1. Alabama Gates and spillway. (Roll 2:20)



P-15-003549

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

ARCHEOLOGICAL SITE RECORD
Continuation Sheet

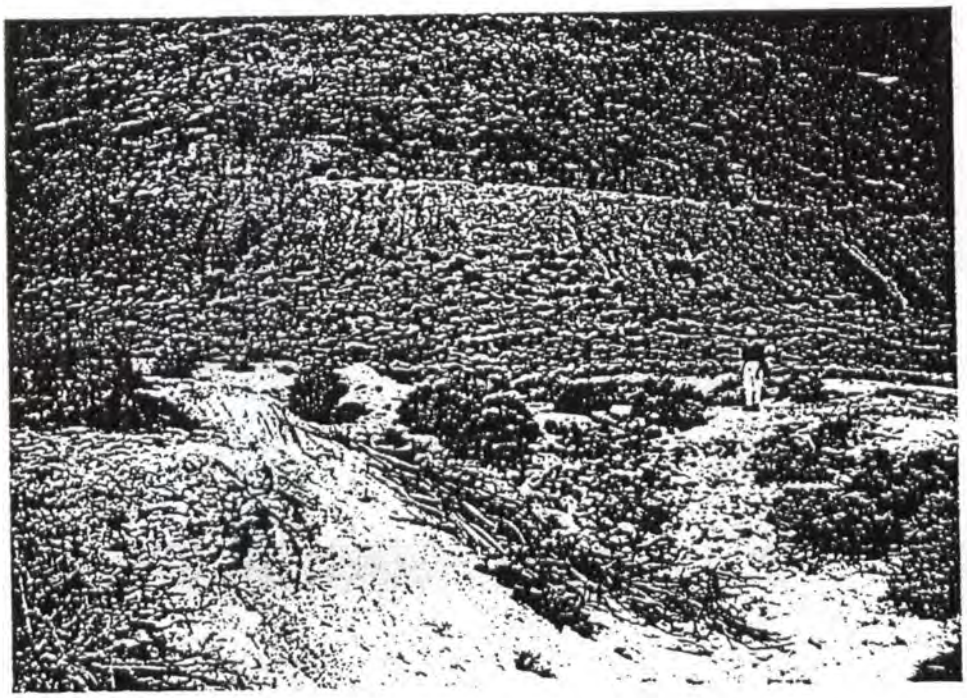
Page 16 of 20

Permanent Trinomial: ________ / ________ mo. yr.

Temporary Number: AG-3: Los Angeles Aqueduct

Agency Designation: ________

Item No.	Continuation
35.	Feature 2. Dynamiting location is directly above wash in foreground, on the aqueduct. Figure is standing on edge of County Wagon Road (AG-2) that was washed out by the escaping torrent, and then rebuilt. Bombing date May 19, 1926. (Roll 4:17)



P-15-003549

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

ARCHEOLOGICAL SITE RECORD
Continuation Sheet

Page 17 of 20.

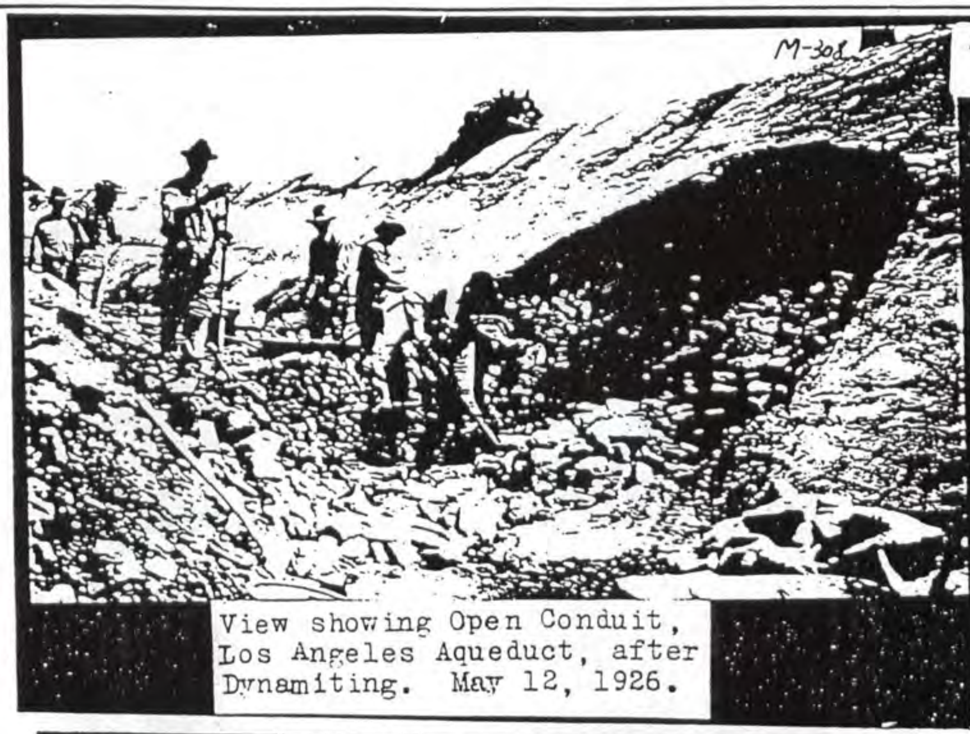
Permanent Trinomial: ____ / ____ mo. yr.

Temporary Number: AG-3: Los Angeles Aqueduct

Agency Designation: ____

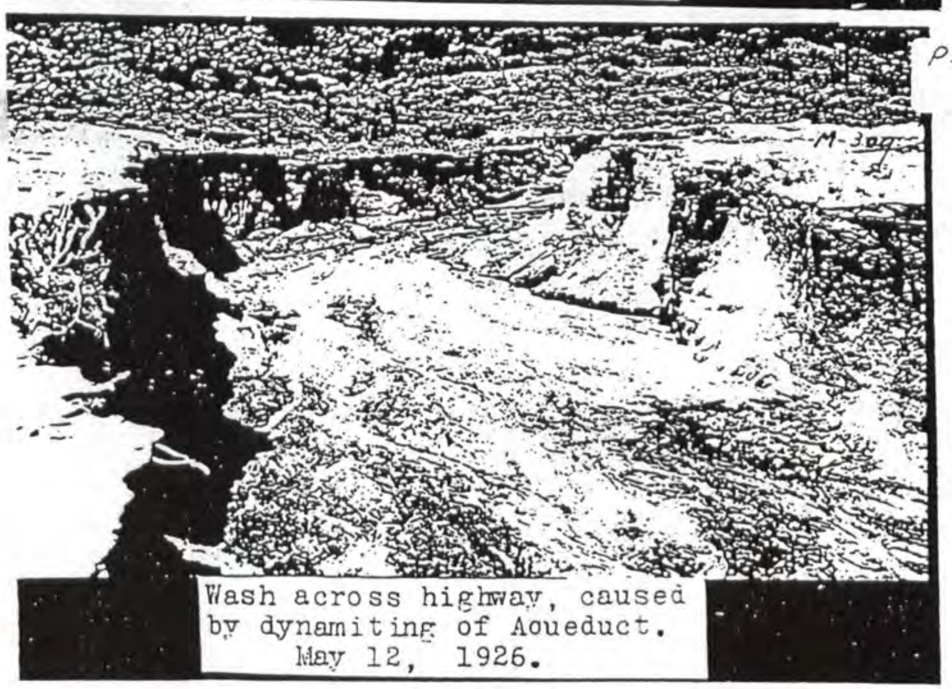
Item No.	Continuation
35.	Page from DWP photo album showing dynamiting damage of May 12, 1926.

P-30



View showing Open Conduit, Los Angeles Aqueduct, after Dynamiting. May 12, 1926.

P-31



Wash across highway, caused by dynamiting of Aqueduct. May 12, 1926.

P-15-003549

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

ARCHEOLOGICAL SITE RECORD
Continuation Sheet

Page 18 of 20.

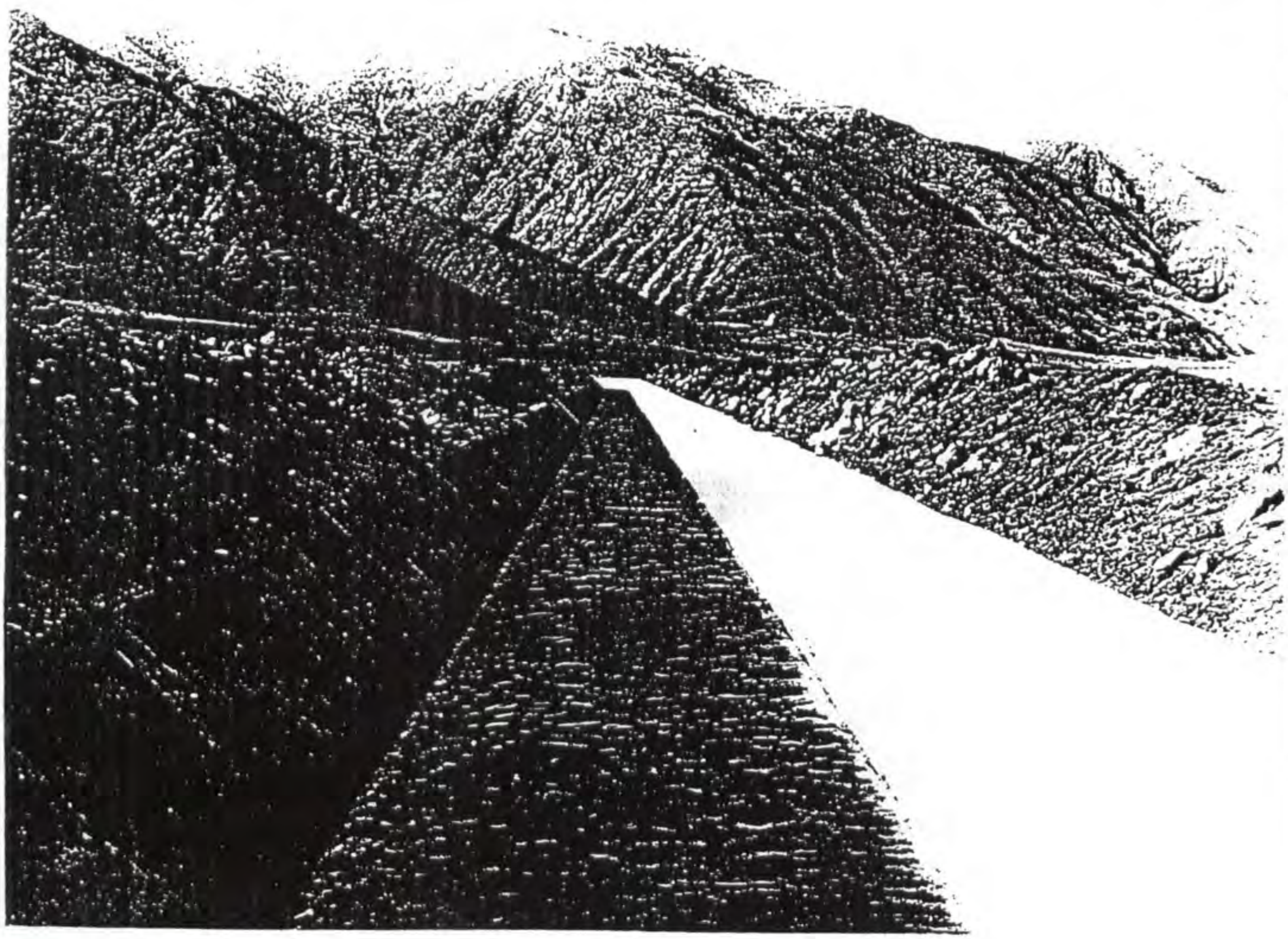
Permanent Trinomial: ___ / ___ mo. yr.

Temporary Number: AG-3: Los Angeles Aqueduct

Agency Designation: ___

Item No.	Continuation
35.	Early view of concrete-lined, open conduit in Owens Valley. (LADWP Photo No. 1-4000) (Feature 3)

P-2
LADWP-
1-4000



DPR 422C (Rev. 8/82)

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

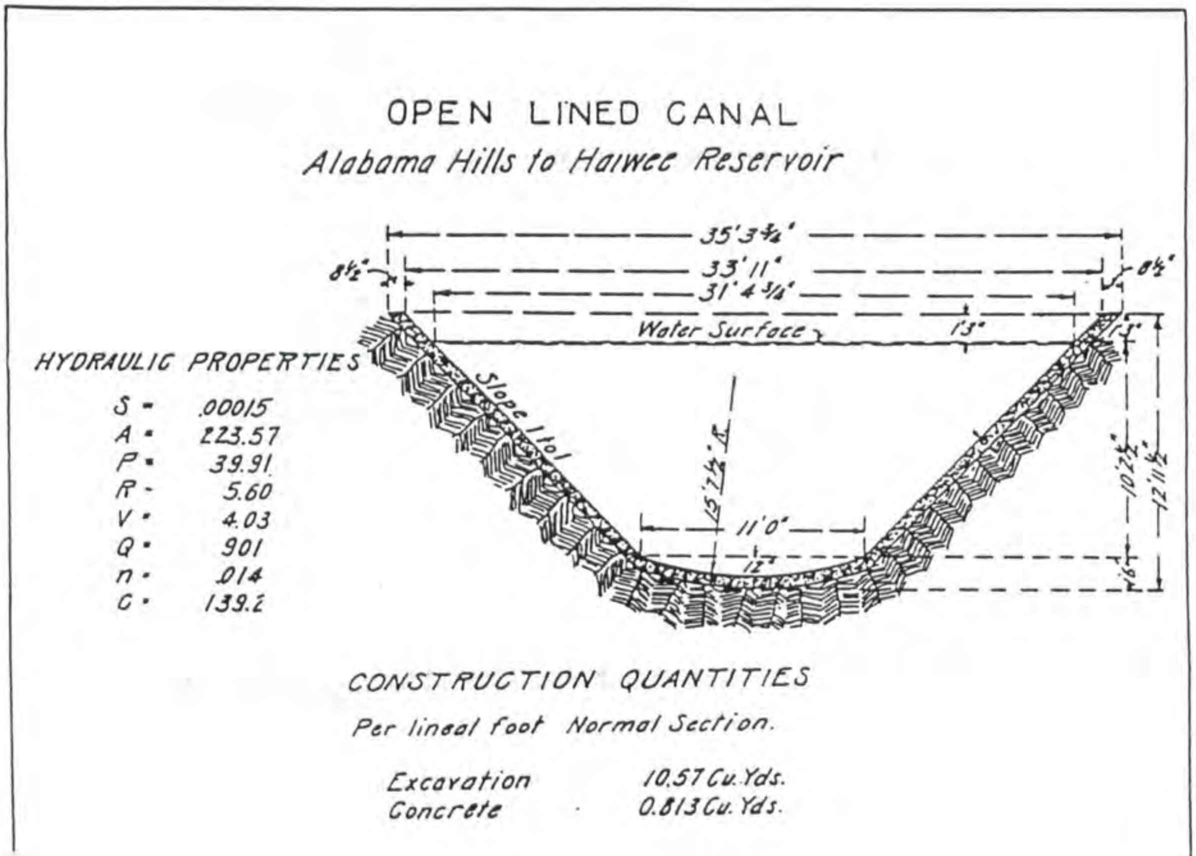
ARCHEOLOGICAL SITE RECORD
Continuation Sheet

Permanent Trinomial: ______ / ______ mo. yr.

Temporary Number: AG 3: Los Angeles Aqueduct

Agency Designation: ______

Item No.	Continuation
35.	Section drawing of open lined canal from 1916 construction report by the City of Los Angeles. (Feat. 3)



P-15-003549

ARCHEOLOGICAL SITE RECORD
Continuation Sheet

Permanent Trinomial: ______ / ______ mo. yr.

Temporary Number: AG-3: Los Angeles Aqueduct

Agency Designation: ______

Item No.	Continuation
35.	Concrete-lined, open conduit at the Alabama Hills, 1992. The sides were raised 2 feet in the 1970s. (Roll4:13) Feature 3.

State of California – The Resources Agency		**Primary #:**	[Insert Primary #]
DEPARTMENT OF PARKS AND RECREATION		**HRI #:**	[Insert HRI #]
PRIMARY RECORD		**Trinomial:**	[Insert Trinomial]
		NRHP Status Code:	6Z
	Other Listings:	[Insert Other Listings]	
	Review Code: [Code]	**Reviewer:** [Name]	**Date:** [Insert Date]

 ***Resource Name or #:** Hamilton Property

P1. Other Identifier: Willow Springs

***P2. Location:** ☐ **Not for Publication** ☐ **Unrestricted** ***a. County:** Kern

***b. USGS 7.5' Quad:** Willow Springs, CA **Date:** 2021 **T:** 9N **R:** 13W **Sec** 7; 18 **B.M.** San Bernardino

c. Address: N/A **City:** Rosamond **Zip:** 93560

d. UTM:

e. Other Locational Data (e.g., parcel #, directions to resource, elevation, etc., as appropriate)**:**

APNs 315-012-01-00-5 (portion west of Tehachapi-Willow Springs Road), 252-341-06-00-1, 252-341-05-00-8

***P3a. Description** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)**:**

The subject resource is the Hamilton Property at Willow Springs located northwest of the intersection of Tehachapi-Willow Springs Road and Truman Road. Willow Springs is private property and could not be accessed. Architectural historians surveyed Willow Springs from the public right-of-way along Manly Road and Tehachapi-Willow Springs Road. The following is an evaluation of the early twentieth-Century Hamilton Property at Willow Springs only; though present on the site, the Willow Springs California Historical Landmark (CHL) No. 130 will be evaluated separately. Located on the eastern portion of the Antelope Valley in Kern County, Willow Springs is a small remote town that served as a historic watering hole, nineteenth-century stage stop, and twentieth-century health resort and settlement. Willow Springs occupies an approximately 112-acre site bordered at the north by an unnamed path just south of Brightstar Avenue, at the east by Tehachapi Willow Springs Road, at the south by Truman Road, and at the west by open space (See Continuation sheet).

***P3b. Resource Attributes** (List attributes and codes)**:** HP 2. Single family property; HP5. Hotel; HP13. Community center; HP33. Farm/ranch

***P4. Resources Present:** ☒ Building ☒ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo (View, date, accession #)**:**
Overview of Building H1 (the town hall), facing northeast, March 24, 2023

***P6. Date Constructed/Age and Sources:**
Circa 1900-1914 (see References)
☒ Historic ☐ Prehistoric ☐ Both

***P7. Owner and Address:**
Multiple (see continuation sheet).

***P8. Recorded By** (Name, affiliation, and address)**:**
Millie Mujica and Margaret Roderick, ICF
555 W. 5th Street, Suite 3100, Los Angeles, CA 90013

***P9. Date Recorded:** 03/24/2023

***P10. Survey Type:**

***P11. Report Citation** (Cite survey report and other sources, or enter "none."):

***Attachments:** ☐ NONE ☐ Location Map ☒ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List):

B1. Historic Name: Hamilton Property, Willow Springs
B2. Common Name: Willow Springs
B3. Original Use: Hotel, Resort, Market, Agriculture **B4. Present Use:** Agriculture
***B5. Architectural Style:** Vernacular
***B6. Construction History:** See continuation sheet
***B7. Moved?** ☐ Yes ☒ No ☐ Unknown **Date:** **Original Location:**
***B8: Related Features:**
B9a. Architect: Unknown **B9b. Builder:** Unknown
***B10. Significance:** **Theme:** N/A **Area:** N/A
Period of Significance: N/A **Property Type:** **Applicable Criteria:**
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity):

The Hamilton Property at Willow Springs is not eligible for listing in the California Register of Historical Resources (CRHR), and it does not constitute a built environment resource that qualifies as a historical resource under the California Environmental Quality Act (CEQA).

B11. Additional Resource Attributes (*List attributes and codes*):
***B12. References:**
(See continuation sheet)

(Sketch Map with north arrow required.)

(See pages 3 and 4)

B13. Remarks:

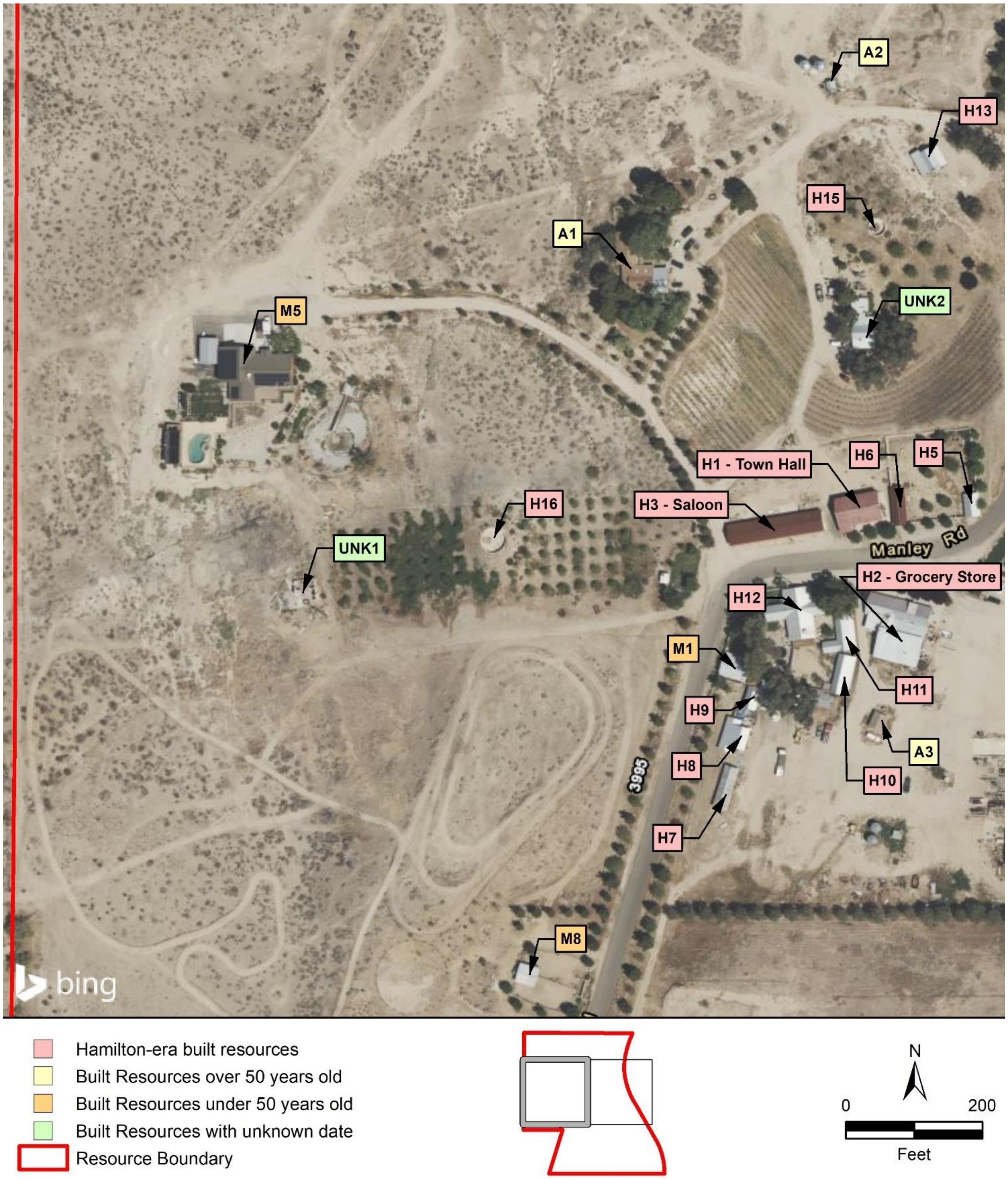
***B14. Evaluator:** Millie Mujica and Tim Yates, ICF
(This space is reserved for official comments)

***Date of Evaluation:** 04/13/2023

State of California – The Resources Agency		**Primary #:**	[Insert Primary #]
DEPARTMENT OF PARKS AND RECREATION		**HRI #:**	[Insert HRI #]
SKETCH MAP		**Trinomial:**	[Insert Trinomial]

Page 3 of 22 22 ***Resource Name or #** (Assigned by recorder): Hamilton Property

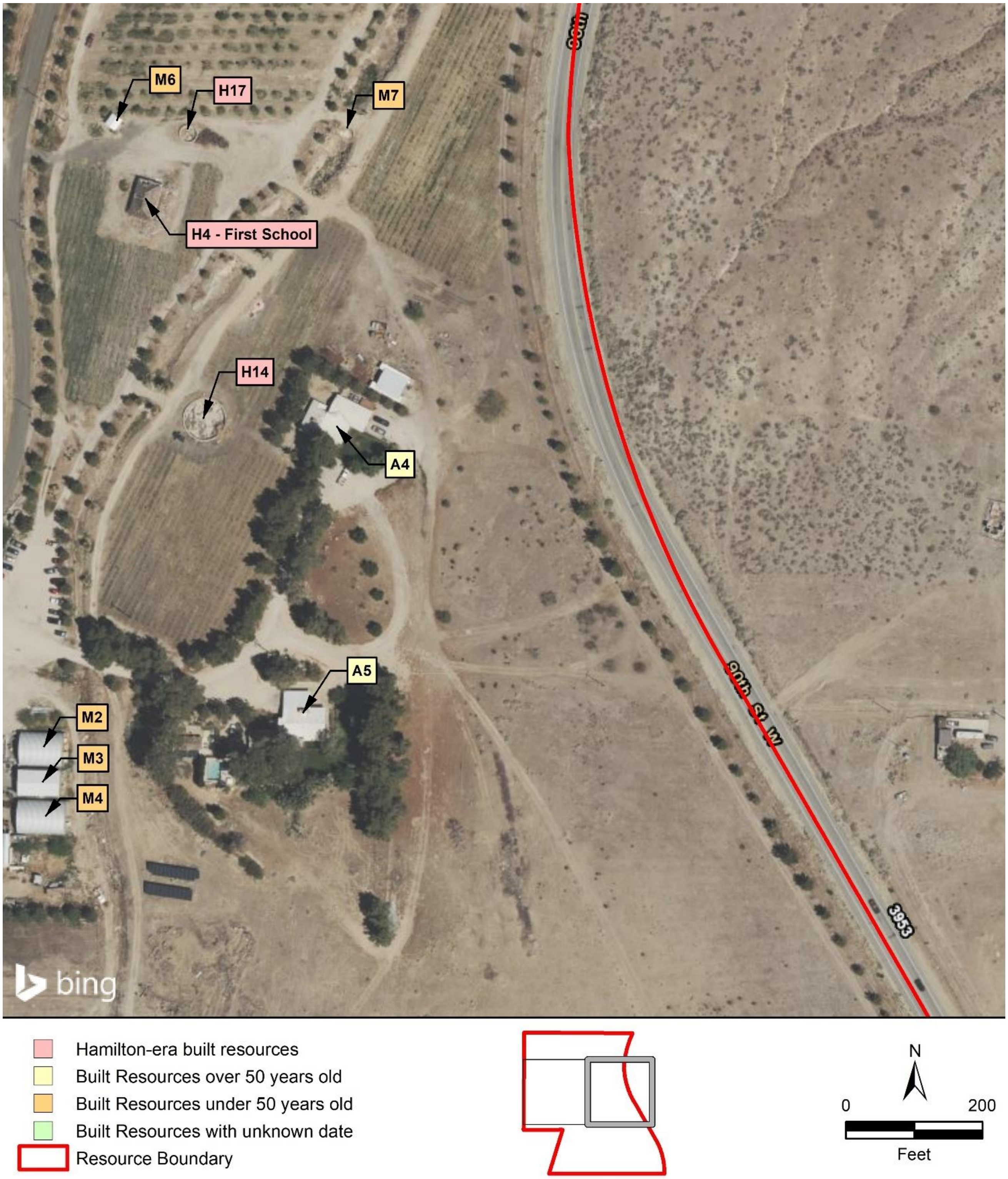
***Drawn by:** Lauren Downs ***Date of Map** 04/13/2023



State of California – The Resources Agency	Primary #:	[Insert Primary #]
DEPARTMENT OF PARKS AND RECREATION	HRI #:	[Insert HRI #]
SKETCH MAP	Trinomial:	[Insert Trinomial]

Page 4 of 22 22 ***Resource Name or #** (Assigned by recorder): Hamilton Property

***Drawn by:** Lauren Downs ***Date of Map** 04/13/2023



*P3a. Description (continued):

The town is accessed by Manly Road, which runs north-northeast through the length of the town (Photograph 2). Sketch maps of Willow Springs can be referenced on pages 3 and 4. The town contains 32 built resources, composed of 25 buildings and seven structures. Of the 25 buildings, four have been identified by their original use: Building H1 (town hall), Building H2 (grocery store), Building H3 (saloon), and Building H4 (first school). The buildings are all single-story, unless otherwise indicated.

Originally utilized as the town hall, Building H1 is located between Buildings H3 (the saloon) and H6 and features a rectangular plan, stone and mortar construction, and a non-original side-gabled roof clad in corrugated metal sheets, which, as historic photographs suggest, replaced the original hipped shingle roof (Photograph 3)(Museum of Art and History n.d.a: Historic Photograph). The primary (south) elevation features a projecting entry bay at the west end capped by a non-original corrugated metal shed roof; which was originally shown as a front gable in historic photography (Museum of Art and History n.d.a: Historic Photograph). The entrance is composed of non-original wood swinging saloon doors in a wood frame, accessed by non-original concrete block stairs and a concrete slab landing that extends the width of the primary elevation. Round metal railings frame the stairs, which replaced the original concrete steps formerly flanked by stone and mortar knee-high walls, as indicated in historic photographs of the building (Museum of Art and History n.d.a: Historic Photograph). The remaining, non-projecting part of the primary elevation features two non-original metal security doors with metal grille transoms, which replaced the original wood hung windows, one non-original short and wide metal grille with a projecting sill, and one non-original window-sized metal grille, all which have been covered from the inside by plywood boards. Two more window-sized metal grilles with interior plywood covers pierce the stone and mortar wall of the west elevation, while two wood-framed casement windows sit centered on the non-original wood-plank clad gable above. The east elevation features a window of unknown type at the north end, and a concrete-filled in opening on the south end. Non-original wood stairs accessed from the south lead up to a non-original second story entry, composed of a flush wood door. The entry pierces through the original stone and mortar wall, as well as the non-original wood plank gable, which mimics the west elevation gable with two wood-frame casement windows. The north (rear) elevation was not accessible during the survey.

Originally serving as the grocery store, Building H2 is located across from Buildings H1 (town hall) and H6, and it features a rectangular plan, stone and mortar construction, and a non-original side gabled roof with corrugated metal cladding (Photograph 4). As shown on historic photographs of Willow Springs, the primary (north) elevation of Building H2 originally contained several entries and windows (Museum of Art and History 1903, n.d.b, 1913: Historic Photograph). However, it now currently only features two entrances, as most of the openings on the elevation have been sealed and patched with concrete. Near the west corner is a single wood paneled door in a wood frame, while just east of the center is a single flush wood door. Above, the roof features a non-original dormer window with wood shake cladding, a pair of wood-frame casement windows, and a corrugated metal shed roof. On the west elevation, wood plank panels sealing two wood-frame windows frame a stone and mortar chimney, while a small square opening, also sealed on wood, sits by the peak of the gable. The east and rear (south) elevations were not accessible during survey. Building H2 features two additions, a small rectangular one at the southwest rear corner and a large one on the rear (south) façade. Although for the large part, neither addition was accessible during survey, the west elevation indicates the additions are stucco-clad, with brick and stone veneer details, shed roofs, and possibly sliding and/or fixed windows.

Indicated by historic photographs to originally function as the saloon, Building H3 is located immediately west of the town hall, Building H1, and it features a long rectangular plan and a non-original side gable roof with wide eaves, wood plank fascia, and corrugated metal sheet cladding (Photograph 5)(Museum of Art and History n.d.b: Historic Photograph). The original building material is not visible, as the building has been patched and reclad in masonry block. Fenestration consists of original wood hung windows. Comprising the original building footprint, the eastern half of the building is accessed by a concrete block slab and steps, while the western half consists of a large addition that can be accessed from ground level. On the eastern half, the primary (south) elevation contains a wood paneled door with a frosted glass panel on the top third, a single wood hung window, a wood paneled door with a fixed window on the top half, and a pair of wood hung windows. On the western half, the primary elevation features five sets of double plywood doors attached with metal hinges. The west elevation is blind, except for two small metal vents near the peak of the gable. The east elevation also features metal vents on the gable, as well as four wood-framed windows grouped together, each individually sealed with wood panels. The rear (north) elevation was not accessible during survey.

Buildings H5 and H6 are located across from Building H2 (grocery store) and sit on opposite ends of the south side of a square-shaped enclosure comprised of a stone and mortar retaining wall, with two wood-plank access gates situated between the two buildings (Photograph 6). Building H6 features a rectangular plan, stone and mortar construction, and a non-original gable roof clad with corrugated metal sheets, with wide eaves and wood plank fascia. The primary (south) elevation contains a single stripped wood paneled door, situated just east of the center, with an aluminum sheet covering the top third panel. Above the door, the gable end features non-original wood shake cladding and a single wood-frame fixed window centered below the ridge. A square-shaped wood-framed vent pierces each end of the west elevation, each with a metal grate cover. A single wood-frame door sits on the north end of the east elevation; however, the door material is not discernible from the right-of-way. The north (rear) elevation was not accessible during survey. While not as long as Building H6, Building H7 also features a rectangular plan, stone and mortar construction, and a non-original gable roof with corrugated metal sheets and wide eaves. A pair of double wood-plank doors pierce the primary (south) elevation at center, while non-original wood shakes clad the gable end above the door. The west elevation features a wood plank door opposite a square, wood-framed opening appearing to be missing a window or cover. The north (rear) elevation was not accessible during survey.

Situated near the southern end of the town, Building H7 is one of the first buildings when entering Willow Springs from the south side. The building features a rectangular plan and a non-original gable roof clad in corrugated metal sheets (Photograph 7). The original building material is not visible, as the building has been patched and reclad in masonry block. Each half of the primary (west) elevation features a single wood-frame window covered by wood planks, followed by a single weather-stripped wood paneled door. Centered on both the north and south elevations is a brick chimney that pierces through the ridge of the gable roof. Right beneath the gable are two small square vents, one on each side of the chimney.

Immediately north of Building H7 is Building H8, featuring a T-shaped plan composed of the original one-story rectangular section and the non-original two-story rectangular rear addition (Photograph 8). Building H8 also features a non-original gable roof clad in corrugated metal sheets, and, like Building H7, it has been patched and reclad in masonry block. The original section of the building consists of three un-framed window openings covered in plywood with projecting sills on the primary (west) elevation, a single flush wood door in a wood frame on the north elevation, and an unframed window opening covered in plywood with a projecting sill on the south elevation. The rear elevation was not visible or accessible during survey. Although mostly hidden from the right-of-way, the rear addition appears to be clad in rough stone and mortar cladding and features a plywood-sealed window on the south elevation, and a brick chimney on the north elevation.

Building H9 is situated directly north of Buildings H8 and H7, and it features a rectangular plan, stone and mortar construction, and a non-original gable roof clad in corrugated metal sheets, with wide eaves and wood plank fascia (Photograph 9). Fenestration consists of wood frame, double hung windows. One of these windows sits at each end of the primary (west) elevation, framing a single, wood-frame flush wood door situated just north of the center. Another double-hung window sits centered on the south elevation. Above it is a small window just below the peak of the gable, although the type is not discernible from the right-of-way. Centered on the north elevation is a brick chimney, flanked to the east by another indiscernible small window near the peak of the gable.

Building H11 is stepped back further from the road and situated between Buildings H2 (the grocery store) and H12. The building features an L-shaped plan, stone and mortar construction, and a non-original gable roof clad in corrugated metal sheets (Photograph 10). A full width covered front porch dominates the primary (east) elevation. Supported by square wood posts, the shed porch roof is clad in corrugated metal sheets. Within the porch, two entrances frame a brick chimney. One of the entrances was not clearly visible from the right-of-way; the second entrance consists of a wood paneled door with a glass panel insert. Centered on the north elevation is a single wood-frame fixed window, and above it, near the gable, is a small square opening covered with plywood. The west and south (rear) elevations were not accessible during survey. Building H10 is located even further from the road, directly behind Building H11. Featuring a rectangular plan, stone and mortar construction, and a non-original gable roof clad in corrugated metal sheets, Building H10 highly resembles Building H11. The building also features a full width covered entry porch; however, the primary (east) elevation, as well as the remaining elevations, were not accessible during survey, or visible from the right-of-way.

Situated across from Building H3 and accessed by a wood picket fence and gate, Building H12 features a T-shaped plan, stone and mortar construction, and a non-original gable roof clad in corrugated metal sheets, with broad eaves and wood plank fascia (Photograph 11). Unlike other buildings at Willow Springs with rear or side additions, historic photographs suggest Building H12 originally consisted of two neighboring free-standing side gabled rectangular buildings, which circa 2012 were joined together by a central perpendicular rectangular addition that extends south, forming the conjoined T-shaped plan (Museum of Art and History 1903, n.d.c: Historic Photograph). As this is a modern addition, the street-facing, stone and mortar appearance of the central, non-original volume is veneer, unlike the original flanking volumes; the rear section of the addition is clad in stucco. The top side of the T-plan therefore faces the street. The primary (north) elevation is arranged in three bays. The central bay, which comprises the north side of the addition, projects approximately 4 feet from the flaking bays. It features a gable roof with board and batten wood siding on the gable end, as well as two small metal vents near the peak. On this bay, two wood-frame vinyl sliding windows frame a centered receded entrance consisting of a wood-paneled door with divided lites at the top, embedded within a wood-paneled surround, also with narrow side lites. Non-original security bars were added to the sliding windows, and a full-height metal security gate now precedes the door of the main entrance. The west- and east-facing facets of the projecting central bay each feature a single wood-frame vinyl hung window. The roof above this bay projects several feet, creating a covered porch with visible rafters, a wood cross beam, and square wood post supports with wooden brackets. The flanking side bays each feature two vinyl hung windows. The west elevation features a single wood-frame vinyl hung window, as well as a metal square vent near the peak of the gable end. Centered on the east elevation is a stone and mortar chimney that pierces the ridge of the gable roof. Just north of the chimney is a small square vent near the peak of the gable. The bottom, vertical portion of the T-shaped plan is mostly hidden from the public right-of-way, but a vinyl hung window and a vinyl sliding window framing a wood-frame glass door are visible on the east elevation. No other elevations were visible or accessible during survey.

Perched on a hill northeast of this building cluster is Building H4, which appears to have served as the first school of Willow Springs. One of two of the most deteriorated buildings in the town, Building H4 appears to be missing part of its primary (south) and rear (north) elevations, as well as a large part of its roof cladding and structure (Photograph 12). Building H4 features a rectangular plan, stone and mortar construction, and a hipped wood frame roof clad in wood shake shingles. The primary (south) elevation is missing part of its wall. The east end of the elevation appears to feature a single wood-frame window opening, although this is not very clear from the right-of-way. Three wood-frame window openings are spaced throughout the west elevation; the actual windows are missing. The rear (north) elevation is missing its central portion. A stone and mortar wall, approximately half the height of the building, encloses the area immediately behind Building H4, like an enclosed patio. The east elevation was not visible or accessible during survey.

Building H13 is situated across from Building H4 (the first school), on the other side (west) of Manly Road. Rectangular in plan, Building H13 features stone and mortar construction, and a non-original gable roof clad in corrugated metal sheets, with shallow eaves (Photograph 13). A full-width front porch with a shed roof supported by square wood posts dominates the primary (northeast) elevation. Within the porch, the elevation features a non-original wood-frame glass door on the east end, as well as two non-original vinyl hung windows. Centered on the southeast elevation is a stone and mortar chimney that pierces the ridge of the gable and extends past the roofline. The northwest elevation was not visible or accessible during survey. Although mostly hidden from the right-of-way, the rear (southwest) elevation features a masonry-block rear addition with a corrugated metal shed roof.

Structures H14, H15, H16, and H17 all consist of circular-in-plan above-ground concrete basins (Photograph 14). The basins measure approximately 3 feet in height and all are of varying circumferences, with H14 being the widest and largest of all.

Structure UNK1 consists of the mostly demolished remains of a masonry building, situated west of Structure H16, approximately 450 feet from Manly Road (Photograph 15). The period of construction for Structure UNK1 could not be identified; however, the seemingly rectangular plan and visible chimney remnants, as well as the masonry material, indicate the structure is likely more than 50 years of age, and possibly from the Hamilton era.

Buildings A1–A5 are all over 50 years of age, but they do not date to the early twentieth century Hamilton period like the buildings and structures above. Building A1 is situated at the northwest end of Willow Springs, uphill from Building H3 (the saloon) and behind (west) of Buildings H13 and UNK2. Due to its elevation, surrounding vegetation, and being set back more than 400 feet from Manly Road, the property was not visible or accessible from the right-of-way.

Building A2 is situated near the northern end of the townsite, just northwest of Building H13 (Photograph 13). Stepped back approximately 200 feet from Manly Road, Building A2 is not clearly visible from the right-of-way. Rectangular in plan, the small building appears to feature wood plank cladding and a corrugated metal roof. Doors appear to be flush wood plank doors; however, doors and fenestration are not clearly discernible from the right-of-way. A pair of metal clad silos with conical metal roofs stand adjacent (north) of the building.

Building A3 is located behind (south) of Building H2 (the grocery store) and is therefore not very visible from the right-of-way. The building features a rectangular plan, masonry construction in a rough finish, and a gable roof clad in wood shingles, with wide eaves and exposed rafter tails. The north and west elevations were blind, except for a small vent near the peak of the gable on the north elevation. The other two elevations were not visible or accessible from the right-of-way.

Situated more than 300 feet away from Manly Road, behind a row of trees, Building A4 is barely visible from the right-of-way and appears to function as a residential property. Originally a small, rectangular-in-plan building, Building A4 now features at least three large additions—on the primary (west), side (north) and rear (east) elevations—which have resulted in a large irregular floor plan. Most of the building is one-story tall, although the rear addition appears to be two stories. The building features corrugated metal gable roofs and appears to be of masonry block construction. Fenestration consists of combination windows, with fixed and hopper sashes. The building appears to feature several openings on the primary (west) elevation, including at least one door and several windows; however, further details are not clearly visible. A single window is visible on the south elevation. Just northeast of the building, separated by another row of trees, is a detached carport composed of two parallel corrugated metal walls supporting a wood frame gable roof, clad in corrugated metal sheets.

South of Building A4 is Building A5, also a residential property. Building A5 is barely visible from the right-of-way, as it is situated approximately 400 feet from Manly Road and abundant vegetation keeps it largely hidden from view. The overall building footprint is not discernible from aerial view, as tall trees shield the west and rear (south) sides of the building; however, the residence appears to contain several volumes, mostly consisting of additions, as the original building likely consisted of a single rectangular volume with a side gable roof. One of the northern volumes features a corrugated metal roof, while one of the rear volumes features a wood shingle roof. The north elevation features an attached carport, as well as a brick chimney that pierces through a side gable roof, extending past the roofline. The west elevation of the northernmost volume features clerestory windows on the gable. One of the gable ends visible from Manly Road is seemingly clad in wood plank siding and features a small window near the peak of the gable. At least one visible window appears to be a vinyl hung window.

Structure UNK2 consists of a residential property situated just south of Structure H15. The period of construction for Structure UNK2 could not be identified; however, the wood plank or T-111 siding, sliding aluminum windows, and L-shaped wood porch indicate the structure is likely less than 50 years of age, and possibly from the late 1990s.

Buildings and structures M1 through M8 are all under 50 years of age.

Building M1 is a rectangular-in-plan prefabricated building constructed circa 2014. The building features T-111 siding, a gable roof with shallow eaves and corrugated metal sheet cladding, and a one-car garage on the west elevation that consists of a wood-frame and a sectional garage door.

Situated just southeast of Buildings H2 and A3, Buildings M2, M3, and M4 are three agricultural buildings constructed circa 2012 (Photograph 7). Buildings M2 and M4 consist of corrugated metal buildings featuring rectangular plans and arched corrugated roof structures. Located between Buildings M2 and M4, Building M3 features a rectangular plan, a gable roof, and corrugated metal siding. All three buildings feature one-car roll-up metal garage doors centered on their primary (west) elevations. Two silos built of corrugated metal, with conical metal roofs, sit just southwest of the buildings. Further details were not visible as the buildings were not accessible during survey.

Building M5 is a large residential property constructed circa 2012 and situated at the western end of the site. More than 500 feet away from Manly Road, the subject property is not very visible from the right-of-way (Photograph 15). Featuring an L-shaped plan, the residence is two stories tall and capped by a cross-gable roof with composition shingles. Fenestration consists of sliding windows and fixed clerestory windows. Just south of the building is a rectangular-in-plan, seemingly open garage, with a shed roof. The structure is largely open on the east elevation, and windows appear visible on the southern elevation.

Just across from Building H4 (the first school) and west of Structure H17 is Building M6. Small and rectangular in plan, Building M6 features wood plank siding and a corrugated metal gable roof supported by four poles, with one at each corner of the building. On the southwest, presumably primary, elevation, a single wood plank door sits at the eastern corner, while a hopper window sits just west of the center. The northwest elevation features a large A/C unit. The other elevations were not visible or accessible during survey.

Structure M7 consists of a twenty-first century, circular-in-plan above-ground concrete basin.

Structure M8 consists of an open-sided barn and corral constructed circa 2014, at the approximate location of the stage stop station that functioned in the late nineteenth century (Photograph 16). The barn features wood plank construction and a gable roof with wood plank siding at the gable end. Rounded wood posts support the roof structure. Just east of the barn is a concrete and stone trough, standing beside the CHL plaque. The corral is enclosed by a metal fence.

*P7. Owner and Address (continued):
Willow Springs Company, 4040 Manly Road, Rosamond, CA 93560
Kathy J. Nelson, 4050 Manly Road. Rosamond, CA 93560

*B6. Construction History (continued):

Historic aerial photographs dating to 1935 indicate that approximately 25 buildings and structures existed in Willow Springs at this time, 18 of which are still extant (Fairchild Aerial Surveys 1935). The 1948 aerial showed a few new buildings as well as more vegetation, particularly several new rows of trees that often separated individual buildings; however, the town stayed largely the same (NETR 2023). The trees were gone by 1974, and Willow Springs appeared desolate save about 20 buildings and structures, most of which were present in 1935 (NETR 2023). The town remained largely unchanged for the next few decades. The twenty-first century, in particular the 2010s, has thus far been a period of construction at Willow Springs. Not only were most historic buildings repaired and updated during this time—including additions and alterations such as replacing roofs, windows, and doors—but approximately seven new buildings were built during this time, mainly for residential or agricultural use (NETR 2023). The buildings and structures at Willow Springs are not associated with a particular architect or builder; however, research indicates that Ezra Hamilton was at least financially responsible for the buildings constructed during his time (circa 1900–1914).

*B10. Significance (continued):

HISTORIC CONTEXT

Nineteenth-Century Willow Springs

As one of only three natural oases in the Antelope Valley, Willow Springs is one of the most historic and geographically significant watering holes in the Mojave Desert. Situated on the trail connecting the southern portion of the San Joaquin Valley and the desert area through the Tehachapi Pass, Willow Springs is the only source of water between Desert Spring to the north and the San Gabriel Mountains to the south. It has served as a source of water for Native Americans, explorers and emigrants, stagecoaches and freight teams, and bandits traveling through the Antelope Valley (Museum of Art and History 2021; *The Tehachapi News* 1951:3).

Prior to the arrival of Europeans, Willow Springs served as an important stop for Native Americans undertaking migration or trading trips through the valley. Although deserters from the Spanish Cavalry probably traveled Native American trails that led there, Willow Springs first appeared in the historical record in 1776, when Padre Francesco Garces stopped there for water upon returning to Southern California from the San Joaquin Valley (Museum of Art and History 2021). During the mission era, runaway Native Americans drove their horses along the main trail and stopped for water first at Willow Springs before heading north to Desert Spring Indian Wells and into the desert (*The Tehachapi News* 1951:3). Due to this activity, the old trail became known as the Indian Horsethief Trail (later known as the Walker Trail), as the springs also provided water for escaping horse thieves (Museum of Art and History 2021; *The Tehachapi News* 1951:3).

Several other exploring parties visited Willow Springs during the mid-nineteenth century. In 1844, John C. Fremont recorded his stop at the springs and described resting under the spring's willow trees (Museum of Art and History 2021). In 1849, several small bands of lost 49ers such as the Manly-Jayhawk Party and the Bennet-Arcan Party stopped at Willow Springs to relieve their thirst after a difficult journey through Death Valley (*The Tehachapi News* 1951:3; Museum of Art and History 2021).

Willow Springs became private property in 1862, when President Abraham Lincoln transferred the springs and surrounding lands from the public domain to General Edward Beale. That same year, Nelson Ward and his wife Adelia settled next to the springs. The Wards established a station and constructed an adobe boarding house for horse and mule teams. The increasingly busy station's boarding house became known as "Hotel de Rush," and some guests reportedly had to sleep at the bar (Museum of Art and History 2021). Between 1864 and 1872, Willow Springs functioned as a stage and freight station on the Los Angeles-Havilah stage lines. It also continued to serve as a general watering and resting place for entrepreneurs such as Remi Nadeau, who transported silver from the Cerro Gordo Mines, and freight teams associated with the development of the Death Valley borax deposits (Museum of Art and History 2021; *The Tehachapi News* 1951:3).

After Nelson Ward's death, a couple named Riley took over the Willow Springs station. They operated the station until 1876, when introduction of the Southern Pacific Railroad line through the valley made long-distance stagecoach travel obsolete (Museum of Art and History 2021). In 1937, a plaque commemorating Willow Springs' designation as a CHL was placed on the approximate site of the old stage station. The concrete watering trough at the site of the station is a reminder of the days when horses, mules, and oxen were the sole means of transportation. The concrete trough replaced a wooden trough present at the site during the station's operation (*Bakersfield Californian* 1937:9).

After the stage and freighting traffic ceased, Willow Springs remained quiet for the next few decades. In 1900, an early Mojave Desert pioneer and local miner, Ezra M. Hamilton, bought the springs as well as surrounding acres and moved there with his family. The watering hole became a center of activity once again (Museum of Art and History 2021).

Hamilton ERA

Ezra Hamilton arrived in Willow Springs in 1897, poor in both health and finances (*Bakersfield Morning Echo* 1904:4). After exploring the desert, Hamilton found traces of gold that he believed to be native to the area, and in 1897 he set up his own mine and five-stamp mill on the west slope of Tropico Hill, which is located midway between Willow Springs and Rosamond (*Bakersfield Californian* 1975:9; *The Tehachapi News* 1914:1). The land proved so rich in ore that with just a small group of men Hamilton was able to mine $16,000 worth of gold in one week (*Bakersfield Morning Echo* 1904:4). The ore from the mine was also exceptionally high in grade, with some yields earning as much as $20,000 per ton. Hamilton's mine ended up producing more than a million dollars' worth of gold. (*Bakersfield Californian* 1938:5, 1975:9).

Soon after establishing the mine, Hamilton bought 160 acres in Willow Springs from General Beale's estate for $3,500 and made it his home. Willow Springs had an abundance of water for irrigation, which was key to its development and success (*The Tehachapi News* 1914:1; *Bakersfield Californian* 1975:9). Although Hamilton considered using the water from the spring to run the mill for his gold mine, the natural landscape and tranquility of Willow Springs convinced him to set up a resort instead, which became "'the' social mecca of the Antelope Valley" (*Bakersfield Californian* 1975:9, quoted; Museum of Art and History 2021). In 1904, Hamilton constructed 27 stone buildings, including: houses for himself, his family, and employees; a hotel consisting of a cluster of a dozen cottages; a cement-lined swimming bath; a town hall and a dance hall (possibly the same building); a post office; a trading post; and a restaurant. Makeshift greenhouses were also created to help stock the trading post and restaurant with produce. The resort's hotel cottages could accommodate up to 30 people and included amenities such as fresh ice, flush toilets, and electricity (Museum of Art and History 2021; *Bakersfield Morning Echo* 1904:4). Hamilton also furnished the cottages, which he rented to both travelers and convalescent or sick people for ten dollars a month. Hamilton promoted the dry climate of Willow Springs as healthy and beneficial to people suffering from weak lungs, and promoted the waters of the springs as medicinal. Constructed of stone, the cottages were comfortable, although not fully finished. At the time of Willow Springs' development, the nearest trees stood about 12 miles away from the settlement, so Hamilton had wood hauled in for the houses' grates (*Bakersfield Morning Echo* 1905:2; *Bakersfield Morning Echo* 1904:4). A 1904 newspaper article described the development activity at Willow Springs: "everything about Willow Springs is being fitted up in the best manner, but there is no ostentation of wealth, and poor and rich are the recipients of the same genial hospitality" (*Bakersfield Morning Echo* 1904:4).

Under Hamilton's management, Willow Springs became the place for community gatherings. Traveling road shows would stop to provide entertaining performances in the auditorium, and churches frequently held their services there. Although his resort proved successful, Hamilton was determined to transform Willow Springs into a real town. The construction of the first school was completed in 1904, and a year later Hamilton built a larger school just a short distance away to accommodate more children. As Ezra Hamilton was the first resident of the Antelope Valley to own a car, Willow Springs also boasted the first automobile garage in the area, which Hamilton equipped with a gas pump (Museum of Art and History 2021). In 1904, there were about 50 permanent residents at Willow Springs, and Hamilton planned to build more cottages as more people moved to the area (*Bakersfield Morning Echo* 1904:4).

Hamilton died of heart failure in 1914 at age 81. At the time of his death, he was survived by his wife and three sons, who resided in Willow Springs and Rosamond (*The Tehachapi News* 1914:1). Hamilton's estate—valued at $23,878.10 and consisting mainly of land in southern Kern County—was distributed to his widow Elsie E. Hamilton, Fred M. Hamilton, Truman W. Hamilton, and W. Lester Hamilton. Fred and Truman Hamilton inherited the hotel property, while Elsie Hamilton inherited the family home (*Bakersfield Morning Echo* 1916:2).

After Hamilton's death his once-thriving resort passed on to his children, who sold the place 3 years later. Between 1918 and 1930, Willow Springs had a variety of owners until the Willow Springs Company—who carried on local mining operations—purchased the small town for its headquarters (Museum of Art and History 2021). Into the 1930s, Willow Springs remained what a newspaper described as "a thriving way station" that "offer[ed] gasoline to the traveler" (*Bakersfield Californian* 1937:9). In 1952, the Tehachapi earthquake destroyed some of the buildings at Hamilton's former property. However, Willow Springs endured. In the following years, the town remained at least partly occupied. Although ownership changed hands several times, people continued to reside in the houses and cottages, and the restaurant continued to do business. During the mid-twentieth century, flight crews participating in the Bell-X-1 experimental flights at Edwards Airforce base resided at Willow Springs as tenants. Such tenants included Chalmers "Slick" Goodlin, the first person to fly the X-1, and Dick Frost, team test project manager for the X-1 program. Renowned female pilot Pancho Barnes also spent time at Willow Springs as a visitor. The restaurant closed at an unknown date. As one source states, since the restaurant closed "Willow Springs village has again fallen quiet, spare for the sound of cars racing nearby" at the racetrack located approximately 1.5 miles southeast of the former Hamilton property (Museum of Art and History 2021).

EVALUATION

The Hamilton Property at Willow Springs is not eligible for the CRHR under Criterion 1, as an early twentieth-century desert health resort. The period of significance is circa 1900–1914, when Ezra Hamilton lived in Willow Springs and began constructing the buildings and structures for both the town and health resort. However, during this time period in California, many similar places were arising, both as desert resorts and health-focused resorts, as respiratory illnesses during this time influenced people into staying at such establishments for the mild climate and supposed medicinal qualities of the place. Because the Hamilton Property at Willow Springs is not a unique phenomenon from its time period, it does not meet the threshold for significance for CRHR listing under Criterion 1.

Although historically noteworthy individuals stopped at Willow Springs while traveling prior to the mid-nineteenth century or spent time at the Hamilton Property during the early twentieth century, the Hamilton Property at Willow Springs does not constitute a built environment resource or grouping of resources where a historically significant individual performed the twentieth-century work or other activity for which they are primarily known today. Although passionate about creating a health resort for both local and visiting people, Ezra M. Hamilton is mostly known for his work and success in mining gold in the area. The Hamilton Property at Willow Springs is not representative of Hamilton's mining work, which took place at Tropico Hill, almost 3 miles away from Willow Springs, on the other side of the butte. Flight crews and pilots working at Edwards Airforce Base also visited or resided at Willow Springs as tenants; however, their association is with the base and there is no significant connection between them and Willow Springs. Therefore, the Hamilton Property at Willow Springs is not eligible for the CRHR under Criterion 2.

The Hamilton Property at Willow Springs has significance under CRHR Criterion 3 as an example of a significant type of early twentieth-century vernacular architecture. Most of the buildings constructed during Hamilton's era (circa 1900–1914) are of a particular stone and mortar construction that stands out as a unifying feature of the town. However, the majority of buildings at Willow Springs have been significantly altered and feature noticeable changes visible from the public right-of-way; these include additions on the primary, side, and rear elevations (sometimes larger or just as large as the original building), recladding buildings in masonry block or patching up structural issues with concrete, non-original replacement gable roofs topped with corrugated metal sheets, non-original windows and doors, and concrete-filled former openings. All these alterations have severely affected the integrity of workmanship, design, and materials of the Hamilton Property at Willow Springs, and the surrounding new landscape features have affected the integrity of setting; therefore, the resource does not retain enough integrity to reflect significance. The buildings and structures at Willow Springs are additionally not the work of a master architect, building, designer, or engineer. Consequently, the Hamilton Property at Willow Springs does not retain sufficient historic integrity for CRHR listing under Criterion 3.

Under CRHR Criterion 4, the Hamilton Property at Willow Springs is not a built-environment historical resource that has yielded or is likely to yield important information about our past. As a built-environment resource it does not have the potential to yield important information regarding construction or engineering materials, methods, or technologies used during the early twentieth century. As such, the Hamilton Property at Willow Springs is not eligible for the CRHR under Criterion 4.

INTEGRITY ANALYSIS

The property appears to retain low to moderate integrity. It retains integrity of location and association as an early twentieth-century resort town with vernacular buildings and structures. Although most resources from this time period retain their stone and mortar construction, most buildings feature non-original (or missing) windows, and many feature non-original doors. At least two buildings have had original openings sealed in concrete, and all but one building (Building H4, the first school) is missing its original roof. Most of the buildings have been replaced with non-original wood-frame gable roofs clad in corrugated metal sheeting, and the single remaining original roof is heavily deteriorated, missing parts of its wood framing and large sections of its wood shingles. Many buildings also feature prominent additions to the primary, side, or rear elevations, severely altering the buildings’ footprints, and at least three buildings were reclad in masonry block or patched with concrete. All these changes, repairs, additions, and upgrades to the historic early twentieth-century buildings in Willow Springs have severely diminished the integrity of design, materials, and workmanship of the resource. Additionally, even though most buildings and structures from the town’s period of significance remain extant, the surrounding features, such as roads, fencing, and built landscape features—particularly those relating to how buildings are accessed, such as steps, landings, concrete block slabs, and retaining walls—are modern additions that have significantly affected the integrity of setting. Still, the property retains integrity of feeling.

P5b. Photographs (continued):

Photograph 2. South entrance to Willow Springs (Manly Road) and overview towards butte, looking northeast

Photograph 3. Primary (south) and east elevations of Building H1 (the town hall), looking northwest

Photograph 4. Primary (north) elevation of Building H2 (the grocery store), looking south

Photograph 5. Primary (south) elevation of Building H3 (the saloon), looking northeast

Photograph 6. Overview of Buildings H5 and H6 with stone and mortar enclosure, looking northeast

Photograph 7. Primary (west) and south elevations of Building H7, with Buildings M2, M3, and M4 in the background, looking northeast

Photograph 8. Primary (west) and north elevations of Building H8, looking southeast

Photograph 9. Primary (west) and south elevations of Building H9, looking northeast

Photograph 10. Primary (east) and north elevations of Building H11, looking south

Photograph 11. Overview of Building H12, looking southwest

Photograph 12. Overview of Building H4 (the first school) with butte in background, looking east

Photograph 13. Overview of Building H13 with Building A2 in the background, looking northwest

Photograph 14. Large stone and mortar basin with Building A4 in the background, looking northeast

Photograph 15. Overview of Building M5 with Structure UNK1 in the foreground, looking northeast

Photograph 16. Overview of Building M8 with concrete and stone trough and 1937 CHL plaque, looking northeast

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Bakersfield Californian. 1932.
———. 1937. Historic Stage Route Through County Marked. June 7:9.
———. 1938. Murphy Leases Hamilton Claim. January 25:5.
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Bakersfield Morning Echo. 1904. Gala Day at Willow Springs. July 7:4.
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Museum of Art and History. 2021. "The History of Willow Springs." Accessed March 31, 2023. Available: https://www.lancastermoah.org/single-post/the-history-of-willow-springs.
———. 1903. Photograph of Willow Springs from Tehachapi Willow Springs Road showing Building H2 and basins.
———. 1913. Photograph of Ezra Hamilton outside the grocery store (Building H2).
———. n.d.a. Photograph of Ezra Hamilton outside the town hall (Building H1).
———. n.d.b. Photograph of Willow Springs, showing the grocery store (Building H2) and saloon (Building H3).
———. n.d.c. Photograph of Building H12 before it was conjoined into one building.

Nationwide Environmental Title Research, LLC (NETR). 1948, 1974, 2012, 2014. *Willow Springs, California, 91708, Aerial Photograph.* Accessed March 29, 2023. https://www.historicaerials.com/viewer.

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———. 1951. "Dedication at Willow Springs." April 5:3.

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LINEAR FEATURE RECORD

Primary # P-54-005027
HRI #
Trinomial

Resource Name or #: (Assigned by recorder) Resource ID 26, SCE Vincent (Big Creek No. 3) 220 kV Transmission Line; Antelope-Magunden No. 2 220 kV Transmission Line

L1. Historic and/or Common Name: SCE Vincent (Big Creek No. 3) 220 kV Transmission Line; Antelope-Magunden No. 2 220 kV Transmission Line

L2a. Portion Described: ☐ Entire Resource ☒ Segment ☐ Point Observation **Designation:**

b. Location of point or segment: (Provide UTM coordinates, legal description, and any other useful locational data. Show the area that has been field inspected on a Location Map)

Southern terminus: 11S 368932.69 mE, 11S 3857144.20 mN
Northern terminus: 11S 367376.28 mE, 11S 3859431.20 mN

L3. Description: (Describe construction details, materials, and artifacts found at this segment/point. Provide plans/sections as appropriate.)

The SCE Vincent (Big Creek No. 3) 220 kV Transmission Line, known today as the Antelope-Magunden No. 2 220 kV Transmission Line runs through a portion of the study area. Constructed between 1925 to 1927, it is a contributor to the Big Creek Hydroelectric System Historic District (BCHSHD). The portion within the study area spans 1.75 miles and has a northwest–southeast orientation, with its southeastern point at Holiday Avenue. Character-defining features at this segment include steel-lattice towers and the alignment within the study area.

L4. Dimensions: (In feet for historic features and meters for prehistoric features)
a. Top Width:
b. Bottom Width:
c. Height or Depth:
d. Length of Segment: 9,075'

L4e. Sketch of Cross-Section (include scale) **Facing:**

L5. Associated Resources:

L6. Setting: (Describe natural features, landscape characteristics, slope, etc., as appropriate.)

L7. Integrity Considerations:
(See continuation sheet.)

L8a. Photograph, Map or Drawing

L8b. Description of Photo, Map, or Drawing (View, scale, etc.)
View of typical transmission tower in photo center, facing south, photo taken south of Hamilton Road, Rosamond, Kern County, California

L9. Remarks:
(See continuation sheet.)

L10. Form Prepared by: (Name, affiliation, and address)
Katrina Castaneda, ICF
555 W 5th St Ste 3100,
Los Angeles, CA 90013

L11. Date: January 6, 2021

DPR 523E (1/95)

L7. Integrity Considerations (continued):

Qualified architectural historians noted during field survey on December 28th, 2021 that the segment within the study area confirmed the physical conditions previously noted in the resource's 2016 recordation. The resource remains eligible for listing to the CRHR.

L9. Remarks (continued):

Previous Evaluations:
The BCHSHD was first determined eligible for listing in the NRHP in 1993. In 2016, SCE nominated the resource for the NRHP, and it was listed in the NRHP under Criteria A, B, and C for association with the electrification and industrialization of southern California and the Los Angeles region and innovative electrical engineering technology. As a contributor to a property listed in the NRHP, the Vincent 220-kV Transmission Line is automatically listed in the CRHR. It therefore has a 1D status code.

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

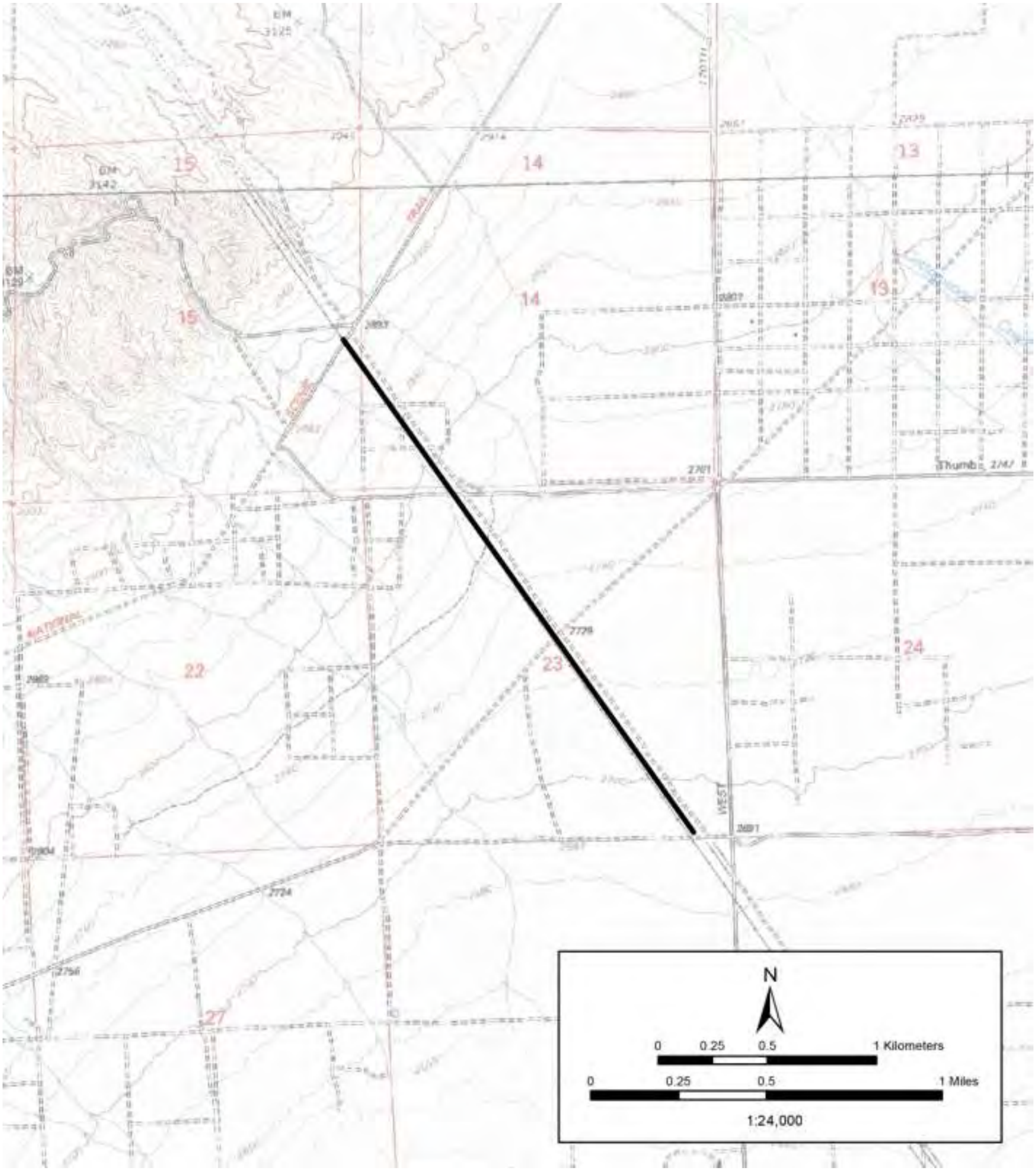
Primary #
HR #

Location Map

Trinomial

 ***Resource Name or #:** (Assigned by recorder) Resource ID 26, SCE Vincent (Big Creek No. 3) 220 kV Transmission Line; Antelope-Magunden No. 2 220 kV Transmission Line

***Map Name:** USGS 7.5' Fairmont Butte ***Scale:** 1:24,000 ***Date of Map:** 12/28/2021



 *** Required Information**

Primary #: P-10-006255

Tulare County: Primary #: P-54- 005027

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Kern County: Primary#: P-15-017243
HRI #:
Trinomial:
NRHP Status Code: 2D2
Other Listings:

Review Code ______ Reviewer __________ Date ______________

 ***Resource Name or #** SCE Big Creek Hydroelectric System Company Vincent 220kV Transmission Line

P1. Other Identifier: Big Creek #3-Springville, Magunden-Springville #1, Antelope-Magunden #2, Antelope-Vincent, Antelope-Eagle Rock, Pardee - Vincent, Eagle Rock-Pardee 220kV Transmission Lines

***P2. Location:** ☐ **Not for Publication** ☑ **Unrestricted**

***a. County** Multiple - Fresno County, Tulare County, Kern County, Los Angeles County

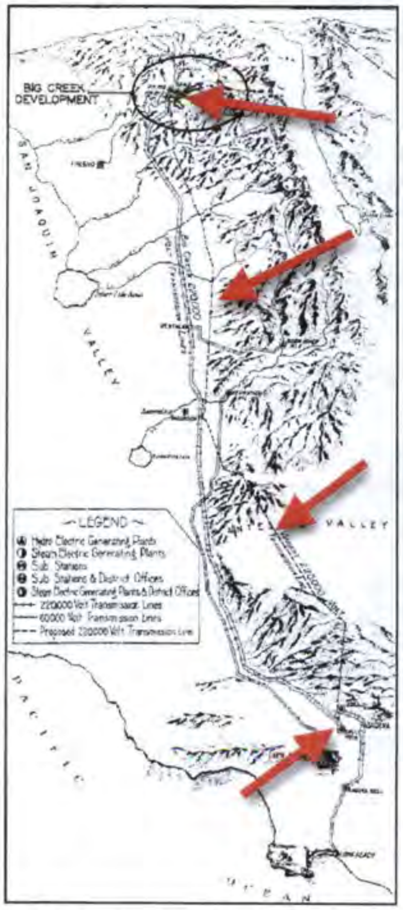
***b. USGS 7.5' Quad:** see P2e below Date: ______ **T** _; **R** _; _ ¼ of _ ¼ of Sec _; __**B.M.**

c. Address: n/a City: n/a Zip: n/a

d. UTM: (Give more than one for large and/or linear resources) Zone 11 ______, ______ mE/ ______ mN

e. Other Locational Data: Located along 38 USGS Topographic Quadrangles identified as: Cascadel Point (1984), Auberry (1983), Shaver Lake, (1982) Trimmer (1965), Pine Flat Dam (1965), Luckett Mountain (1987), Tucker Mountain (1991), Stokes Mountain (1966), Auckland (1991), Woodlake (1969), Rocky Hill (1969), Chickencoop Canyon (1993), Frazier Valley (1991), Success Dam (1991), Fountain Springs (1965), Quincy School (1991), Sand Canyon (1991), Knob Hill (1989), Oil Center (1995), Lamont (1995), Edison (1995), Arvin (1995), Bear Mountain (1995), Tejon Ranch (1994), Cummings Mountain (1989), Liebre Twins (1965), Tylerhorse Canyon (1965), Fairmont Butte (1974), Little Buttes (1974), Lake Hughes (1995), Del Sur (1995), Sleepy Vally (1995), Ritter Ridge (1975), Palmdale (1974), Acton (1995), Pacifico Mountain (1991), Condor Peak (1995), and Pasadena (1994).

***P3a. Description:** The Vincent 220kV Transmission Line was constructed in 1925-1927 as the third 220,000-volt transmission line spanning between the SCE Big Creek Hydroelectric System and Eagle Rock Substation via the Gould Substation near present-day La Cañada in Los Angeles, California. The line was physically connected to the switchyard adjacent to Powerhouse No. 3 (built in 1923) and was installed to accommodate the voltage capacity upgrade at Big Creek from 150,000-volts to 220,000-volts. Construction of the Vincent Transmission Line was initially planned for and authorized as early as 1922 when the Federal Power Commission amended the license for project No. 120 to include "a Transmission Line designated as the Vincent Transmission Line extending from Big Creek Power House No. 3 about 224 miles to and including a switching station designated as Crescenta Switching Station in the vicinity of Los Angeles, California.



The Vincent 220kV Transmission Line originally included approximately 879 steel lattice transmission towers, of which approximately 866 are extant. The towers, installed in 1925-1927 along the 224-mile span, are larger size versions of the 1913 / 1922 Big Creek No. 1 and No. 2 transmission line towers. See pages 3 -6 of 44 for additional information and views of representative Vincent Tower types. Subsequent construction campaigns and system upgrades resulted in the incremental division and renaming of the 1926-1927 Vincent 220kV Transmission Line. Today the Vincent 220kV TL is comprised of six modern-day transmission line segments identified as: Big Creek #3 – Springville 220kV, Magunden – Springville #1 220kV, Antelope – Magunden #2 220kV, Antelope – Vincent 220kV, Antelope – Eagle Rock (idle) / Pardee – Vincent 220kV, and Eagle Rock – Pardee 220kV. A portion of the Eagle Rock – Pardee TL was previously recorded as P-19-186876.

***P3b. Resource Attributes:** HP11: Engineering Structure (Transmission Line)

***P4. Resources Present:** ☐Building ☒Structure ☐Object ☐Site ☐District ☒Element of District ☐Other (Isolates, etc.)

***P5b. Description of Photo:** Map of the Vincent 220kV Transmission Line.

***P6. Date Constructed/Age and Source:** ☒Historic, 1925-1927

***P7. Owner and Address:**
Southern California Edison Co., 2244 Walnut Grove Avenue, Rosemead, CA 91770

***P8. Recorded by:** Wendy L. Tinsley Becker, RPH, AICP, Principal
Urbana Preservation & Planning, LLC / www.urbanapreservation.com

***P9. Date Recorded:** June 2011, Revised March 2012

***P10. Survey Type:** Intensive Level (CEQA / NHPA §106 Survey)

***P11. Report Citation:** Urbana Preservation & Planning, LLC, *NRHP / CRHR Eligibility Evaluation Southern California Edison Company Big Creek Hydroelectric System Vincent 220kV Transmission Line*, March 2012.

***Attachments:** ☐NONE ☒Location Map ☒Continuation Sheet ☒Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (List):

BUILDING, STRUCTURE, OBJECT RECORD

***NRHP Status Code**: 2D2 ***Resource Name or #** SCE Big Creek Hydroelectric System Vincent 220kV Transmission Line
B1. Historic Name: Big Creek Hydroelectric System Company Vincent 220kV Transmission Line
B2. Common Name: Vincent 220kV Transmission Line
B3. Original Use: High Voltage Electric Power Conveyance System / Transmission Line
B4. Present Use: High Voltage Electric Power Conveyance System / Transmission Line
***B5. Architectural Style:** N /A – Utilitarian Electrical Engineering Power Conveyance System with Steel Lattice Towers
***B6. Construction History:** Constructed between 1925 and 1927. 14 original towers removed and 10 new towers added along the entire 224-mile span. Approximately 98% of the towers are intact as of June 2011.
***B7. Moved?** ☒No ☐Yes ☐Unknown **Date:** ______ **Original Location:** N/A
***B8. Related Features:** Southern California Edison Company Big Creek Hydroelectric System in the Southern Sierra Nevada Mountains (Fresno County, California), including Big Creek Power House #3 and associated Switch Yard.
B9a. Architect: Southern California Edison Company **b. Builder:** Southern California Edison Company
***B10. Significance: Theme:** A contributing element to the NRHP eligible Big Creek Hydroelectric System Historic District relating to the themes of *Electrification and Industrialization of Southern California and the Los Angeles Region* and *Innovative Electrical Engineering Technology*.
Area: National, California, Southern California **Period of Significance:** 1925/27 through 1929
Property Type: Engineering System / Structure – Electric Power Conveyance System
Applicable Criteria: NRHP / CRHR A / 1, B / 2, and C / 3

The Vincent 220kV Transmission Line was constructed in 1925-1927, spanning between the SCE Big Creek Hydroelectric System and the Gould Substation near present-day La Cañada in Los Angeles, California. Construction of the Vincent Transmission Line was authorized in 1922 when the Federal Power Commission amended the license for Project No. 120 to include, "a Transmission Line designated as the Vincent Transmission Line extending from Big Creek Power House No. 3 about 224 miles to and including a switching station designated as Crescenta Switching Station in the vicinity of Los Angeles, California." The Vincent 220kV Transmission Line was the third high-voltage line built from the Big Creek Hydroelectric System.

The Big Creek No. 1 and Big Creek No. 2 220kV Transmission Lines (originally referred to as the East and West Transmission Line) were originally installed in 1912-1913 at a capacity of 150kV and upgraded in 1922-1923 to a capacity of 220kV. In 1926 the initial southern portion of the Vincent Transmission Line, between Magunden Substation and Gould Substation, was connected to the West Kern River No. 1 and to the South Kern River No. 3–Vestal Transmission Lines. The line was detached from the Kern River Transmission Lines and this 96-mile southern portion of the Vincent 220 kV Transmission Line, between the Magunden Substation and the Gould Substation, was put into service in January 1927. The northern portion of the Vincent 220 kV Transmission Line was completed to Big Creek Powerhouse 3 in 1927 and put into service in January 1928. The tower types comprising the Vincent 220kV Transmission Line are larger versions of the original towers installed at the first two Big Creek Transmission Lines, and subsequently served as a model for tower engineering and construction throughout the SCE 220kV system.

The Big Creek Hydroelectric System Historic District has been determined eligible for NRHP listing by the California State Historic Preservation Officer (SHPO) by consensus. The BCHSHD includes the Big Creek No. 1 and No. 2 (East and West) Transmission Lines. For its direct association with the Big Creek Hydroelectric System, as the third high-voltage transmission line constructed from Big Creek to convey electricity to and support industrialization of the Los Angeles region, and for its embodiment of innovative electrical engineering techniques at an electric power conveyance system between 1925 and 1929, the 224-mile Vincent 220 kV Transmission Line is eligible for inclusion on the National Register of Historic Places Criterion A and C and the California Register of Historical Resources under Criterion 1 and 3 as a contributing element to the BCHSHD within the established 1911-1929 period of significance.

B11. Additional Resource Attributes: None.
***B12. References:** SCE Hummingbird Digital Archive. SCE Corporate Drawing Management Archive. Please refer to associated Vincent 220kV Transmission Line NRHP / CRHR eligibility evaluation for bibliography and works cited.
B13. Remarks: Transmission Tower Drawings on file at SCE Corporate Drawing Management. Historic images on file at The Huntington Library.
***B14. Evaluator:** Wendy L. Tinsley Becker, RPH, AICP, Principal
Urbana Preservation & Planning, LLC | www.urbanapreservation.com
***Date of Evaluation:** June 2011

See Location Maps 1 – 38 on the following pages.

Official Comments:

***NRHP Status Code**: 2D2 ***Resource Name or #** SCE Big Creek Hydroelectric System Vincent 220kV Transmission Line
***Recorded by:** Wendy L. Tinsley Becker, Principal: Urbana Preservation & Planning, LLC
***Date Recorded:** June 2011 ☒ Continuation ☐ Update

HISTORIC VINCENT TOWER TYPES

The steel transmission towers installed at the 224-mile Vincent 220kV Transmission Line were modeled after the original tower types installed at the first two Big Creek Transmission Lines, however, SCE installed larger versions of the Big Creek tower types to accommodate the greater weight and load resultant from the heavier insulators and heavier transmission wire. The towers installed at the Vincent 220kV Transmission Line came to be identified as the 'Vincent Towers', of which modifications in the design and engineering occurred relating to the conditions of Suspension, Dead End, and Transposition.

According to authors C.B. Carlson and H. Michener in their article entitled *The Vincent 220kV Transmission Line: Engineering Construction and Features*, the Vincent Towers were specifically designed to allow for vertical leg extensions.

> Extension heights of 7, 14, and 21 ft. were those which seemed to supply the needs of the profile. These extensions legs were arranged to permit combinations of any of them on a tower to a more economically fit profile. This latter arrangement has proved useful, as much of the country traversed was very rocky and difficult to excavate.
>
> Special cases required the combination of the 14-ft. and 21-ft. extensions making a 35-ft. in all, and in the case of the Tule River Crossing two special 120-ft. towers were used. It was also necessary to supply certain other specialties such as transposition frames, attachments for towers to solid rock, footing extensions where uplift cover resistance was not available, and single leg extensions without bracing to main structure.[1]

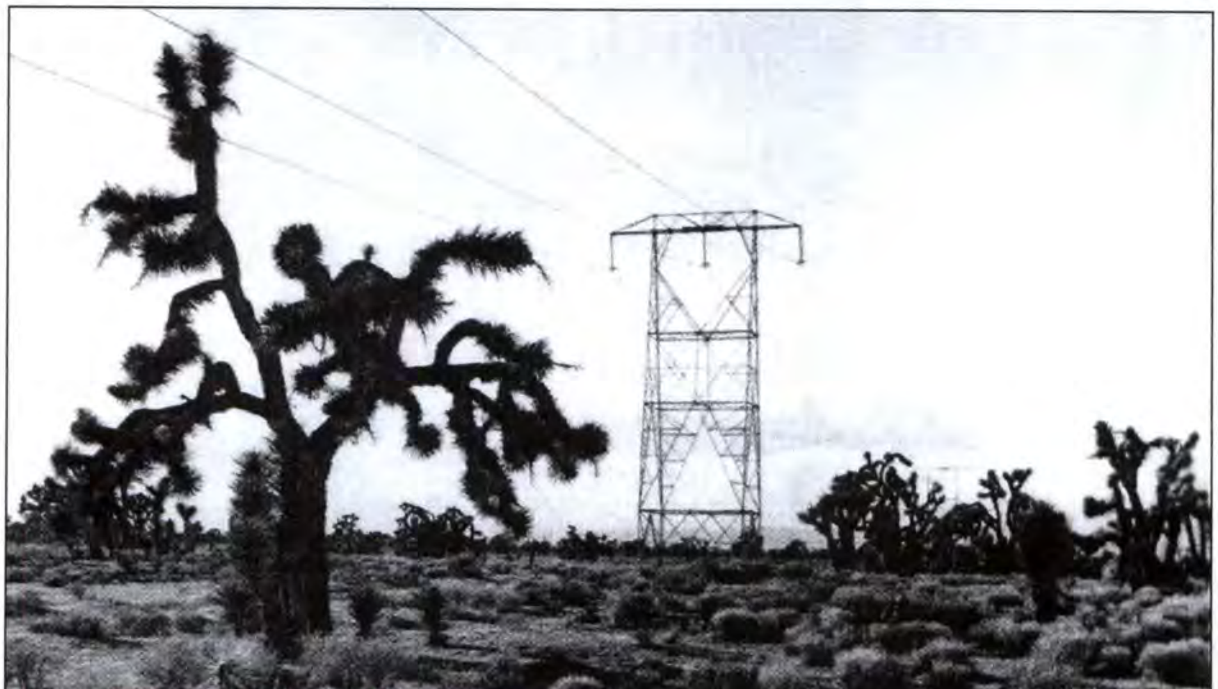


Figure 1: Historic view of a Suspension Vincent Tower. Image Source: Iron Men and Copper Wires (page 220).

Three tower types are original to the Vincent Transmission Line; Suspension (also identified as a Standard Tower), Dead End (also identified as a Anchor Tower), and Transposition. Representative views of each tower type are included on the following pages.

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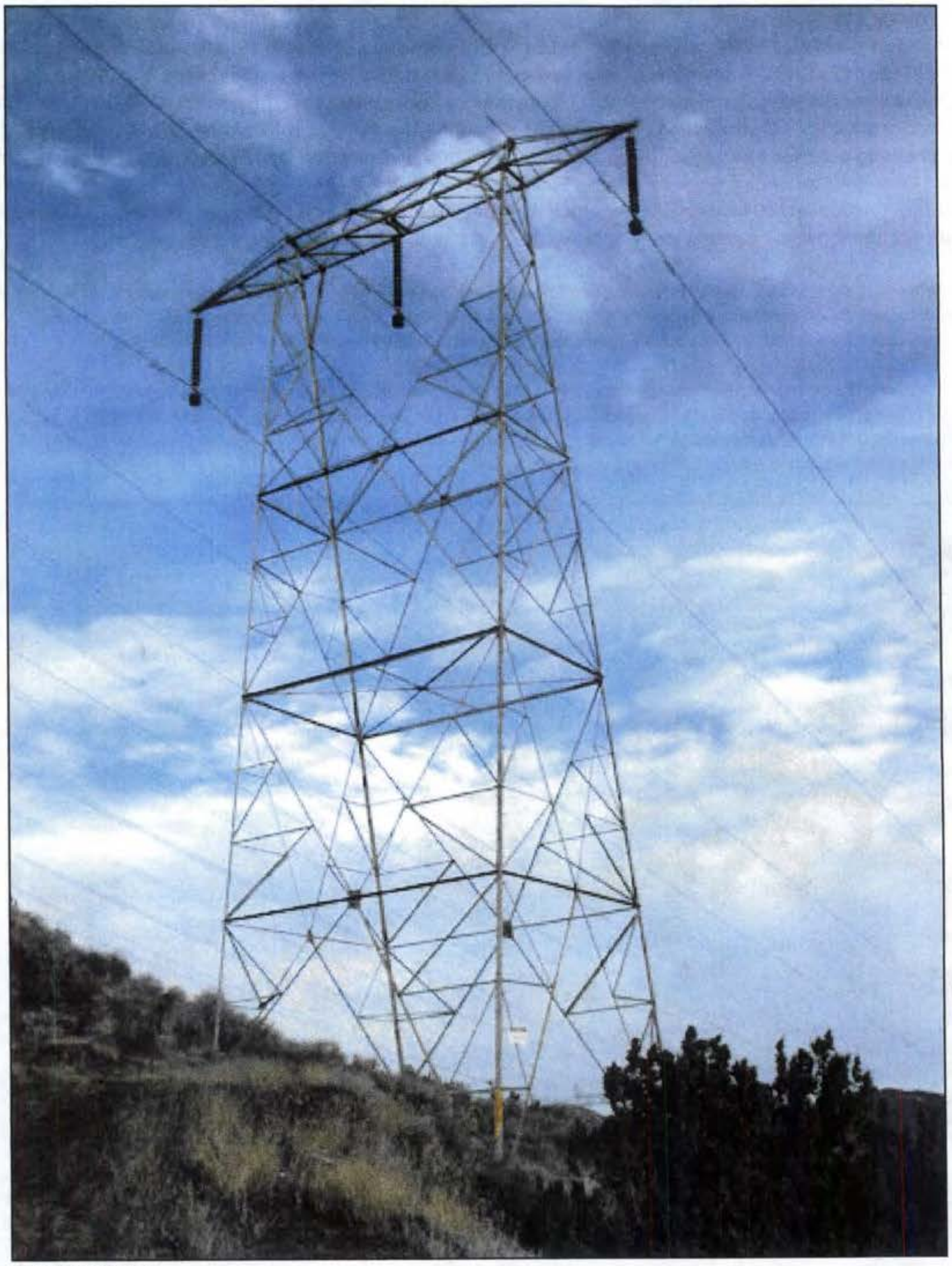
[1] Carlson, C.B. and H. Michener. "The Vincent 220-Kv. Transmission Line: Engineering and Construction Features." Transactions of the American Institute of Electrical Engineers. Volume XLV (January 1926), page 1054. Presented at the Pacific Coast Convention of the AIEE (Salt Lake City, Utah) September 6-9, 1926. Article purchased from the American Institute of Electrical Engineers (AIEE) http: www.ieeexplorer.ieee.org.

P-54-005027

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary #: P-15-017243
HRI #:

***NRHP Status Code:** 2D2 ***Resource Name or #** SCE Big Creek Hydroelectric System Vincent 220kV Transmission Line
***Recorded by:** Wendy L. Tinsley Becker, RPH, AICP, Principal: Urbana Preservation & Planning, LLC
***Date Recorded:** June 2011 ☒ Continuation ☐ Update



Tower Type #1:
Suspension (Standard) Vincent Tower (M18-T1).

P-54-005027

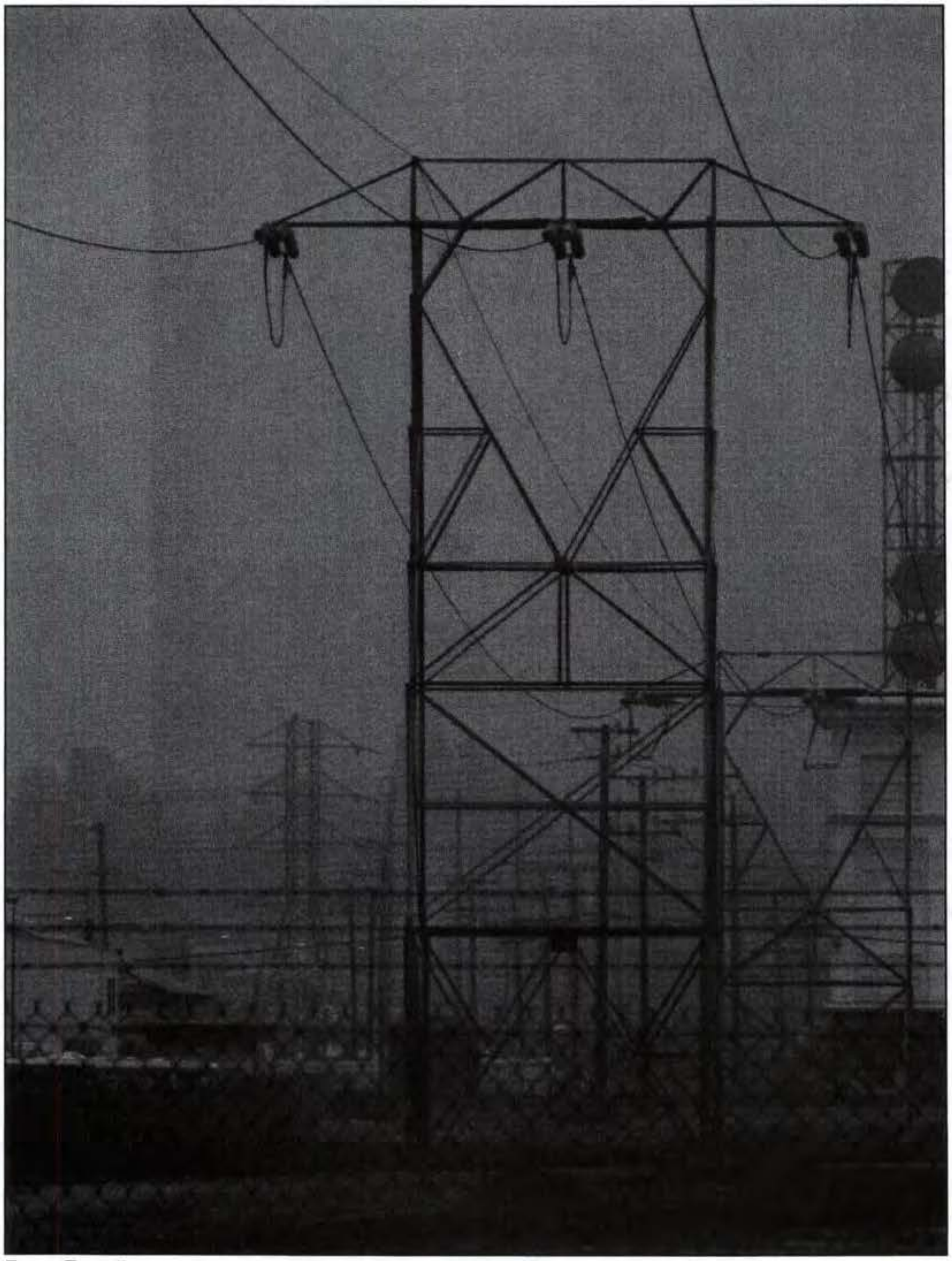
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary #: P-15-017243
HRI #:

***NRHP Status Code**: 2D2 ***Resource Name or #** SCE Big Creek Hydroelectric System Vincent 220kV Transmission Line

***Recorded by:** Wendy L. Tinsley Becker, RPH, AICP, Principal: Urbana Preservation & Planning, LLC

***Date Recorded:** June 2011 ☒ Continuation ☐ Update



Tower Type #2:
Dead End (Anchor) Vincent Tower with Vertical Leg Extension (Mile 147-T1).

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P-54-005027

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary #: P-15-017243
HRI #:

***NRHP Status Code**: 2D2 ***Resource Name or #** SCE Big Creek Hydroelectric System Vincent 220kV Transmission Line
***Recorded by:** Wendy L. Tinsley Becker, RPH, AICP, Principal: Urbana Preservation & Planning, LLC
***Date Recorded:** June 2011 ☒ Continuation ☐ Update

Tower Type #3:
Transposition Vincent Tower (Mile 49-T1).

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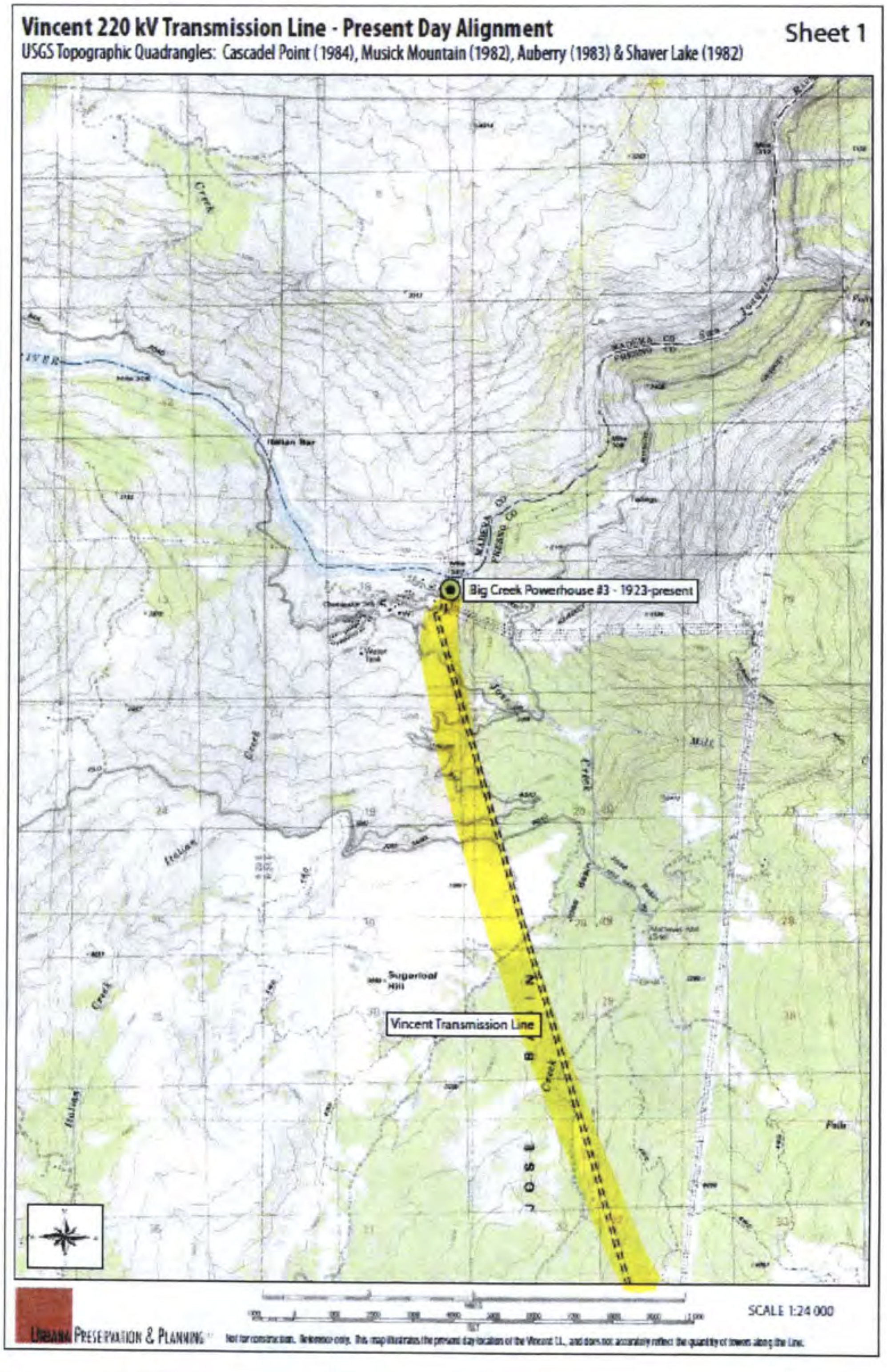
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 7 **of** 44 (Map Page 1 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Cascadel Point, Auberry, & Shaver Lake ***Scale**: 1:24000 ***Date of Map**: 1984, 1982, 1982
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)

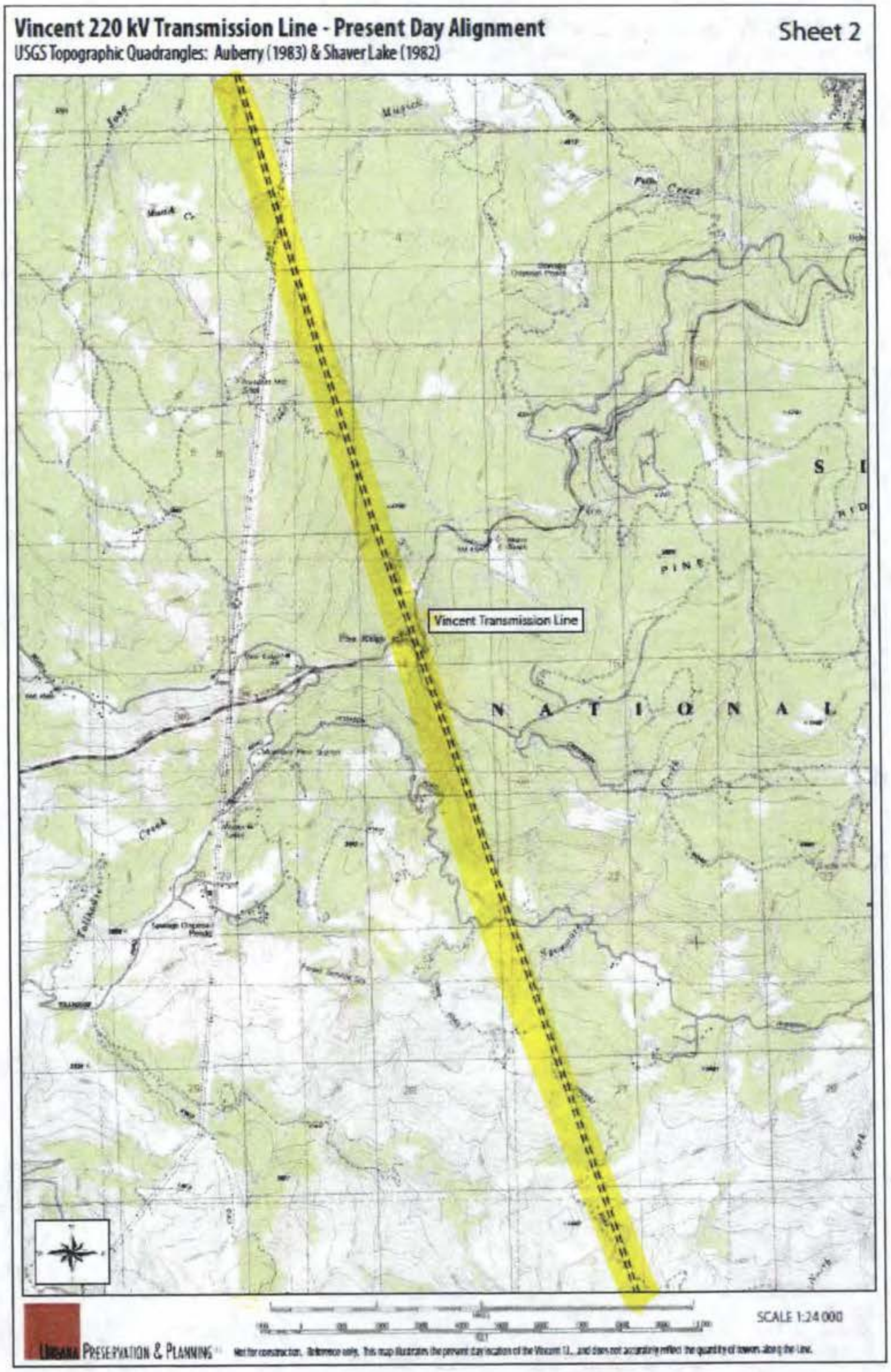


P-54-005027

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 8 **of** 44 (Map Page 2 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Auberry & Shaver Lake ***Scale**: 1:24000 ***Date of Map**: 1983, 1982
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)



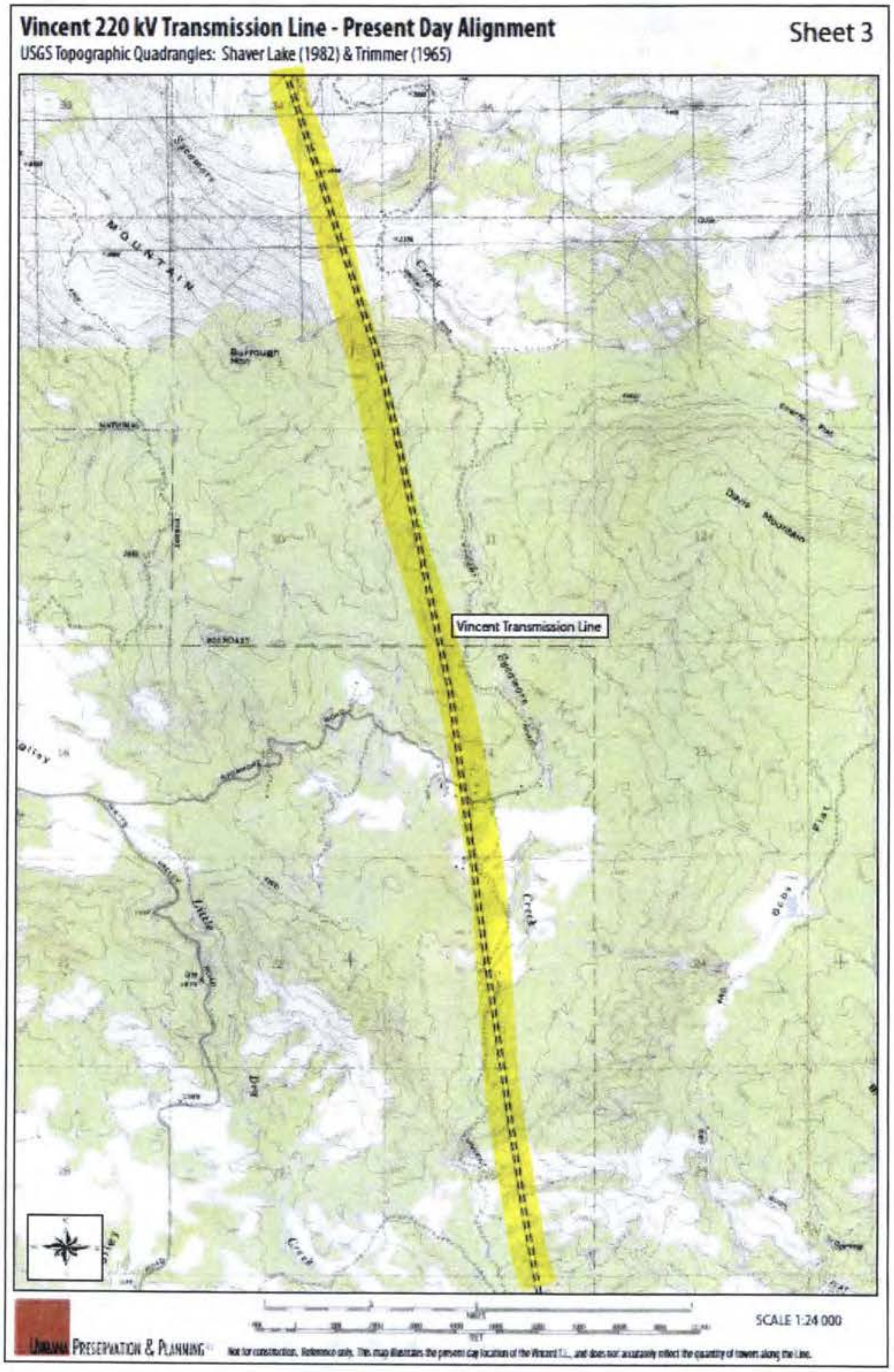
DPR 523J (1/95) *Required information

P-10-006253
P-54-005027

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 9 **of** 44 (Map Page 3 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Shaver Lake & Trimmer ***Scale**: 1:24000 ***Date of Map**: 1982, 1965
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)



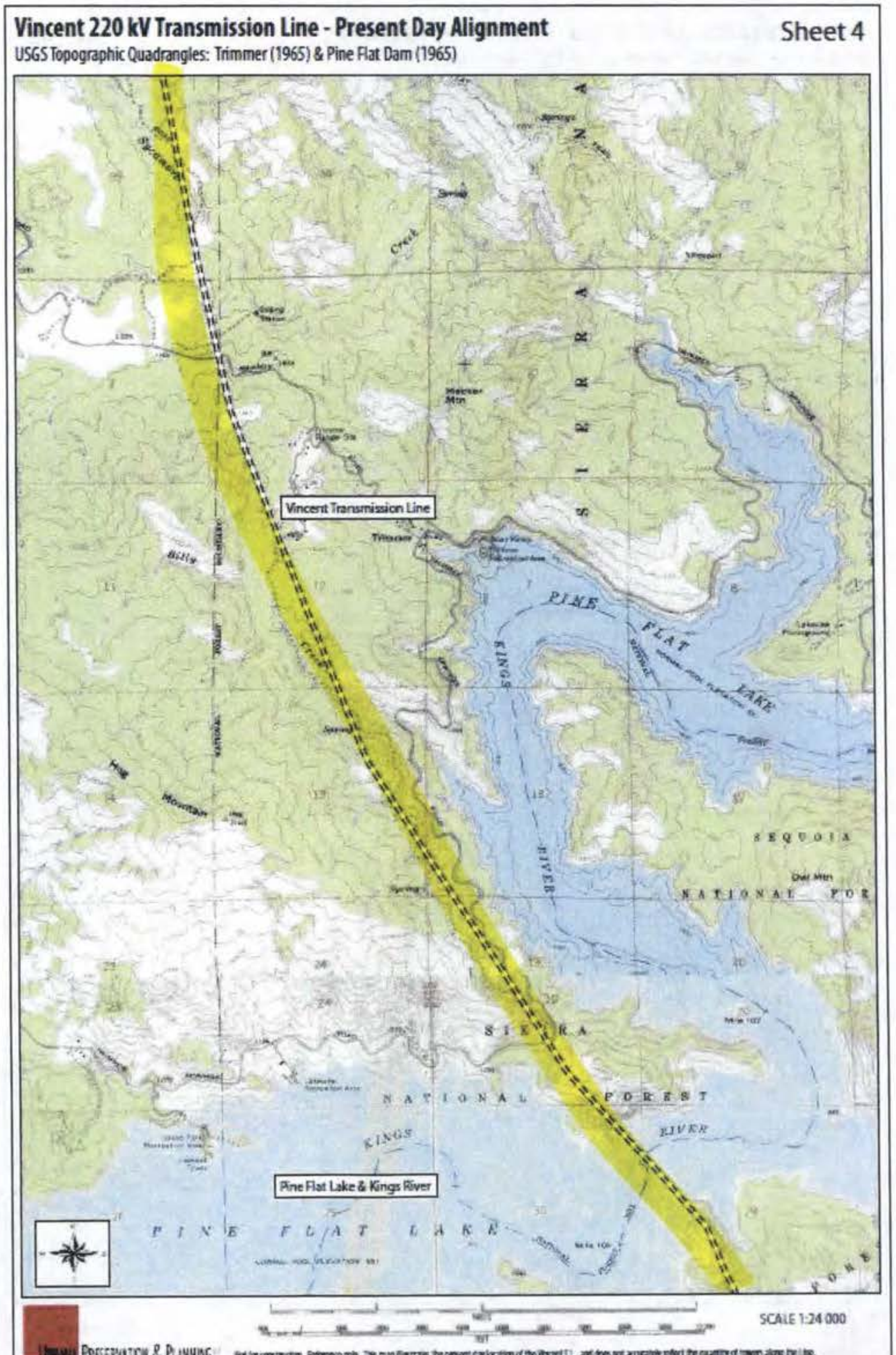
*Required information

P-54-005027

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 10 **of** 44 (Map Page 4 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Trimmer & Pine Flat Dam ***Scale**: 1:24000 ***Date of Map**: 1965, 1965
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)



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LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 11 of 44 (Map Page 5 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Pine Flat Dam & Luckett Mountain ***Scale**: 1:24000 ***Date of Map**: 1965, 1987
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)

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State of California — The Resources Agency
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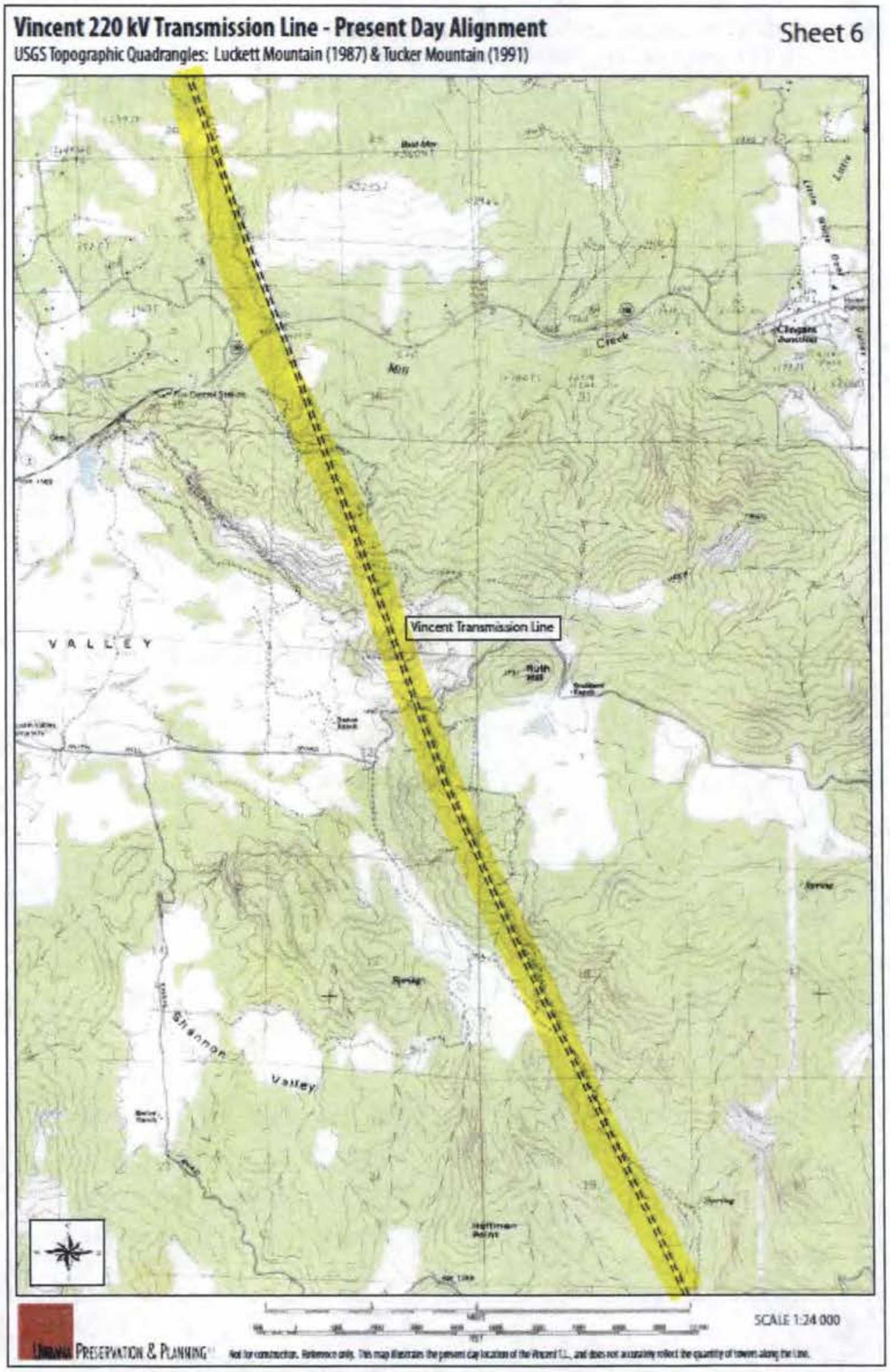
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 12 of 44 (Map Page 6 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Luckett Mountain & Tucker Mountain ***Scale**: 1:24000 ***Date of Map**: 1987, 1991
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)



DPR 523J (1/95) *Required information

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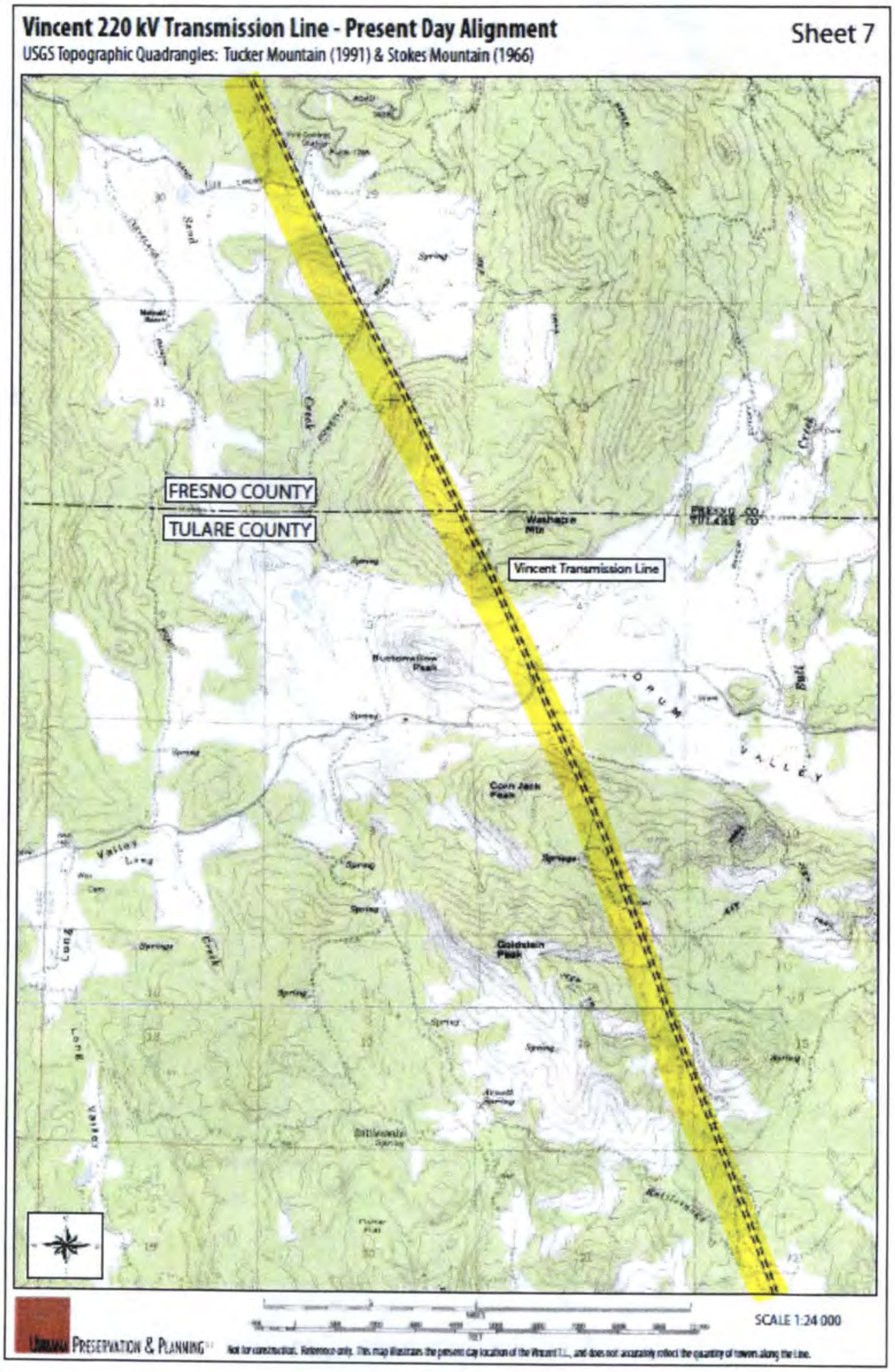
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 13 **of** 44 (Map Page 7 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Tucker Mountain & Stokes Mountain ***Scale**: 1:24000 ***Date of Map**: 1991, 1966
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)



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State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

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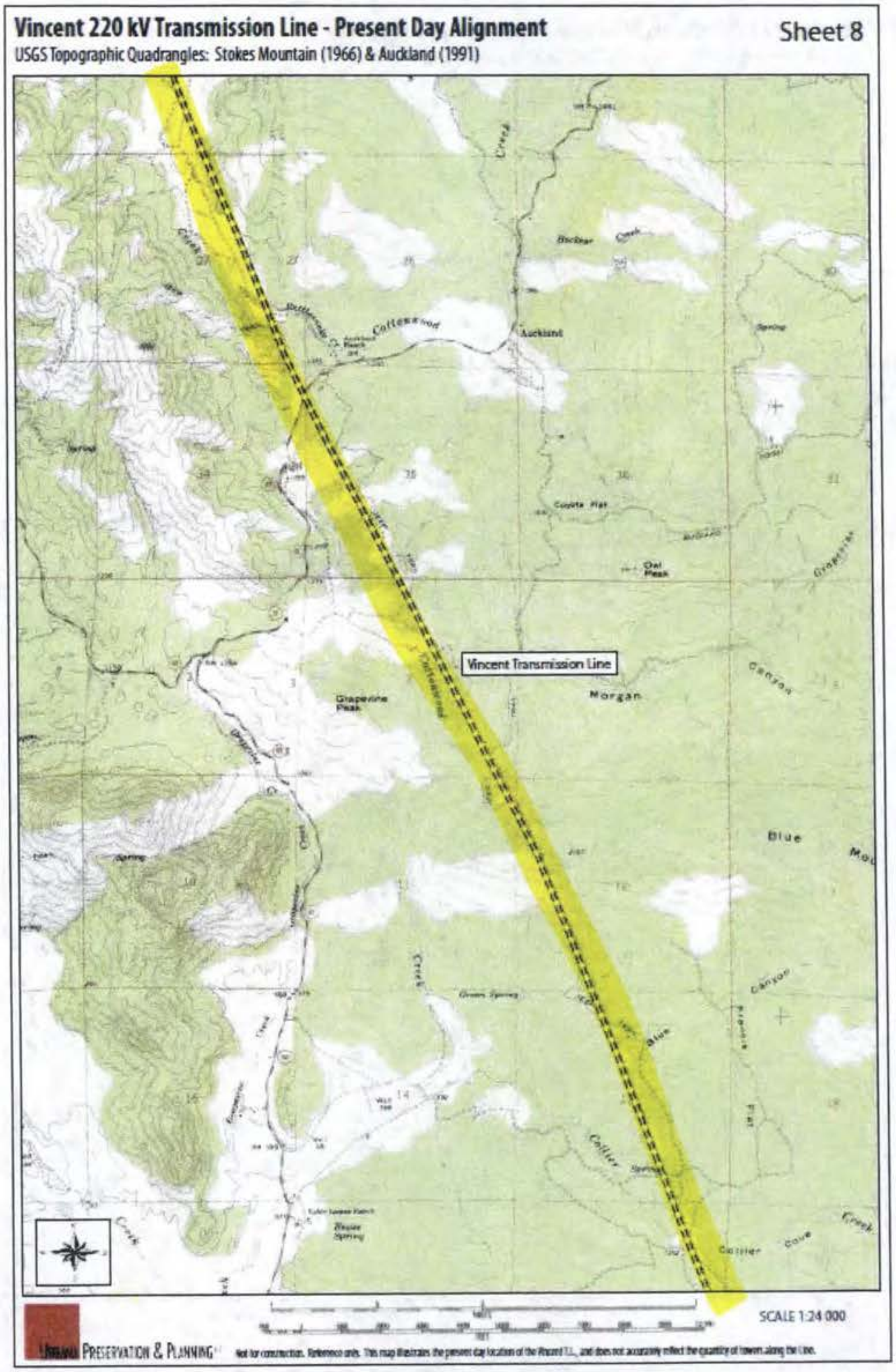
Page 14 **of** 44 (Map Page 8 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Stokes Mountain & Auckland ***Scale**: 1:24000 ***Date of Map**: 1966, 1991
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)



DPR 523J (1/95) *Required information

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LOCATION MAP

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HRI #:
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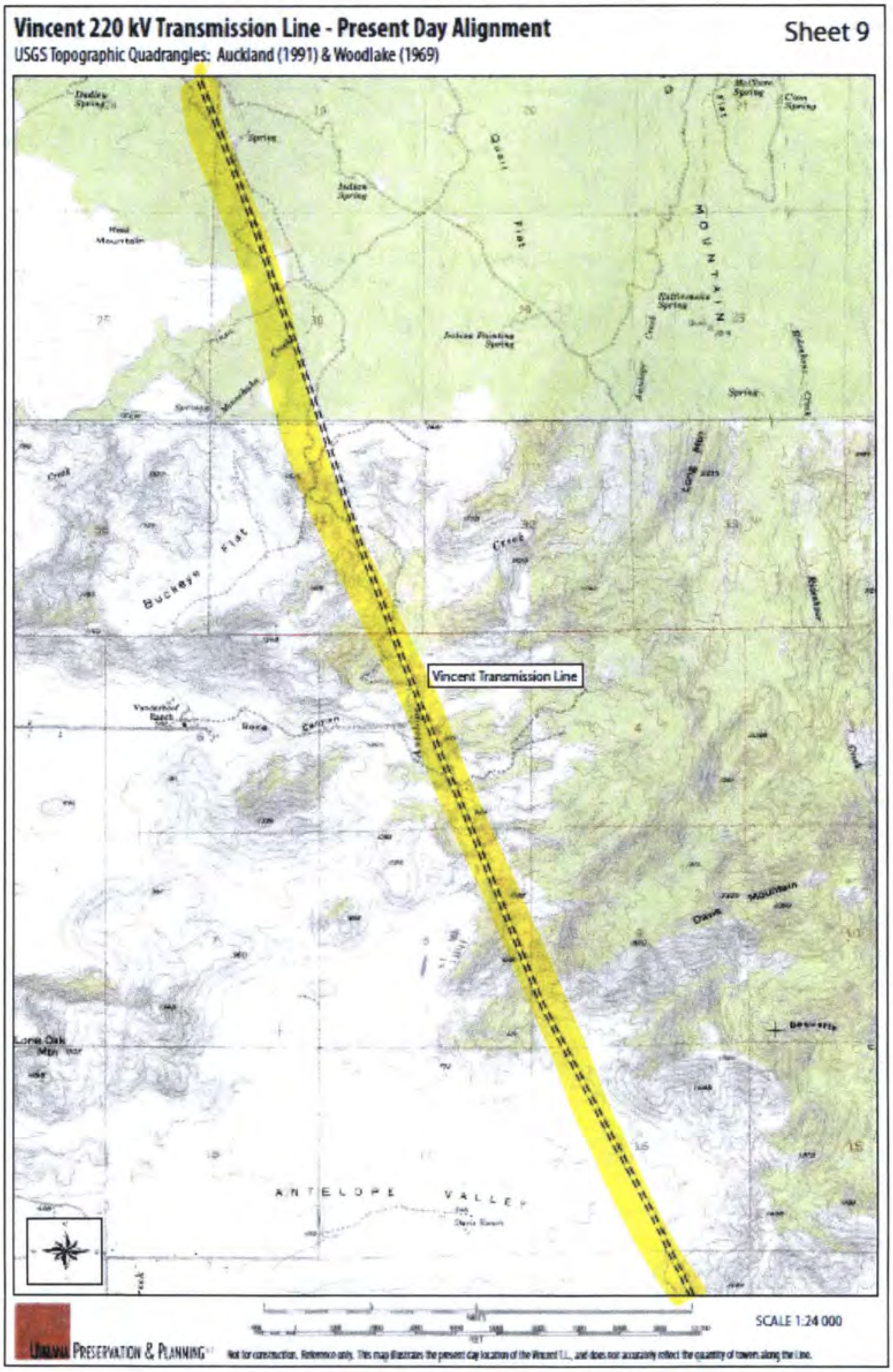
Page 15 **of** 44 (Map Page 9 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Auckland & Woodlake ***Scale**: 1:24000 ***Date of Map**: 1991, 1969
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)



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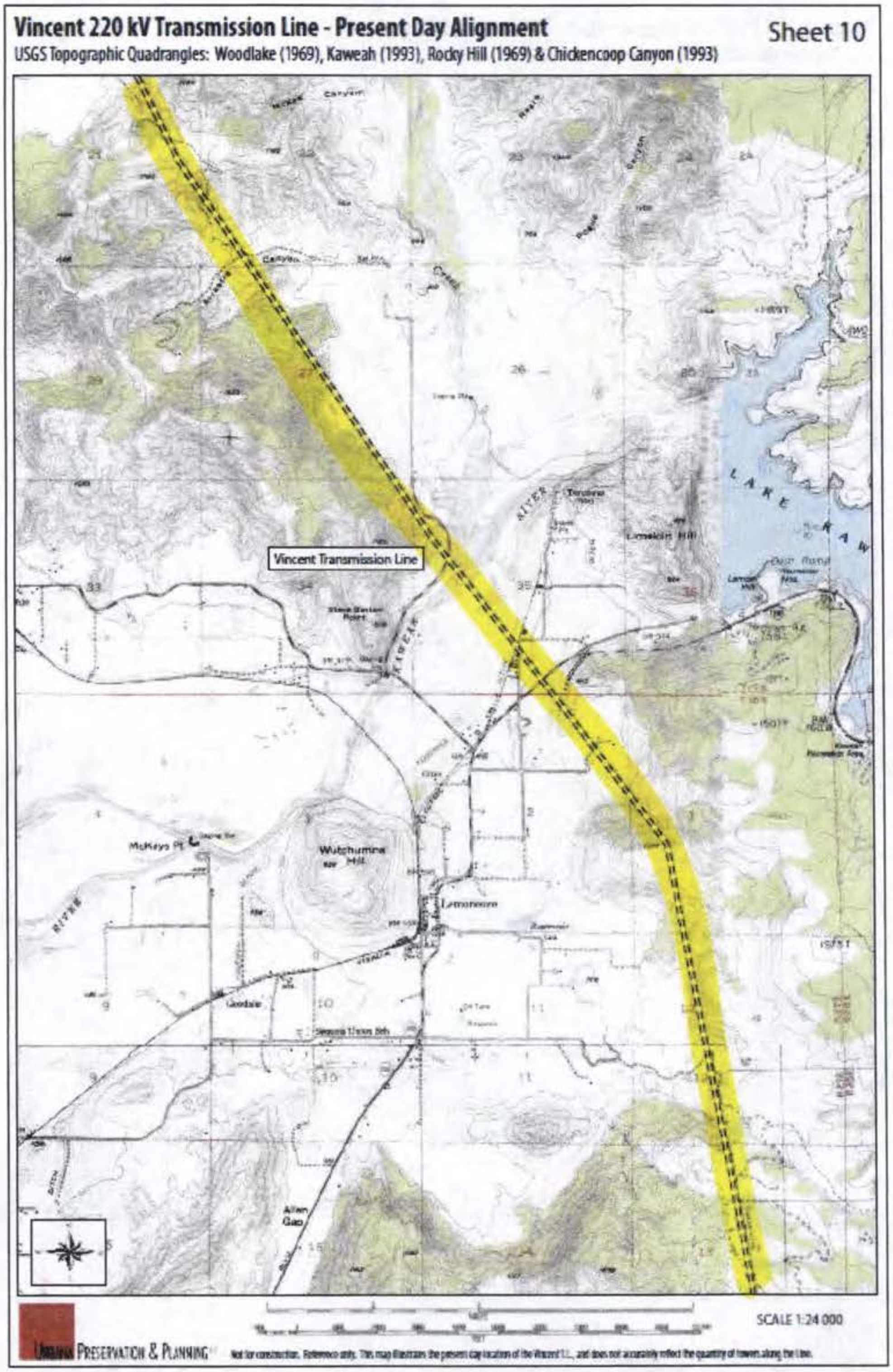
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 16 **of** 44 (Map Page 10 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Woodlake, Rocky Hill, & Chickencoop Canyon ***Scale**: 1:24000 ***Date of Map**: 1969, 1969, 1993
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)



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LOCATION MAP

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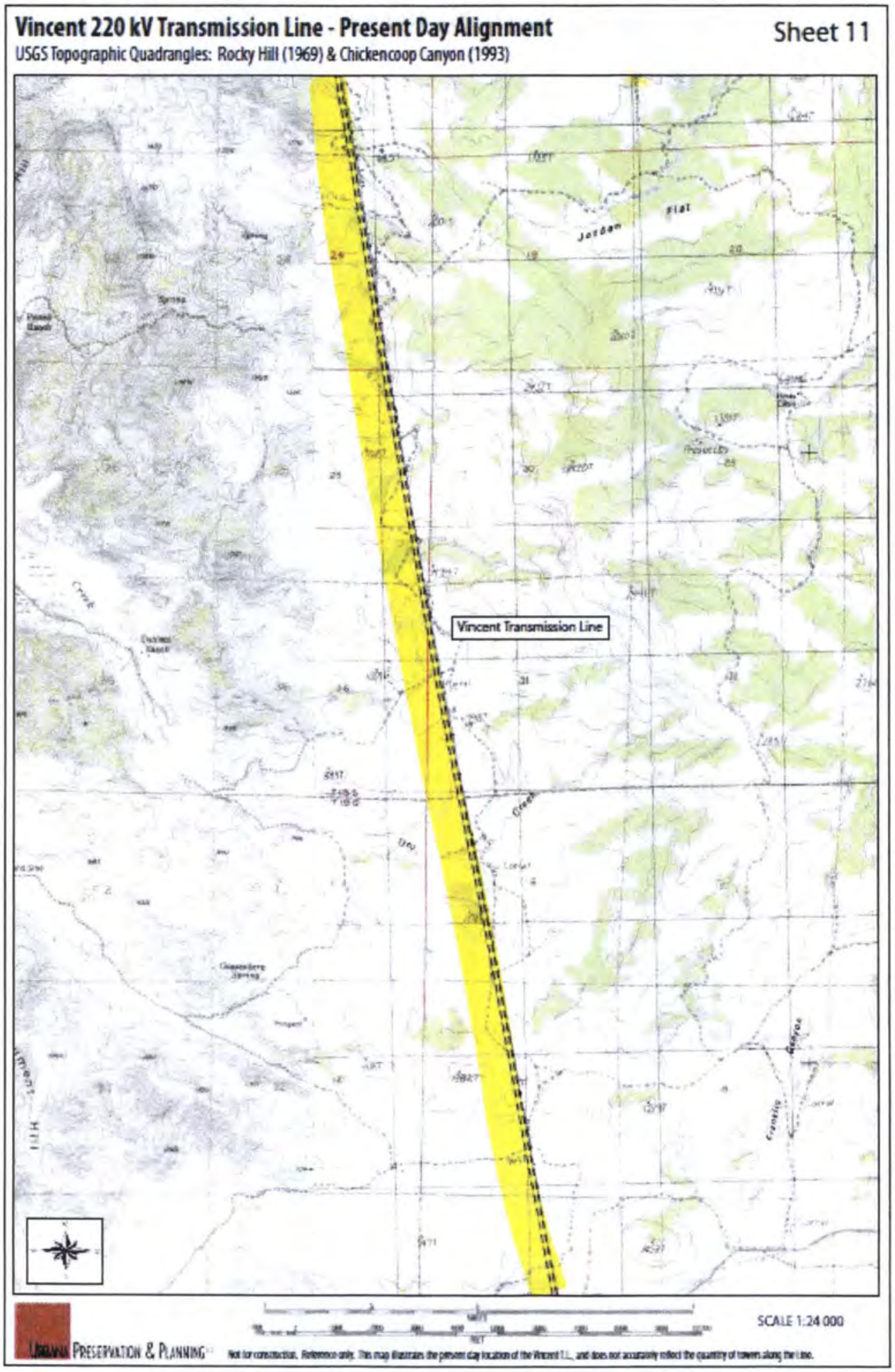
HRI #:
Trinomial:

Page 17 **of** 44 (Map Page 11 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Rocky Hill, & Chickencoop Canyon ***Scale**: 1:24000 ***Date of Map**: 1969, 1993
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)



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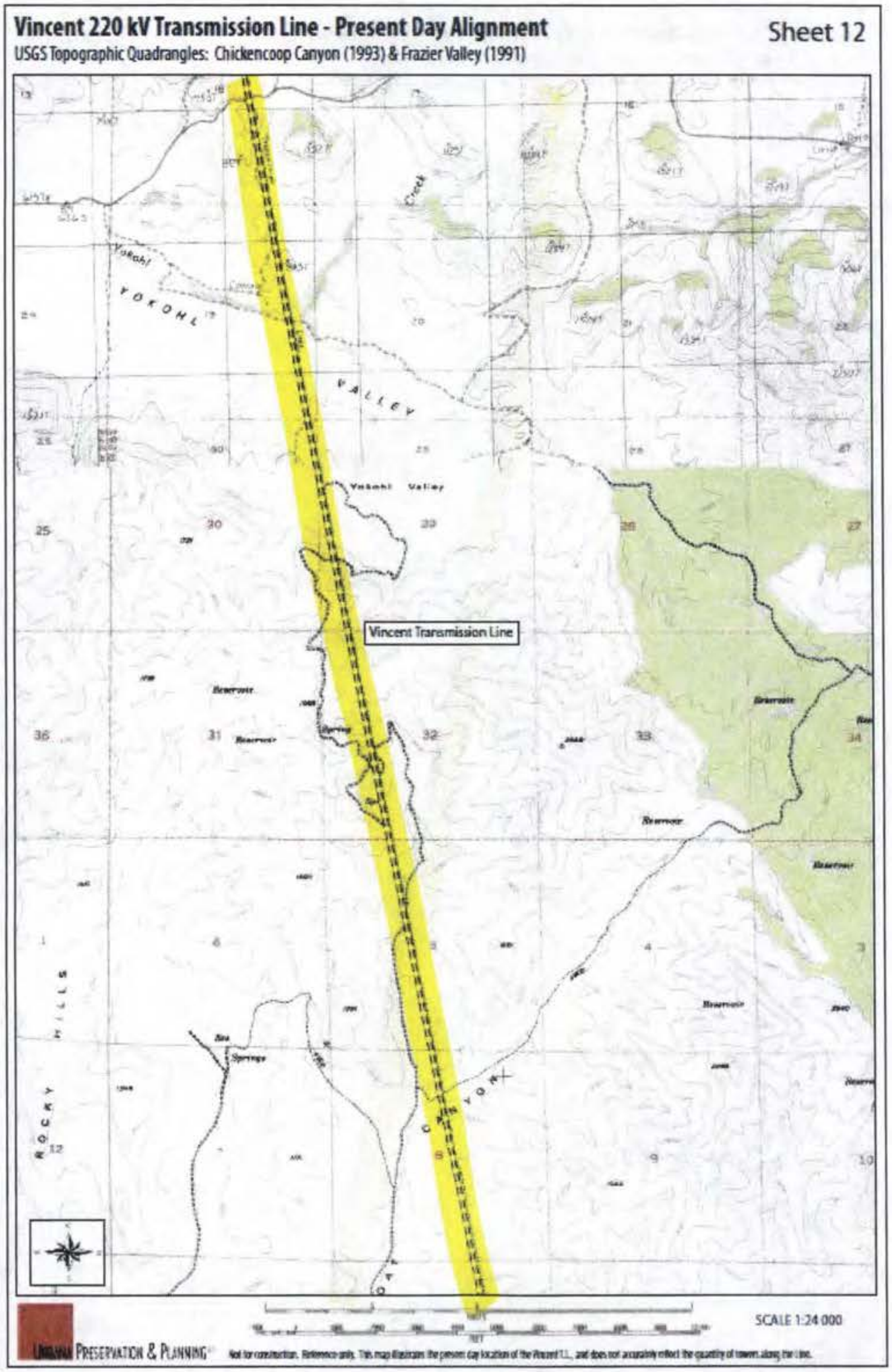
LOCATION MAP

Primary#:
HRI #:
Trinomial:

Page 18 **of** 44 (Map Page 12 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Chickencoop Canyon & Frazier Valley ***Scale**: 1:24000 ***Date of Map**: 1993, 1991
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)



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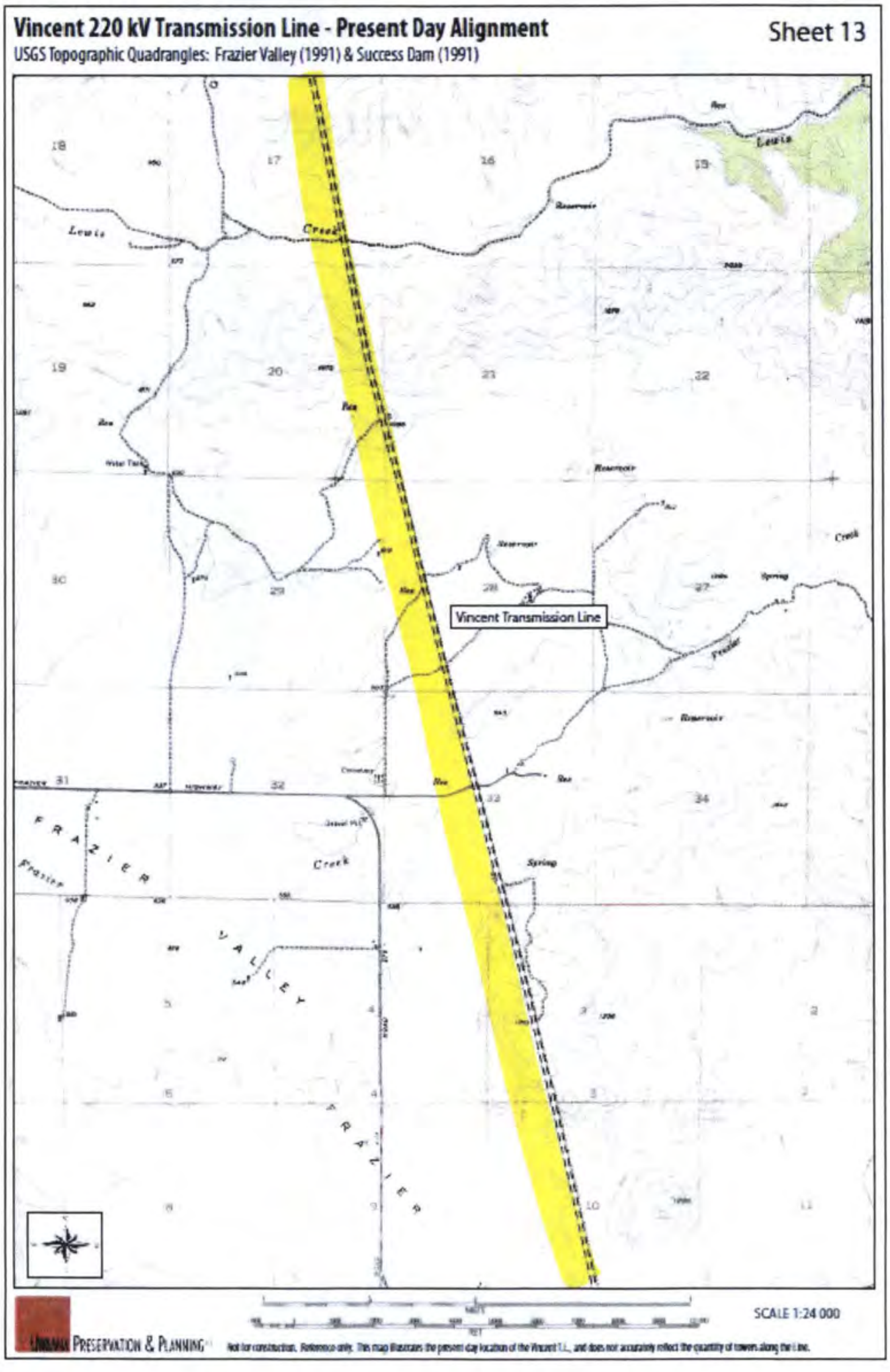
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 19 of 44 (Map Page 13 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Frazier Valley & Success Dam ***Scale**: 1:24000 ***Date of Map**: 1991, 1991
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)



DPR 523J (1/95) *Required information

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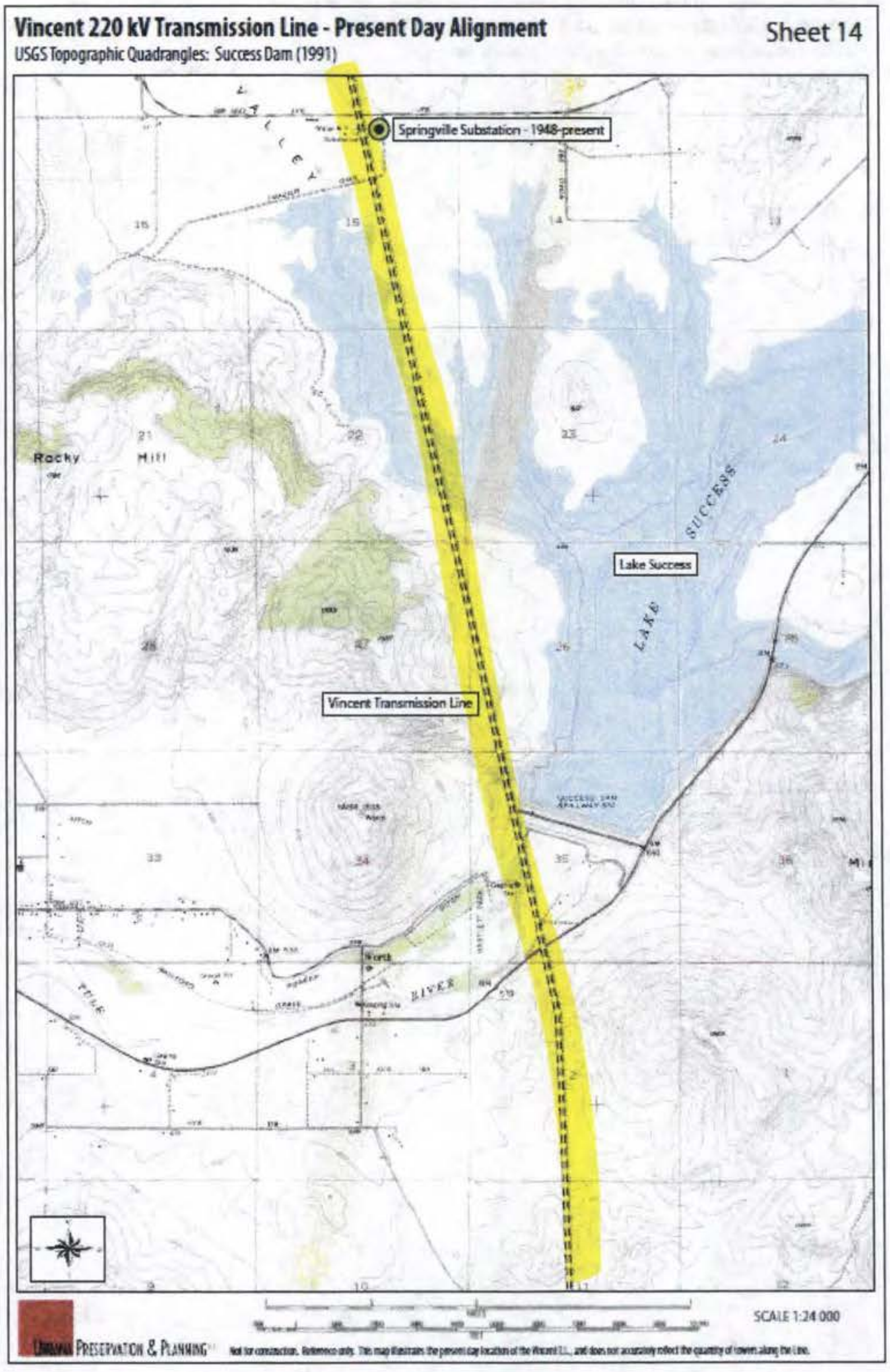
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 20 **of** 44 (Map Page 14 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Success Dam ***Scale**: 1:24000 ***Date of Map**: 1991
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)



DPR 523J (1/95) *Required information

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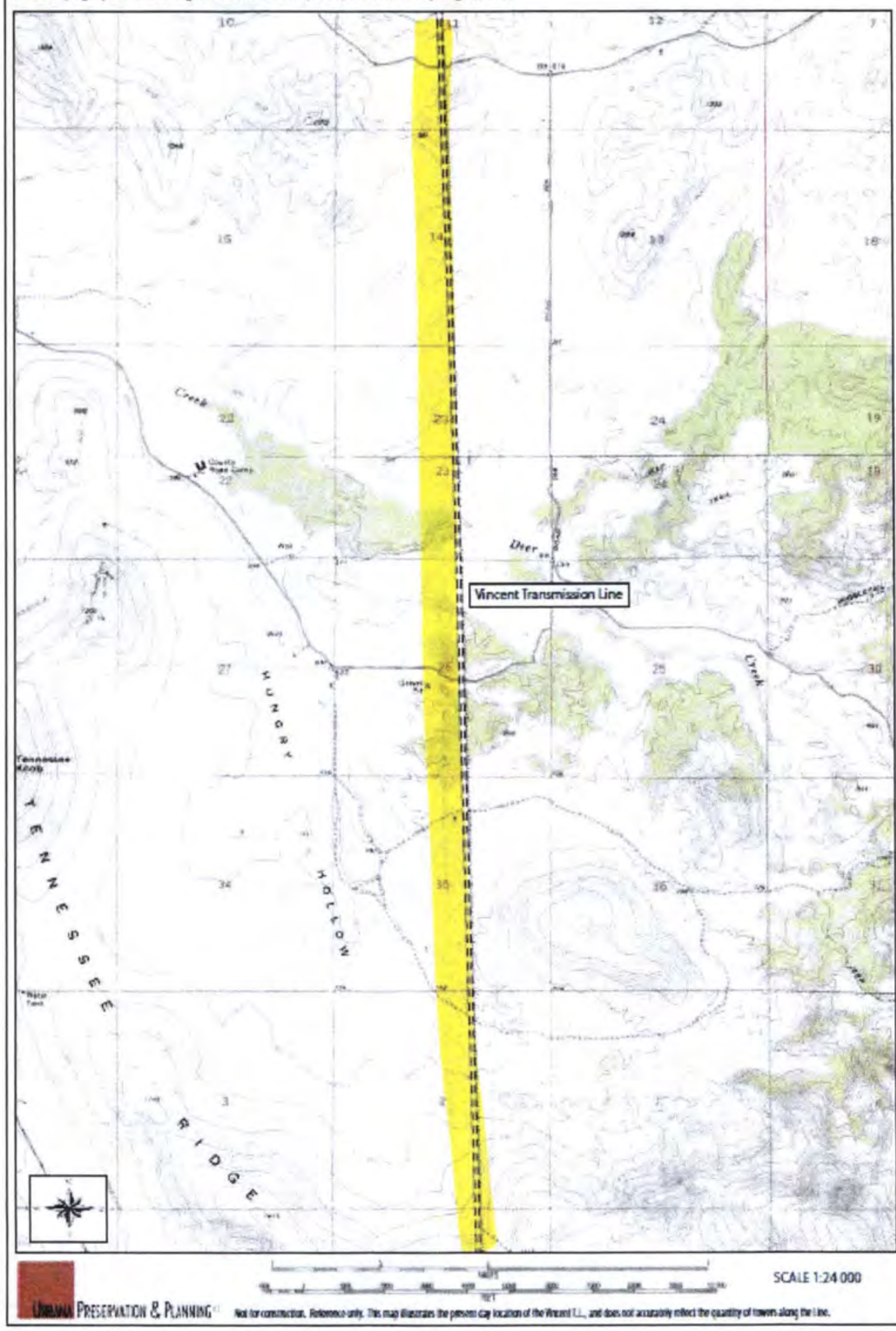
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: 1-15-017243
HRI #:
Trinomial:

Page 21 of 44 (Map Page 15 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Success Dam & Fountain Springs ***Scale**: 1:24000 ***Date of Map**: 1991, 1965
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)

Vincent 220 kV Transmission Line - Present Day Alignment Sheet 15
USGS Topographic Quadrangles: Success Dam (1991) & Fountain Springs (1965)



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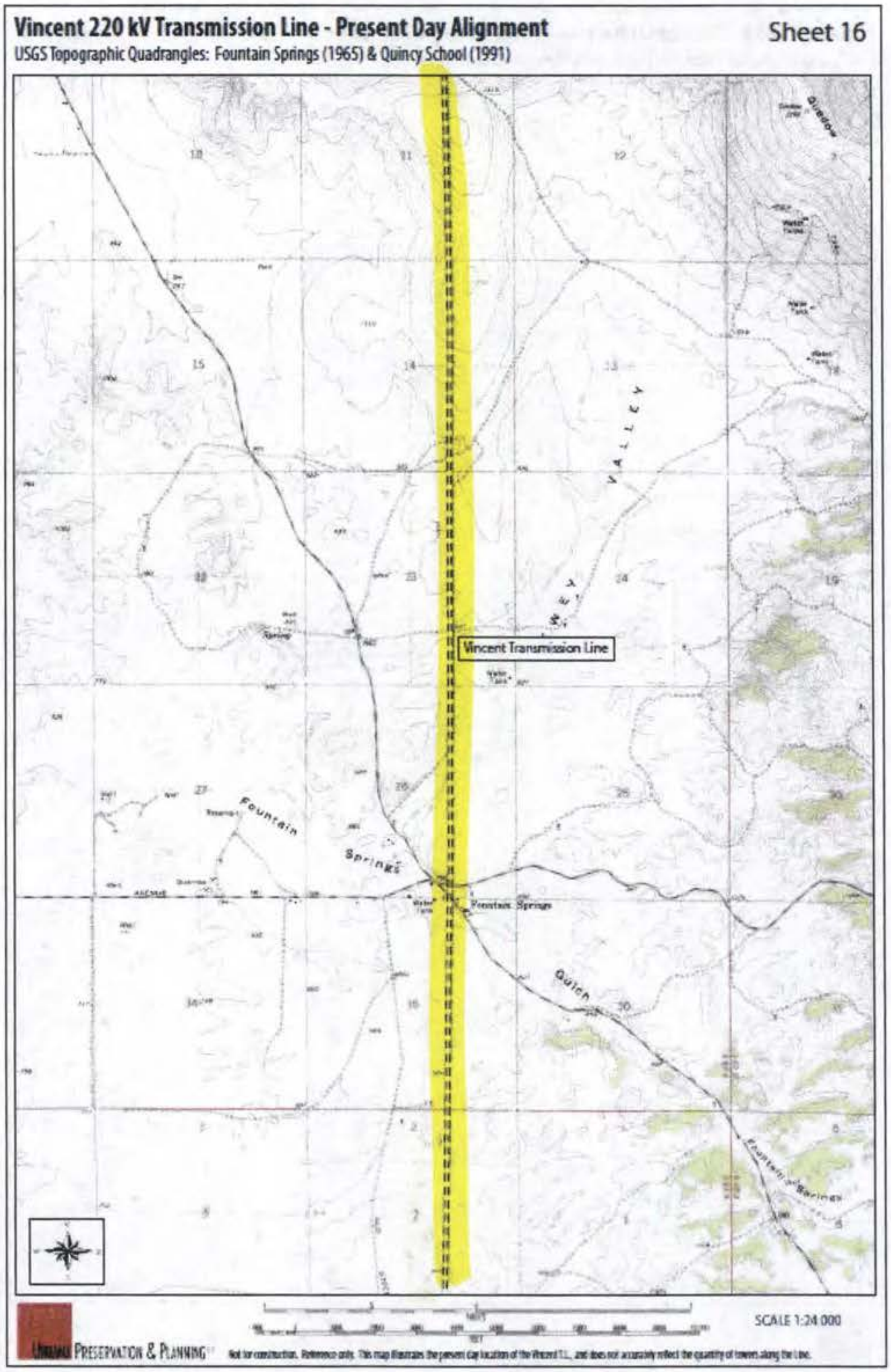
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 22 **of** 44 (Map Page 16 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Fountain Springs & Quincy School ***Scale**: 1:24000 ***Date of Map**: 1965,1991
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)



DPR 523J (1/95) *Required information

P-10-006233
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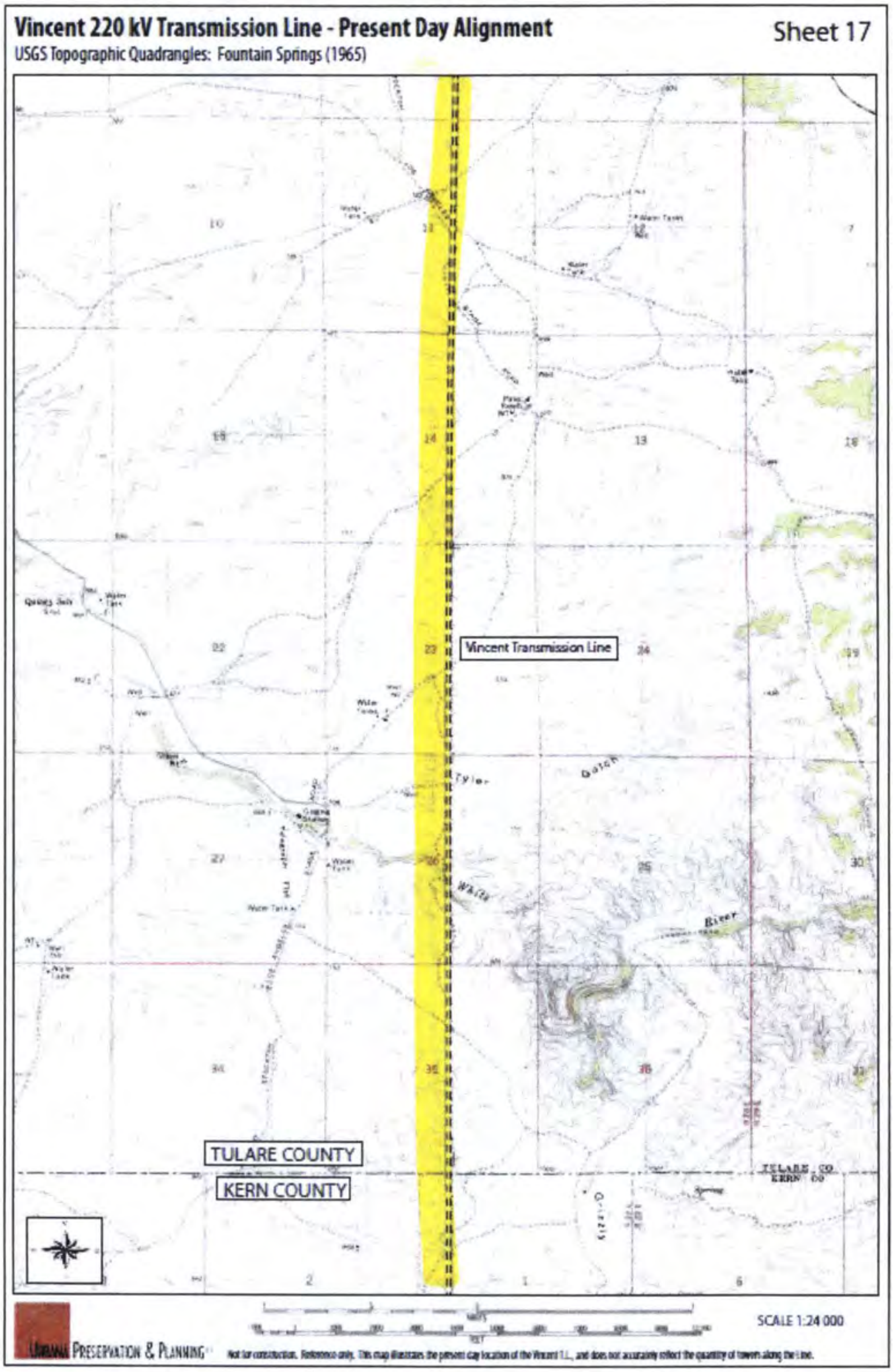
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 23 **of** 44 (Map Page 17 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Quincy School ***Scale**: 1:24000 ***Date of Map**: 1991
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)



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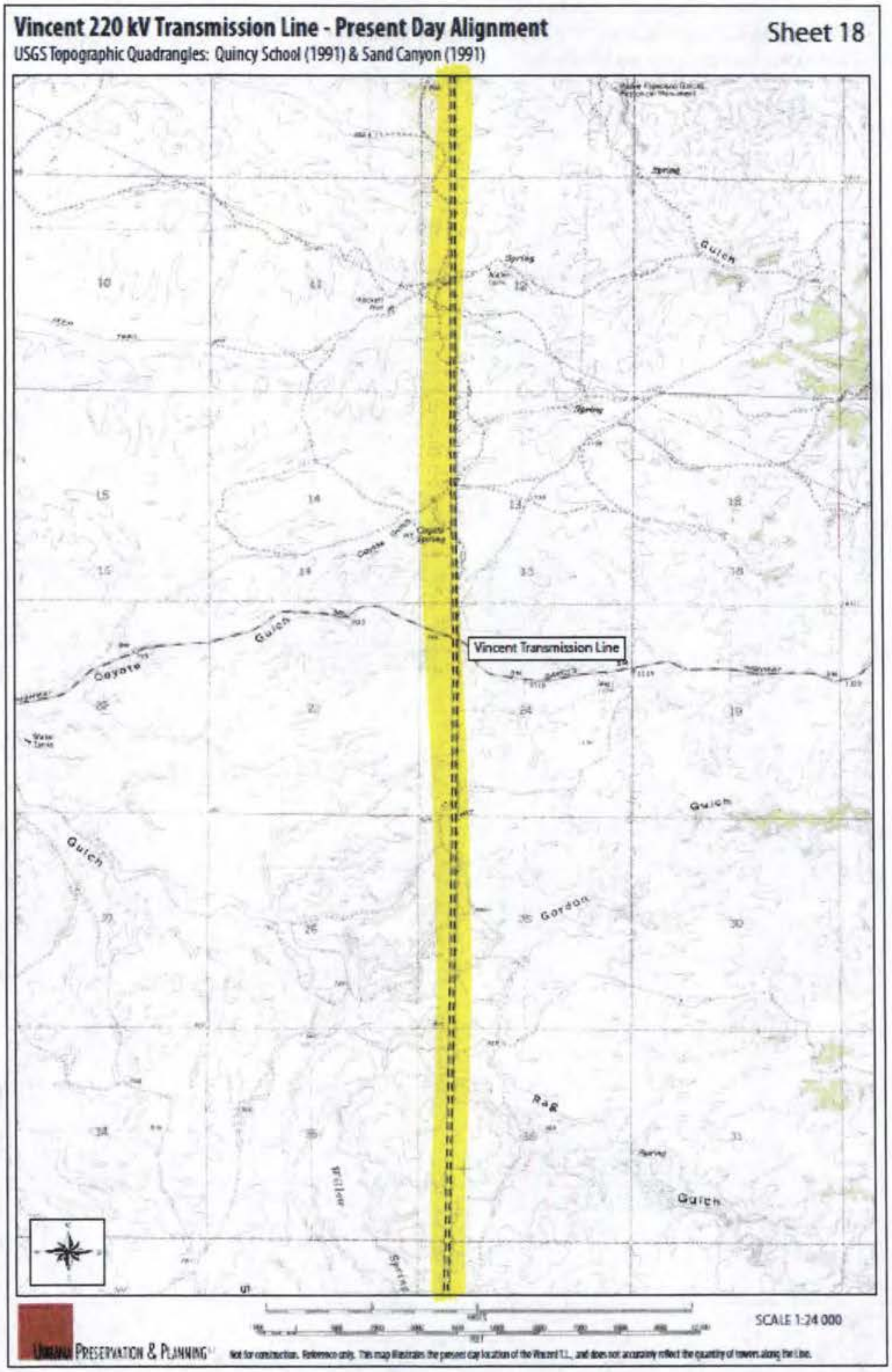
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 24 **of** 44 (Map Page 18 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Quincy School & Sand Canyon ***Scale**: 1:24000 ***Date of Map**: 1991, 1991
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)



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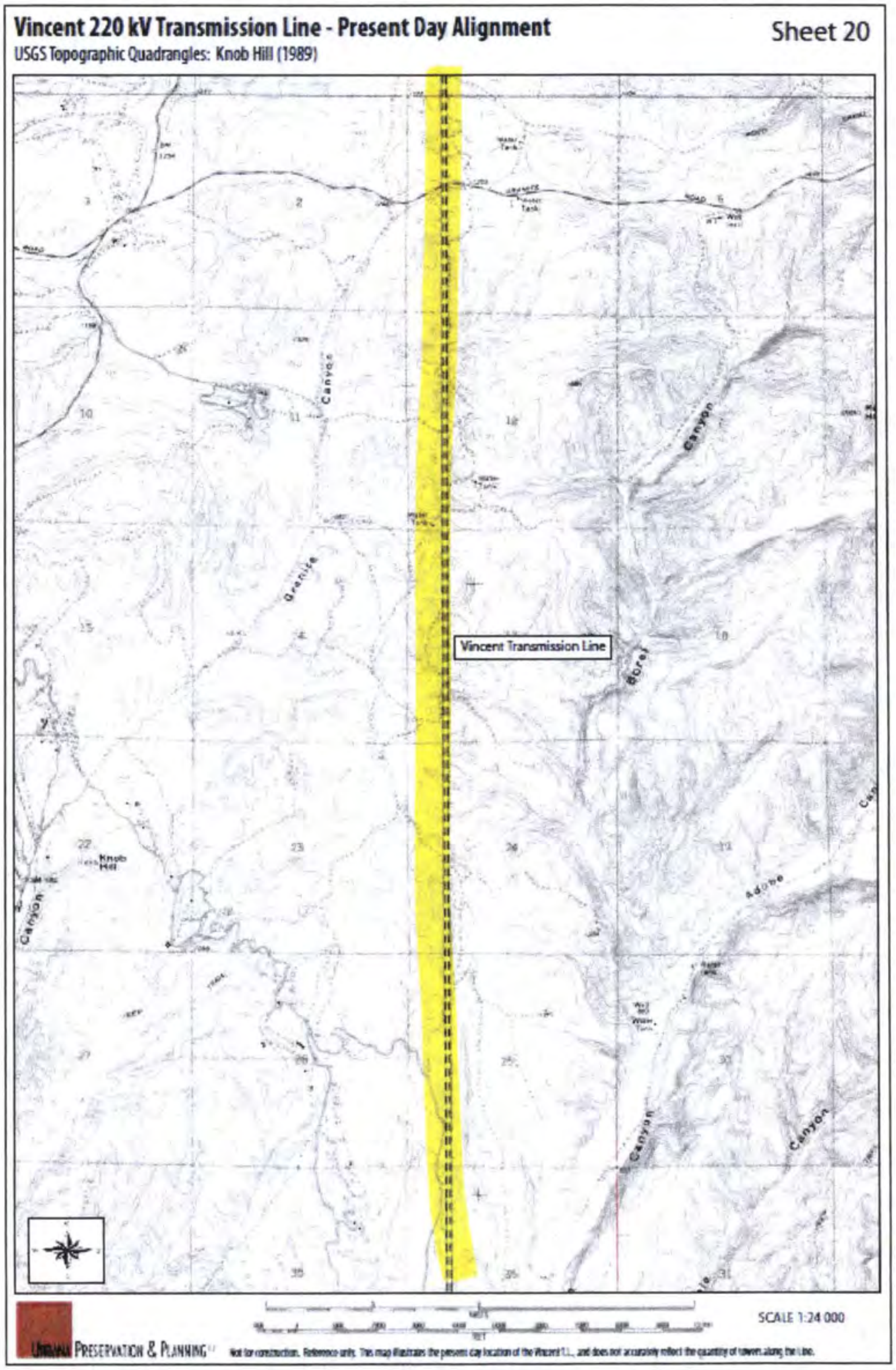
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 26 **of** 44 (Map Page 20 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Knob Hill ***Scale**: 1:24000 ***Date of Map**: 1989
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)



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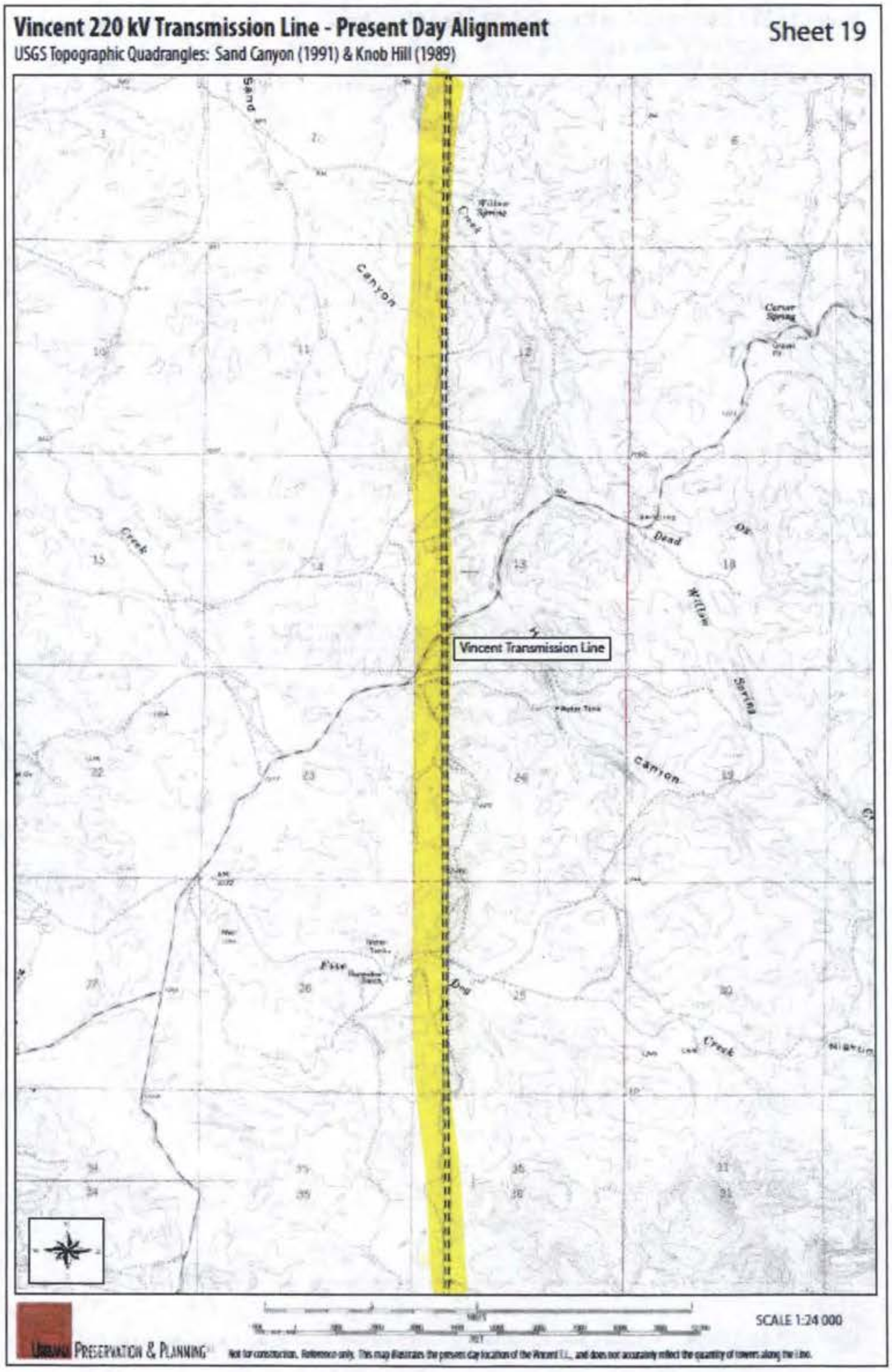
P-54-005027

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 25 **of** 44 (Map Page 19 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Sand Canyon & Knob Hill ***Scale**: 1:24000 ***Date of Map**: 1991, 1989
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)



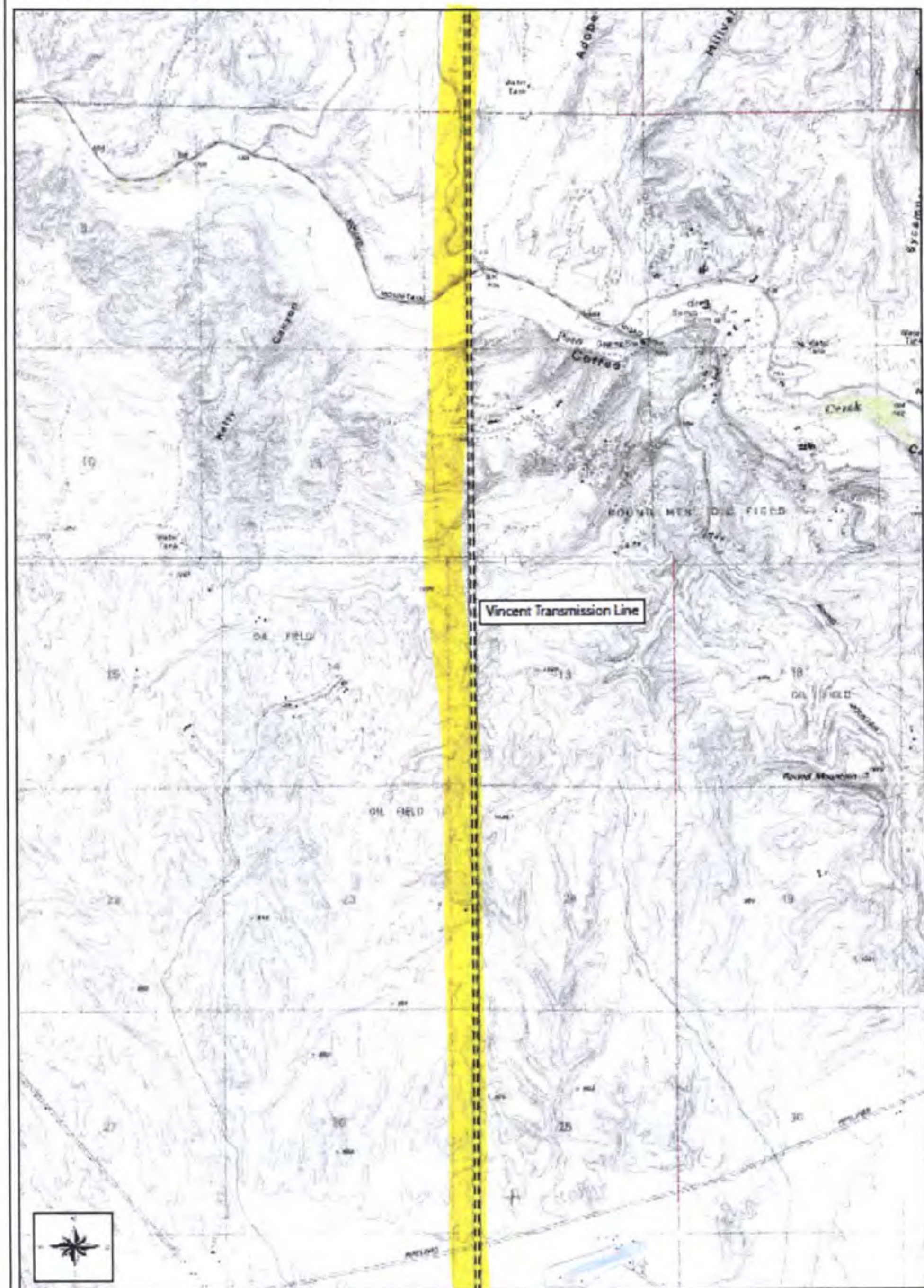
P-10-006250
P-54-005027

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 27 **of** 44 (Map Page 21 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Knob Hill & Oil Center ***Scale**: 1:24000 ***Date of Map**: 1989, 1995
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)

Vincent 220 kV Transmission Line - Present Day Alignment Sheet 21
USGS Topographic Quadrangles: Knob Hill (1989) & Oil Center (1995)



SCALE 1:24 000

URBANA PRESERVATION & PLANNING

Not for construction. Reference only. This map illustrates the present day location of the Vincent T.L., and does not accurately reflect the quantity of towers along the Line.

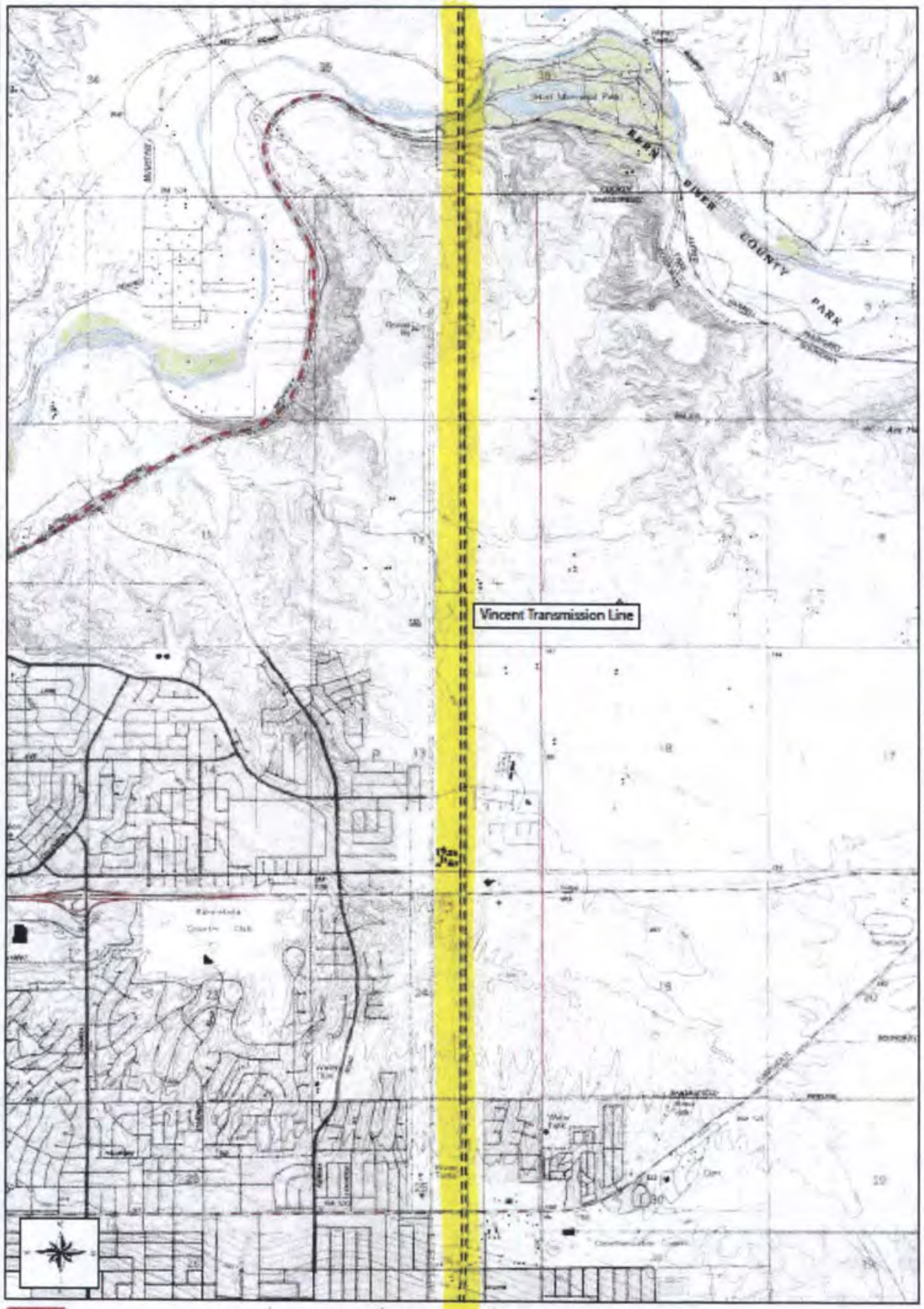
P-54-005027

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 28 **of** 44 (Map Page 22 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Oil Center & Lamont ***Scale**: 1:24000 ***Date of Map**: 1995, 1995
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)

Vincent 220 kV Transmission Line - Present Day Alignment Sheet 22
USGS Topographic Quadrangles: Oil Center (1995) & Lamont (1995)



SCALE 1:24 000

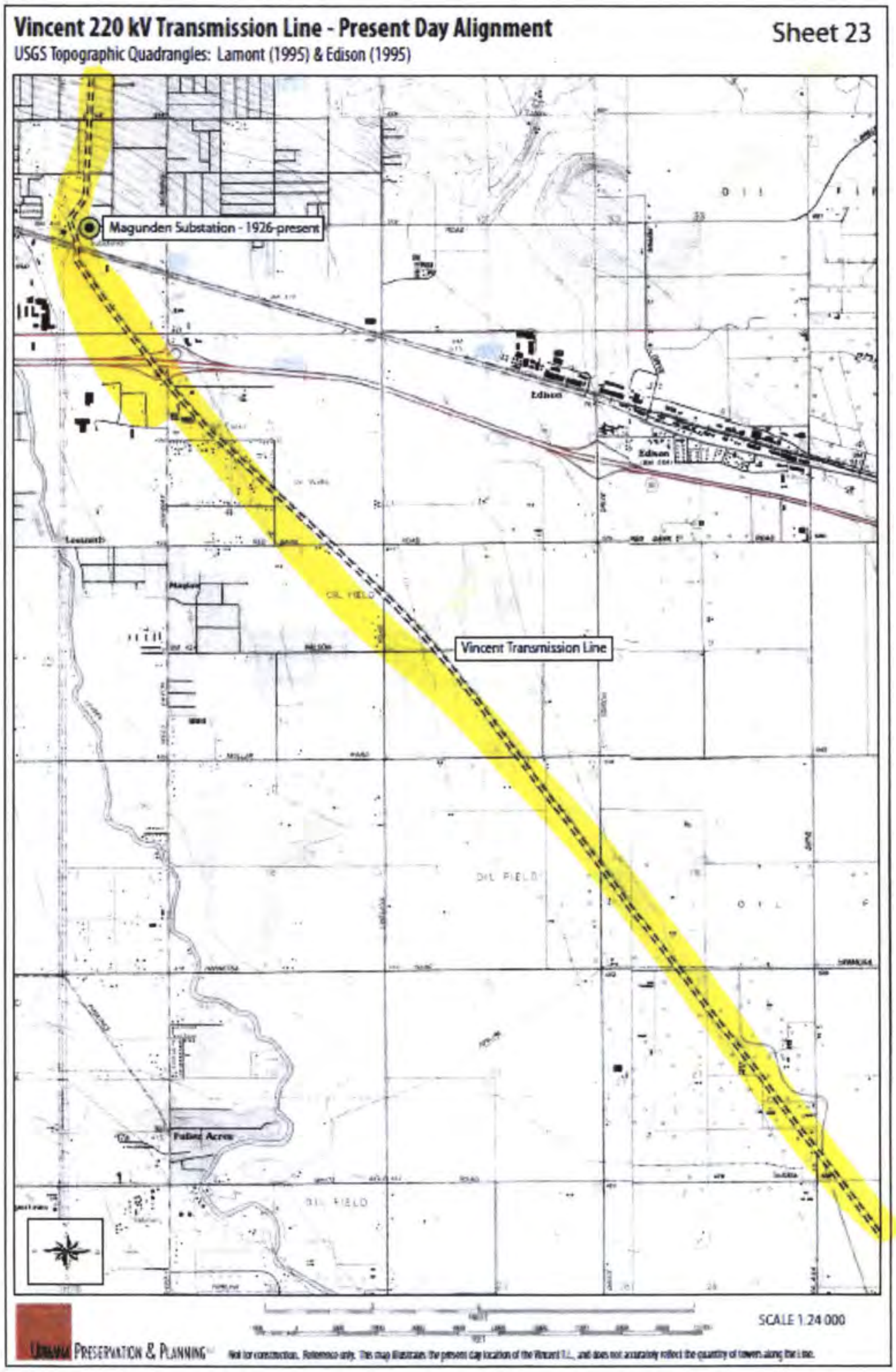
Urbana Preservation & Planning Not for construction. Reference only. This map illustrates the present day location of the Vincent TL, and does not accurately reflect the quantity of towers along the Line.

P-15-006225
P-54-005027

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 29 **of** 44 (Map Page 23 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Lamont & Edison ***Scale**: 1:24000 ***Date of Map**: 1995, 1995
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)

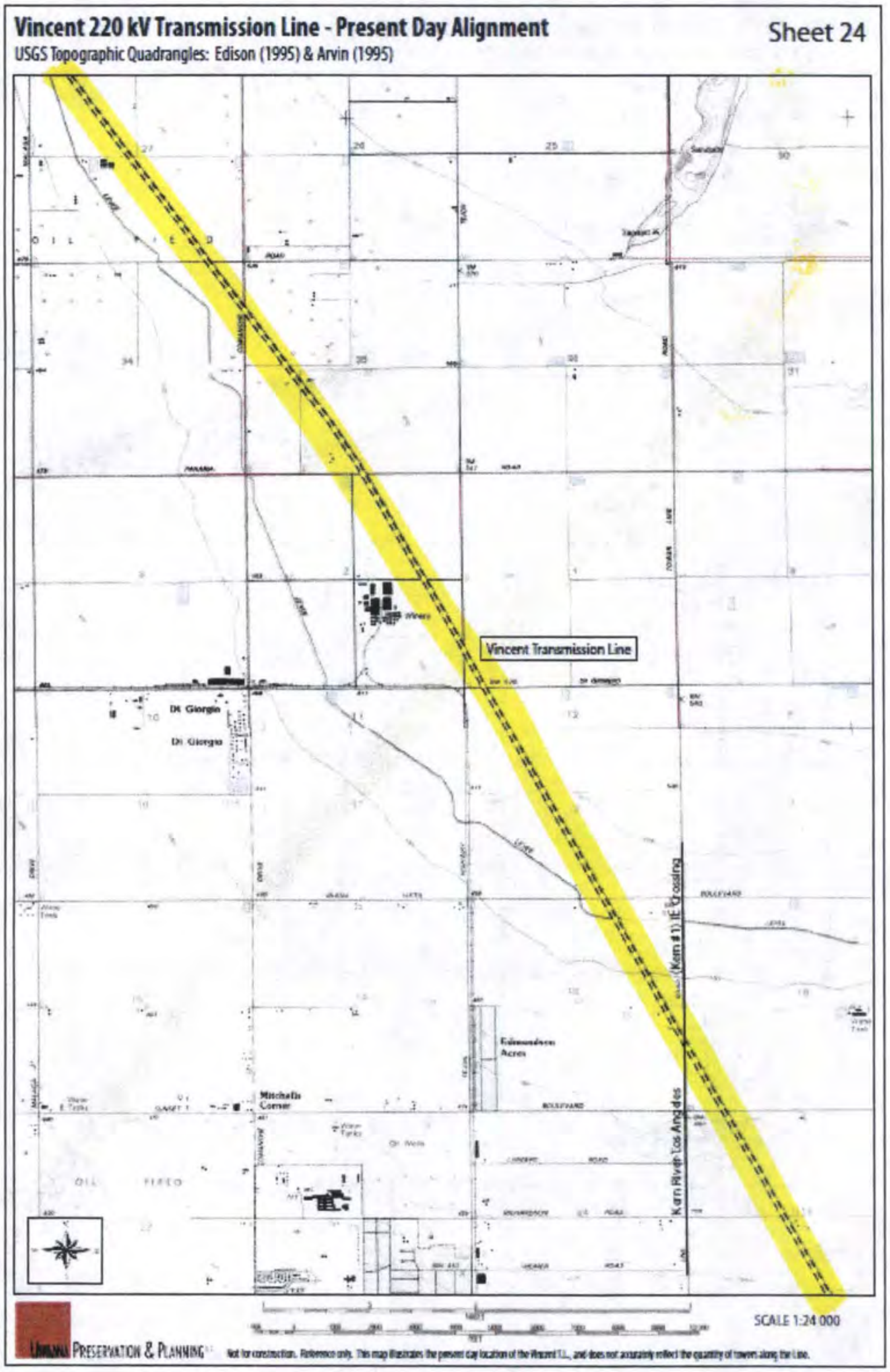


P-15-000000
P-54-005027

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 30 of 44 (Map Page 24 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Edison & Arvin ***Scale**: 1:24000 ***Date of Map**: 1995, 1995
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)



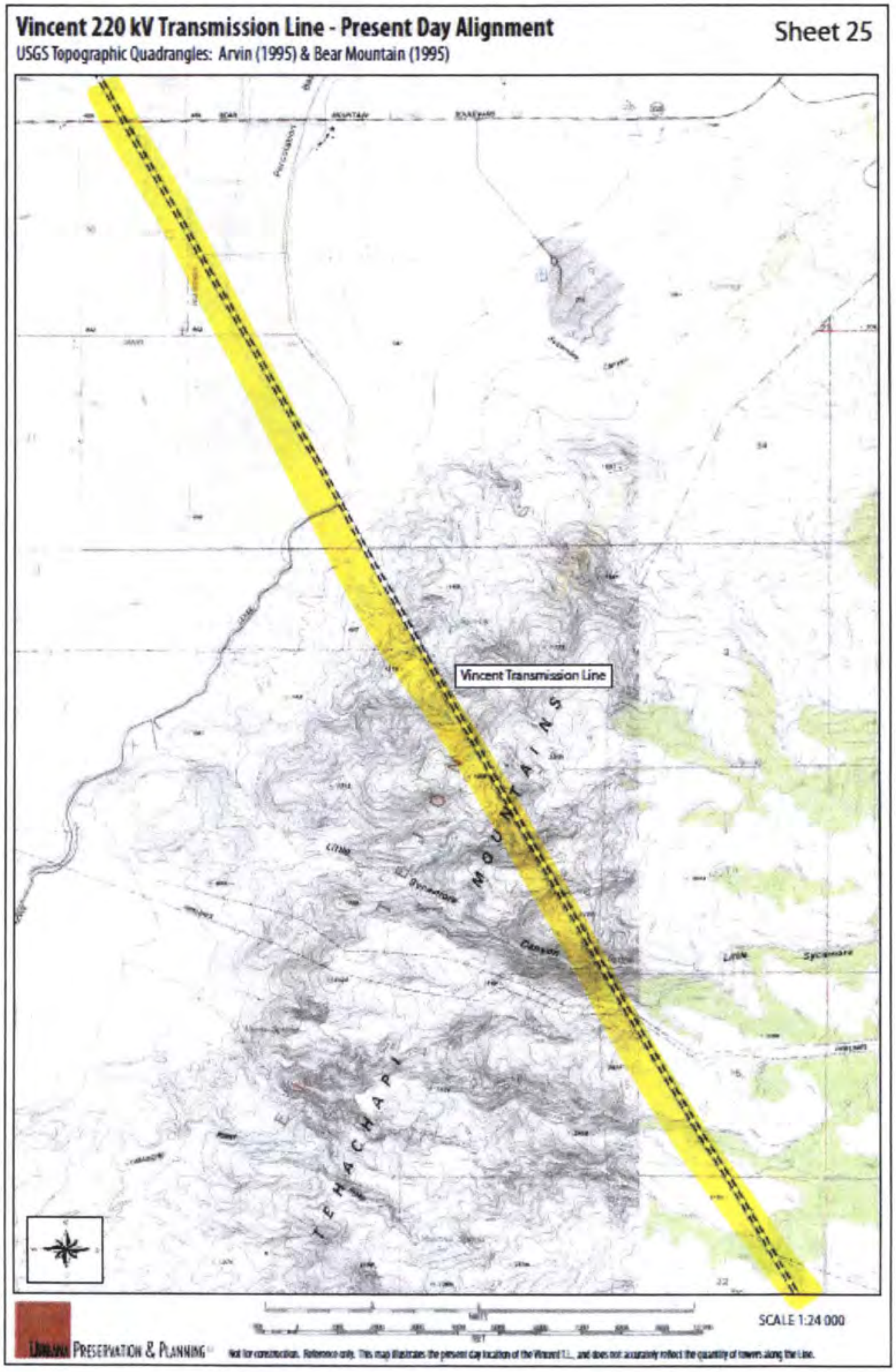
DPR 523J (1/95) *Required information

P-10-006235
P-54-005027

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 31 of 44 (Map Page 25 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Arvin & Bear Mountain ***Scale**: 1:24000 ***Date of Map**: 1995, 1995
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)

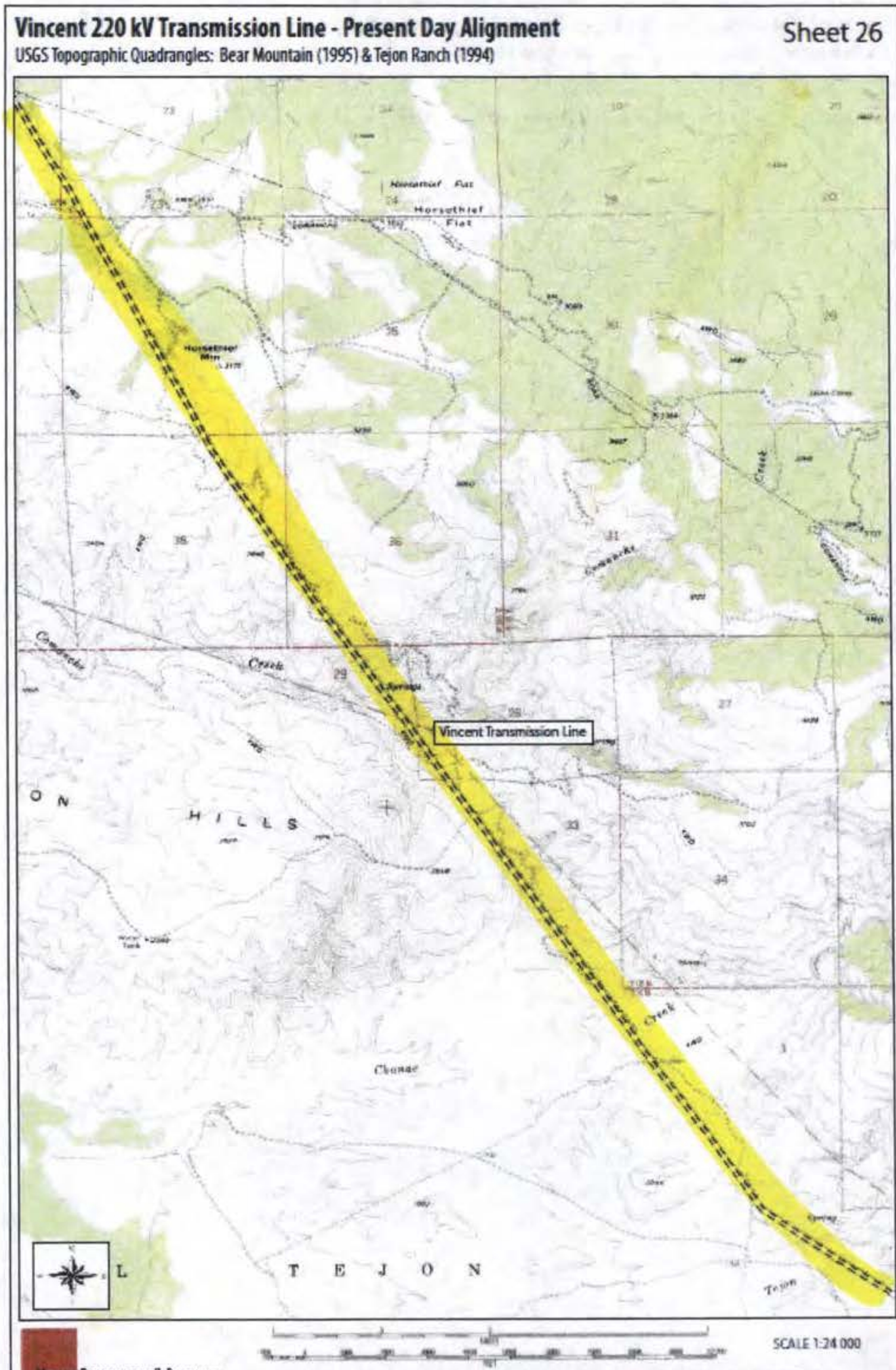


P-15-006200
P-54-005027

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 32 **of** 44 (Map Page 26 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Bear Mountain & Tejon Ranch ***Scale**: 1:24000 ***Date of Map**: 1995, 1994
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)



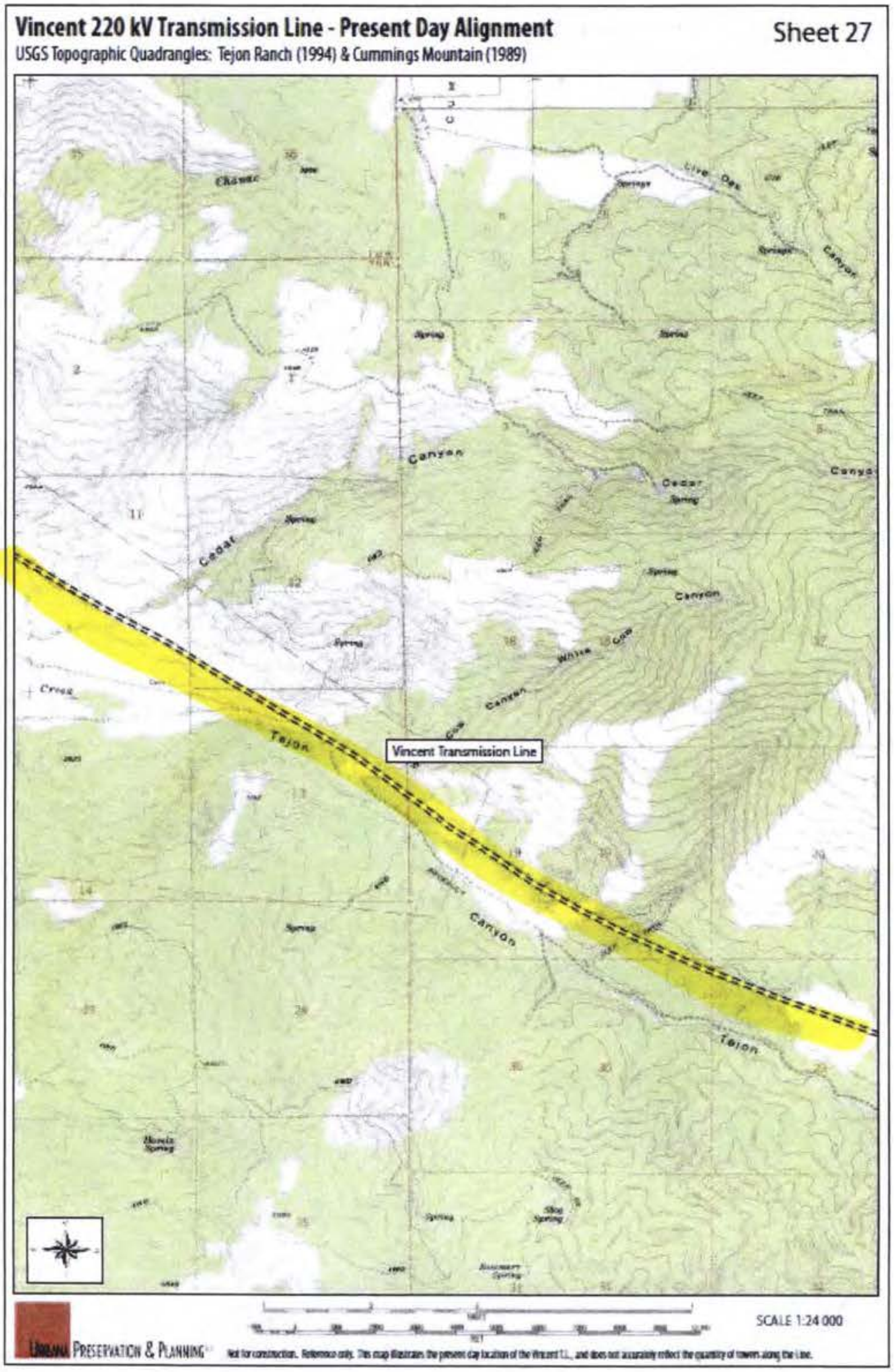
DPR 523J (1/95) *Required information

P-54-005027

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 33 of 44 (Map Page 27 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Tejon Ranch & Cummings Mountain ***Scale**: 1:24000 ***Date of Map**: 1994, 1989
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)

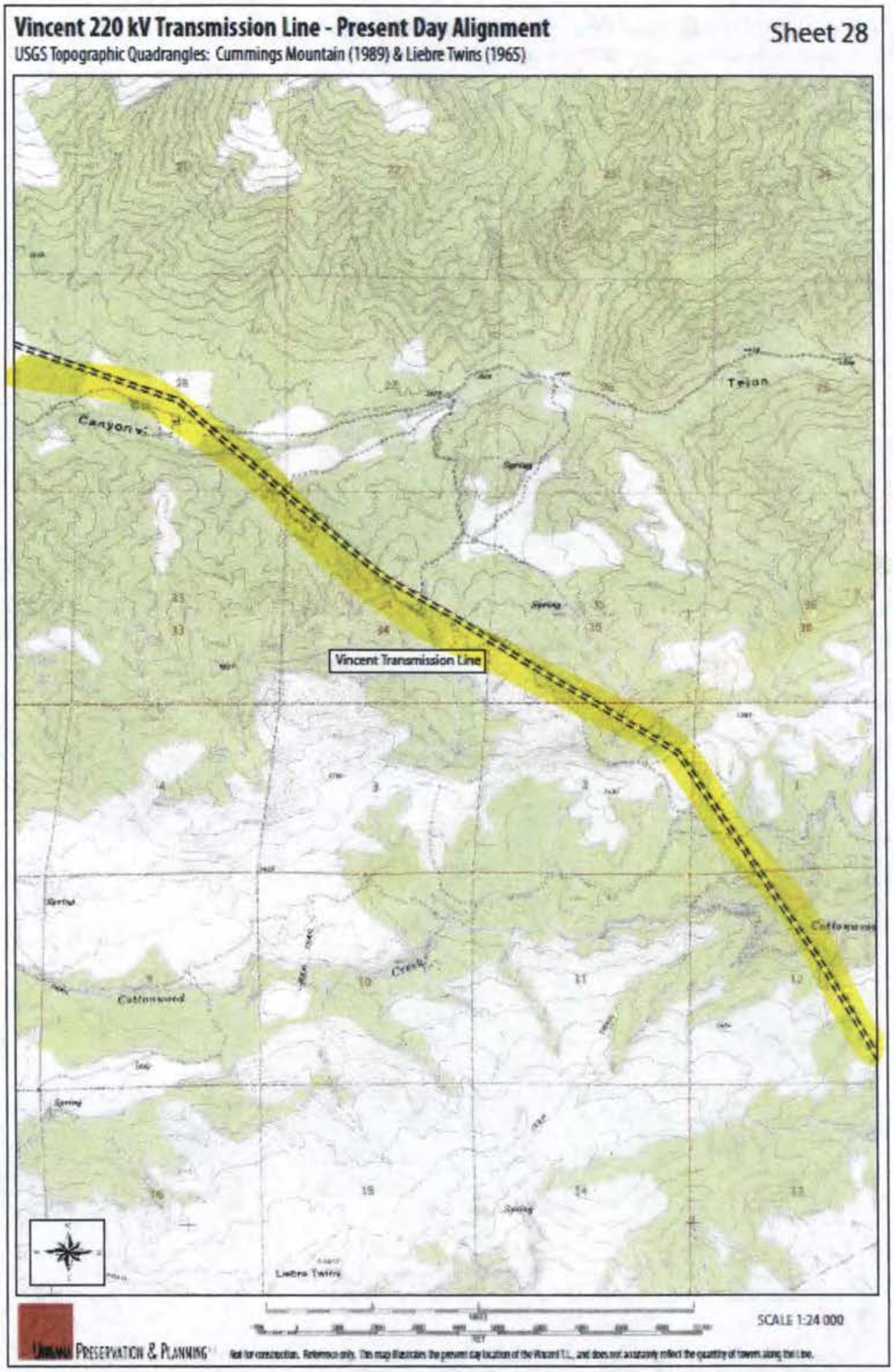


f-54-005027

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 34 of 44 (Map Page 28 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Cummings Mountain & Liebre Twins ***Scale**: 1:24000 ***Date of Map**: 1989, 1965
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)



P-54-005027

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 35 **of** 44 (Map Page 29 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Liebre Twins & Tylerhorse Canyon ***Scale**: 1:24000 ***Date of Map**: 1965, 1965
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)

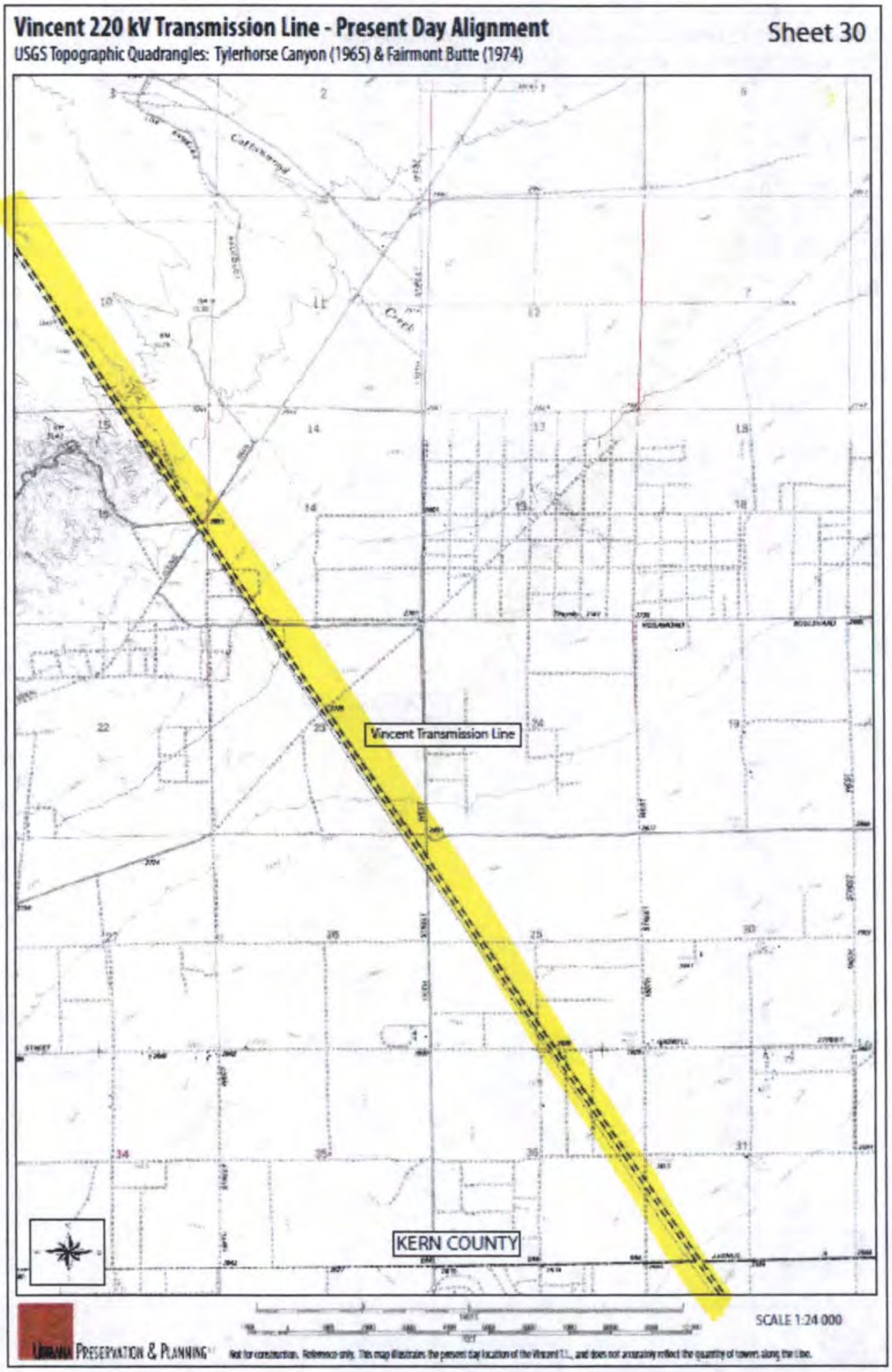
DPR 523J (1/95) *Required information

1-54-005027

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: 1-15-017243
HRI #:
Trinomial:

Page 36 **of** 44 (Map Page 30 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Tylerhorse Canyon & Fairmont Butte ***Scale**: 1:24000 ***Date of Map**: 1965, 1974
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)

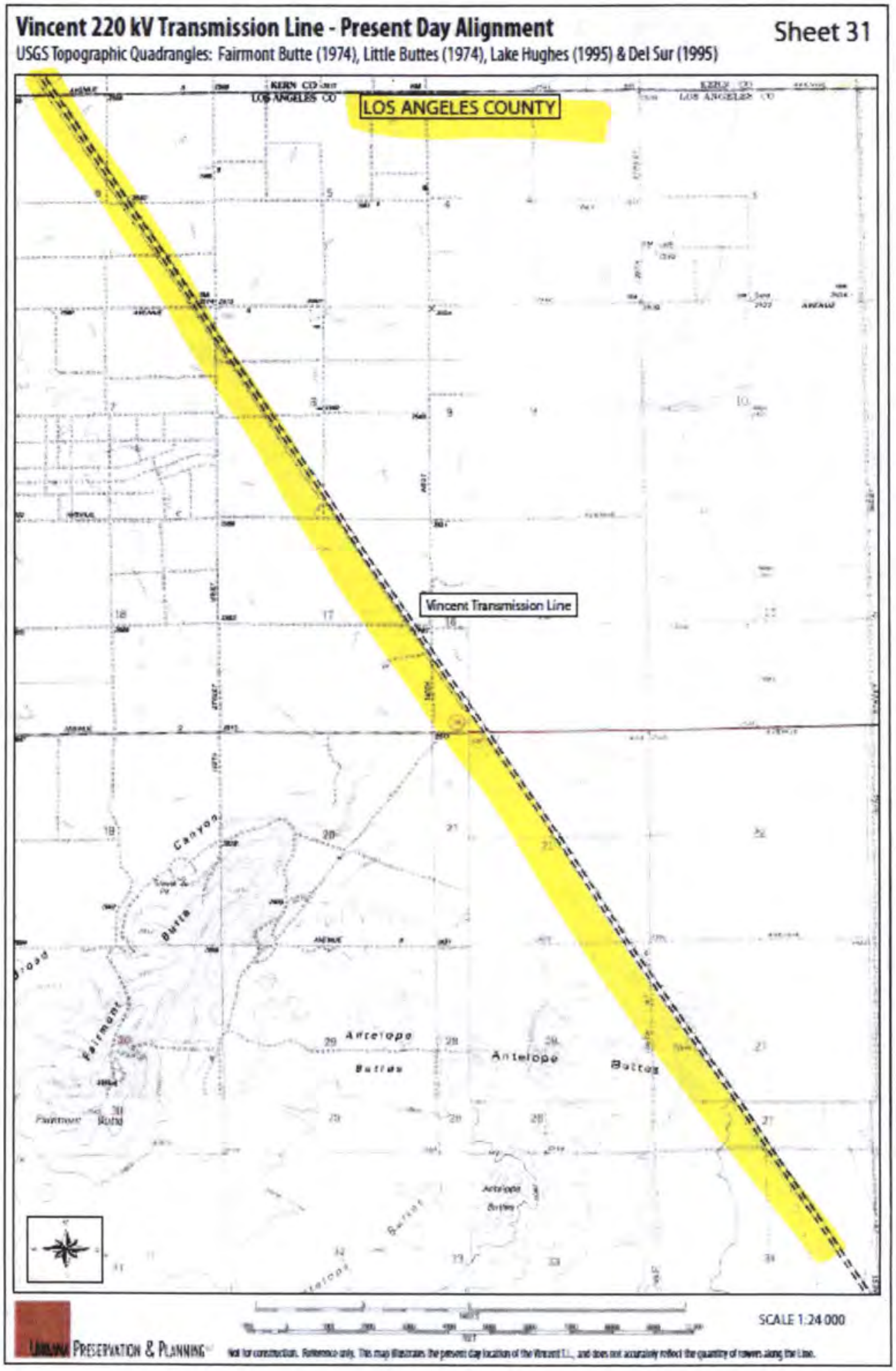


P-59-005027

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 37 **of** 44 (Map Page 31 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Fairmont Butte, Little Butte, Lake Hughes, & Del Sur ***Scale**: 1:24000 ***Date of Map**: 1974, 1974, 1995, 1995
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)

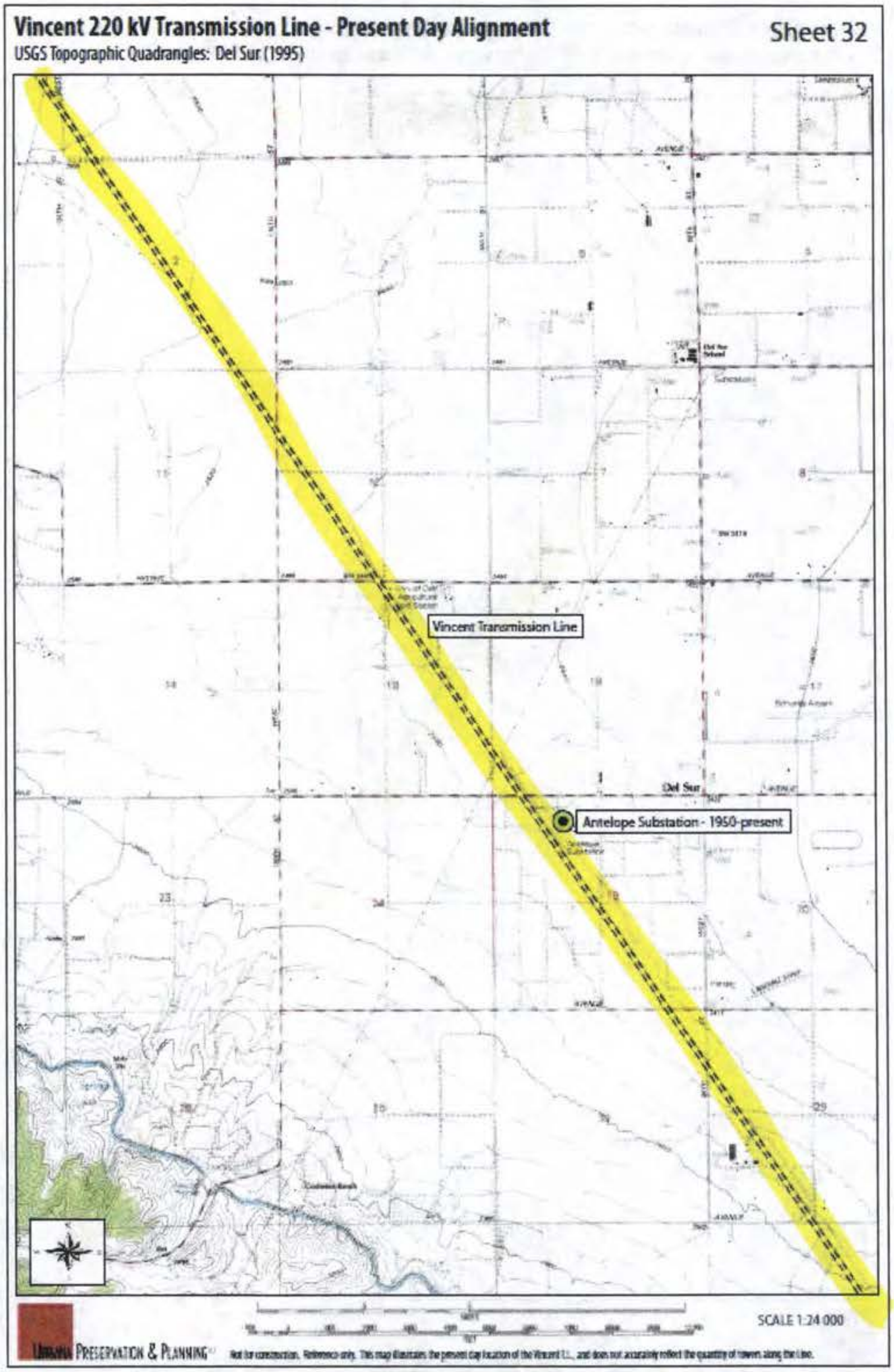


P-15-017243
P-34-005027

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 38 **of** 44 (Map Page 32 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Del Sur ***Scale**: 1:24000 ***Date of Map**: 1995
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)

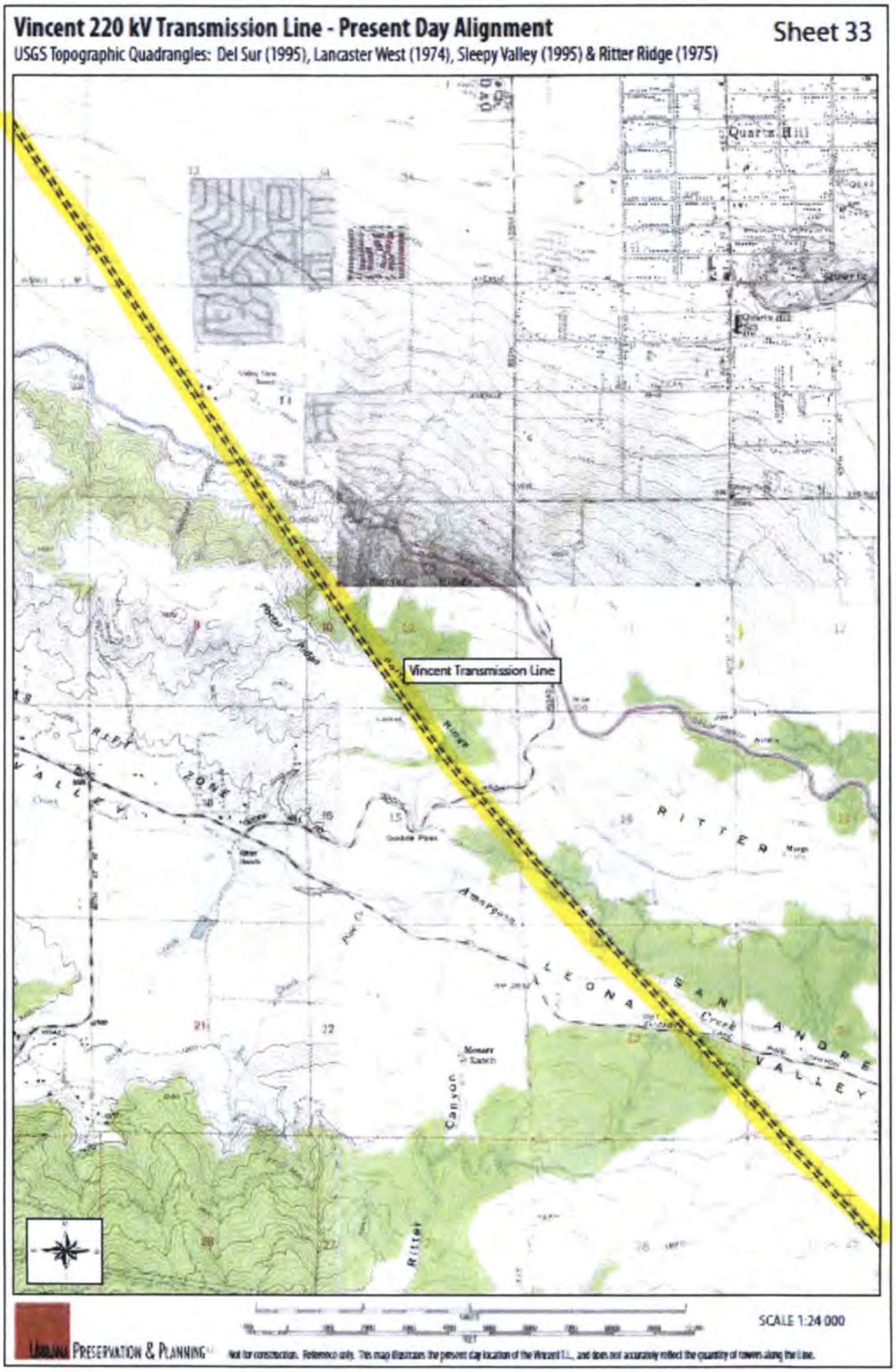


P-19-006265
P-54-005027

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 39 **of** 44 (Map Page 33 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Del Sur, Sleepy Valley, & Ritter Ridge ***Scale**: 1:24000 ***Date of Map**: 1995, 1995, 1975
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)

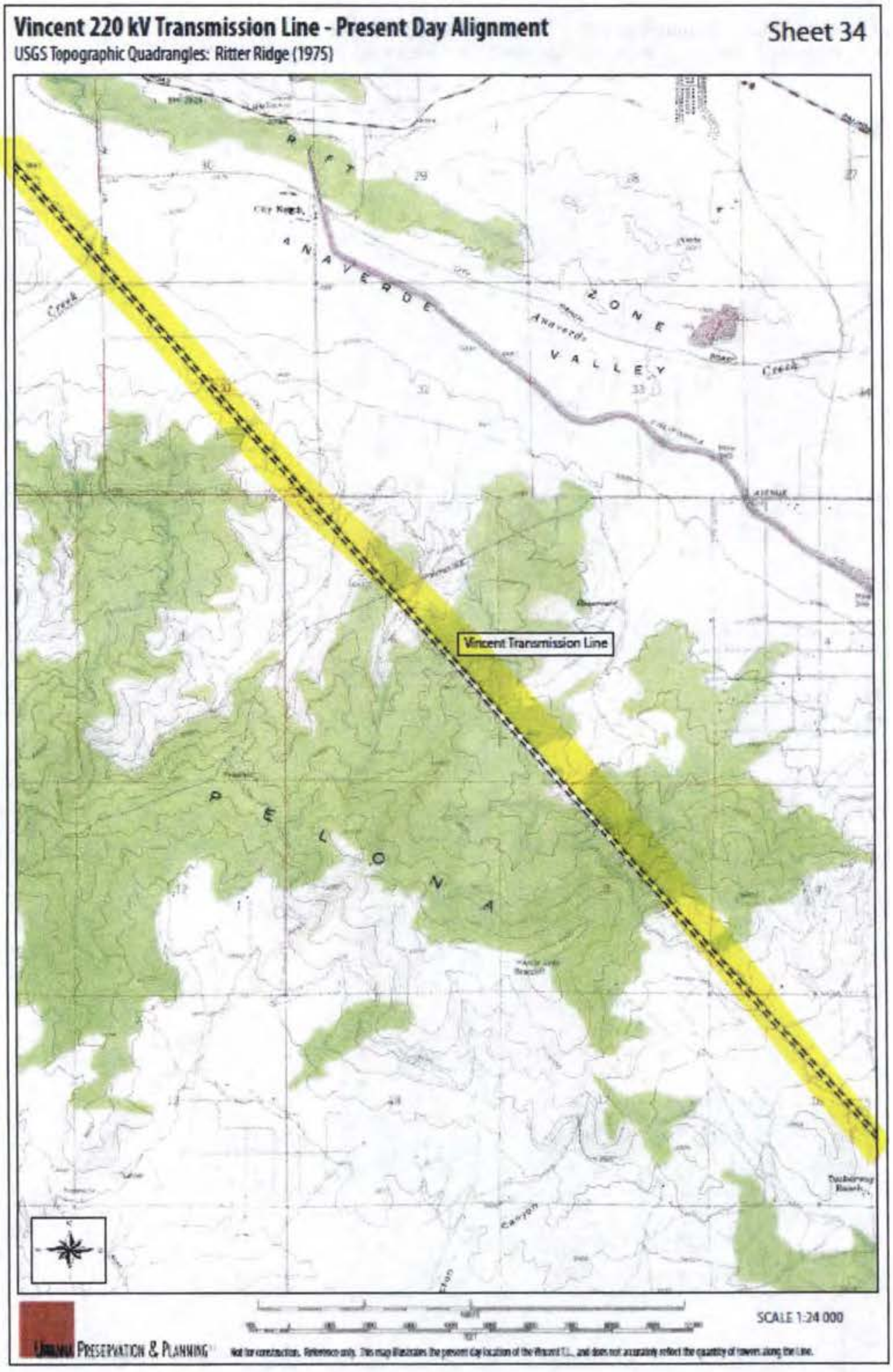


P-19-00623
P-54-005027

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 40 of 44 (Map Page 34 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Ritter Ridge ***Scale**: 1:24000 ***Date of Map**: 1975
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)

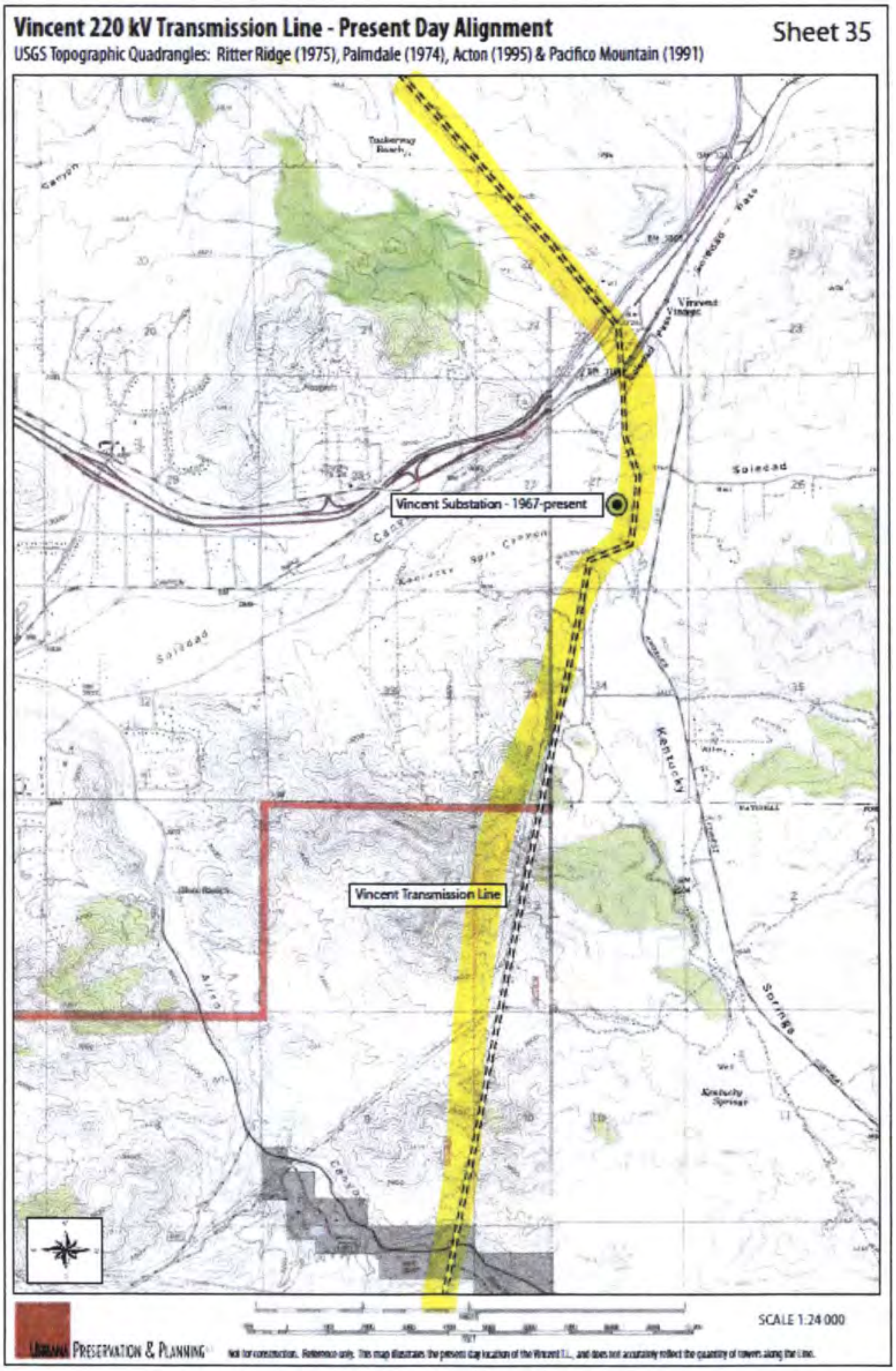


P-54-005027

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 41 of 44 (Map Page 35 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Ritter Ridge, Palmdale, Acton, & Pacifico Mountain ***Scale**: 1:24000 ***Date of Map**: 1975, 1974, 1995, 1991
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)



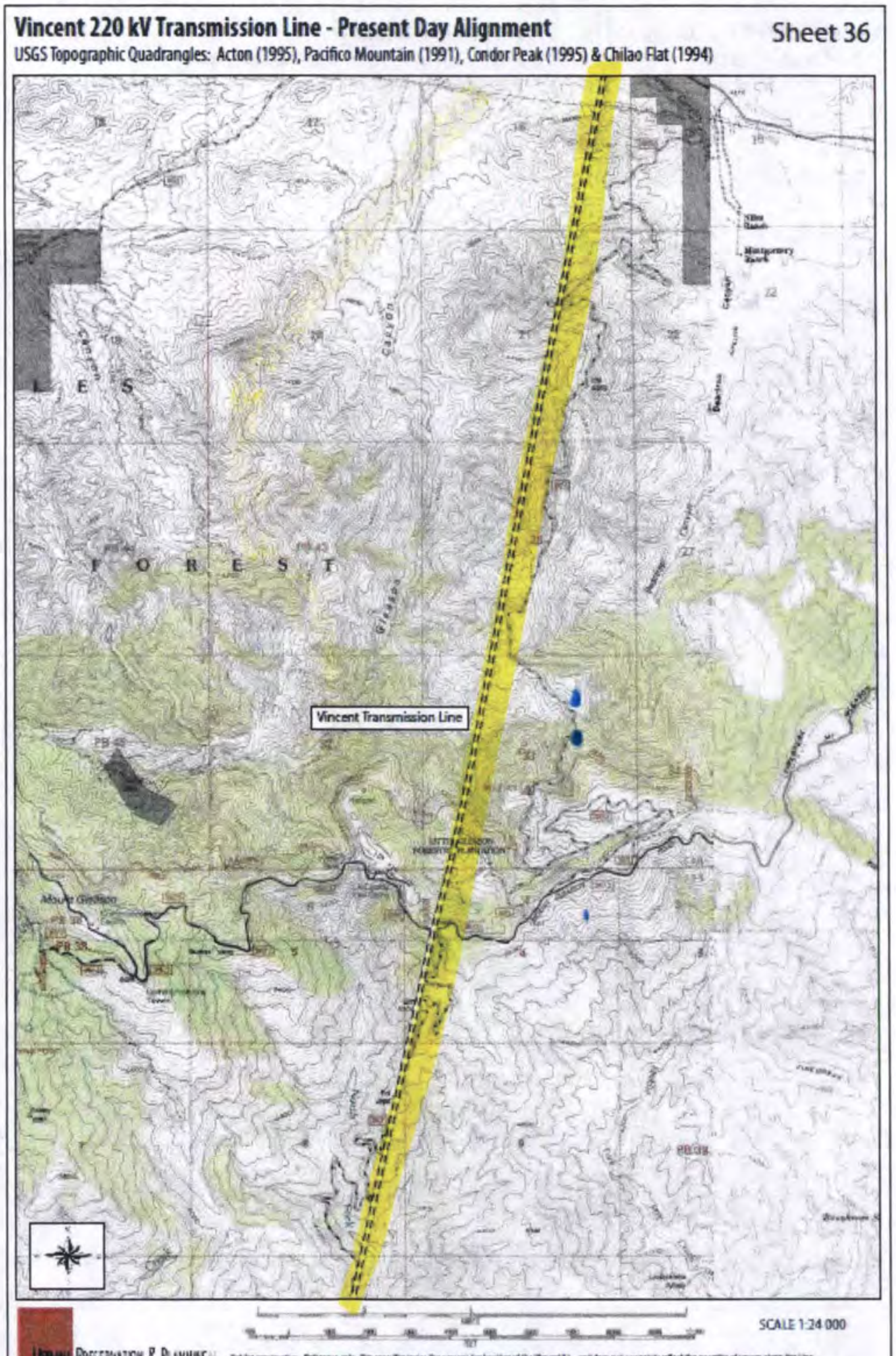
DPR 523J (1/95) ***Required information**

P-54-003027

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 42 **of** 44 (Map Page 36 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Acton, & Pacifico Mountain, & Condor Peak ***Scale**: 1:24000 ***Date of Map**: 1995, 1991, 1995
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)

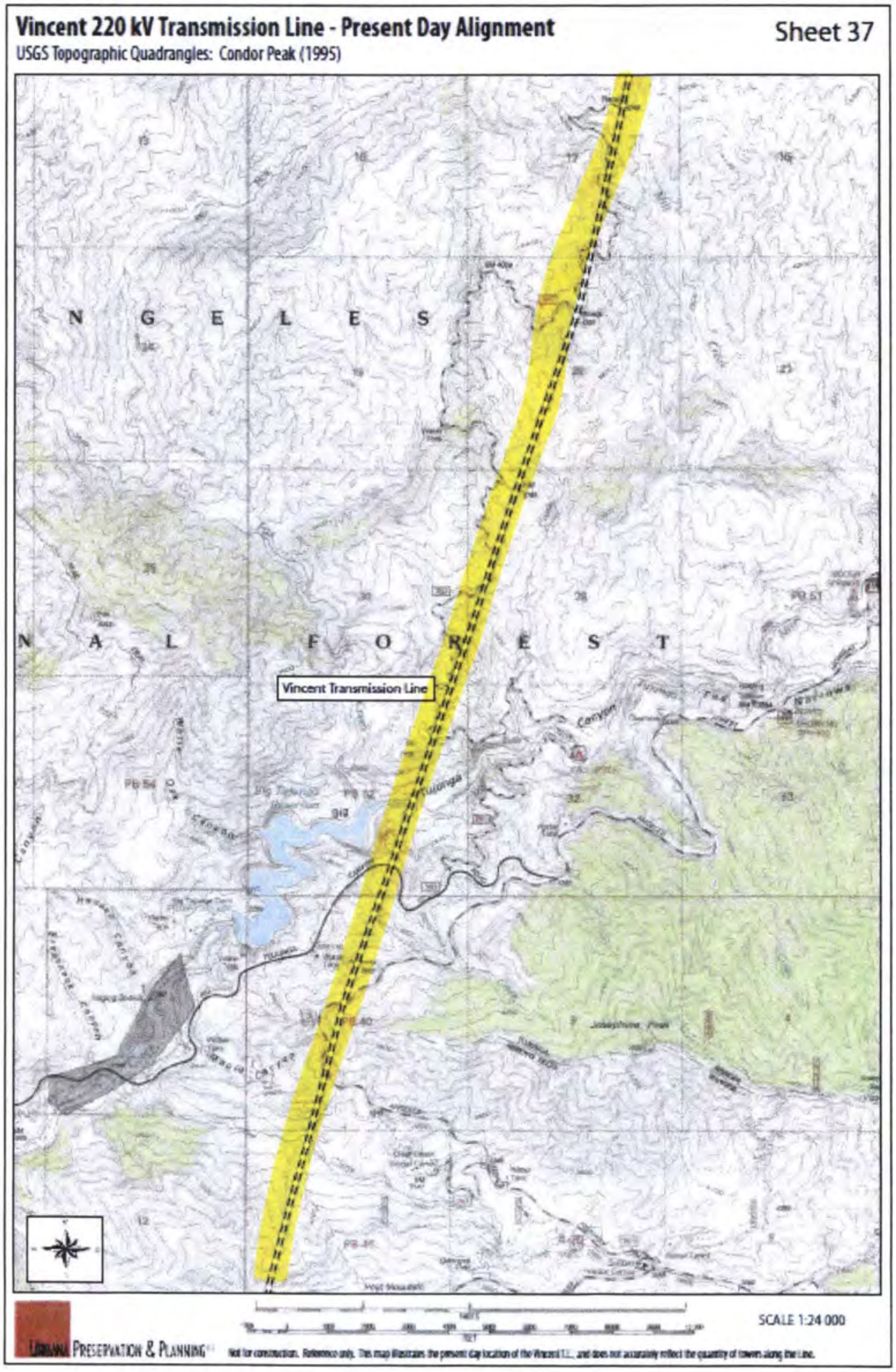


P-54-005027

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 43 **of** 44 (Map Page 37 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code:** 2D2
***Map Name:** Condor Peak ***Scale:** 1:24000 ***Date of Map:** 1995
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)

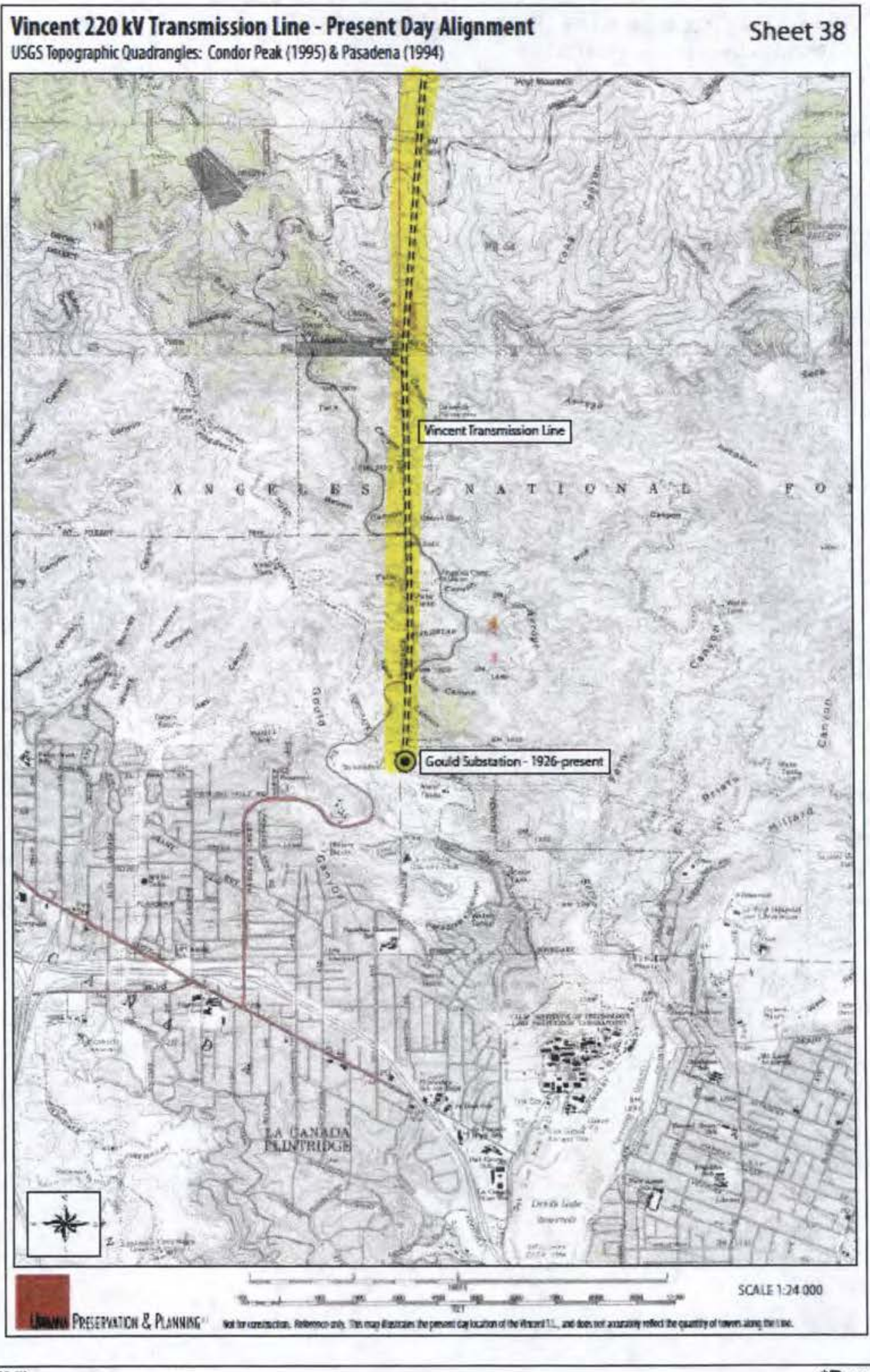


P-54-005027

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: P-15-017243
HRI #:
Trinomial:

Page 44 **of** 44 (Map Page 38 of 38) ***Resource Name or #** Vincent 220kV Transmission Line ***NRHP Status Code**: 2D2
***Map Name**: Condor Peak & Pasadena ***Scale**: 1:24000 ***Date of Map**: 1995, 1994
Map Prepared By: Heather Crane, Urbana Preservation & Planning, LLC (June 2011)



Resource Name or #: (Assigned by recorder) Resource ID 27, SCE Big Creek No. 4 220 kV Transmission Line; Antelope-Mesa 500 kV Transmission Line

L1. Historic and/or Common Name: SCE Big Creek No. 4 220 kV Transmission Line; Antelope-Mesa 500 kV Transmission Line

L2a. Portion Described: ☐ Entire Resource ☒ Segment ☐ Point Observation **Designation:**

b. Location of point or segment: (Provide UTM coordinates, legal description, and any other useful locational data. Show the area that has been field inspected on a Location Map)

Southern terminus: 11S 368976.35 mE, 11S 3857128.25 mN
Northern terminus: 11S 367408.12 mE, 11S 3859490.12 mN

L3. Description: (Describe construction details, materials, and artifacts found at this segment/point. Provide plans/sections as appropriate.)

The SCE Big Creek No. 4 Transmission line parallels the Vincent 220 kV Transmission Line through a portion of the study area. SCE constructed the subject transmission line in 1949–1951. Today SCE identifies the portion of the transmission line in the study area as the Antelope-Magunden No. 1 Transmission Line.

L4. Dimensions: (In feet for historic features and meters for prehistoric features)

a. Top Width:
b. Bottom Width:
c. Height or Depth:
d. Length of Segment: 9,169’

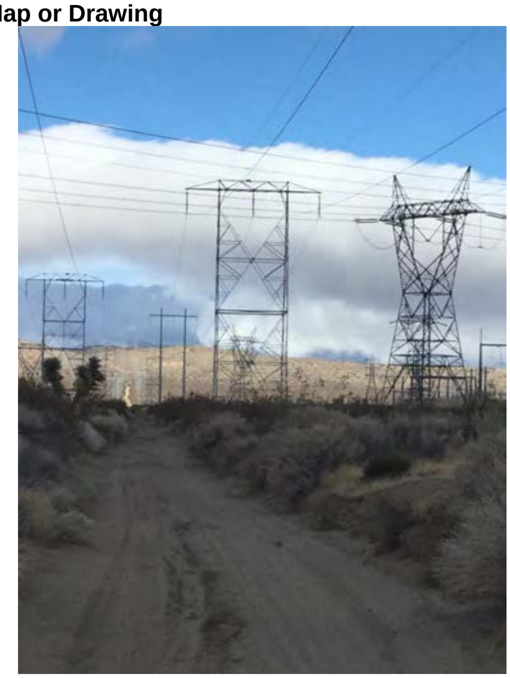
L4e. Sketch of Cross-Section (include scale) **Facing:**

L5. Associated Resources:

L6. Setting: (Describe natural features, landscape characteristics, slope, etc., as appropriate.)

L7. Integrity Considerations:
(See continuation sheet.)

L8a. Photograph, Map or Drawing



L8b. Description of Photo, Map, or Drawing (View, scale, etc.)
View of typical transmission tower in photo center, facing north, Rosamond, Kern County, California

L9. Remarks:
(See continuation sheet.)

L10. Form Prepared by: (Name, affiliation, and address)
Katrina Castaneda, ICF
555 W 5th St Ste 3100,
Los Angeles, CA 90013

L11. Date: January 6, 2021

L7. Integrity Considerations (continued):

Qualified architectural historians noted during field survey on December 28th, 2021 that the segment within the study area confirmed the 2017 assessment that although it is associated with the Big Creek Hydroelectric System, SCE constructed it well after the 1911-1929 period of significance for the NRHP-listed BCHSHD. The resource remains ineligible for listing to the CRHR.

L9. Remarks (continued):

Previous Evaluations:
In the 2016 National Register of Historic Places (NRHP) nomination form for the Big Creek Hydroelectric System Historic District (BCHSHD), SCE describes the Big Creek No. 4 Transmission Line as not contributing to the district because it was constructed outside the district's period of significance.

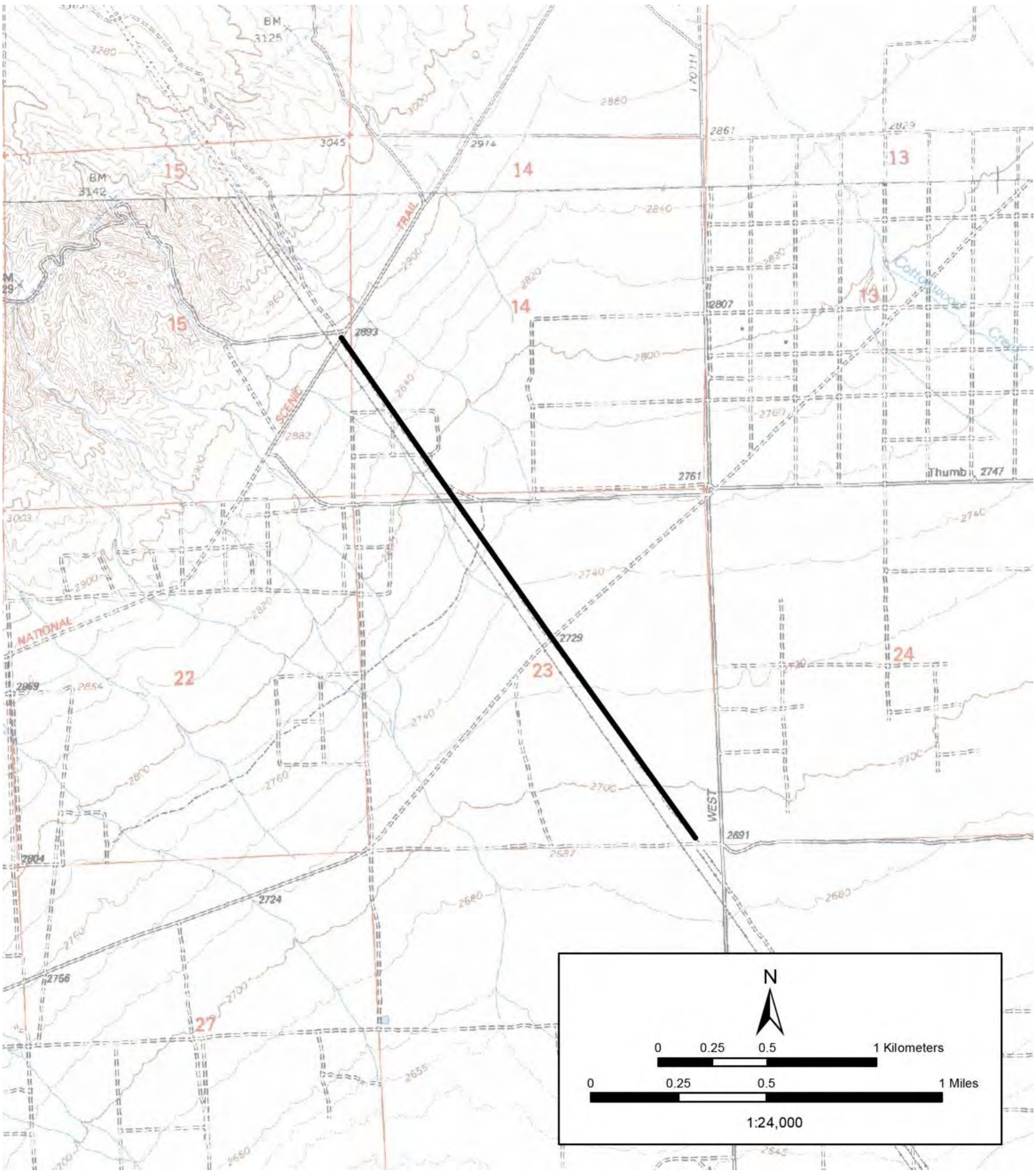
In 2017, Audrey Williams of SCE prepared a DPR form set evaluating the Big Creek No. 4 220kV Transmission Line as individually ineligible for both the NRHP and the California Register of Historical Resources (CRHR) and assigned 6Y and 6Z status codes.

Primary #
HR #
Trinomial

Location Map

Page 3 of 3 *Resource Name or #: (Assigned by recorder) Resource ID 27, SCE Big Creek No. 4 220 kV Transmission Line; Antelope-Mesa 500 kV Transmission Line

*Map Name: USGS 7.5' Fairmont Butte *Scale: 1:24,000 *Date of Map: 12/28/2021



P-10-007028
P-15-017582
P-20-003145
P-54-005299

State of California—The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # P-15-017582
HRI # P-20-003145
Trinomial P-54-005299
NRHP Status Code 6Y, 6Z

Other Listings
Review Code ___________ Reviewer ___ Date ___________

 *Resource Name or #: Southern California Edison Company's Big Creek No. 4 220kV Transmission Line

P1. Other Identifier:

***P2. Location:** ☐ Not for Publication ■ Unrestricted

***a. County:** Madera, Fresno, Tulare, Kern and Los Angeles Counties

***b. USGS 7.5' Quad:** See P2e Below **Date:**____ **T**__; **R**__; __**¼ of** __**¼ of Sec**__; _MD**BM**

c. Address: ______________ City: ______________ Zip: ___________

d. UTM: Zone:11S; 3288020mE / 4113994mN at Big Creek No. 3 Powerhouse; 278850mE / 4113159mN at Big Creek No. 4 Powerhouse; 281257mE / 4089310mN at intersection with Big Creek East & West 220kV Transmission Line Right of Way; 303437mE / 4066892mN joins Vincent 220kV Transmission Line Right of Way; 325507mE / 3997631mN at Springville Substation; 325406mE / 3914780mN at Magunden Substation; 380819mE / 3839014mN at Antelope Substation (NAD 1983)

e. Other Locational Data: Cascadle Point, Auberry, Millerton Lake East, Humphrey's Station, Pine Flat Sam, Luckett Mountain, Tucker MTN, Stokes MTN, Auckland, Woodlake, Rocky Hill, Chickencoop Canyon, Fraizer Valley, Success Dam, Fountain Springs, Quincy School, Sand Canyon, Knob Hill, Oil Center, Lamont, Edison, Arvin, Bear Mountain, Tejon Ranch, Cummings Mountain, Liebre Twins, Tylerhorse Canyon, Fairmont Butte, Little Buttes, and Del Sur, California 7.5' USGS

***P3a. Description:** The Big Creek No. 4 220kV transmission was constructed in 1949-1951, to transmit power form Big Creek Powerhouses Nos. 3 and 4, located in the Sierra National Forest in Fresno and Madera Counties, California to the Mesa Substation in Montebello, Los Angeles County, California. The transmission line was originally constructed in three segments; Big Creek No. 3 to Big Creek No. 4 (5.79 miles), Big Creek No. 4 to Magunden Substation (132.75 miles), and Magunden Substation to Mesa Substation (119.52 miles). The purpose of these 258 mile transmission line was to convey electricity from the powerhouses at Big Creek to Los Angeles to support the electrical needs of a rapidly growing Los Angeles basin, post War World II. The Big Creek Hydroelectric System (BCHS) is owned and operated by the Southern California Edison Company (SCE), construction of the system began in 1911. Powerhouse No. 4 was part of the original plans of John S. Eastwood for the development of the BCHS during the first years of this century, construction of Powerhouse No. 4 was not economically feasible until the late 1940s. By 1948 SCE had decided to build the new 84,000-kilowatt powerhouse.

***P3b. Resource Attributes:** HP11 Engineering Structure (Transmission Line)

***P4. Resources Present:** ☐Building ☐Structure ☐Object ■Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5b. Description of Photo:
View north on East Brundage Lane west of SR-184 in Bakersfield. View of the Antelope-Magunden No. 2 portion of the Vincent 220kV Transmission Line on the left (M94-T5), Antelope-Magunden No. 1 portion of the Big Creek No. 4 Transmission Line on the right (M0-T3).

***P6. Date Constructed/Age and Sources:** ■ Historic
1949-1951

***P7. Owner and Address:**
Southern California Edison Company
2244 Walnut Grove Ave. Rosemead CA, 91770

***P8 . Recorded by:**
Audry Williams,
SCE Senior Archaeologist

***P9. Date Recorded:** July 2017

***P10. Survey Type:** Intensive

***P11. Report Citations:** None

***Attachments:** ☐None ■Location Map ■Site Map ■Continuation Sheets ■Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Feature Sketch ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (List):

*NOTE: pgs. 31-51 missing. See the June 2011 recording of P-15-017582 for location of Antelope-Magunden #1 220kV Transmission Line.

BUILDING, STRUCTURE, AND OBJECT RECORD

B1. Historic Name: Big Creek No. 3-Big Creek No. 4, Big Creek No. 4-Magunden, Magunden-Mesa
B2. Common Name: Big Creek No. 3-Big Creek No. 4, Big Creek No. 4-Springville, Magunden- Springville No. 2, Antelope-Magunden No. 1, Antelope-Mesa
B3. Original Use: Electrical transmission lines to supply power to the Los Angeles area from the Big Creek Hydroelectric System
B4. Present Use: Electrical transmission lines to supply power to the Los Angeles area from the Big Creek Hydroelectric System
***B5. Architectural Style:** Utilitarian Electrical Engineering single circuit transmission lines, constructed on lattice steel structures
***B6. Construction History:** 1949-1951
***B7. Moved?** □**No** ■**Yes** □**Unknown Date:** Various dates **Original Location:** See location maps
***B8. Related Features:** Big Creek Hydroelectric System including Powerhouses No. 3 and 4 Switchyards
B9a. Architect: Southern California Edison Company **B9b. Builder:** Stone & Webster Construction Co.
***B10. Significance:** None **Theme:** None **Area:** None **Period of Significance:** None
The California State Historic Preservation Office concurred on October 10, 2010 that the Antelope-Mesa portion of this resource is not eligible to the NRHP.
Property Type: Electrical Structure –Electrical Power Conveyance System **Applicable Criteria:** None
B11. Additional Resource Attributes:

This resource is a three phase alternate current, single circuit 220kV transmission line on Boulder type galvanized steel towers. The conductors are 605,000 CM (circular mil) 30 x 19 steel reinforced aluminum wires and two overhead ground wires. The average span length is 1,390', with spans varying in length from 517' to 3,772'. All Towers are of standard SCE design, developed on the 220kV Boulder Lines. Members are structural steel angles and connecting plates with bolted connections. The towers have a rectangular configuration, faces parallel to line standing vertically and faces perpendicular to line have a slope of 1¾ to 12 for suspension towers and $1^7/_8$ to 12 for dead end towers. Standard Suspension Towers with "0" legs, have an overall height to the top of the bridge of about 82', Dead End or Anchor Tower 78". All towers may be varied in height or individual legs varied, by reducing or increasing the bottom section of leg length by 3' or 6'. Further increase heights are obtained with the use of 6', 12', 18', and 24' extensions.

All tower footings are regular poured-in-place reinforced belled concrete piles with the exception of 44 tower sites in San Gabriel River Channel area, where poured in place caisson-type footings are installed. The concrete pile footings vary in length from 8' 6" to 15', and in diameter from 18" to 30". Caisson are 25' in length and 26" or 36" in diameter.

Big Creek No. 3-Big Creek No. 4 is 5.79 miles from rack to rack. The line leaves Big Creek No. 3 crosses the San Joaquin River three times and is totally within the Sierra National Forest in new acquired Right of Way. A total of 21 towers were constructed in this segment between November 13, 1950 to April 3, 1951.

- 5 Suspension Towers, Light Loading
- 10 Suspension Towers, Heavy Loading
- 2 Suspension Towers, Special
- 4 Dead End or Anchor Towers.

Big Creek 4-Magunden original stretched 132.75 miles, from Big Creek No. 4 switchyard to Magunden Substation in Bakersfield. It was constructed in a new Right of Way (ROW) from the switchyard in the Sierra National Forest West and then south towards Squaw Valley, where it crosses over the existing Vincent 220kV Transmission Line at Tower M35-T2. From M35-T3 to Magunden Substation in Bakersfield the line shares a ROW with the Vincent Line. A total of 457 towers were original constructed in this segment from March 1950 to June 1, 1951.

- 373 Suspension Towers, Light Loading
- 58 Suspension Towers, Heavy Loading
- 1 Suspension Tower, Special
- 25 Dead End or Anchor Towers

Magunden – Mesa 220kV as originally constructed from Magunden Substation to M77-T3 the Magunden-Mesa line parallels the Vincent Line. From Mile 77 to Mile 118, the line is located in a new ROW. Between towers M118-T2 and M119-T3 the line uses a portion of the former Chino-Laguna Bell transmission line. 119.52 miles. A total of 534 towers, including 9 towers constructed for the relocated Chino-Laguna Bell Line were constructed from July 27, 1949 to October 6, 1950

- 299 Suspension Towers, Light Loading
- 179 Suspension Towers, Heavy Loading
- 9 Suspension Towers, Special
- 47 Dead End or Anchor Towers

Today the Big Creek No. 3-Big Creek No. 4 has undergone very few modifications. The Big Creek No. 4-Magunden loops into the Springville Substation in the Southern San Joaquin Valley and is now known as the Big Creek 4-Springville and Magunden-Springville No. 2 lines. Multiple towers have been raised or replaced over the years to span highways and other facilities. The Magunden-Mesa segment was looped into the Antelope Substation located in Rosamond, California renaming the line as the Antelope-Magunden No. 1 and Antelope-Mesa lines. The Antelope-Mesa portion of the line was completely removed during the construction of Segment 7 of SCE's Tehachapi Renewal Transmission Project (TRTP) in 2014. A 500kV Transmission Line was built in the former ROW of Antelope-Mesa.

BUILDING, STRUCTURE, AND OBJECT RECORD

***B10. Significance Continued:**

The Big Creek No. 4 220kV Transmission Line was erected / installed between 1949 and 1951 to distribute power between the SCE BCHS in the Sierra National Forest and Mesa Substation in Los Angeles, California. This was the fourth transmission line owned and operated by SCE to transmit electricity from the BCHS to Los Angeles. The prior three transmission lines were constructed between 1911 and 1929, and have been determined contributing elements to the NRHP Listed BCHS Historic District (BCHSHD).

Transmission level technology, as defined today (>160kV), was employed throughout the SCE service territory as early as 1922 when two existing 150kV lines of the BCHS were upgraded and expanded to convey electricity at 220kV and a third line, the Vincent Line was constructed in 1927. Subsequent transmission lines that exemplify transmission level voltage capacity and SCE's design / engineering capabilities were installed in association with the Boulder Dam in the early 1930s at 220kV, and in the vicinity of the Mojave desert in the mid-1960s at 500kV. These facilities are considered by SCE to exemplify and best represent transmission level technology within and beyond the SCE system, and are demonstrated as having a direct association with the industrialization of Southern California.

SCE and its predecessors were innovating at designing and construction high-voltage transmission lines on lattice steel structures over long distances at the start of the Twentieth Century with lines originating from the Kern River Hydroelectric System (at 60kV). By 1912, with the construction of the BCHS East & West Transmission Lines, SCE was transmitting at 150kV over long distances and when the lines were upgraded in 1922 at 220kV. By 1930 the backbone of SCE's 66kv and 220kV system was fully developed and included the use of 220kV double-circuit towers and 66kV multi-circuit towers ranging from 4 to 14 circuits. In the 1930s SCE continued to expand and develop tower types for its 220kV system, by designing larger single-circuit and double circuit towers based off of previous designs. At this time tower erection diagrams are labeled as 'system drawings' and multiple tower types become standardized. The technology is considered 'off the shelf' and commonplace, and therefore NRHP / CRHR ineligible. In the late 1960s SCE and other utilities began to build extra high voltage long distance transmission lines at 500kV and above. By 1970 SCE had constructed multiple 500kV lines and this new technology become common place.

By 1930 SCE developed it 66kV system, by 1941 its 220kV system and by 1971 its 500kV system. It is during this time that SCE created innovating tower types and/or achieved engineering feats of transmitting high and extra high voltages over long distances. These dates help to establish the period of significance for high and extra high voltage technology up to 500kV and to identify after which time lines would be considered 'off the shelf' and commonplace, and therefore NRHP / CRHR ineligible. The Period of Significance by voltage for SCE Transmission Lines is as follows: 66kV and below, 1907-1930; 67kV to 230kV, 1912-1941; 500kV, 1965-1970.

The Big Creek No. 4-Mesa 220kV Transmission Line has not been identified as an integral component of SCE's early expansion period. It has been identified as associated with a larger intentionally developed system of the BCHS intentionally planned and developed multiple-component historic infrastructure facility that could be associated with an important event in local, regional, state, or national history. However, the line was constructed in 1949-1951, after the Period of Significance of the BCHSHD of 1911-1929 and after the Period of Significance for SCE's 67kV to 230kV transmission lines of 1912-1941. **Therefore, the Big Creek No. 4 220kV Transmission Line is not eligible for inclusion on the National Register of Historic Places (NRHP) or California Register of Historical Resources (CRHR) under Criteria a/1.**

No association with the lives of persons significant in our past was identified. **This resource is not eligible for the NRHP/CRHR under Criteria b/2.**

The Big Creek No. 4-Mesa 220kV Transmission Line was not technologically or materially innovative within the history of electrical transmission and voltage systems, it was erected 27 years after the first 220kV line and 8 years after the established Period of Significance for this voltage. **This resource is not eligible for the NRHP/CRHR under Criteria c/3.**

This resource would not provide information that would be considered important to history and **is not eligible for the NRHP/CRHR under Criteria d/4.**

***B12. References:**

Shoup, Laurence H. with contributions by Clinton Blount, Valerie Diamond, and Dana McGowen Seldner. 1988. The Hardest Working Water in the World. A History and Significance Evaluation of the Big Creek Hydroelectric System.

Tinsley Becker Wendy, Audry Williams, Thomas Jackson and Adam Sriro. 2015. Historic-era Electrical Infrastructure Management Program: A Program for the Identification, Review, Exemption, and Treatment of Generating Facilities, Transmission Lines, Subtransmission Lines, Distribution Lines, and Substations within the Southern California Edison Company's Service Territory.

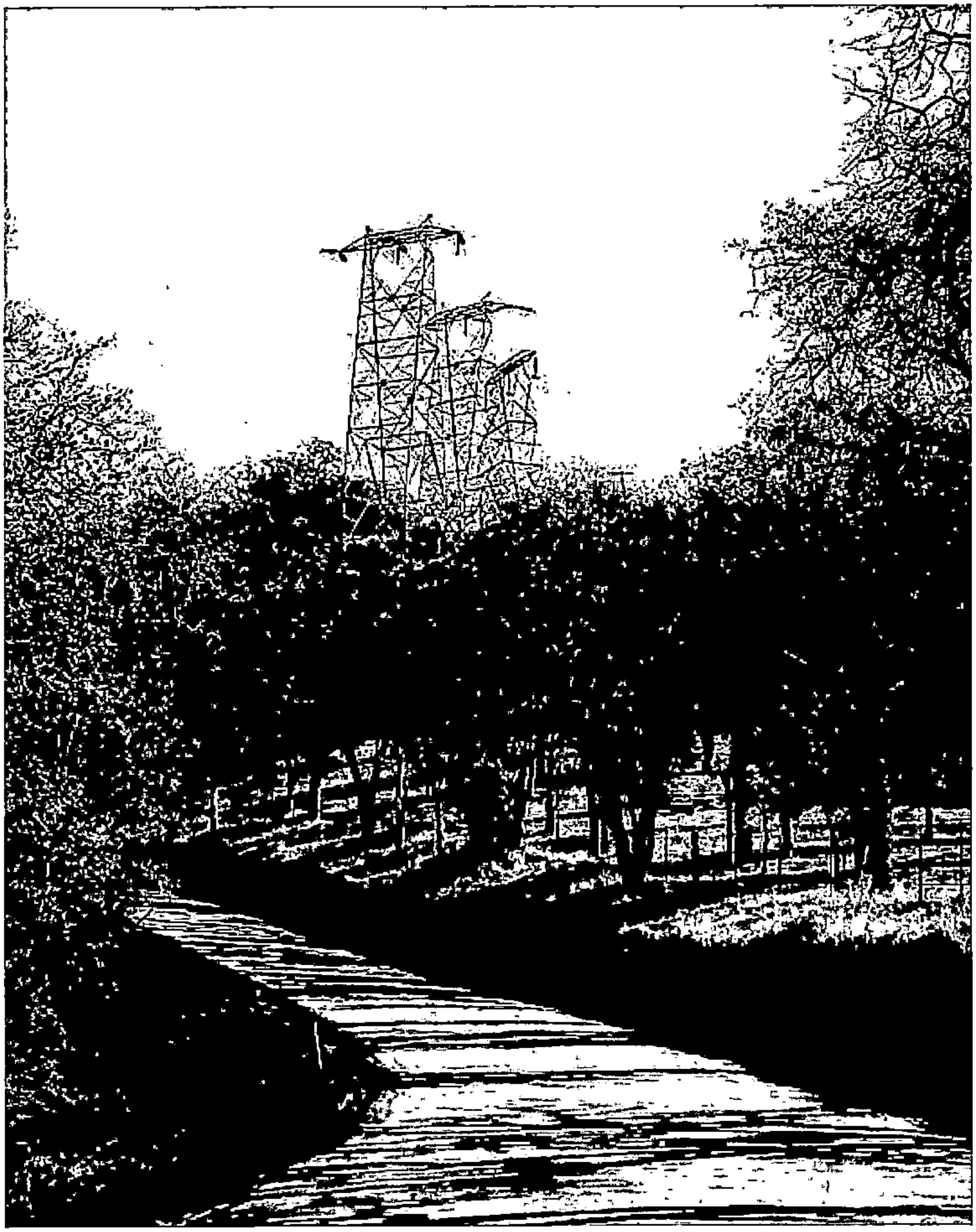
Stone and Webster Engineering Corporation. 1951. Southern California Edison Company 220 kV Transmission Lines Big Creek No. 3 to Big Creek No. 4, Big Creek No. 4 to Magunden Completion Cost Report.

Stone and Webster Engineering Corporation. 1951. Southern California Edison Company 220 kV Transmission Lines Magunden-Mesa Completion Cost Report.

Official Comments:

See Sketch Map and Location Maps

*Resource Name or # SCE Big Creek No. 4 220kV Transmission Line *NRHP Status Code 6Y, 6Z
Recorded by: Audry Williams *Date: July 2017 ■ Continuation □ Update



View East of where Big Creek No. 4 220kV line crosses over the Vincent 220kV Line at Tower M192-T2. M35-T2 is to the Left and M35-T3 to the Right. The Big Creek No. 4 line shares a ROW with the Vincent 220kV line from this point until both lines currently terminate at the Antelope Substation is Rosamond, California.

P-10-007028
P-15-017582

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

SKETCH MAP

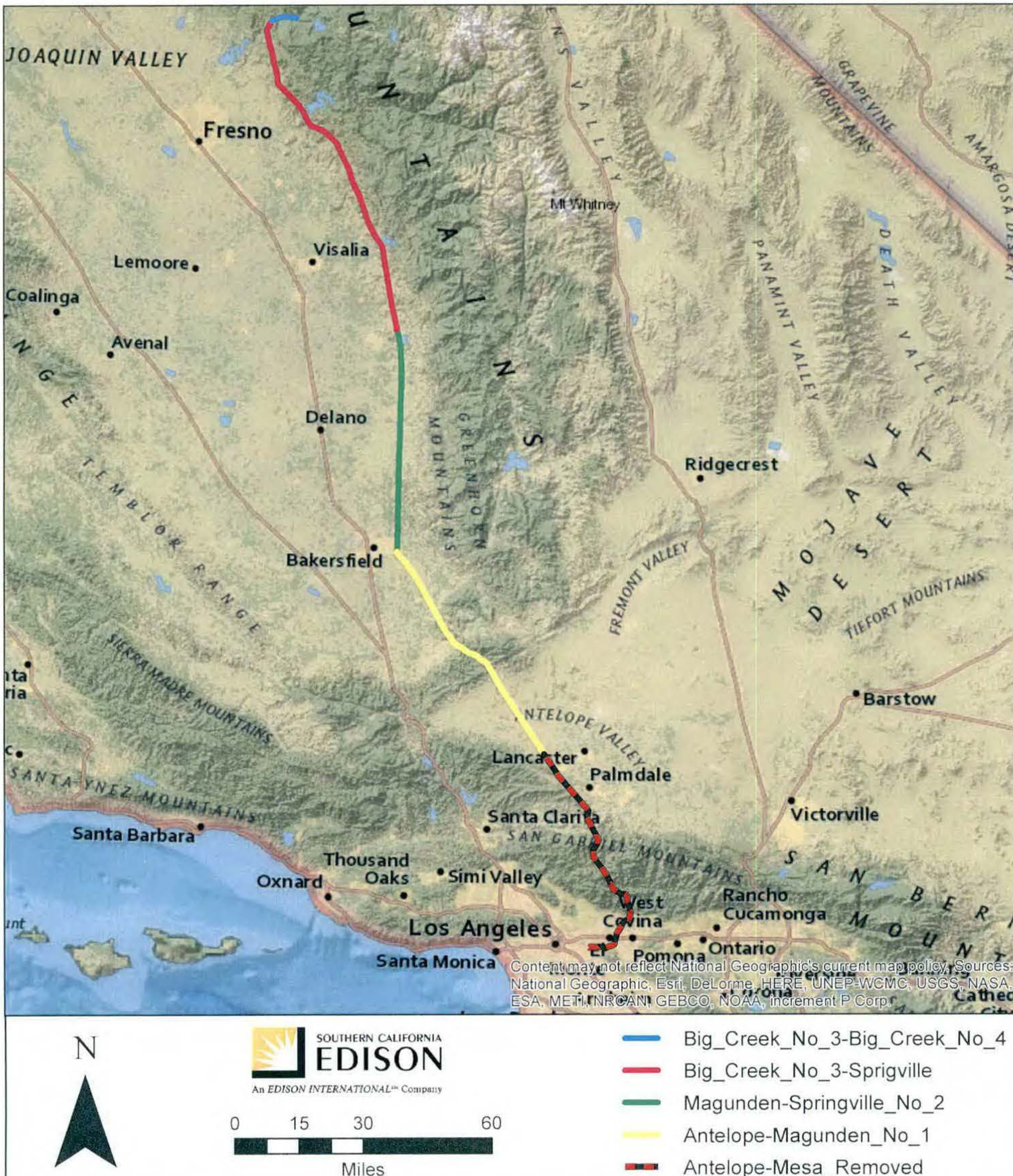
Primary # P-20-003145
HRI# P-54-005299

Trinomial

*Resource Name or # Big Creek No. 4 220kV Transmission Line

*Drawn By: Audry Williams

*Date of Map July 2017



DPR 523K (1/95)

*Required Information

State of California — Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-10-007028
HRI# P-15-017582
Trinomial P-20-003145
P-54-005299

*Resource Name or # Big Creek No. 4 220kV Transmission Line

*Map Name: AUBERRY QUAD
CASCADEL POINT QUAD

*Scale: 1:24,000 *Date of map: 1982 (CASCADEL POINT QUAD)
1983 (AUBERRY QUAD)

State of California – Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

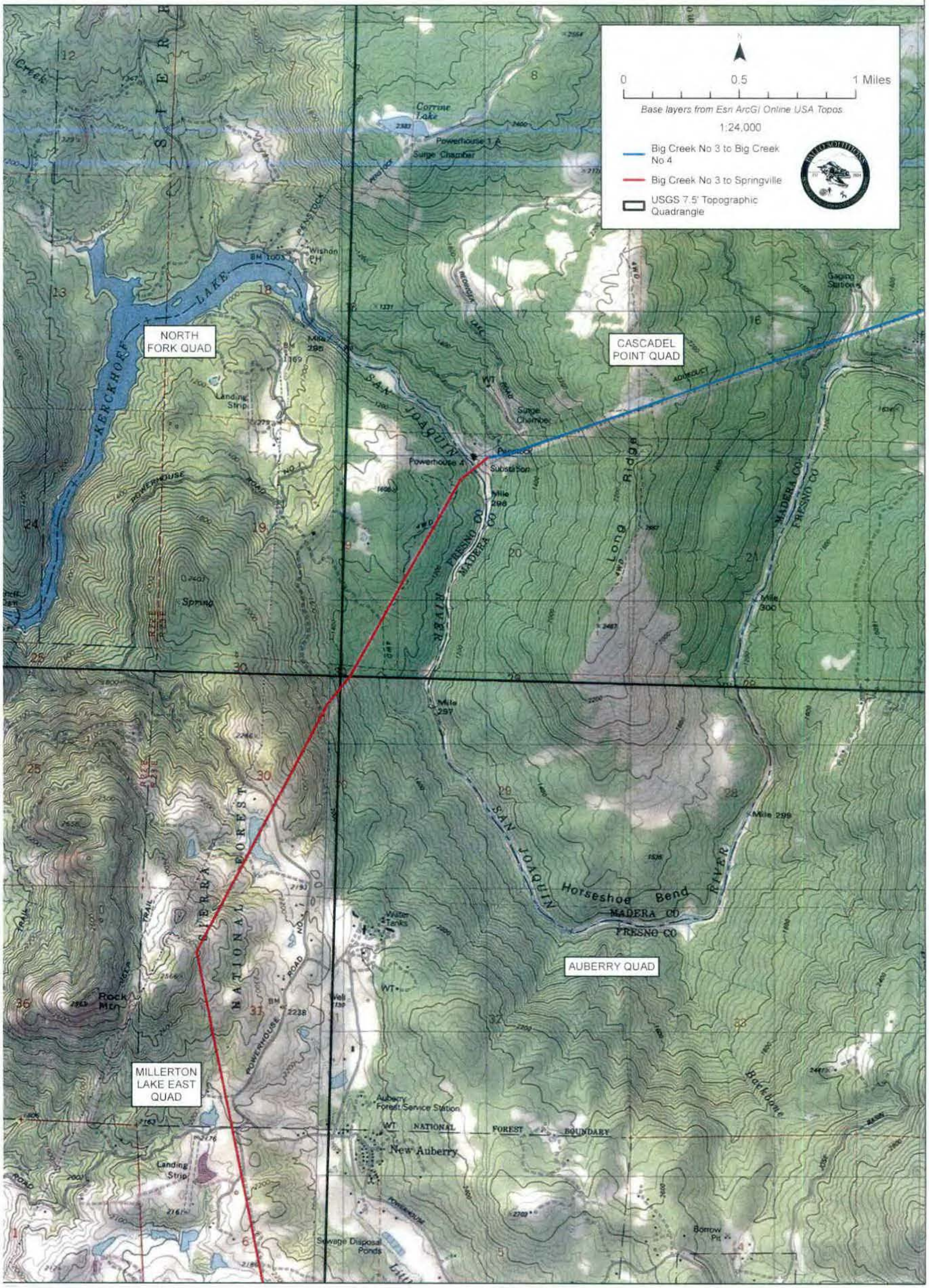
Primary # P-10-007028
HRI# P-15-017582
Trinomial P-20-003145
P-54-005299

*Resource Name or # Big Creek No. 4 220kV Transmission Line

*Map Name: AUBERRY QUAD, NORTH FORK QUAD, CASCADEL POINT QUAD, MILLERTON LAKE EAST QUAD

*Scale: 1:24,000

*Date of map: 1981 (MILLERTON LAKE EAST QUAD) 1982 (CASCADEL POINT QUAD) 1981 (NORTH FORK QUAD) 1983 (AUBERRY QUAD)



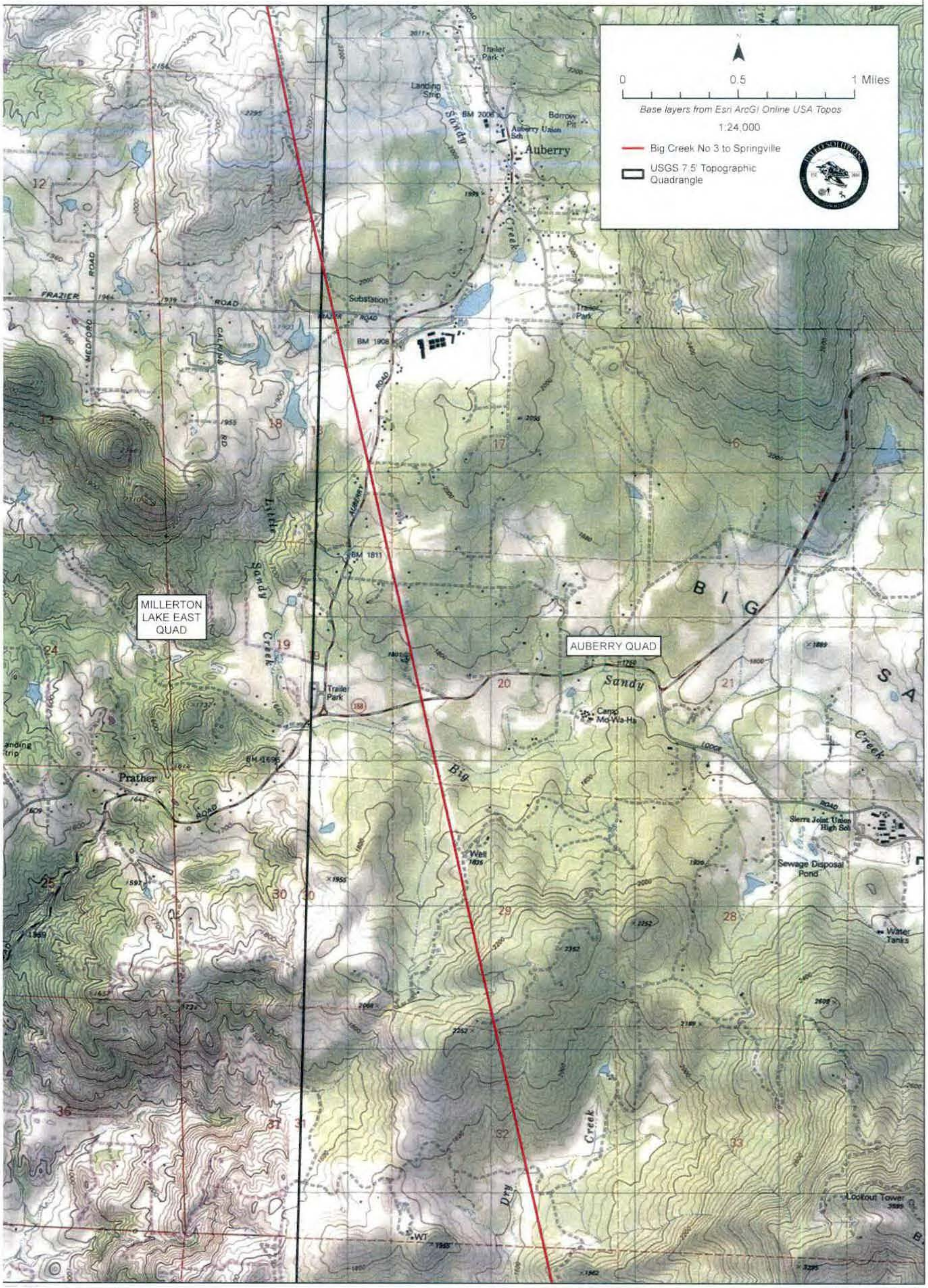
State of California – Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-10-007028
HRI# P-15-017582
Trinomial P-20-003145
P-54-005299

*Resource Name or # Big Creek No. 4 220kV Transmission Line

*Map Name: AUBERRY QUAD
MILLERTON LAKE EAST QUAD

*Scale: 1:24,000 *Date of map: 1981 (MILLERTON LAKE EAST QUAD)
1983 (AUBERRY QUAD)



State of California — Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION

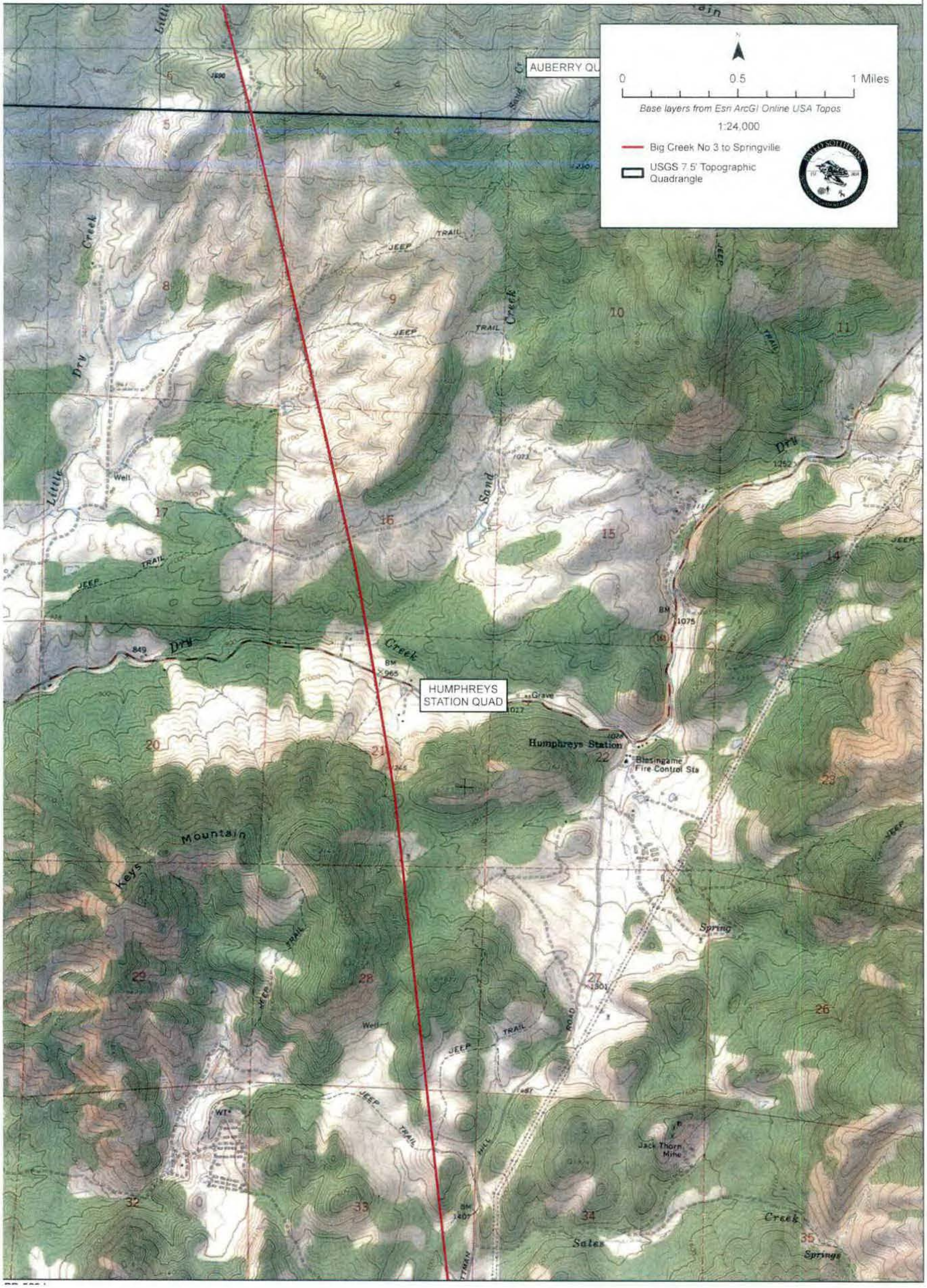
LOCATION MAP

Primary # P-10-007028
HRI#
Trinomial P-15-017582
P-20-003145
P-54-005299

*Resource Name or # Big Creek No. 4 220kV Transmission Line

*Map Name: AUBERRY QUAD
HUMPHREYS STATION QUAD

*Scale: 1:24,000 *Date of map: 1965 (HUMPHREYS STATION QUAD)
1983 (AUBERRY QUAD)



State of California © Natural Resources Agency
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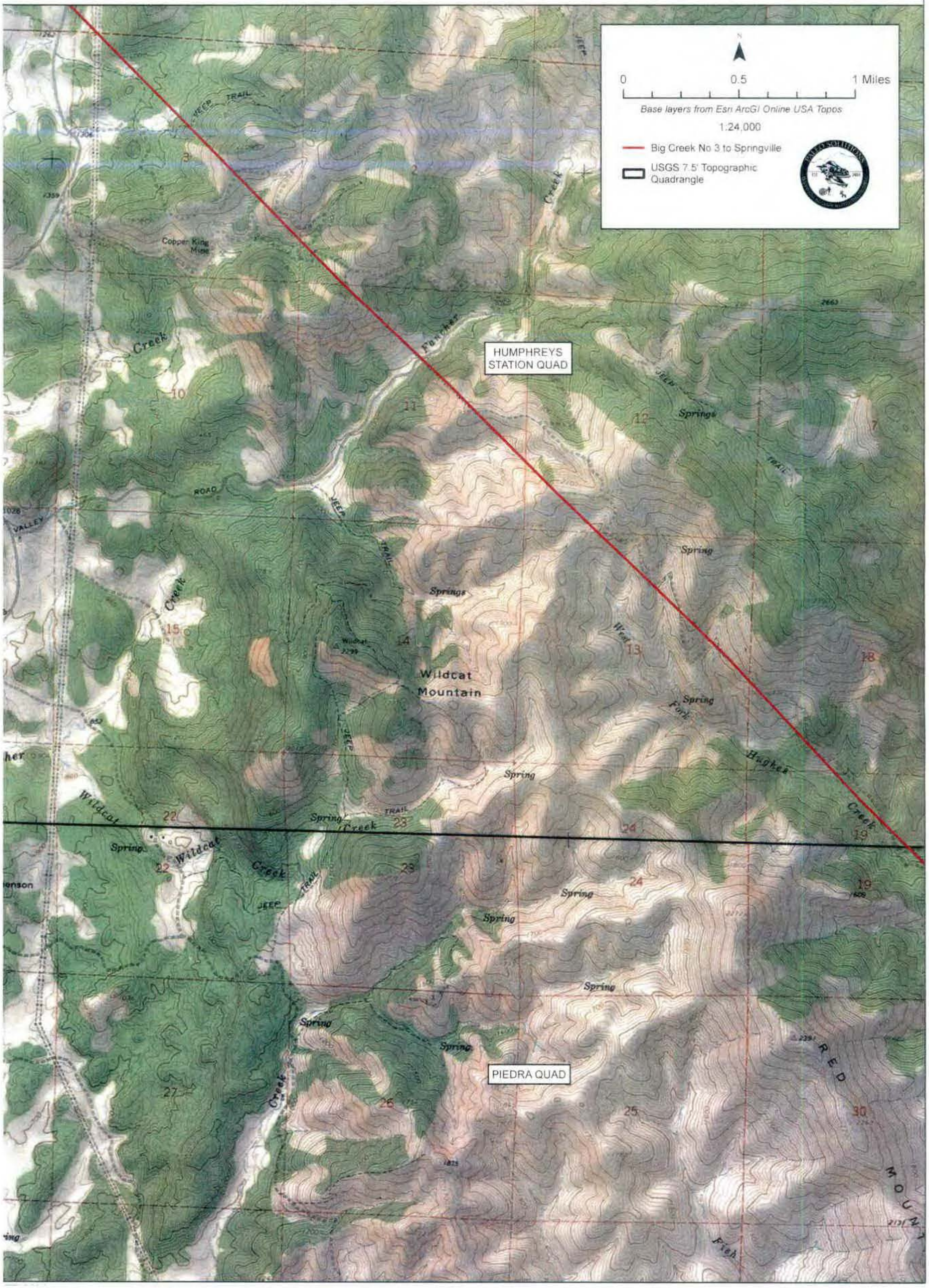
LOCATION MAP

Primary # P-10-007028
HRI# P-15-017582
Trinomial P-20-003145
P-54-005299

*Resource Name or # Big Creek No. 4 220kV Transmission Line

*Map Name: HUMPHREYS STATION QUAD
PIEDRA QUAD

*Scale: 1:24,000 *Date of map: 1965 (HUMPHREYS STATION QUAD)
1965 (PIEDRA QUAD)



State of California – Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

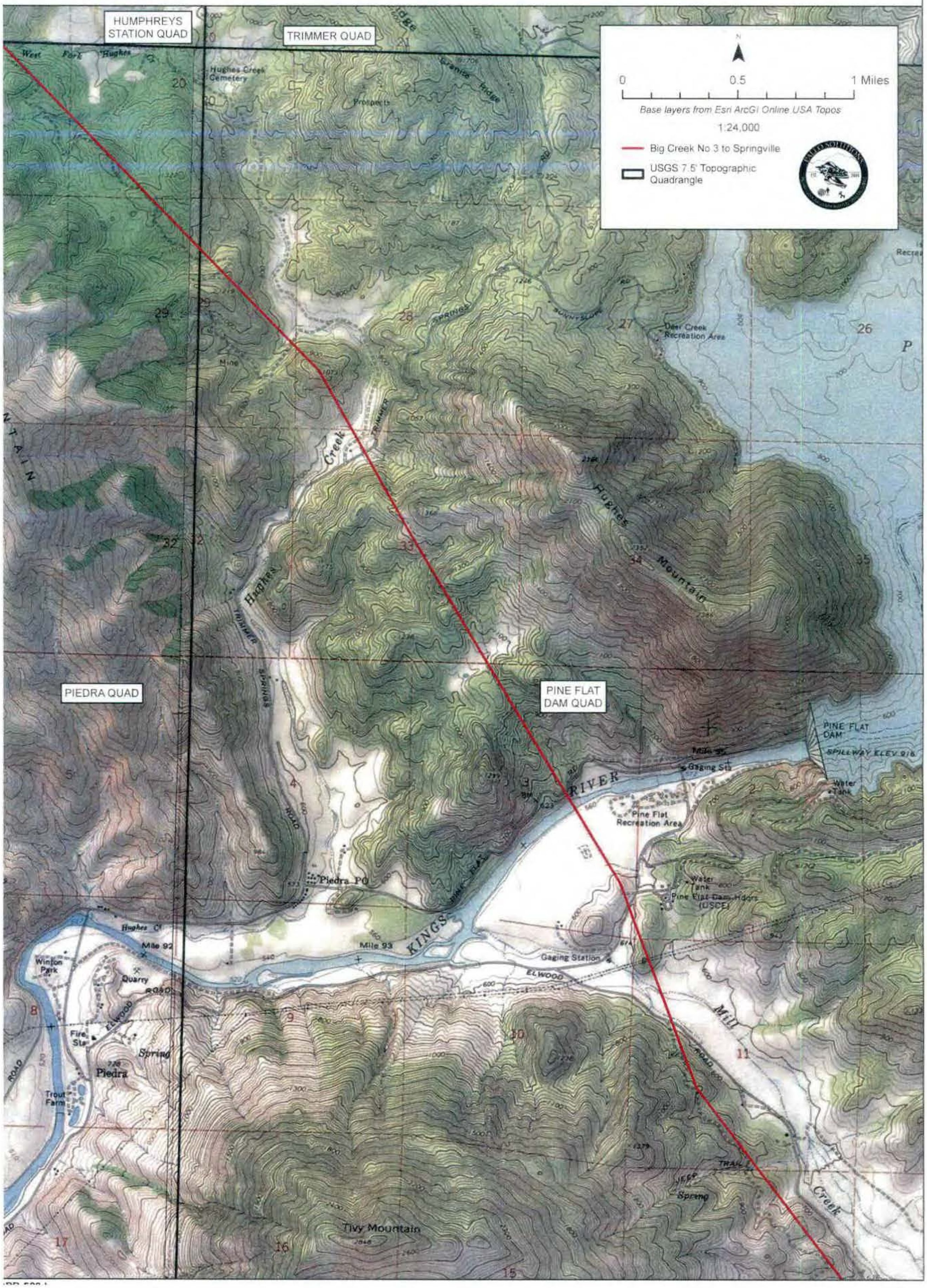
Primary # P-10-007028
HRI# P-15-017582
Trinomial P-20-003145
P-54-005299

*Resource Name or # Big Creek No. 4 220kV Transmission Line

*Map Name: HUMPHREYS STATION QUAD TRIMMER QUAD PIEDRA QUAD PINE FLAT DAM QUAD

*Scale: 1:24,000

*Date of map: 1965 (HUMPHREYS STATION QUAD) 1965 (PIEDRA QUAD) 1978 (PINE FLAT DAM QUAD) 1978 (TRIMMER QUAD)



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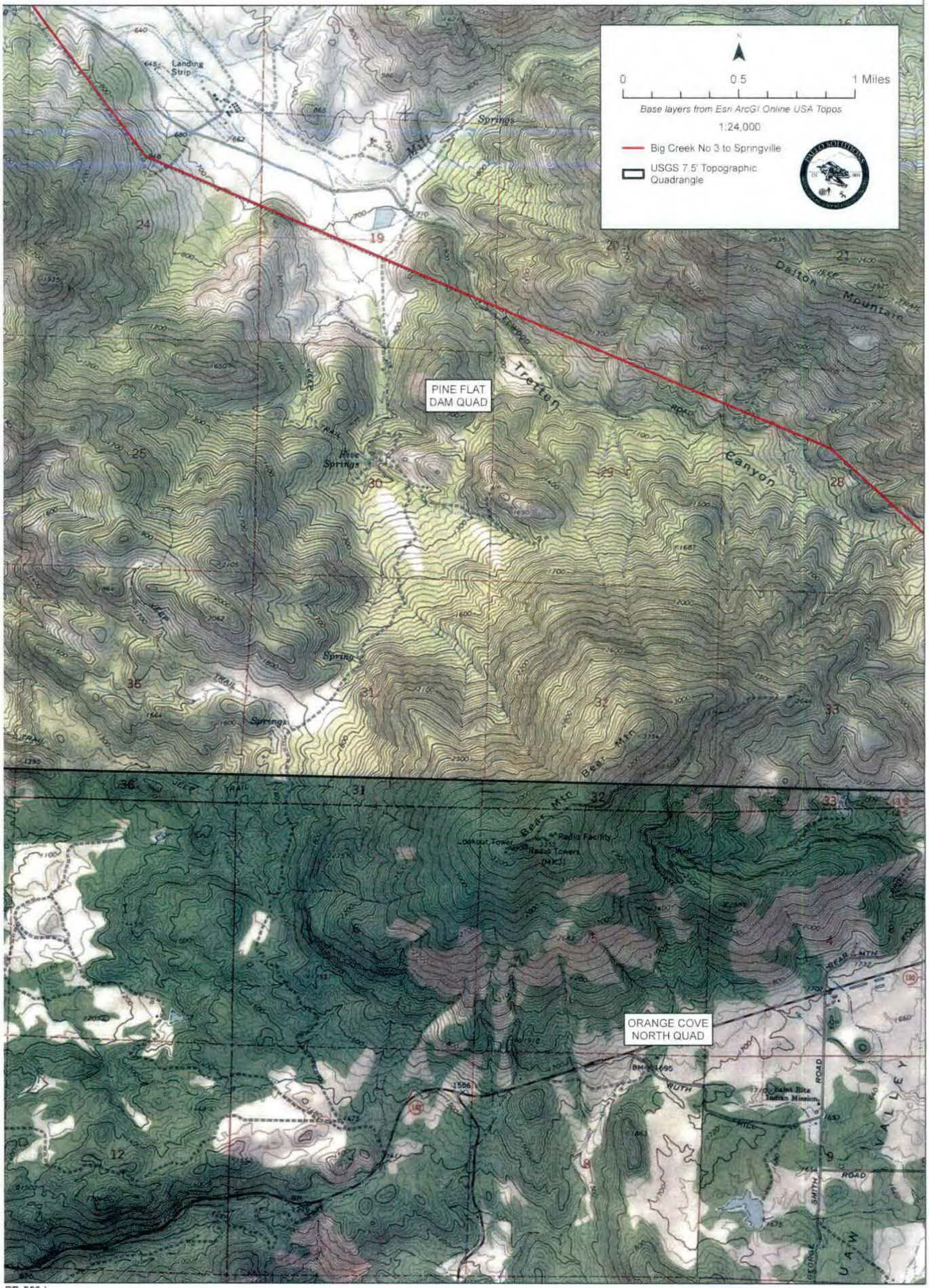
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-10-007028
HRI# P-15-017582
Trinomial P-20-003145
P-54-005299

*Resource Name or # Big Creek No. 4 220kV Transmission Line

*Map Name: ORANGE COVE NORTH QUAD
PINE FLAT DAM QUAD

*Scale: 1:24,000 *Date of map: 1966 (ORANGE COVE NORTH QUAD)
1978 (PINE FLAT DAM QUAD)

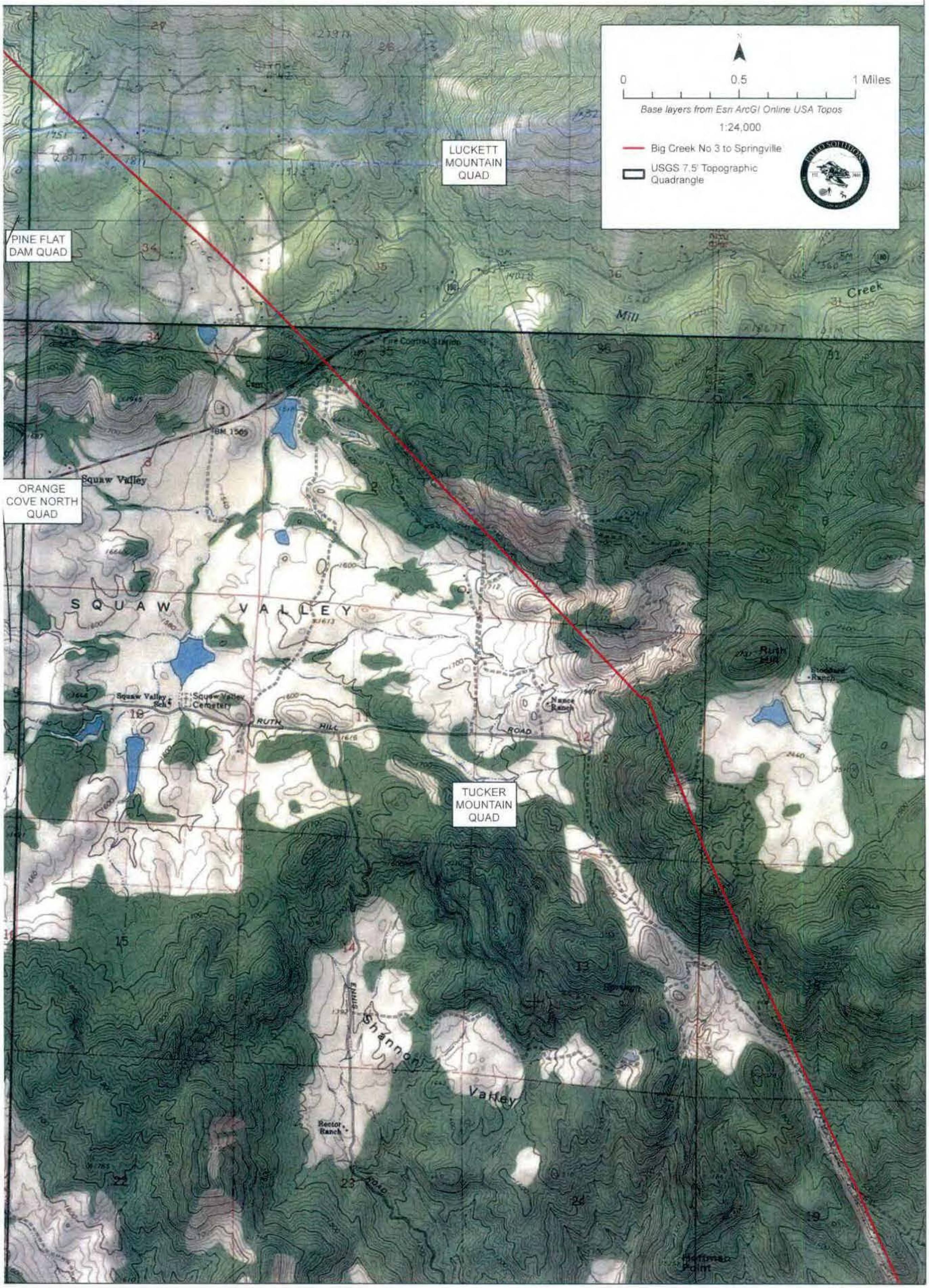


State of California ☼ Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-10-007028
HRI# P-15-017582
Trinomial P-20-003145
P-54-005299

*Resource Name or # Big Creek No. 4 220kV Transmission Line

*Map Name: LUCKETT MOUNTAIN QUAD, TUCKER MOUNTAIN QUAD, ORANGE COVE NORTH QUAD, PINE FLAT DAM QUAD *Scale: 1:24,000 *Date of map: 1966 (ORANGE COVE NORTH QUAD) 1978 (PINE FLAT DAM QUAD) 1966 (TUCKER MOUNTAIN QUAD) 1987 (LUCKETT MOUNTAIN QUAD)

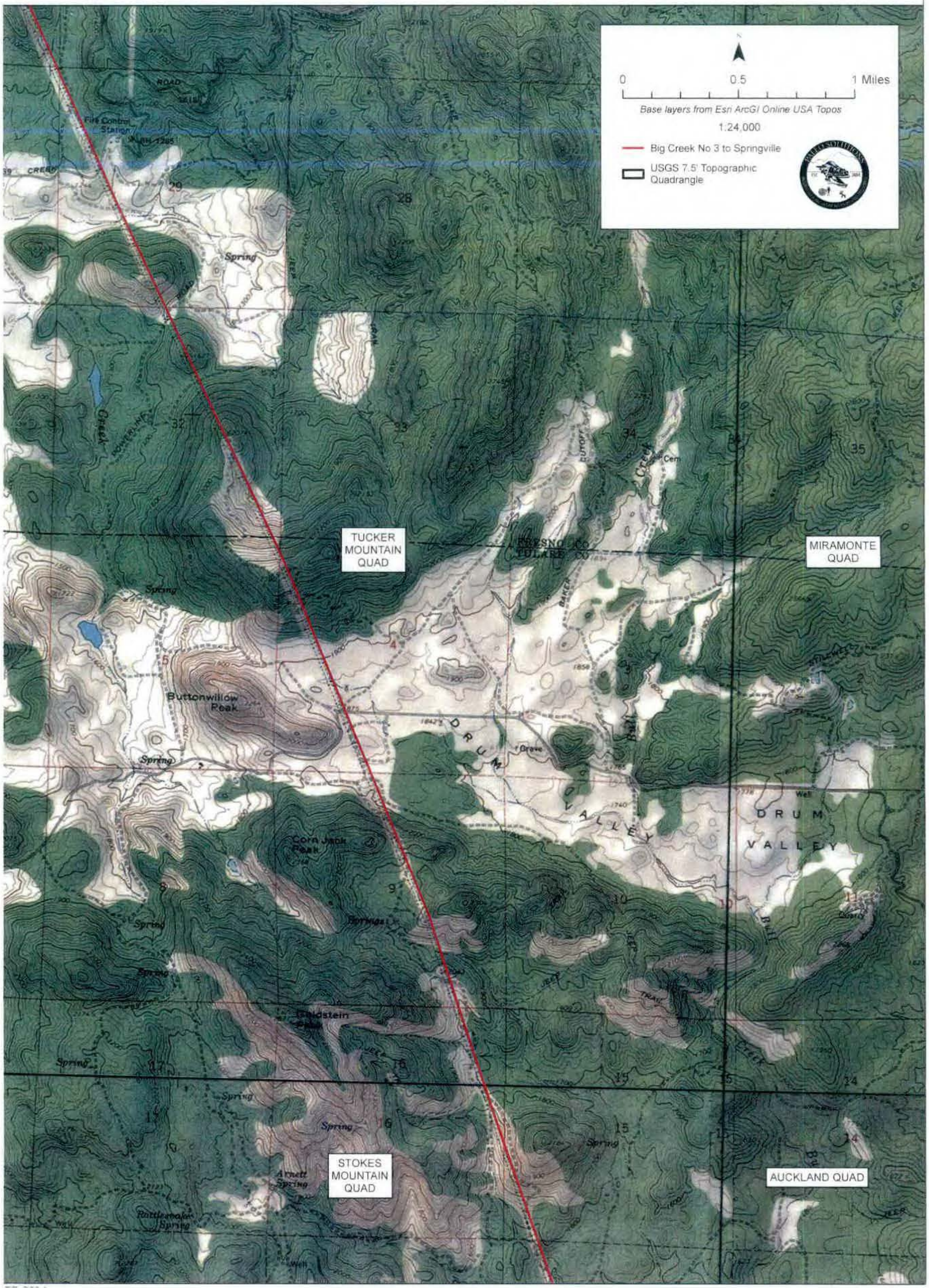


State of California – Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-10-007028
HRI# P-15-017582
Trinomial P-20-003145
P-54-005299

*Resource Name or # Big Creek No. 4 220kV Transmission Line

*Map Name: AUCKLAND QUAD, MIRAMONTE QUAD, STOKES MOUNTAIN QUAD, TUCKER MOUNTAIN QUAD *Scale: 1:24,000 *Date of map: 1966 (AUCKLAND QUAD) 1966 (MIRAMONTE QUAD) 1966 (STOKES MOUNTAIN QUAD) 1966 (TUCKER MOUNTAIN QUAD)



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DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-10-007028
HRI# P-15-017582
Trinomial P-20-003145
P-54-005299

*Resource Name or # Big Creek No. 4 220kV Transmission Line

*Map Name: AUCKLAND QUAD
STOKES MOUNTAIN QUAD

*Scale: 1:24,000 *Date of map: 1966 (AUCKLAND QUAD)
1966 (STOKES MOUNTAIN QUAD)

State of California – Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

Primary # P-10-007028
HRI# P-15-017582
Trinomial P-20-003145
P-54-005299

*Resource Name or # Big Creek No. 4 220kV Transmission Line

*Map Name: AUCKLAND QUAD
WOODLAKE QUAD

*Scale: 1:24,000 *Date of map: 1966 (AUCKLAND QUAD)
1969 (WOODLAKE QUAD)

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DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

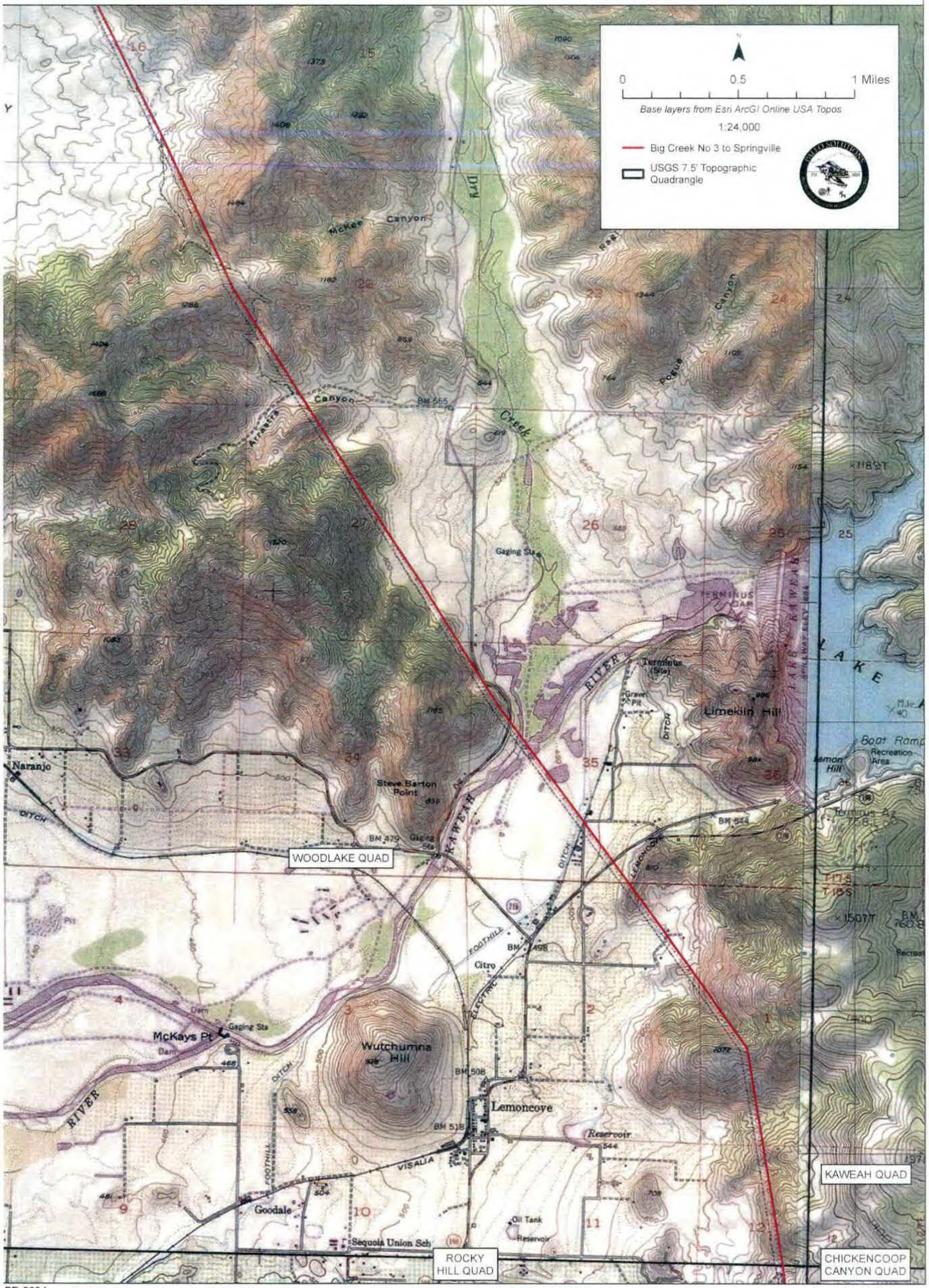
Primary # P-10-007028
HRI# P-15-017582
Trinomial P-20-003145
P-54-005299

*Resource Name or # Big Creek No. 4 220kV Transmission Line

*Map Name: CHICKENCOOP CANYON QUAD, WOODLAKE QUAD, KAWEAH QUAD, ROCKY HILL QUAD

*Scale: 1:24,000

*Date of map: 1969 (ROCKY HILL QUAD) 1986 (CHICKENCOOP CANYON QUAD) 1969 (WOODLAKE QUAD) 1986 (KAWEAH QUAD)



State of California – Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-10-007028
HRI# P-15-017582
Trinomial P-20-003145
P-54-005299

*Resource Name or # Big Creek No. 4 220kV Transmission Line

*Map Name: CHICKENCOOP CANYON QUAD
ROCKY HILL QUAD

*Scale: 1:24,000 *Date of map: 1969 (ROCKY HILL QUAD)
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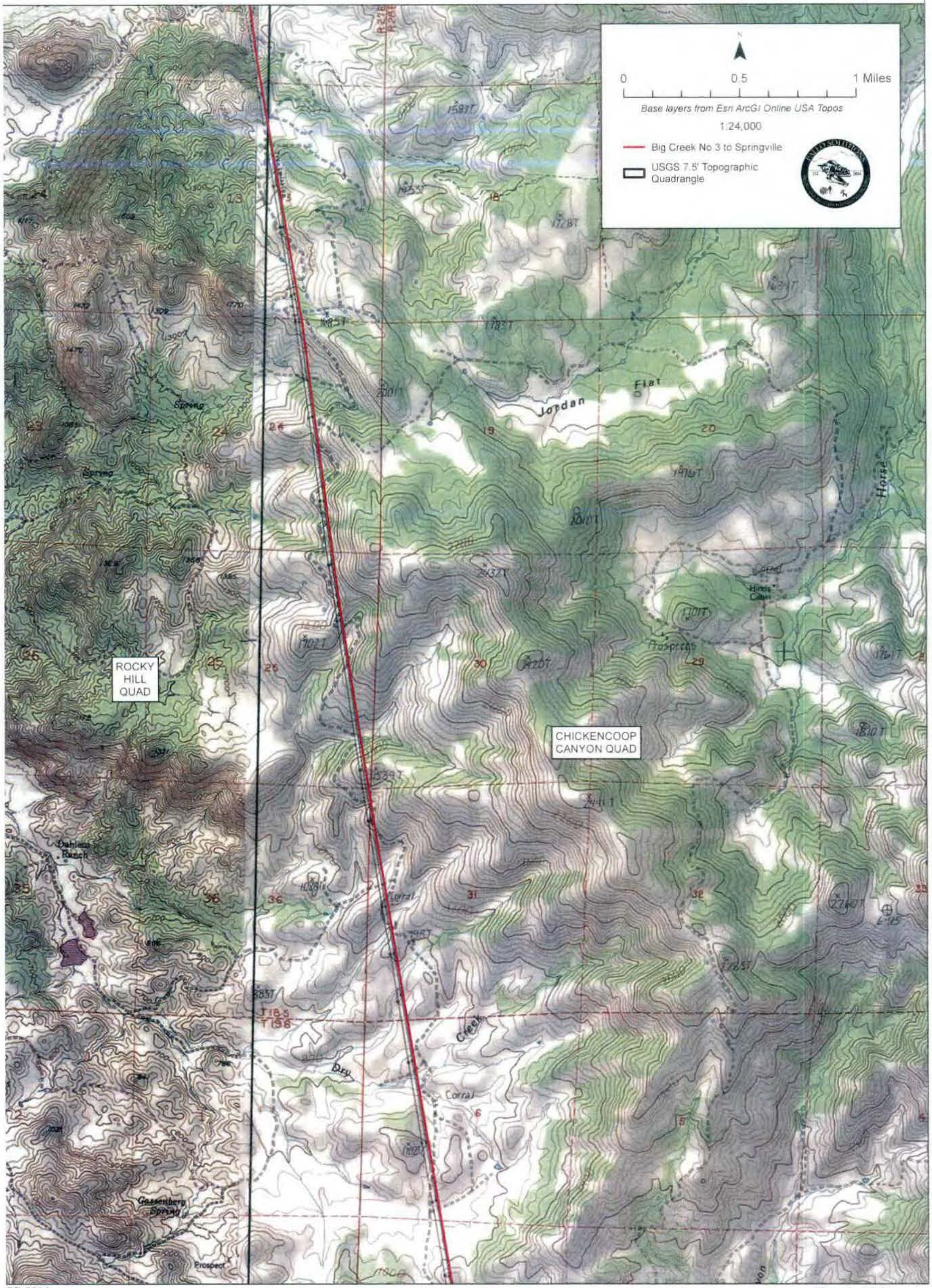


State of California – Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

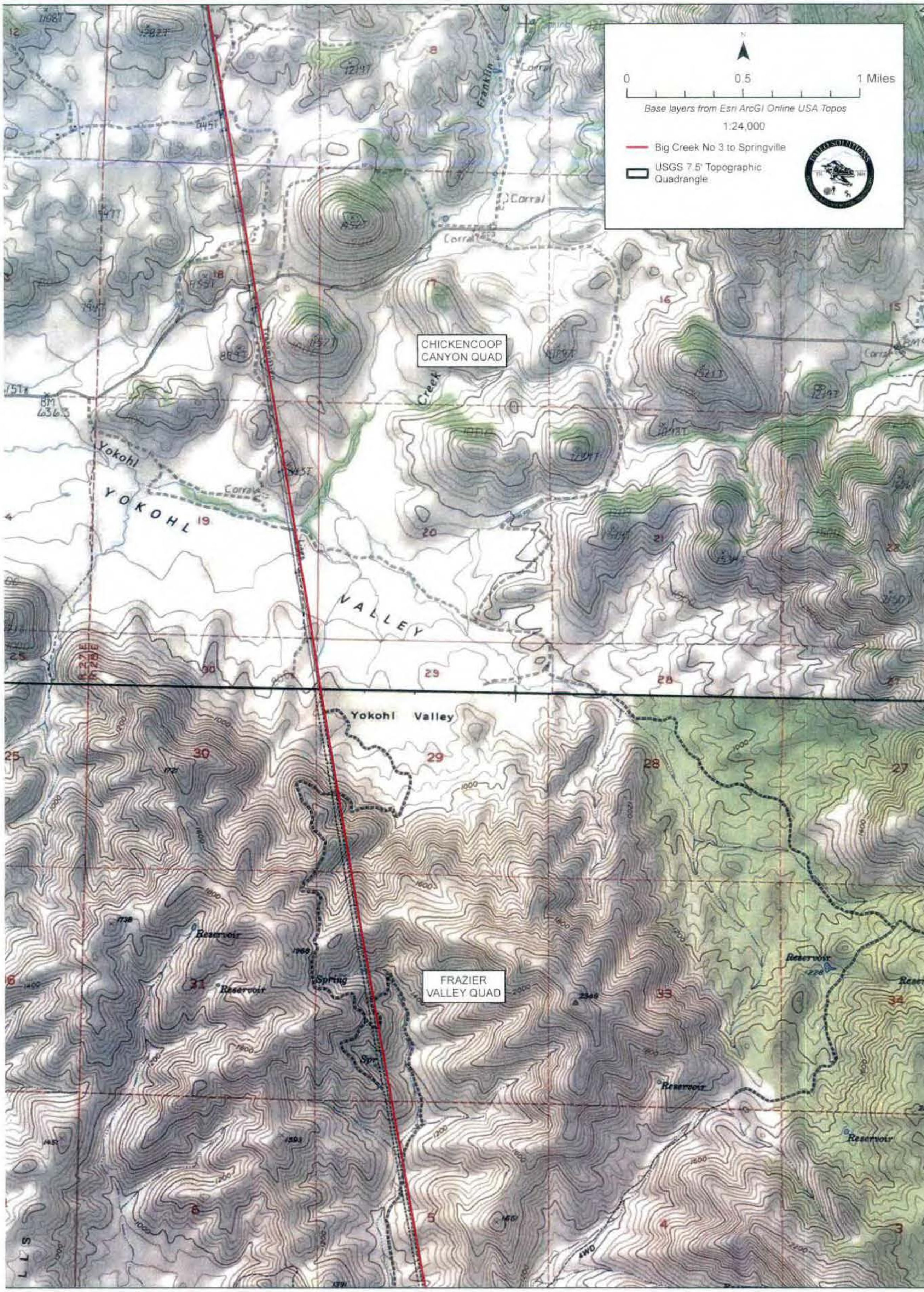
Primary # P-10-007028
HRI# P-15-017582
Trinomial P-20-003145
P-54-005299

*Resource Name or # Big Creek No. 4 220kV Transmission Line

*Map Name: CHICKENCOOP CANYON QUAD, FRAZIER VALLEY QUAD, ROCKY HILL QUAD

*Scale: 1:24,000

*Date of map: 1969 (ROCKY HILL QUAD), 1986 (CHICKENCOOP CANYON QUAD), 1994 (FRAZIER VALLEY QUAD)



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DEPARTMENT OF PARKS AND RECREATION

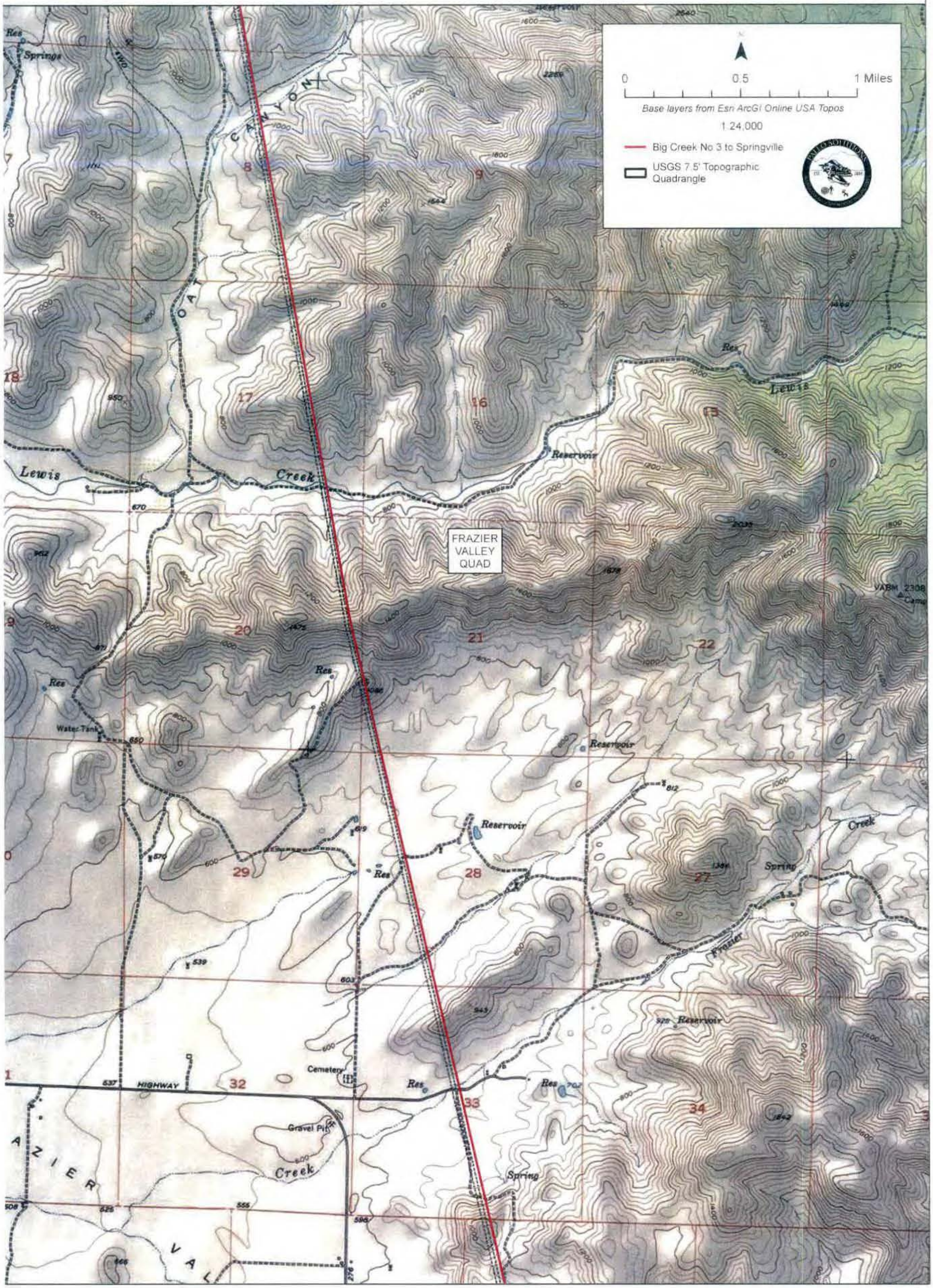
LOCATION MAP

Primary # P-10-007028
HRI# P-15-017582
Trinomial P-20-003145
P-54-005299

*Resource Name or # Big Creek No. 4 220kV Transmission Line

*Map Name: FRAZIER VALLEY QUAD

*Scale: 1:24,000 *Date of map: 1994 (FRAZIER VALLEY QUAD)



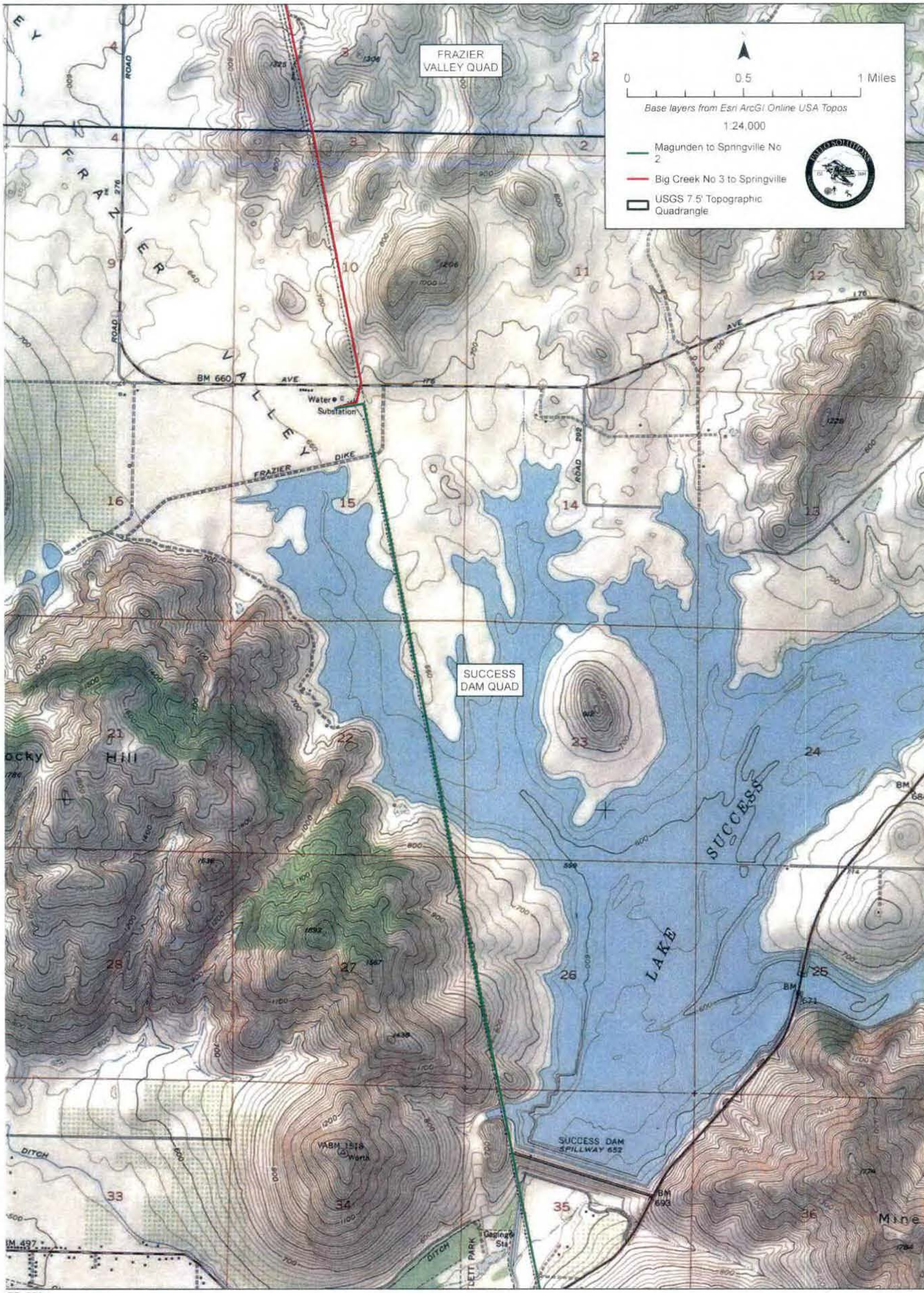
Primary # P-10-007028
HRI#
Trinomial P-15-017582 P-20-003145 P-54-005299

LOCATION MAP

*Resource Name or # Big Creek No. 4 220kV Transmission Line

*Map Name: FRAZIER VALLEY QUAD
SUCCESS DAM QUAD

*Scale: 1:24,000 *Date of map: 1956 (SUCCESS DAM QUAD)
1994 (FRAZIER VALLEY QUAD)



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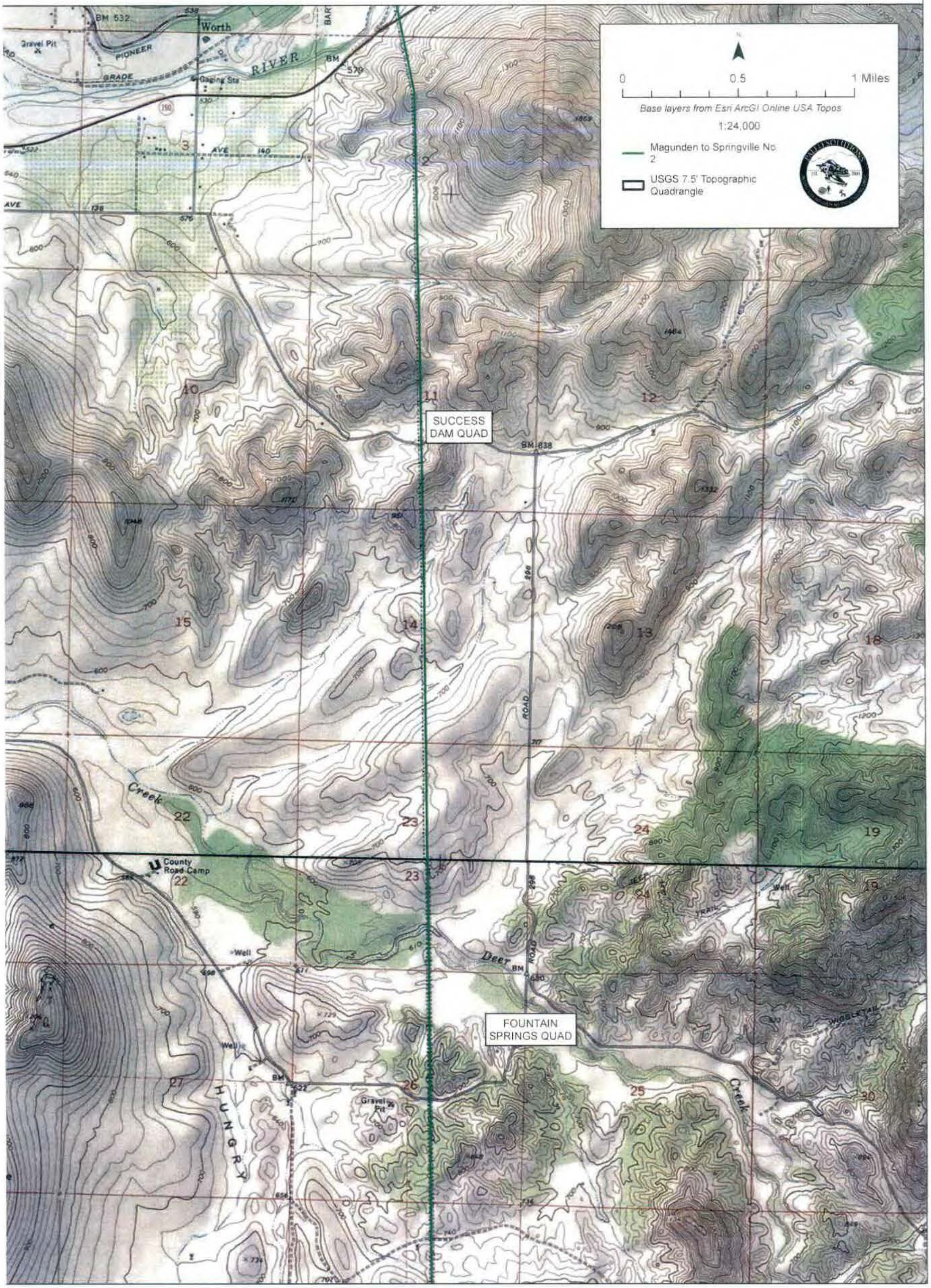
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-10-007028
HRI# P-15-017582
Trinomial P-20-003145
P-54-005299

*Resource Name or # Big Creek No. 4 220kV Transmission Line

*Map Name: FOUNTAIN SPRINGS QUAD
SUCCESS DAM QUAD

*Scale: 1:24,000 *Date of map: 1956 (SUCCESS DAM QUAD)
1965 (FOUNTAIN SPRINGS QUAD)

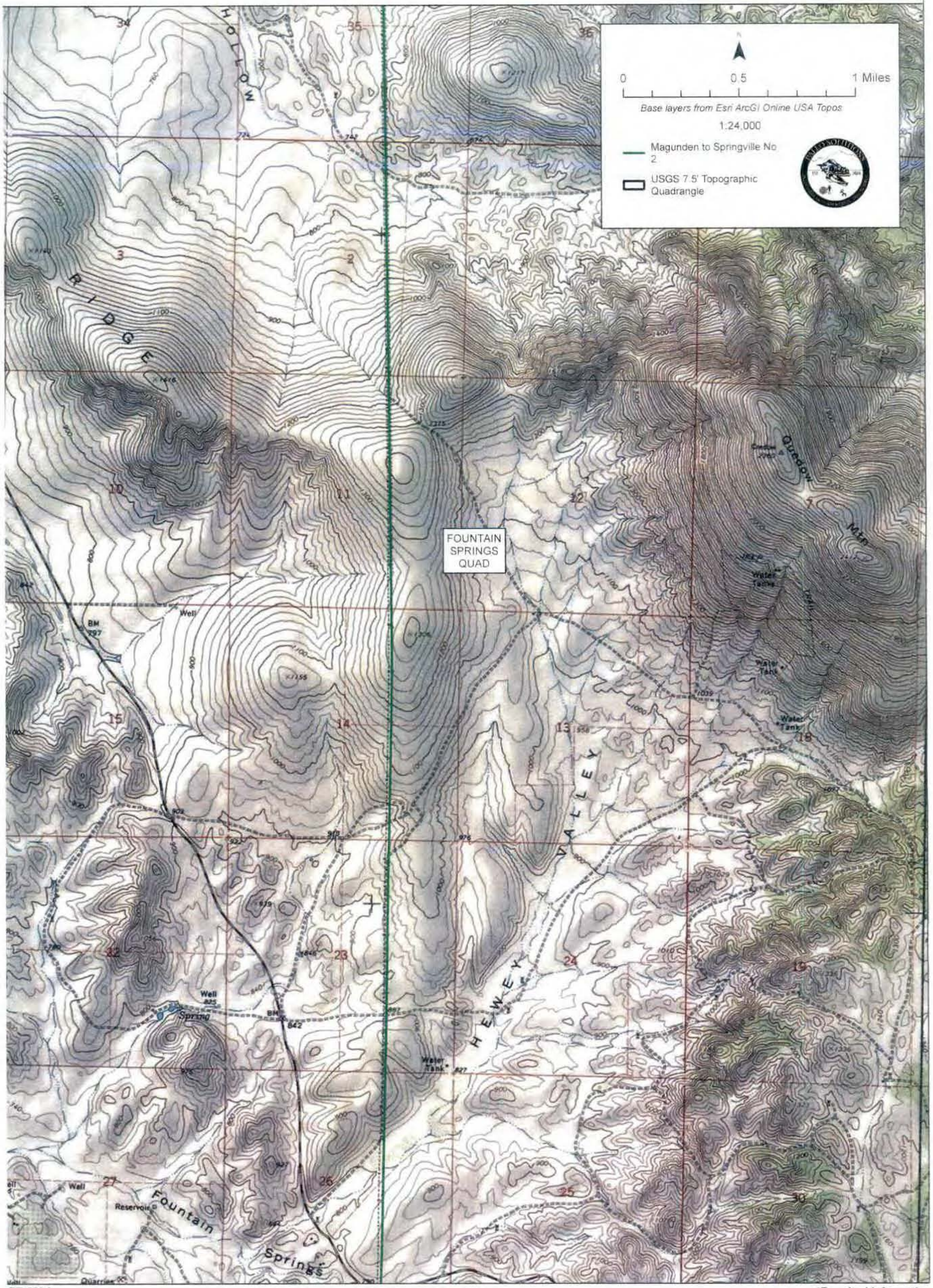


State of California – Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-10-007028
HRI# P-15-017582
Trinomial P-20-003145
P-54-005299

*Resource Name or # Big Creek No. 4 220kV Transmission Line

*Map Name: FOUNTAIN SPRINGS QUAD *Scale: 1:24,000 *Date of map: 1965 (FOUNTAIN SPRINGS QUAD)



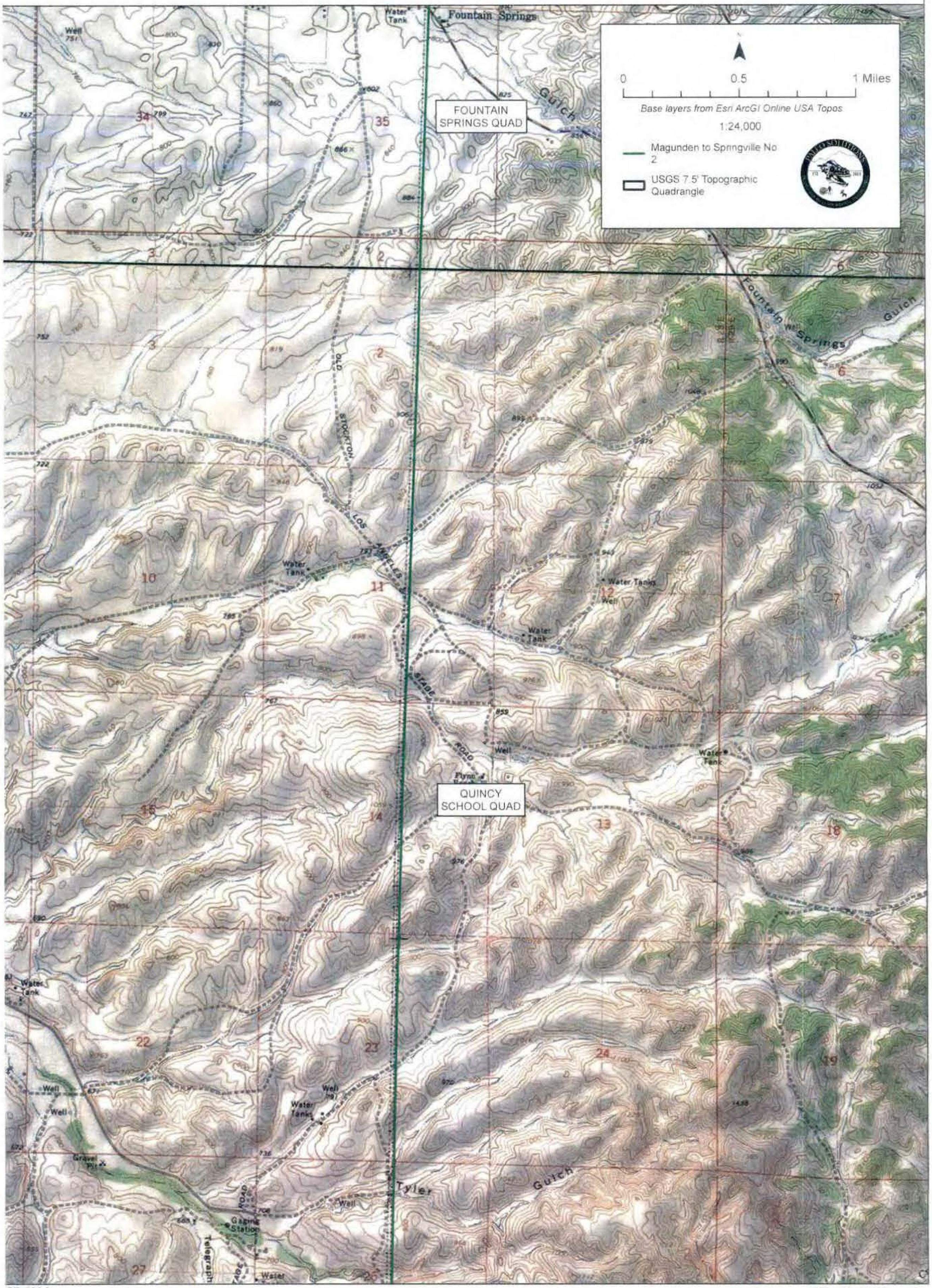
State of California – Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-10-007028
HRI#
Trinomial P-15-017582
P-20-003145
P-54-005299

*Resource Name or # Big Creek No. 4 220kV Transmission Line

*Map Name: FOUNTAIN SPRINGS QUAD
QUINCY SCHOOL QUAD

*Scale: 1:24,000 *Date of map: 1965 (FOUNTAIN SPRINGS QUAD)
1965 (QUINCY SCHOOL QUAD)



State of California ◊ Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

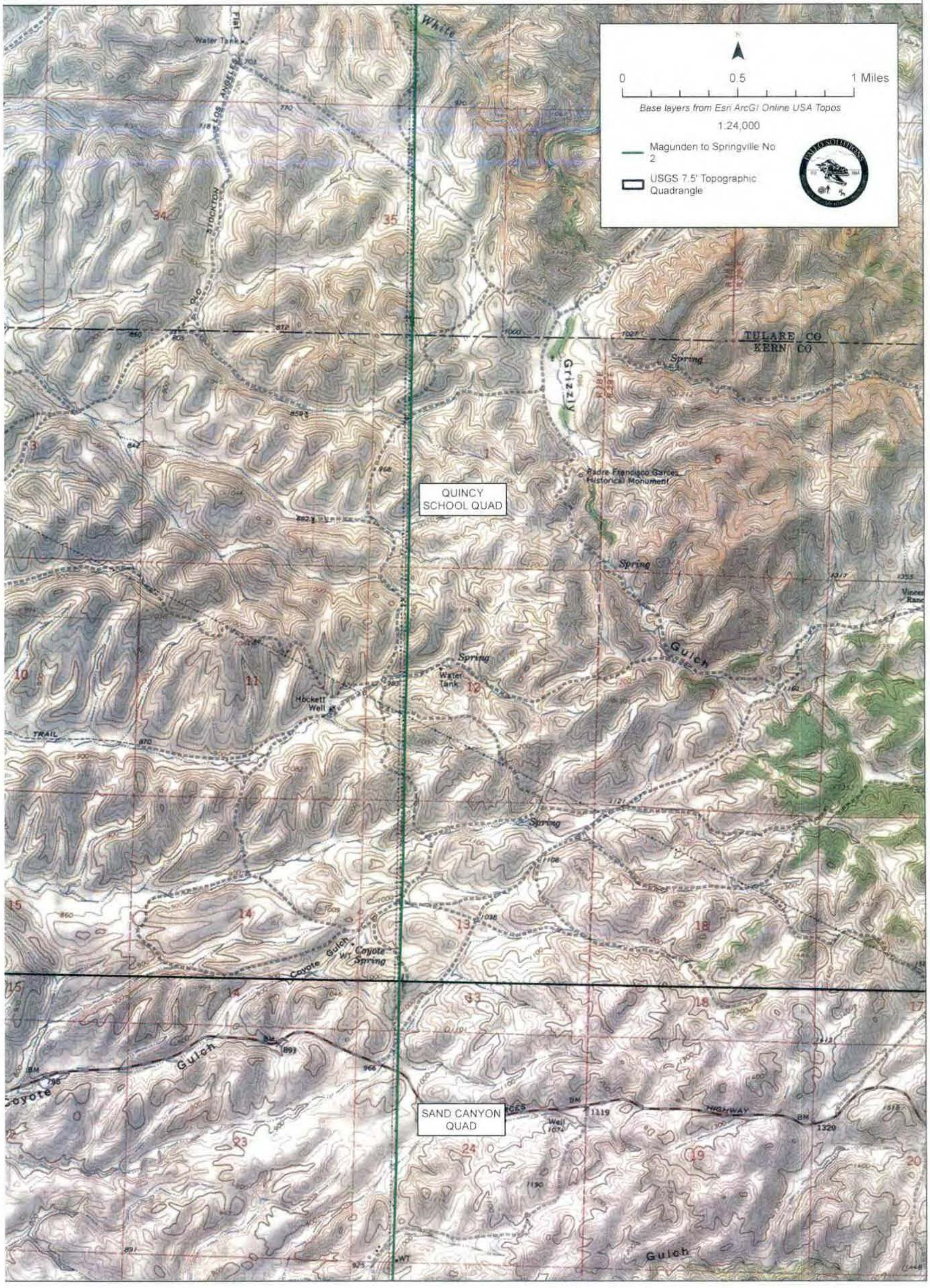
Primary # P-10-007028
HRI# P-15-017582
Trinomial P-20-003145
P-54-005299

*Resource Name or # Big Creek No. 4 220kV Transmission Line

*Map Name: QUINCY SCHOOL QUAD
SAND CANYON QUAD

*Scale: 1:24,000

*Date of map: 1965 (QUINCY SCHOOL QUAD)
1965 (SAND CANYON QUAD)



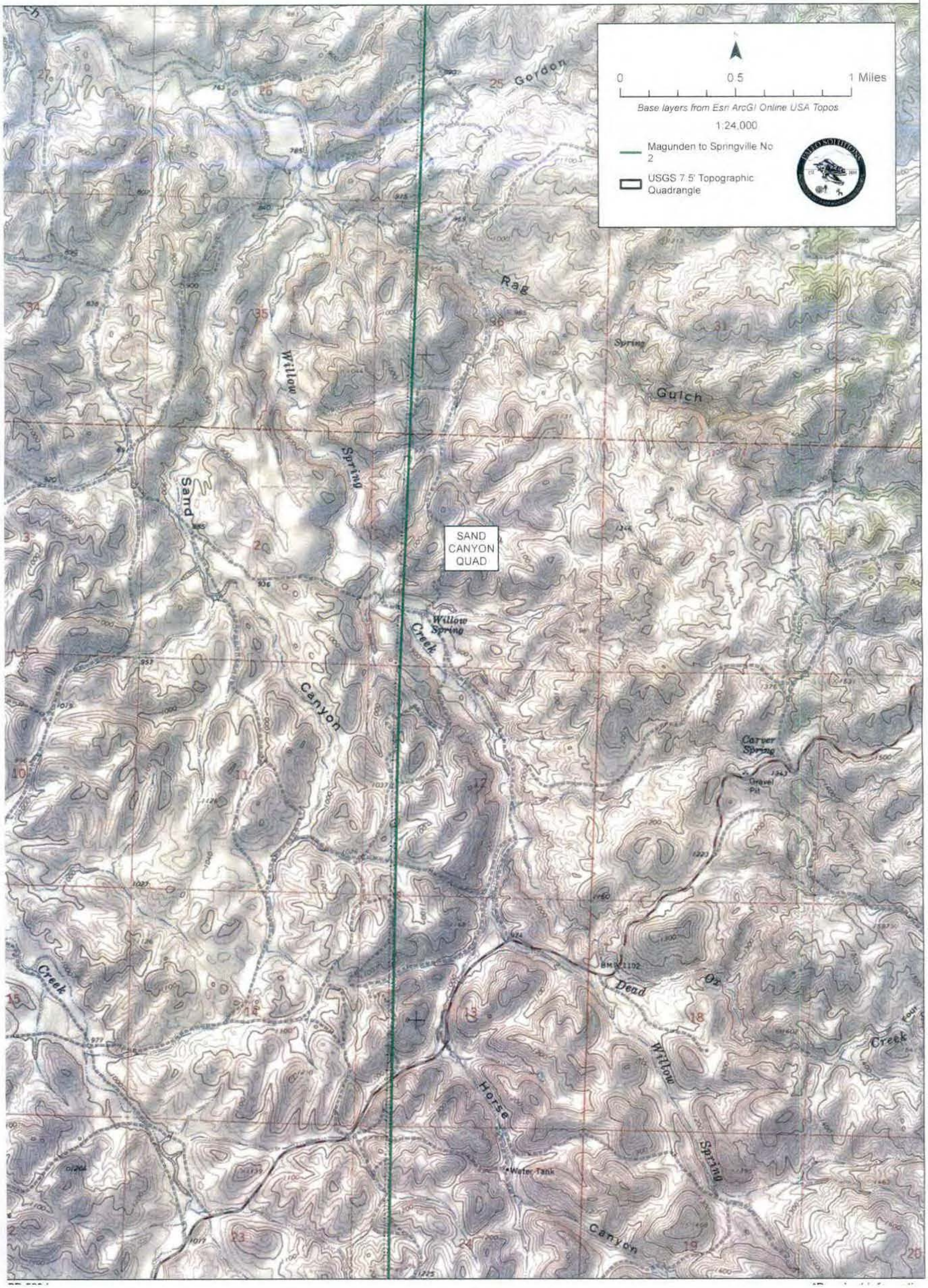
State of California © Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-10-007028
HRI# P-15-017582
Trinomial P-20-003145
P-54-005299

*Resource Name or # Big Creek No. 4 220kV Transmission Line

*Map Name: SAND CANYON QUAD

*Scale: 1:24,000 *Date of map: 1965 (SAND CANYON QUAD)



State of California – Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-10-007028
HRI# P-15-017582
Trinomial P-20-003145
P-54-005299

*Resource Name or # Big Creek No. 4 220kV Transmission Line

*Map Name: KNOB HILL QUAD
SAND CANYON QUAD

*Scale: 1:24,000 *Date of map: 1965 (SAND CANYON QUAD)
1973 (KNOB HILL QUAD)

State of California — Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

Primary # P-10-007028
HRI# P-15-017582
Trinomial P-20-003145
P-54-005299

*Resource Name or # Big Creek No. 4 220kV Transmission Line

Map Name: KNOB HILL QUAD
OIL CENTER QUAD

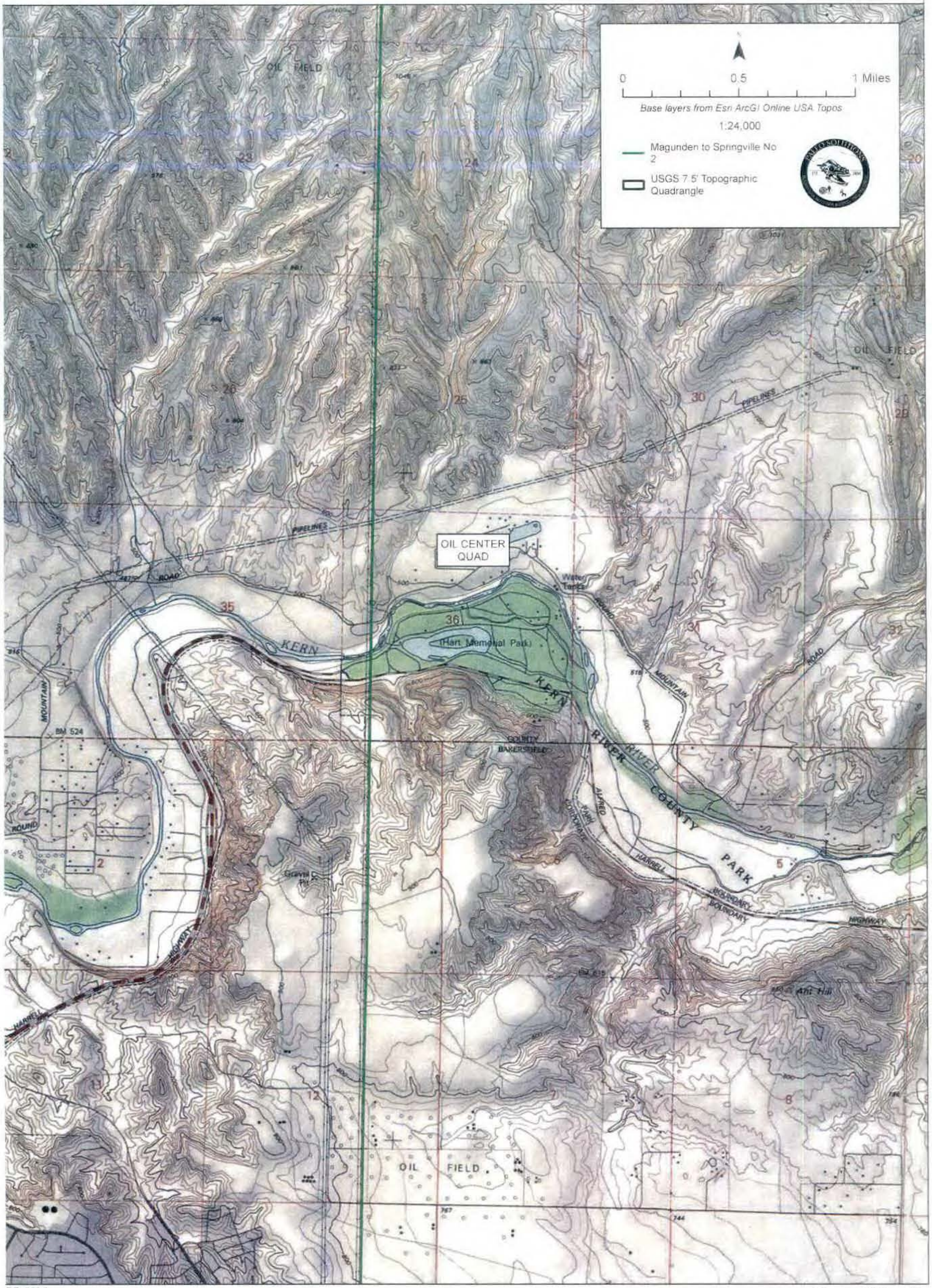
*Scale: 1:24,000 *Date of map: 1973 (KNOB HILL QUAD)
1992 (OIL CENTER QUAD)

State of California – Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-10-007028
HRI# P-15-017582
Trinomial P-20-003145
P-54-005299

*Resource Name or # Big Creek No. 4 220kV Transmission Line

*Map Name: OIL CENTER QUAD *Scale: 1:24,000 *Date of map: 1992 (OIL CENTER QUAD)



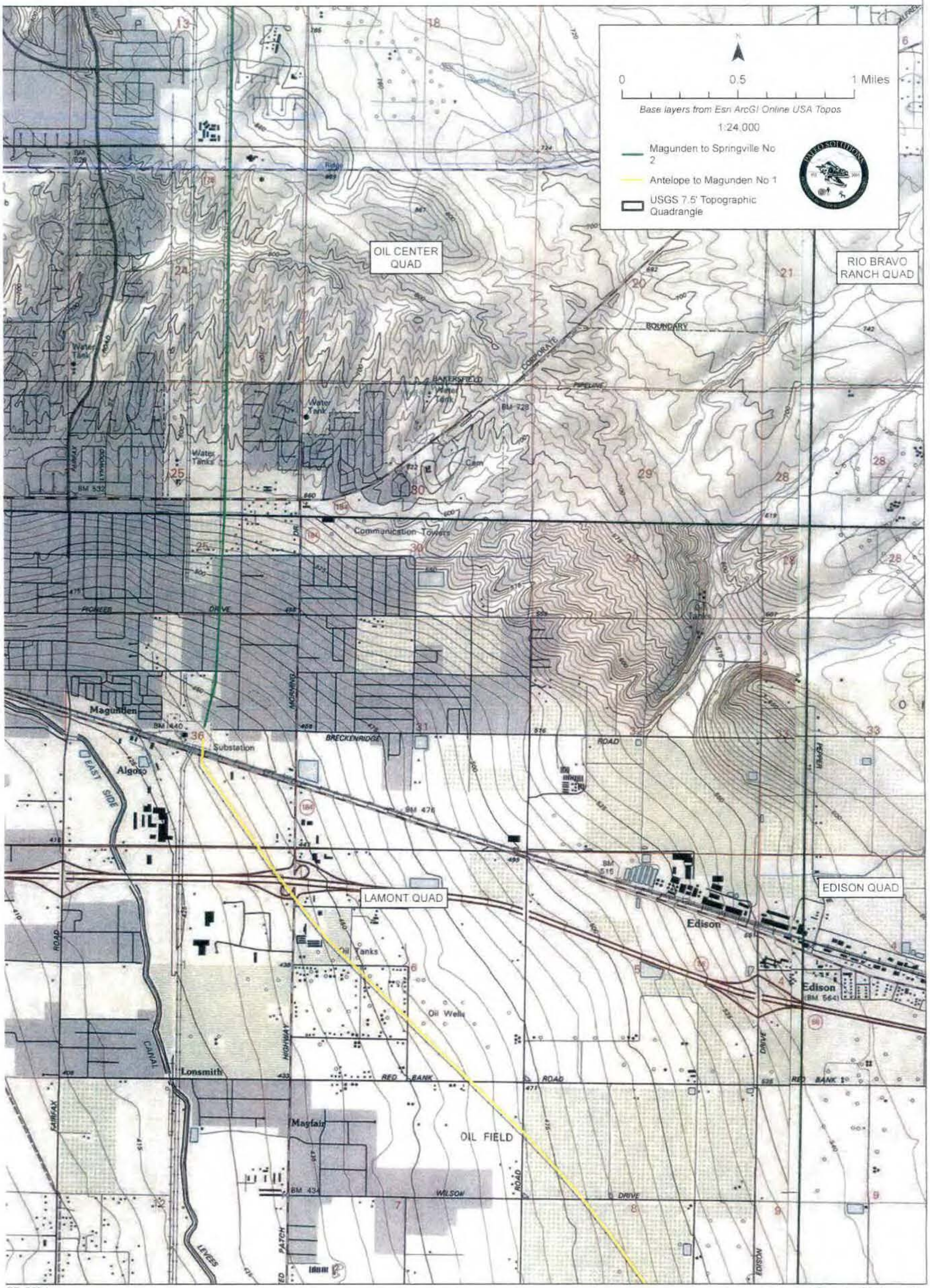
State of California – Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

Primary # P-10-007028
HRI#
Trinomial P-15-017582
P-20-003145
P-54-005299

 *Resource Name or # Big Creek No. 4 220kV Transmission Line

*Map Name: EDISON QUAD, LAMONT QUAD, OIL CENTER QUAD, RIO BRAVO RANCH QUAD *Scale: 1:24,000 *Date of map: 1992 (EDISON QUAD) 1992 (OIL CENTER QUAD) 1992 (LAMONT QUAD) 1992 (RIO BRAVO RANCH QUAD)



State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HR #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code Reviewer Date

 Resource Name or # (Assigned by recorder): Resource ID 28, 374-042-25-00-5 located at 2655 95th Street

P1. Other Identifier: 2655 95th Street

*** P2. Location:** ☐ Not for Publication ☑ Unrestricted

***a. County** Kern **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** **Date** **T ; R ; 1/4 of 1/4 of Sec ; B.M.**

c. Address 2655 95th Street City Rosamond Zip

d. UTM: (Give more than one for large and/or linear feature) Zone , mE/ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)

; 374-042-25-00-5

*** P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

The parcel number 374-042-25-00-5 located at 2655 95th Street is an L-shaped lot measuring 82,764 square feet and located at the northwest corner of the intersection of 95th Street West and Mojave Avenue. This property was originally part of a larger parcel that still shares the same address, on the corner of 95th Street and Mojave Avenue, The parcel was split circa 2015; the Quonset hut and Residence to the south and west of this property are evaluated as a separate parcel. There are mature trees in the southern portion of the lot. A driveway runs east-west between the top and southern portion of the lot. There are approximately nine manufactured homes developed on the lot.

The manufactured home in the southern portion of the lot is double wide with a side-facing gable roof, plywood siding, a brick chimney, vinyl windows, and an aluminum sliding door. To the north is an additional manufactured home which has tongue and groove plywood siding, a side facing gable roof with solar panels, aluminum sliding windows, and a wood door on the east elevation. (See continuation sheet.)

*** P3b. Resource Attributes:** HP3. Multiple family property

*** P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, etc.)
View facing northwest

*** P6. Date Constructed/Age and Sources:**
☐ Prehistoric ☑ Historic ☐ Both
1963-1972 (Estimate) Aerial Imagery

*** P7. Owner and Address:**
95th Street Park Trust
829 W Palmdale Bl #34
Palmdale, CA 93551-4261

*** P8. Recorded by:** (Name, affiliation, address)
Hanna Winzenried
ICF
555 W. 5th Street, Suite 3100, Los Angeles, CA 90013

*** P9. Date Recorded:** 01/02/2022

*** P10. Survey Type:** (Describe)

*** P11. Report Citation:** (Cite survey report/other sources or "none")

*** Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☑ Continuation Sheet ☑ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other: (List)

BUILDING, STRUCTURE, AND OBJECT RECORD

*Resource Name or # (Assigned by Recorder): Resource ID 28, 374-042-25-00-5 located at 2655 95th Street

* NRHP Status Code 6Z

B1. Historic Name: None

B2. Common Name: 374-042-25-00-5 located at 2655 95th Street

* B3. Original Use: Manufactured Home Park

B4. Present Use: Manufactured Home Park

* **B5. Architectural Style:** Vernacular

B6. Construction History: (Construction date, alterations, and date of alterations.)

The construction date listed in assessor records state that the property was developed in 1955 (Parcelquest 2021). However, historic aerials from 1959 show that the lot was still undeveloped (NETR 1959). Manufactured homes appeared on the property between the years 1963 and 1972 (NETR 1963 and 1972). (See continuation sheet.)

*

* **B7. Moved?** ☑ No ☐ Yes ☐ Unknown Date: N/A Original Location: N/A

B8. Related Features:

N/A

* B9a. Architect: Unknown b. Builder: Unknown

B10. Significance: Theme N/A Area N/A

Period of Significance N/A Property Type N/A Applicable Criteria N/A

The property at 2655 95th Street does not meet the criteria for listing in the California Register of Historical Resources (CRHR).

CONTEXT

MANUFACTURED HOMES PARK

Manufactured homes, commonly known as trailer homes or mobile homes, represent a housing trend spurred by automobile tourism and travel at the turn of the twentieth century. Landowners developed campsites called auto courts or motor courts that allowed travelers to pitch tents or sleep in their cars. The camps provided an economical lodging option and welcome alternative to hotels, which were sometimes deemed too formal. This movement led to the design of prefabricated trailer homes in the 1930s, allowing travelers to essentially bring “homes” to the motor parks, rather than sleeping in tents or automobiles. Trailer homes were small (on average, 8 feet wide and 32 feet long) and typified as “one ‘room’ that served several functions and included transformable furniture” (Lawrence 2012:15), designed to allow for easy transport by hitching them to cars. Trailer home relied heavily on metal construction materials. A typical trailer park had relatively compact, angled parallel parking spaces, which allowed the maximum number of homes to fit in the park at one time. Trailer parks often had a laundry room, toilets, showers, or other limited amenities onsite. During and after World War II, the government subsidized the construction of trailer camps to address a housing shortage. The efforts by the government to provide affordable and quickly assembled housing led to a more permanent version of the trailer home known as the mobile home (Lawrence 2012:12, 14, 15, 17, 18, 22; Fowler et al. 2016:4).

By the late 1960s, mobile homes had become a popular housing choice across the country. By that point, one-third of single-family dwellings in the United States were mobile homes, approximately 20 out of every 100 Californians lived in a mobile park in California alone, and six million Americans lived in them across the nation (Fowler et al. (See continuation sheet.)

* B11. Additional Resource Attributes:

B12. References:

(See continuation sheet.)

B13. Remarks:

* **B14. Evaluator:** Hanna Winzenried, ICF, ICF

Date of Evaluation: 01/02/2022

(This space reserved for official comments.)

*P3a. Description (continued):
There is an additional manufactured home with corrugated metal siding to the west of these manufactured homes.

The north portion includes a metal manufactured home still on its wheels, two corrugated metal sided manufactured homes to the west, and a double-wide stucco manufactured home to the south and west. These manufactured homes are not clearly visible from the public right-of-way.

INTEGRITY
The subject property's integrity is fair. It retains integrity of location. It also retains integrity of setting because the surrounding area is rural, similar to when the buildings were originally constructed on the property.. Due to many alterations including the addition and removal of manufactured homes throughout the subject property's history, it does not have integrity of design, materials, and workmanship. However, the property is legible as a manufactured home park, and therefore has integrity of feeling and association.

*B6. Construction History (continued):

In 1972, there were 13 manufactured homes in the north portion of the property. The double wide north mobile home appears by 1974 (NETR 1974). By 2005 there were far fewer manufactured homes on the property (NETR 2005). No building permits are available for the property.

*B10. Significance (continued):

2016:11). Features such as shutters and gable roofs, indoor bathrooms, increased electrical capabilities, and landscaping appeared on mobile homes, making them look and function more like suburban homes. Mobile homes increased in size (up to 14 feet wide and 34 feet long), and most had more than one section. Other changes and features include two stories, indoor bathrooms, fold out porches, full height doors, and jalousie and bay windows (Fowler et al. 2016:9, 11). Many mobile home designs contained corridors to separate the living spaces, and telescoped sections or awnings provided more living space. Mobile homes also included chassis and wheels, which allowed them to be transported to the site by a professional, but they no longer had the transient capability of trailer homes due to their size and weight. Mobile home construction included wood composite, aluminum, or steel. Larger, rectangular lots replaced the angled parking spots to allow for larger homes and, depending on the arrangement of the homes, often provided more privacy. Camps soon included amenities such as swimming pools, playgrounds, and recreational facilities, which made these communities desirable and offered a more affordable price than conventional homeownership. Following the safety and construction standards published in 1976, the United States Department of Housing and Urban Development introduced the term manufactured home for mobile and trailer homes (Haney n.d.:2; Lawrence 2012:18–19; Fowler et al. 2016:9, 11).

Many trailer parks and mobile home parks still exist today. Most parks are specific to either trailer homes or mobile homes and can contain dozens to hundreds of homes. Simple street arrangements may be observed or more complex patterns, including radial street designs in some cases. Most will have one primary entrance to the park and be enclosed by a retaining wall. Although well-built, most manufactured home parks are vernacular, and professionals designed very few of these communities and homes. If well-maintained, manufactured homes can provide affordable housing even many years after being constructed and are said to be "the single most affordable type of housing available" (Haney n.d.:4; Lawrence 2012:36; Fowler et al. 2016:11,14).

SITE HISTORY
Historical aerial photos from 1963 show the original 110,642 square foot parcel at 2655 95th Street with both the Quonset hut and Residence (now on a separate parcel) visible in the lot southwest of the subject property, as well in the southwest corner as well two manufactured homes on the northern portion of the subject L-shaped parcel (NETR 1963; Parcel Quest 2021). This would mark the start of the mobile home park on the parcel. Less than ten years later, at least fourteen mobile homes resided on the parcel as well as two other buildings (NETR 1972). Landscaped vegetation lined the north and west boundaries of the parcel. Although seemingly successful over the next three decades, with numerous mobile homes on the property, by 2005 less than six remained. The original parcel remained scarcely populated with typically six mobile homes on it until 2015 when Longview Mobile Home Park sold 2655 95th Street (Quonset hut & Residence) (NETR 2009; NETR 2014; Parcel Quest 2021). This split the property into two separate parcels, although both still share the same address, 2655 95th Street (Parcel Quest 2021).

EVALUATION
Under CRHR Criterion 1, the property at 2655 95th Street does not have important associations with historic events, patterns, or trends of development. The property was not developed in the main homesteading period of the area and did not contribute to the agricultural trends of Rosamond. As such, the subject property is ineligible under CRHR Criterion 1.

Under CRHR Criterion 2, the subject property does not share significant associations with the lives of persons important to history. Research did not reveal any information on the original owner of the land B. C. Barker nor the current owner Longview Mobile Home Park. Neither owner has made significant contributions to history. As such, the subject property is ineligible under CRHR Criterion 2.

Under CRHR Criterion 3, the subject property is not a significant example of its type, style, or era, it lacks high artistic value, and is not the work of a master architect, building, designer, or engineer. The property is an example of a manufactured park home property type. As with many 1960s manufactured home parks, the manufactured homes on this site are larger examples that are not as mobile as past examples. This property looks like a small suburban neighborhood as was common of the time. However, this park is a very modest and small example of the property type, and not a master-planned park. There are many better examples of the property type in California. As such, the subject property is ineligible under CRHR Criterion 3.

Under CRHR Criterion 4, the subject property has neither yielded nor is likely to yield important information about our past. Typical of similar buildings, the subject property's manufactured home park does not have the potential to yield important information regarding construction or engineering materials, methods, or technologies used in the 1960s. As such, the subject property is ineligible under CRHR Criterion 4.

In conclusion, 2655 95th Street does not have historical associations or architectural or construction qualities that qualify the property for listing under any of the CRHR significance criteria. The property was evaluated in accordance with Section 15064.5(a) (2) of the CEQA guidelines, and found not to qualify as a historical resource for the purposes of CEQA. The current evaluation has assigned a 6Z status code to the property.

*B12. References (continued):

Fowler, Kari, Heather Goers, and Christine Lazzaretto. 2016. "Los Angeles Citywide Historic Context Statement: Trailer Parks and Mobile Home Parks, 1920–1969." SurveyLA. Prepared for City of Los Angeles Office of Historic Resources. Accessed November 19, 2021. Available: https://planning.lacity.org/odocument/4960e8aa-327c-44ab-be58-ed0c67ed916b/Trailer%20Parks%20and%20Mobile%20Home%20Parks%2C%201920-1969.pdf.

Haney, Neal. N.d. "Then and Now, What Next." Olympia, WA: Washington State Department of Archeology and Historic Preservation. Accessed July 28, 2021. Available: https://dahp.wa.gov/sites/default/files/Then-and-Now-Neal.pdf.

Lawrence, Parker Clifton. 2012. "Home Sweet Mobile Home Park: Developing A Historic Context for a Modern Resource." Thesis project. Milledgeville, GA: Georgia College. Accessed November 18, 2021. Available: https://getd.libs.uga.edu/pdfs/lawrence_parker_c_201408_mhp.pdf.

Nationwide Environmental Title Research, LLC (NETR). 1959. Rosamond, California, 93560, Aerial Photograph. Accessed December 30, 2021. https://www.historicaerials.com/viewer.
----. 1963. Rosamond, California, 93560, Aerial Photograph. Accessed December 30, 2021. https://www.historicaerials.com/viewer.
----. 1972. Rosamond, California, 93560, Aerial Photograph. Accessed December 30, 2021. https://www.historicaerials.com/viewer.
----. 1974. Rosamond, California, 93560, Aerial Photograph. Accessed December 30, 2021. https://www.historicaerials.com/viewer.
----. 2009. Rosamond, California, 93560, Aerial Photograph. Accessed December 30, 2021. https://www.historicaerials.com/viewer.
----. 2014. Rosamond, California, 93560, Aerial Photograph. Accessed December 30, 2021. https://www.historicaerials.com/viewer.

Appendix C

Property Access Request Letters

November 3, 2021

[redacted]
4040 Manly Road
Rosamond, CA 93560

Dear Property Owner:

ICF is conducting field studies and preparing technical reports to support Kern County in their analysis of a renewable energy project in the region. The project is subject to the California Environmental Quality Act (CEQA), with Kern County as the lead agency. CEQA requires analysis of a project's potential impacts on any built environment resources (buildings, structures, and objects), both onsite as well as within the vicinity of a project, that may qualify as historical resources for the purposes of CEQA.

Based on analysis of historic aerial photographs, historic maps, and Kern County Assessor information, your property has been identified as one of the properties within proximity to a proposed solar project that contain at least one building 45 years old or older. You have received this letter because ICF, on in support of Kern County's review, would like to access your property to conduct this analysis. The purpose of the analysis is to determine if your property is potentially eligible for listing in the California Register of Historical Resources (CRHR). CRHR eligibility would qualify the property as a historical resource under CEQA for the purposes of the project. The analysis is solely for the purposes of the project's CEQA impact analysis and does not affect the land uses of your property. No property would be formally listed in the CRHR or any other formal register of historical resources as part of the survey and analysis. Please note, absolutely no construction is scheduled to take place on your property.

We are requesting access to your property located at 4040 Manly Road, Rosamond, CA ("Property") to perform the analysis described above. This work would not require any ground disturbance or activities other than visual review and photographic documentation of building and structure exteriors. ICF will make every effort to minimize interruption to you and your property. You do not need to vacate your premises during the survey. These activities only require one visit and, in most cases, can be completed in one hour or less. ICF would be sending no more than two individuals with experience in documenting historic-age buildings and structures on the day of access. If you permit access, our project team will contact you at the number you provide below at least one week prior to arriving at your property and again on the day of access.

If access is not permitted, we would respectfully request that you provide some materials that will assist us in our analysis, including:

1. Photographs of all exteriors of all buildings more than 45 years of age on the property regardless of whether or not they are in use, taken with a digital camera, cellphone or tablet. This includes (but is not limited to) residences, garages, sheds, barns, Quonset huts, springhouses, silos, cribs, and granaries. It would be extremely helpful if you can capture the entire façade in one picture, but if that isn't possible, multiple images of each individual elevation are okay.

2. Photographs of other structures and sites that are more than 45 years of age such as wells, corrals, fences, windmills, water conveyance, man-made ponds or holding basins, water towers, culverts, bridges and septic tanks (if aboveground).
3. Hand drawn map that shows the location of these sites and structures, labeled and shown in relation to each other (does not need to be at-scale). To help orient the team, please provide a north arrow on the map.
4. A photo list that corresponds to the images taken by you.
5. Some photos that provide a general overview of the property showing the buildings, structures, fields and internal circulation in relation to one another.
6. Images, lists, maps can be uploaded to a secure ICF location online. If you would like to choose this option, please respond by emailing Jessica.Feldman@icf.com by November 19, 2021. Once we have your active email address, we will email you a URL/link where you can easily upload your documents. We will send this email to you within five days of receiving your request.

Please support the CEQA review process by signing below and promptly returning your signed letter to us in the enclosed, pre-paid envelope. By signing and returning this letter, you are giving ICF the right to enter your property and undertake the activities described above. Please respond and send back by November 19, 2021

Should you have any questions, please contact (213) 312-1763. Thank you in advance.

Sincerely,

Jessica Feldman
Historic Resources Lead

Ellen Miille
Sr. Managing Director

I agree to allow ICF onto my Property to undertake activities described herein:

____

Signature

____

Best Contact Phone Number

____

Print Name and Date

____

Email Address

cc:

Mr. Terrance Smalls, Supervising Planner
Kern County Planning and Natural Resources Department
661-862-8607
tsmallst@kerncounty.com>

November 3, 2021

[redacted]
4050 Manly Road
Rosamond, CA 93560

Dear Property Owner:

ICF is conducting field studies and preparing technical reports to support Kern County in their analysis of a renewable energy project in the region. The project is subject to the California Environmental Quality Act (CEQA), with Kern County as the lead agency. CEQA requires analysis of a project's potential impacts on any built environment resources (buildings, structures, and objects), both onsite as well as within the vicinity of a project, that may qualify as historical resources for the purposes of CEQA.

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We are requesting access to your property located at 4050 Manly Road, Rosamond, CA ("Property") to perform the analysis described above. This work would not require any ground disturbance or activities other than visual review and photographic documentation of building and structure exteriors. ICF will make every effort to minimize interruption to you and your property. You do not need to vacate your premises during the survey. These activities only require one visit and, in most cases, can be completed in one hour or less. ICF would be sending no more than two individuals with experience in documenting historic-age buildings and structures on the day of access. If you permit access, our project team will contact you at the number you provide below at least one week prior to arriving at your property and again on the day of access.

If access is not permitted, we would respectfully request that you provide some materials that will assist us in our analysis, including:

1. Photographs of all exteriors of all buildings more than 45 years of age on the property regardless of whether or not they are in use, taken with a digital camera, cellphone or tablet. This includes (but is not limited to) residences, garages, sheds, barns, Quonset huts, springhouses, silos, cribs, and granaries. It would be extremely helpful if you can capture the entire façade in one picture, but if that isn't possible, multiple images of each individual elevation are okay.

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3. Hand drawn map that shows the location of these sites and structures, labeled and shown in relation to each other (does not need to be at-scale). To help orient the team, please provide a north arrow on the map.
4. A photo list that corresponds to the images taken by you.
5. Some photos that provide a general overview of the property showing the buildings, structures, fields and internal circulation in relation to one another.
6. Images, lists, maps can be uploaded to a secure ICF location online. If you would like to choose this option, please respond by emailing Jessica.Feldman@icf.com by November 19, 2021. Once we have your active email address, we will email you a URL/link where you can easily upload your documents. We will send this email to you within five days of receiving your request.

Please support the CEQA review process by signing below and promptly returning your signed letter to us in the enclosed, pre-paid envelope. By signing and returning this letter, you are giving ICF the right to enter your property and undertake the activities described above. Please respond and send back by November 19, 2021

Should you have any questions, please contact (213) 312-1763. Thank you in advance.

Sincerely,

Jessica Feldman
Historic Resources Lead

Ellen Miille
Sr. Managing Director

I agree to allow ICF onto my Property to undertake activities described herein:

______________________________ ______________________________

Signature **Best Contact Phone Number**

______________________________ ______________________________

Print Name and Date **Email Address**

cc:

Mr. Terrance Smalls, Supervising Planner
Kern County Planning and Natural Resources Department
661-862-8607
tsmallst@kerncounty.com>

Appendix G:
Energy Memo

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Memorandum

To:	Scott Kuhlke, Director Development EDF Renewables 1999 Harrison Street, Suite 675 Oakland, CA 94612
From:	Ryan Hallman, ICF Air Quality and Climate Change Specialist Emily Ramos, ICF Planner Ellen Miille, ICF Project Manager
Date:	April 12, 2023
Re:	**Bullhead Solar Project Energy Memo**

Dear Mr. Kuhlke,

This memorandum provides information regarding the energy status of the property related to the Bullhead Solar Project in Kern County, California, including the existing conditions, site history, planning regulations, and potential impacts pursuant to the California Environmental Quality Act (CEQA).

Project Overview

EDF Renewables (EDFR) proposes the Bullhead Solar Project (project) to develop up to 270 megawatts (MW) (alternating current or "AC") of solar photovoltaic (PV) capacity derived from tracker technology and up to 270 MW of battery storage. The project includes solar development with associated PV panels, inverters, converters, generators, foundations, transformers, and a generation-tie (gen-tie) route to either the Rosamond Switching Station or the Whirlwind substation, only one of which would be constructed. The project includes laydown yards, a meteorological station, a microwave/communication tower, battery energy storage system (BESS) and a substation. The project is expected to generate approximately 870,000 megawatt-hours (MWh) annually and 30.45 million MWh (or 30,450 gigawatt-hours) over its 35-year operational life.

This memo addresses the potential for energy impacts to occur with construction and operation of the proposed project in the context of CEQA Guidelines Section 15126.2(b) and Appendix F. This memo discusses existing energy resources within Kern County (the County), the applicable regulations that govern their use, supply, distribution, and performance, and any changes to the physical environment that would occur with implementation of the proposed project.

The analysis in this memo relies in part on information and assumptions provided in the *Air Quality Technical Report for the Bullhead Solar Project* (ICF 2023).

Project Location and Setting

The project is generally located in southern Kern County, central California (see Figure 1, Regional Location Map). The project is approximately 52 miles southeast of the city of Bakersfield, 19 miles south of the city of Tehachapi, 8 miles northwest of the community of Rosamond, and 2 miles north of the community of Willow Springs. Other communities within the vicinity of the project site include Mojave in Kern County and the cities of Lancaster, Palmdale, and Neenach in Los Angeles County, which are roughly 12 miles northeast, 17 miles southeast, 24 miles southeast, and 18 miles southwest of the project, respectively. The proposed primary access to the site is proposed via Rosamond Boulevard, Tehachapi Willow Springs Road, and Dawn Road. Access to the Bullhead site is also provided via 120th Street West through the approved and adjacent BigBeau Solar Project ("BigBeau"). Figure 1 shows the study area. The project site is in an area of low population density and traversed by a network of dirt roads. Figure 2 shows the study area boundary for the solar development, along with the alternative gen-tie routes and access roads.

Many of the lands surrounding the site have either been approved for or are in the planning stages of development for solar or wind energy.

State Energy Resources and Use

California has a diverse portfolio of energy resources that produced 2,190 trillion British thermal units (BTUs)[1] in 2020.[2] Excluding offshore areas, the state ranked seventh in the nation in crude oil production in 2020, producing the equivalent of 814.5 trillion BTUs. The state ranked second in total renewable energy generation, with 1,013.9 trillion BTUs. Other energy sources in the state include natural gas (192.1 trillion BTUs), nuclear (169.8 trillion BTUs), and biofuels (20.3 trillion BTUs) (U.S. Energy Information Administration 2020a).[3]

According to the U.S. Energy Information Administration (2020b), California consumed approximately 6,992.8 trillion BTUs of energy in 2020. Per capita energy consumption (i.e., total energy consumption divided by the population) in California is among the lowest in the country—approximately 175.3 million BTUs in 2020. Natural gas accounted for the majority of energy consumption (31 percent), followed by motor gasoline (19 percent), renewable energy, including nuclear electric power, hydroelectric power, biomass, and other renewables (20 percent), distillate and jet fuel (12 percent), and interstate electricity (11 percent), with the remaining 7 percent from a variety of other sources (U.S. Energy Information Administration 2020c). The transportation sector consumed the highest quantity of energy (34.0 percent), followed by the industrial (24.6 percent),

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[1] One BTU is the amount of energy required to heat 1 pound of water by 1 degree Fahrenheit at sea level. BTU is a standard unit of energy that is used in the United States and is on the English system of units (foot-pound-second system).

[2] Note that 2020 data are the most recent available at the U.S. Energy Information Administration website: https://www.eia.gov/state/data.php?sid=CA. Accessed on April 11, 2023.

[3] No coal production occurs in California.

commercial (19.6 percent), and residential (21.8 percent) sectors (U.S. Energy Information Administration 2020d).

Per capita energy consumption, in general, is declining because of improvements in energy efficiency and design. However, despite this reduction in per capita energy use, the state's total overall energy consumption (i.e., non-per capita energy consumption) is expected to increase over the next several decades as a result of growth in population, jobs, and vehicle travel.

Regional Energy Resources and Use

Gas and electricity are served to Kern County customers by two primary utility providers: Southern California Gas Company (The Gas Company) and Southern California Edison Company (SCE). Each is described further below.

Southern California Gas Company

The Gas Company is the principal distributor of natural gas in southern California, providing retail and wholesale customers with transportation, exchange, and storage services and procurement services to retail core customers. It is a gas-only utility and, in addition to serving the residential, commercial, and industrial markets, provides gas for enhanced oil recovery and electric generation customers (CGEU 2022). Table 1 details the natural gas usage by market sector for 2021.

Table 1. The Gas Company 2021 Natural Gas Demand

Sector	Quantity (billion cubic feet)
Residential	224.0
Commercial	77.0
Industrial (Non-Refinery)	20.4
Industrial (Refinery)	91.7
Industrial Cogeneration	25.4
Refinery-Related Cogeneration	23.0
Enhanced Oil Recovery – Cogeneration	4.1
Electrical Generation	191.0
Wholesale	38.6
Hydro	94.0
Natural Gas Vehicles	15.4
Total	804.6

Source: CGEU 2022.

Southern California Edison

SCE serves electricity only to most of the remaining parts of the County, including its mountain, foothill, and southern desert communities. This includes Delano, Lake Isabella, Tehachapi, Mojave, Rosamond, and other unincorporated areas.

Approximately 17 percent of power delivered to SCE's customers in 2020 came from utility-owned generation. In 2020, the sources of utility-owned generation were approximately 8 percent nuclear, 5 percent natural gas, 3 percent large hydroelectric, 1 percent small hydroelectric, and less than 0.5 percent solar generation. Approximately 40 percent of power that SCE delivered to customers in 2020 came from renewable sources (Edison International and SCE 2020). SCE's current power mix, including utility-owned generation and purchased power, is detailed in Table 2. Table 3 shows the energy usage by sector.

Table 2. Southern California Edison and the State of California 2020 Power Mix

Energy Resource	SCE Power Mix[a]	SCE Green Rate 50% Option	SCE Green Rate 100% Option	California-wide Power Mix (for comparison)[a]
Eligible Renewable	30.9	65.4	100.0	33.1
Biomass and Biowaste	*0.1*	*0.1*	*0.0*	*2.5*
Geothermal	*5.5*	*2.8*	*0.0*	*4.9*
Eligible Hydroelectric	*0.8*	*0.4*	*0.0*	*1.4*
Solar	*15.1*	*57.6*	*100.0*	*13.2*
Wind	*9.4*	*4.7*	*0.0*	*11.1*
Coal	0.0	0.0	0.0	2.7
Large Hydroelectric	3.3	1.6	0.0	12.2
Natural Gas	15.2	7.6	0.0	37.1
Nuclear	8.4	4.2	0.0	9.3
Other	0.3	0.2	0.0	0.2
Unspecified[b]	42.0	21.0	0.0	5.4
Total	100%	100%	100%	100%

Source: CEC 2022b.
[a] Percentages are estimated annually by the California Energy Commission (CEC).
[b] *Unspecified sources of power* means electricity from transactions that are not traceable to specific generation sources.

Table 3. Electricity Consumption in Southern California Edison Service Area (2020)

Agricultural and Water Pump	Commercial Building	Commercial Other	Industry	Mining and Construction	Residential	Streetlight	Total Usage
5,078	34,374	5,226	17,134	2,824	38,499	464	103,597

Source: CEC 2022a.
Note: All usage expressed in millions of kWh (GWh).

Regulatory Framework

Federal

Energy Policy and Conservation Act of 1975 and Corporate Average Fuel Standards

The Energy Policy and Conservation Act of 1975 established the first fuel economy standards for on-road motor vehicles sold in the United States. The National Highway Traffic and Safety Administration is responsible for establishing vehicle standards and revising existing standards. Their Corporate Average Fuel Economy program was created to determine vehicle manufacturers' compliance with the fuel economy standards. The U.S. Environmental Protection Agency (EPA) administers the testing program that generates fuel economy data.

Energy Policy Act of 2005

The Energy Policy Act of 2005 was intended to establish a comprehensive, long-term energy policy and is implemented by the U.S. Department of Energy. The act addresses energy production in the United States, including oil, gas, coal, and alternative forms of energy, and energy efficiency and tax incentives. Energy efficiency and tax incentive programs include credits for the construction of new energy-efficient homes, production or purchase of energy-efficient appliances, and loan guarantees for entities that develop or use innovative technologies that avoid the production of greenhouse gases (GHGs).

Energy Independence and Security Act of 2007

Signed into law in December 2007, the Energy Independence and Security Act was passed to increase the production of clean renewable fuels, increase the efficiency of products, buildings, and vehicles, improve the energy performance of the federal government, increase U.S. energy security, develop renewable fuel production, and improve vehicle fuel economy. The act included the first increase in fuel economy standards for passenger cars since 1975 and also included a new energy grant program for use by local governments in implementing energy-efficiency initiatives, as well as a variety of green building incentives and programs.

Executive Order 13514 (2009)

Executive Order (EO) 13514 sets sustainability goals for federal agencies and focuses on making improvements in their environmental, energy, and economic performance. A national policy, the EO instituted a mandate that federal agencies must measure, report, and reduce their GHG emissions from direct and indirect activities.

State

Assembly Bill 1493—Pavley Rules (2002, amended 2009)/Advanced Clean Cars (2011)

Known as *Pavley I*, Assembly Bill (AB) 1493 provided the nation's first GHG standards for automobiles. AB 1493 required the California Air Resources Board (CARB) to adopt vehicle standards that will lower GHG emissions from new light-duty autos to the maximum extent feasible beginning in 2009. In 2012, additional strengthening of the Pavley standards (referred to previously as *Pavley II* and now referred to as the *Advanced Clean Cars* measure) was adopted for vehicle model years 2017–2025. Together, the two standards are expected to increase average fuel economy to roughly 54.5 miles per gallon in 2025.

In August 2022, CARB Board members voted to approve the Advanced Clean Cars II proposal, which will dramatically reduce emissions from passenger cars for model years 2026 through 2035. This requires an increasing proportion of new vehicles to be zero-emission vehicles, with the goal of 100 percent zero-emission vehicles for new vehicles sold by 2035 (CARB 2022a).

CARB also adopted the Advanced Clean Truck Regulation to accelerate a large-scale transition of zero-emission medium- and heavy-duty vehicles. The regulation requires the sale of zero-emission medium- and heavy-duty vehicles as an increasing percentage of total annual California sales from 2024 to 2035. By 2035, zero-emission truck/chassis sales would need to be 55 percent of Class 2b–3 truck sales, 75 percent of Class 4–8 straight truck sales, and 40 percent of truck tractor sales. By 2045, every new medium- and heavy-duty truck sold in California will be zero-emission. Large employers including retailers, manufacturers, brokers, and others are required to report information about shipments and shuttle services to better ensure that fleets purchase available zero-emission trucks.

Senate Bills 1078/107/X 1-2—Renewables Portfolio Standard and Renewable Energy Resources Act (2002, 2006, 2011)

Senate Bills (SBs) 1078 and 107, California's Renewable Portfolio Standards (RPS), obligated investor-owned utilities, energy service providers, and Community Choice Aggregations to procure an additional 1 percent of retail sales per year from eligible renewable sources until 20 percent was reached by 2010. The California Public Utilities Commission and CEC are jointly responsible for implementing the program. SB X 1-2, called the *California Renewable Energy Resources Act*, obligates all California electricity providers to obtain at least 33 percent of their energy from renewable resources by 2020. As noted below, SB 350 increased the RPS to 50 percent for 2030, and SB 100 increased the RPS to 100 percent by 2045.

Executive Order S-03-05 (2005)

EO S-03-05 is designed to reduce California's GHG emissions to (1) 2000 levels by 2010; (2) 1990 levels by 2020; and (3) 80 percent below 1990 levels by 2050.

Assembly Bill 32—California Global Warming Solutions Act (2006)

AB 32 codified the State's GHG emissions target by requiring California's global warming emissions to be reduced to 1990 levels by 2020. Since AB 32's adoption, CARB, CEC, the California Public Utilities Commission, and the California Building Standards Commission have been developing regulations that will help the state meet the goals of AB 32 and EO S-03-05. The scoping plan for AB 32 identifies specific measures to reduce GHG emissions to 1990 levels by 2020 and requires CARB and other state agencies to develop and enforce regulations and other initiatives to reduce GHG emissions. The AB 32 Scoping Plan, first adopted in 2008, comprises the state's roadmap for meeting AB 32's reduction target. Specifically, the scoping plan articulates a key role for local governments by recommending that they establish GHG emissions-reduction goals for both their municipal operations and the community that are consistent with those of the state (i.e., approximately 15 percent below current levels) (CARB 2018).

CARB re-evaluated its emissions forecast in light of the economic downturn and updated the projected 2020 emissions to 545 million metric tons of carbon dioxide equivalent ($MTCO_2e$). Two reduction measures (Pavley I and RPS [12 percent–20 percent]) that were not previously included in the 2008 scoping plan baseline were incorporated into the updated baseline, further reducing the 2020 statewide emissions projection to 507 million $MTCO_2e$. The updated forecast of 507 million $MTCO_2e$ is referred to as the *AB 32 2020 baseline*. An estimated reduction of 80 million $MTCO_2e$ is necessary to lower statewide emissions to the AB 32 target of 427 million $MTCO_2e$ by 2020 (CARB 2014).

CARB approved the *First Update to the Scoping Plan* on May 22, 2014 (CARB 2014). The first update includes both a 2020 element and a post-2020 element. The 2020 element focuses on the state, regional, and local initiatives that are being implemented now to help the state meet the 2020 goal.

Executive Order S-01-07—Low Carbon Fuel Standard (2007)

EO S-01-07, the LCFS, mandates (1) that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020, with a reduction in the carbon content of fuel by a quarter of a percent starting in 2011; and (2) that an LCFS for transportation fuels be established in California. The EO initiated a research and regulatory process at CARB. Note that the majority of the emissions benefits due to the LCFS come from the production cycle (i.e., upstream emissions) of the fuel, rather than the combustion cycle (i.e., tailpipe). As a result, LCFS-related reductions are not included in this analysis of combustion-related emissions of carbon dioxide (CO_2).

Tractor-Trailer Greenhouse Gas Regulation (2013)

CARB approved the Tractor-Trailer Greenhouse Gas Regulation to reduce GHG emissions by requiring the use of aerodynamic tractors and trailers that are also equipped with low rolling resistance tires. The regulation applies to certain Class 8 tractors manufactured for use in California and complements the parallel EPA and National Highway Traffic Safety Administration heavy-duty truck standards. This regulation could reduce fuel consumption and GHG emissions from new heavy-duty trucks by 4–5 percent per year between 2014 and 2018 (EPA 2015).

Senate Bill 350 (2015)

Signed into law in October 2015, SB 350 (also known as the *Clean Energy and Pollution Reduction Act of 2015*) requires CARB (in coordination with the CPUC and CEC) to coordinate and implement the following overarching goals:

- Increase the RPS to 50 percent of retail sales by 2030 and ensure grid reliability.
- Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.

- Reduce GHG emissions in the electricity sector through the implementation of the above measures and other actions as modeled in their integrated resource plans (IRPs) to meet GHG emissions reductions planning targets in the IRP process. Load-serving entities and publicly owned utilities meet GHG emissions reductions planning targets through a combination of measures as described in IRPs. The IRPs will detail how each large utility will meet their customers resource needs, minimize price increases, reduce emissions, and ramp up the deployment of clean energy resources.

Senate Bill 32, California Global Warming Solutions Act of 2006: Emissions Limit, and Assembly Bill 197, State Air Resources Board, Greenhouse Gases, Regulations (2016)

SB 32 (*Pavley*) requires CARB to ensure that statewide GHG emissions are reduced to at least 40 percent below the 1990 level by 2030, consistent with the target set forth in EO B-30-15. The bill specifies that SB 32 will become operative only if AB 197 (Garcia) is enacted and becomes effective on or before January 1, 2017. AB 197 creates requirements to form the Joint Legislative Committee on Climate Change Policies, requires CARB to prioritize direct emission reductions from stationary sources, mobile sources, and other sources and consider social costs when adopting regulations to reduce GHG emissions beyond the 2020 statewide limit, requires CARB to prepare reports on sources of GHGs, criteria air pollutants, and toxic air contaminants, establishes 6-year terms for voting members of CARB, and adds two legislators as non-voting members of CARB. Governor Brown signed both bills in September 2016.

In December 2017, CARB approved the *2017 Climate Change Scoping Plan Update* (2017 Scoping Plan), which builds on the programs set in place as part of the previous Scoping Plan that was drafted to meet the 2020 reduction targets per AB 32. The 2017 Scoping Plan proposes meeting the 2030 goal by accelerating the focus on zero and near-zero technologies for moving freight, continued investment in renewables, greater use of low-carbon fuels, including electricity and hydrogen, stronger efforts to reduce emissions of short-lived climate pollutants (i.e., methane, black carbon, and fluorinated gases), further efforts to create walkable communities with expanded mass transit and other alternatives to traveling by car, continuing the cap-and-trade program, and ensuring that natural lands become carbon sinks[4] to provide additional emissions reductions and flexibility in meeting the target.

The 2017 Scoping Plan also recommends that local governments aim to achieve community-wide efficiency of 6 $MTCO_2e$ per capita by 2030 and 2 $MTCO_2e$ per capita by 2050 to be used in local climate action planning. These efficiency targets would replace the "15 percent from 2008 levels by 2020" approach recommended in the initial Scoping Plan, which would allow for local governments to grow in a sustainable manner (CARB 2016).

CARB (2022b) adopted the *2022 Scoping Plan for Achieving Carbon Neutrality* (2022 Scoping Plan) in November 2022 to identify a technologically feasible, cost-effective, and equity-focused path to achieve carbon neutrality by 2045, pursuant to AB 1279. The 2022 Scoping Plan extends and expands upon GHG reduction measures of the previous Scoping Plans and includes additional measures to capture and store atmospheric carbon through the state's natural and working lands

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[4] A *carbon sink* is anything that absorbs more carbon from the atmosphere than it releases, e.g., plants, soil, and the ocean.

and using a variety of mechanical approaches. The plan also assesses the State's progress toward meeting the GHG emissions reduction goal called for in SB 32.

Senate Bill 100 (2018)

SB 100 (*De León*, also known as the *California Renewables Portfolio Standard Program: Emissions of Greenhouse Gases*) was approved by the California legislature and signed by Governor Brown in September 2018. The bill increases RPS in 2030 from 50 percent to 60 percent and establishes a goal of 100 percent RPS by 2045.

Executive Order B-55-18 (2018)

Approved by the California legislature and signed by Governor Brown in September 2018, EO B-55-18 acknowledges the environmental, community, and public health risks posed by future climate change. It further recognizes the climate stabilization goal adopted by 194 states and the European Union under the Paris Agreement. Although the United States was not party to the agreement, California is committed to meeting Paris Agreement goals and exceeding them wherever possible. Based on the worldwide scientific agreement that carbon neutrality must be achieved by the mid-twenty-first century, EO B-55-18 establishes a new state goal to achieve carbon neutrality as soon as possible, and no later than 2045, and to achieve and maintain net negative emissions thereafter.

EO B-55-18 charges CARB with developing a framework for implementing and tracking progress toward these goals. This EO extends EO S-3-05, but is only binding on state agencies. The 2022 Scoping Plan identifies a technologically feasible, cost-effective path for achieving carbon neutrality by 2045 or earlier, consistent with the goals of EO B-55-18.

Assembly Bill 1279 (2022)

AB 1279 (Health and Safety Code Section 38562.2) requires California to achieve net zero GHG emissions (i.e., reach a balance between the GHGs emitted and removed from the atmosphere) no later than 2045 and to achieve and maintain net negative GHG emissions from then on. It also mandates an 85-percent reduction in statewide anthropogenic GHG emissions (from 1990 levels) by 2045. AB 1279 recognizes that meeting these targets requires direct GHG emission reductions and removal of CO_2 from the atmosphere, as well as a nearly complete transition from fossil fuels. As such, the bill directs CARB to work with relevant state agencies to ensure Scoping Plan updates include measures that put California on a trajectory to achieve these targets. It also tasks CARB with implementing strategies that facilitate CO_2 removal solutions and carbon capture, utilization, and storage technologies. To evaluate the State's progress, AB 1279 requires that CARB report progress toward these targets to the Legislature annually. By 2035, the bill directs CARB to assess the feasibility and tradeoffs of reducing statewide anthropogenic GHG emissions to 85 percent below 1990 levels by 2045 and report its findings to the Legislature.

Senate Bill 1020 (2022)

SB 1020 (Laird, also known as the Clean Energy, Jobs, and Affordability Act of 2022) was approved by the California Legislature and signed by Governor Gavin Newsom in September 2022. The bill revises State policy to instead provide that renewable energy resources and zero-carbon resources supply 90 percent of all retail sales of electricity to California end-use customers by 2035, 95 percent of retail sales of electricity to California customers by 2040, and 100 percent of all retail sales of electricity to California customers by 2045.

Local

Kern County General Plan

The *Kern County General Plan* was originally adopted on June 15, 2004, and last amended on September 22, 2009. The General Plan's Energy Element includes a discussion of solar development and the aim to accommodate future growth and development in an intentional approach. Because of favorable climatic conditions in the desert and valley regions of Kern County, large-scale use of solar energy represents a major potential energy resource.

Goals and Policies

- **Goal**: Encourage safe and orderly commercial solar development.
  - **Policy 1:** The County shall encourage domestic and commercial solar energy uses to conserve fossil fuels and improve air quality.
  - **Policy 2**: The County should attempt to identify and remove disincentives to domestic and commercial solar energy development.
  - **Policy 3**: The County should permit solar energy development in the desert and valley planning regions that does not pose significant environmental or public health and safety hazards.
  - **Policy 4**: The County should encourage solar development in the desert and valley regions previously disturbed, and discourage development of energy projects on undisturbed land supporting State or federally protected plant and wildlife species.

Implementation Measures

- The County shall continue to maintain, and update as necessary, provisions in the Kern County Zoning Ordinance to provide adequate development standards for commercial solar energy development.
- The County should work with affected State and federal agencies and interest groups to establish consistent policies for solar energy development.

Willow Springs Specific Plan

The proposed project area also encompasses 518 acres of Kern County's *Willow Springs Specific Plan* (WSSP) area. The WSSP was adopted in April 2008 and contains goals, policies, and standards that are compatible with those in the *Kern County General Plan*, but unique to the specific needs of the Willow Springs area. There are no specific energy-related policies and measures contained in the WSSP that are applicable to the proposed project (Kern County Department of Planning and Development Services 2008).

Energy Impacts

Approach to the Analysis and Methodology

In order to assure that energy implications are considered in project decisions, State CEQA Guidelines Appendix F, *Energy Conservation*, provides direction regarding Public Resources Code Section 21100(b)(3)). CEQA requires that environmental impact reports (EIRs) include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. Per the State CEQA Guidelines, information identified in Appendix F should only be included where applicable or relevant to the project, and it is noted that, in some cases, additional items may need to be included in the discussion.

State CEQA Guidelines Section 15126.2(b), which was recently added as part of the 2018 comprehensive update, provides the following guidance for energy impacts:

> If analysis of the project's energy use reveals that the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary consumption use of energy, or wasteful use of energy resources, the EIR shall mitigate that energy use. This analysis should include the project's energy use for all project phases and components, including transportation-related energy, during construction and operation. In addition to building code compliance, other relevant considerations may include, among others, the project's size, location, orientation, equipment use and any renewable energy features that could be incorporated into the project. (Guidance on information that may be included in such an analysis is presented in Appendix F.) This analysis is subject to the rule of reason and shall focus on energy use that is caused by the project. This analysis may be included in related analyses of air quality, greenhouse gas emissions, transportation or utilities in the discretion of the lead agency.

State CEQA Guidelines Appendix F, *Energy Conservation*, provides that the goal of conserving energy implies the wise and efficient use of energy. Appendix F provides three means of achieving this goal:

1. Decreasing overall per-capita energy consumption;
2. Decreasing reliance on fossil fuels such as coal, natural gas and oil; and
3. Increasing reliance on renewable energy sources.

The potential impacts analysis is based on an evaluation of whether construction and operational energy-use estimates for the proposed project would be considered excessive, wasteful, or inefficient, taking into consideration that the proposed project would provide a new source of renewable energy. The energy analysis for the proposed project evaluates the following sources of energy consumption:

- Short-term construction
  - Gasoline and diesel fuel consumed by on-road vehicles and off-road construction equipment
  - Electricity consumed for pumping and conveying water for dust suppression during construction
- Long-term operations
  - Electricity consumed for pumping and conveying water for panel washing, up to once per year

- Gasoline fuel consumed by daily workers' vehicles and diesel fuel consumed by water and delivery trucks during periodic maintenance activities
- Diesel fuel consumed by off-road equipment (i.e., pressure washer) during periodic maintenance activities
- Diesel fuel consumed by a backup generator required at the project substation

Energy emissions details supporting the proposed project estimates presented in this memo are included in the *Air Quality Technical Report for the Bullhead Solar Project* (ICF 2023). In summary, the energy use associated with fuel consumption during both project construction and operations was calculated by converting GHG emissions (i.e., CO_2 emissions) estimated for the project in the Air Quality Technical Report analysis, using the rate of CO_2 emissions emitted per gallon of combusted gasoline (8.78 kilograms/gallon) and diesel (10.21 kilograms/gallon) (The Climate Registry 2018).[5]

The estimated fuel consumption was converted to BTUs, assuming an energy intensity of 109,772 BTUs per gallon of gasoline and 127,460 per gallon of diesel (CARB 2018). The water-related energy use during both project construction and operations was calculated using water-usage assumptions the project applicant provided, in combination with CalEEMod defaults for electricity intensity factors associated with water conveyance, treatment, and distribution.[6] It is anticipated that panels would be washed once per year, with water being trucked in from a local source. Proposed project staff would use the O&M facility immediately adjacent to the project site at the BigBeau Solar Project. Energy use associated with operation of the BigBeau O&M building was previously analyzed, and any change in electricity use associated with the proposed project is anticipated to be minimal (County of Kern 2020). The estimated electricity consumption during project construction and operations, provided in kilowatt-hours (kWh), was converted to BTUs using an energy intensity of 3,412 BTU per kWh (U.S. Energy Information Administration 2022).

Significance Criteria

Based on guidance provided in Appendices F and G of the State CEQA Guidelines, a project would result in significant impacts related to energy if it would:

1. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation (Criterion 1); or
2. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency (Criterion 2).

[5] For the assumptions used to estimate the proposed project's construction and operational GHG emissions, please refer to Section 3.3.2, *Methodology*, of the *Air Quality Technical Report for the Bullhead Solar Project*.

[6] The calculation of estimated water-related energy use (kWh/year) during project construction and operations can be found in Appendix B of the *Air Quality Technical Report for the Bullhead Solar Project*.

Impact Analysis

Criterion 1: Result in Wasteful, Inefficient, or Unnecessary Consumption of Energy Resources

Construction

The analysis in this section utilizes the assumptions identified in the *Air Quality Technical Report for the Bullhead Solar Project*. Table 4 summarizes the proposed project's energy use for construction.

Table 4. Energy Use for Construction of the Bullhead Solar Project

	Energy Unit		Unit Conversion	
Source	Gallons	kWh	BTU	MBTU
Trucks (diesel)	781,645	–	99,628,475,910	99,628
Workers (gasoline)	143,963	–	15,803,145,798	15,803
Equipment (diesel)	553,744	–	70,580,190,220	70,580
Water (kWh)	–	724,041	2,470,427,626	2,470
Total	–	–	–	188,482

Source: ICF 2023.
Note: Construction is over the life of project construction. See Appendix B of the *Air Quality Technical Report for the Bullhead Solar Project* (2023) for assumptions and calculations.
[1] Gallons of diesel fuel
[2] Gallons of gasoline
BTU = British thermal units; kWh = kilowatt hours; MBTU = 1,000 British thermal units

Construction of the proposed project would result in fuel consumption from the use of construction tools and equipment, haul truck trips, and vehicle trips generated from construction workers traveling to and from the site. Project construction is expected to consume a total of approximately 1,335,389 gallons of diesel fuel (170,208 million BTUs) from construction equipment and vendor, hauling, and water truck trips and approximately 143,963 gallons of gasoline (15,803 million BTUs) from construction worker vehicle trips. In addition, 724,041 kWh of electricity (2,470 million BTUs) are expected to be consumed from water use during construction (ICF 2023).[7] Note that while construction may include construction trailers that will connect to electricity, consumption has not been estimated in this analysis because the size of these trailers is unknown at this time, and any electricity consumption to power basic office needs would be negligible.

Construction activities and corresponding fuel energy consumption would be temporary and localized because the use of diesel fuel and heavy-duty equipment would not be a typical condition of the project. In addition, there are no unusual project characteristics that would cause the use of construction equipment that would be less energy efficient compared with other similar construction sites in other parts of the state. Construction of the proposed project requires the modeled number of equipment, vehicles, and workers to complete the project in a time- and cost-efficient manner. Furthermore, as shown in Table 5, the project's renewable energy production would greatly offset the project's construction and operational energy usage. Therefore, construction-related fuel consumption as a result of implementation of the proposed project is not

[7] Although the proposed project would have an electrical connection, the amount of direct electricity consumption is unknown and cannot be quantified with certainty at this time. However, such energy consumption is anticipated to be relatively minor when compared to energy consumption from equipment, trucks, workers, and water use.

anticipated to result in inefficient, wasteful, or unnecessary energy use compared with other similar types of construction sites in the region.

Operation

Upon completion of construction and testing phases, the proposed project would be operated primarily during daylight hours, but also when the BESS is being dispatched. The project would receive service power from SCE, whereas the substation control house would include a generator for emergency backup. Electricity would be consumed during operations, but the demand would be far less than the amount of power generated by the project. Electricity consumption during operation is anticipated to be mainly from monitoring equipment and safety lighting and associated with backup power to the BESS.

Energy consumption during operation is presented in Table 5. During operation of the solar facility, there would be periodic visits to the site by personnel for inspection, security checks, maintenance, and system monitoring, as well as annual panel washing. Operation and maintenance of the project would require up to approximately 15 part-time or full-time staff that would operate the facility at the adjacent BigBeau O&M building. Pick-up trucks, likely using gasoline, would access the site periodically for operations and maintenance. Gasoline would also be required by workers commuting to and from the project site. The project overall would require the use of approximately 13,272 gallons of diesel fuel (1,692 million BTUs) per year and approximately 10,370 gallons of gasoline (1,138 million BTUs) per year during operation of the facility. In addition, 39,822 kWh (136 million BTUs) per year of electricity is expected to be consumed through water use (ICF 2023).

Table 5. Energy Use for Operation of the Bullhead Solar Project

Source	Gallons/kWh	BTU	MBTU
Trucks (diesel)	2,059 gallons[1]	262,485,928	262
Workers (gasoline)	10,370 gallons[2]	1,138,340,932	1,138
Power Washers (diesel)	10,686 gallons[1]	1,362,056,172	1,362
Emergency Generator (diesel)	526 gallons[1]	67,071,793	67
Water (kWh)	39,822 kWh	135,873,519	136
Displaced Electricity (annual)	-870,000,000 kWh	-2,968,440,000,000	-2,968,440
Total			-2,965,474

Source: ICF 2023.
Note: Operational consumption is on an annual basis.
[1] Gallons of diesel fuel
[2] Gallons of gasoline
BTU = British thermal units; kWh = kilowatt hours; MBTU = 1,000 British thermal units

Total annual electricity generation is estimated to be 870,000 MWh (-2,968,440 million BTU), which more than offsets the energy consumed annually to operate the project and the project's total energy consumption during construction (-2,965,474 million BTU). The project's electricity demand would not constitute a wasteful, inefficient, or unnecessary use of energy. Operation of the project would not result in wasteful, inefficient, or unnecessary consumption of energy resources and would result in beneficial effects as a result of the net generation of renewable clean energy.

In addition, implementation of the proposed project would support the means of achieving energy conservation as outlined in the State CEQA Guidelines, Appendix F. In accordance with Appendix F, the proposed project would decrease reliance on fossil fuels such as coal, natural gas, and oil and would increase reliance on renewable energy sources. Furthermore, the proposed project would not be expected to increase overall per-capita energy consumption. Therefore, the proposed project would support the goal of achieving energy conservation as outlined in the State CEQA Guidelines, Appendix F, and would not result in a wasteful, inefficient, or unnecessary consumption of energy resources.

Criterion 2: Conflict With or Obstruct a Renewable Energy or Energy Efficiency Plan

The project involves the construction, operation and maintenance of a solar and BESS facility that would produce a new renewable source of energy in Kern County. Therefore, the project would directly support California's goal to have renewable or zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers by 2045, pursuant to SB 1020.

The project would require the use of fuel and minimal amounts of electricity throughout its lifespan. However, these energy inputs would be offset by the project's anticipated generation of approximately 870,000 MWh annually.

Because the proposed project would provide a new source of renewable energy supporting the state's energy goals, offset its fuel usage, and comply with fuel and energy efficiency regulations, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Cumulative Analysis

Kern County has six projects within 6 miles of Bullhead Solar that are in various phases of development, with most currently under construction (Mayes pers. comm.). In addition to those in close proximity to the project site, Kern County currently has numerous solar and wind renewable energy projects underway in the Antelope Valley, ranging from 0.5 MW at the smallest plant to 1,008 MW at the largest (County of Kern 2022).

Similar to the proposed project, cumulative projects identified in the region generally would require the use of fossil fuels, primarily during construction, with some small energy use associated with ongoing operations. A cumulative energy consumption impact would occur if development associated with projects identified on the Kern County Planning and Natural Resources Department's Energy Project list, or projects within the geographic scope of the cumulative impact analysis for energy use, would increase energy consumption throughout the region when combined with the proposed project. The cumulative projects in the region would result in the development of renewable energy projects in an area currently served by The Gas Company and SCE, and the development of the cumulative projects would not result in an expansion of The Gas Company or SCE's service area. The cumulative projects would be required to comply with the same regulations and policies as the proposed project, including Title 24 energy efficiency standards, which promote energy efficiency and reduce inefficient, wasteful, and unnecessary consumption of energy, as well as other County-specific requirements. The proposed project would not result in wasteful, inefficient, or unnecessary consumption of energy resources. The result of the project would be a net gain in renewable energy, offsetting emissions from construction and furthering state-wide renewable energy goals. Furthermore, the proposed project would decrease reliance on fossil fuels such as coal, natural gas, and oil and would increase reliance on renewable energy sources.

Therefore, impacts from past, present, and reasonably foreseeable future projects would not be cumulatively significant.

The proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The project would instead support renewable energy goals and provide an additional source of renewable energy to the County and state. Similar to the proposed project, cumulative projects in proximity to the proposed project and within the Antelope Valley at large would also support renewable energy goals and be required to be designed in compliance with the building energy efficiency standards and comply with any applicable state plans for renewable energy and energy efficiency to the extent required by law. Cumulative impacts would be less than significant, and the proposed project's contribution to cumulative energy impacts would not be cumulatively significant.

Conclusion

The Bullhead Solar project would require the use of fossil fuels primarily during construction, with some small energy use associated with ongoing operations. The clean energy production from the plant would more than offset the carbon footprint from construction and operations.

The Bullhead Solar project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The project would instead support renewable energy goals and provide an additional source of renewable energy to the county and state.

Implementation of the proposed project would increase development in the area and is in line with development under both the *Kern County General Plan* and the *Willow Springs Specific Plan*. The result of the project would be a net gain in renewable energy, offsetting emissions from construction and furthering renewable energy goals. In addition, the proposed project would not result in a cumulatively significant energy impact.

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Appendix H:
Geology and Soils Technical Report

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GEOLOGY AND SOILS TECHNICAL REPORT BULLHEAD SOLAR PROJECT

PREPARED FOR:

EDF Renewables
1999 Harrison Street, Suite 675
Oakland, CA 94612

PREPARED BY:

ICF
49 Discovery, Suite 250
Irvine, CA 92618

August 2022, Updated February 2023

ICF

ICF. 2023. *Geology and Soils Technical Report, Bullhead Solar Project*. February. (ICF 104036.0.002.) Prepared for: EDF Renewables, Oakland, CA.

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Acronyms and Abbreviations

CalGEM	Geologic Energy Management Division
CEQA	California Environmental Quality Act
EDFR	EDF Renewables
gen-tie	generation-tie
Geology and Soils Report	Geology and Soils Technical Report
NEHRP	National Earthquake Hazards Reduction Program
project	Bullhead Solar Project
quad	quadrangle map
SWPPP	Storm Water Pollution Prevention Plan
USGS	United States Geological Survey

Chapter 1
Introduction

The following chapter contains a summary of the Geology and Soils Technical Report (Geology and Soils Report) contents as well as a brief summary of the proposed project's location and features.

1.1 Introduction and Overview

EDF Renewables (EDFR) engaged ICF to provide technical assistance related to geologic and soil conditions by preparing a Geology and Soils Report for the approximately 1,359.5-acre Bullhead Solar Project (project) site in southern Kern County, California. This evaluation was conducted in support of the California Environmental Quality Act (CEQA) documentation for the project.

This Geology and Soils Report is organized into the following eight chapters:

1. Introduction
2. Existing Geologic Conditions
3. Faults and Seismicity
4. Other Geologic Hazards
5. Regulatory Setting
6. Impacts
7. Conclusions and Recommendations
8. References

1.1 Purpose

ICF prepared this Geology and Soils Report to identify potential geologic hazards and soil conditions that could have an adverse effect on the proposed project, specifically those geologic hazards and soil conditions outlined under CEQA, including fault rupture, seismic shaking, liquefaction, landslides, erosion, and unstable and expansive soils.

1.2 Scope of Services

The scope of services for this Geology and Soils Report consisted of reviewing available topographic and geologic maps, published geotechnical literature, geologic and seismic data, soil data, and groundwater data; evaluating the general geologic conditions and seismic hazards affecting the area and their potential to affect the proposed project; and preparing this technical report, including documentation of the scope of work performed, findings, and recommendations. The scope of work did not include any geotechnical analyses, field sampling, or testing.

1.3 Project Location and Site Description

The project is generally located in southern Kern County, California, approximately 52 miles southeast of the city of Bakersfield, 19 miles south of the city of Tehachapi, 8 miles northwest of the community of Rosamond, and 2 miles north of the community of Willow Springs. Other communities within the vicinity of the project site include Mojave in Kern County and the cities of Lancaster, Palmdale, and Neenach in Los Angeles County, which are roughly 12 miles northeast, 17 miles southeast, 24 miles southeast, and 18 miles southwest of the project, respectively. The project is sited on 1,359.5 acres of private land, generally bisected by Tehachapi-Willow Springs Road. The project site is located within the Willow Springs United States Geological Survey (USGS) 7.5-minute topographic quadrangle map (Figure 1-1).

The proposed project would develop up to 270 megawatts (alternating current or "AC") of solar photovoltaic capacity derived from tracker technology and up to 270 megawatts of battery storage. The project includes solar development with associated photovoltaic panels, inverters, converters, generators, foundations, transformers, and preferred and optional generation-tie (gen-tie) routes to the Rosamond and Whirlwind Substations, only one of which would be constructed. The project also includes laydown yards, a meteorological station, a microwave/communication tower and a substation.

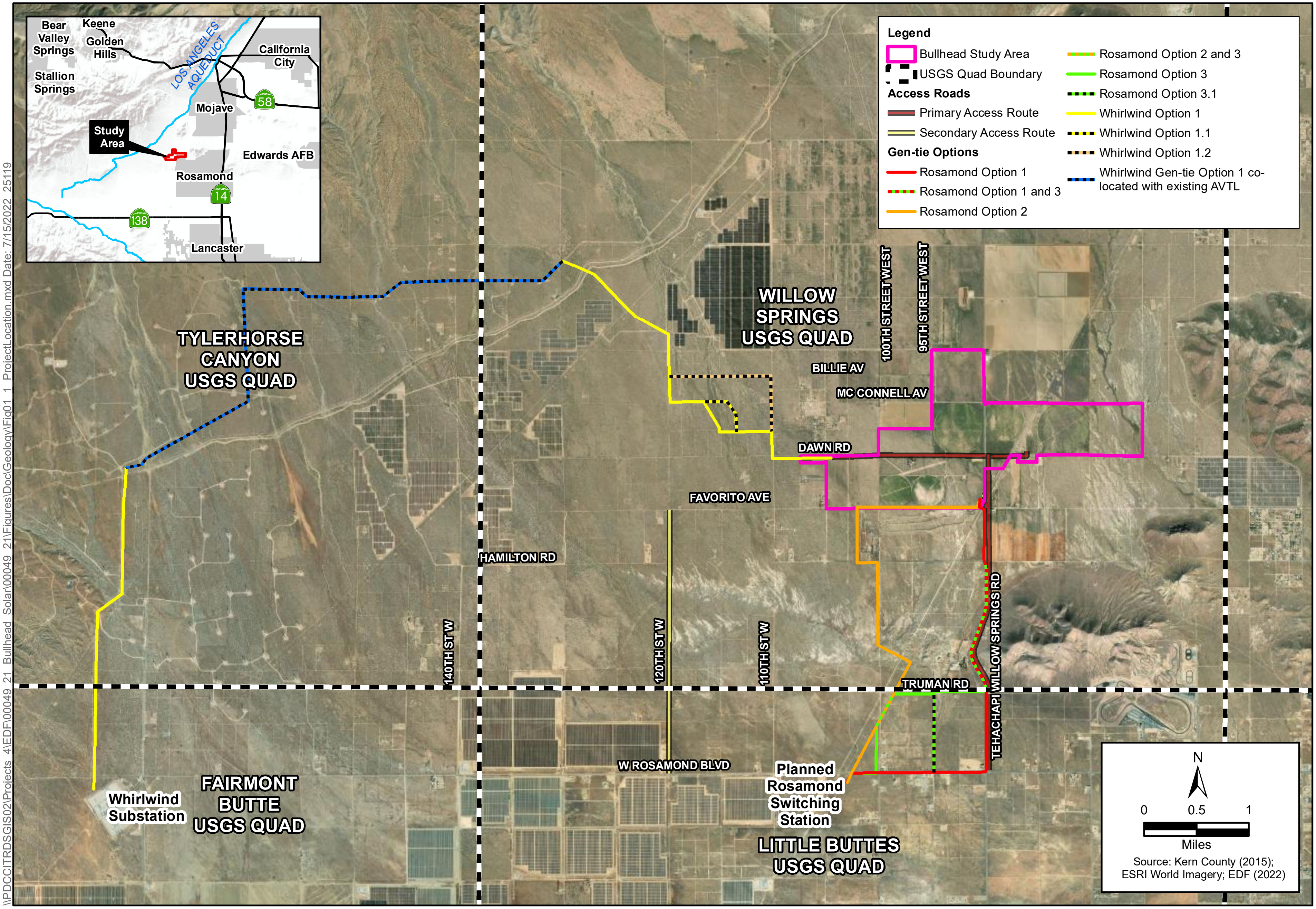

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Figure 1-1
Project Location
Bullhead Solar

Chapter 2
Existing Geologic Conditions

The following chapter includes a description of onsite geologic conditions, including site topography, floodplain, soils, and project area groundwater depth.

2.1 Regional Geology

The project lies in the western portion of the Mojave Desert, in southern Kern County, central California. The western Mojave area is bordered on the southwest and northwest by rugged mountain ranges that reach elevations of 10,080 and 7,900 feet above sea level, respectively. The desert has comparatively low relief and consists of an alluviated plain containing irregularly trending bedrock hills and low mountains. The alluvial area contains seven undrained dry lakes or playas in the lowest parts. The only through-going drainage channel is that of the Mojave River, located approximately 55 miles to the southeast of the project site, which is characterized as an intermittent river that flows from the San Bernardino Mountains northward, and then eastward. The western Mojave Desert region is a tectonic block known as the Mojave block, bounded on the southwest by the San Andreas fault zone and on the northwest by the Garlock fault zone (U.S. Department of the Interior 1967).

2.2 Project Site Geology

Most of the proposed project study area, including the area where the solar arrays are proposed, is located within the Willow Springs, California, USGS 7.5-minute topographic quadrangle map (quad). Gen-tie line options extend into the Tylerhorse Canyon, Little Buttes, and Fairmont Butte quads, whereas proposed access roads are within the Willow Springs and Little Buttes quads (Figure 1-1). Rock units within the Willow Springs quad area consist of crystalline rocks of pre-Tertiary age, pyroclastic, volcanic, and sedimentary rocks of Tertiary age; and alluvial sedimentary deposits of Quaternary age (site geology is depicted on Figure 2-1). Most of the Willow Springs quad lies within a part of the western Mojave Desert that is generally flat and includes some low hills and a few volcanic buttes (U.S. Department of the Interior 1963).

2.3 Topography and Floodplain

The proposed project site is on relatively flat land that gently slopes from the northwest toward the southeast. Topography within the project study area (i.e., solar field) decreases gradually from 2,760 feet down to 2,600 feet above mean sea level (Figure 2-2). The area generally has low relief without significant topographic features. The Federal Emergency Management Agency (FEMA 2020) has classified flood zones for the project area (Figure 2-3). All but approximately 7 acres of the very northeastern corner of the project study area boundary lies in a Special Flood Hazard Zone A, otherwise defined as an area subject to the 1 percent annual chance for flooding, which is commonly referred to as a 100-year flood event.

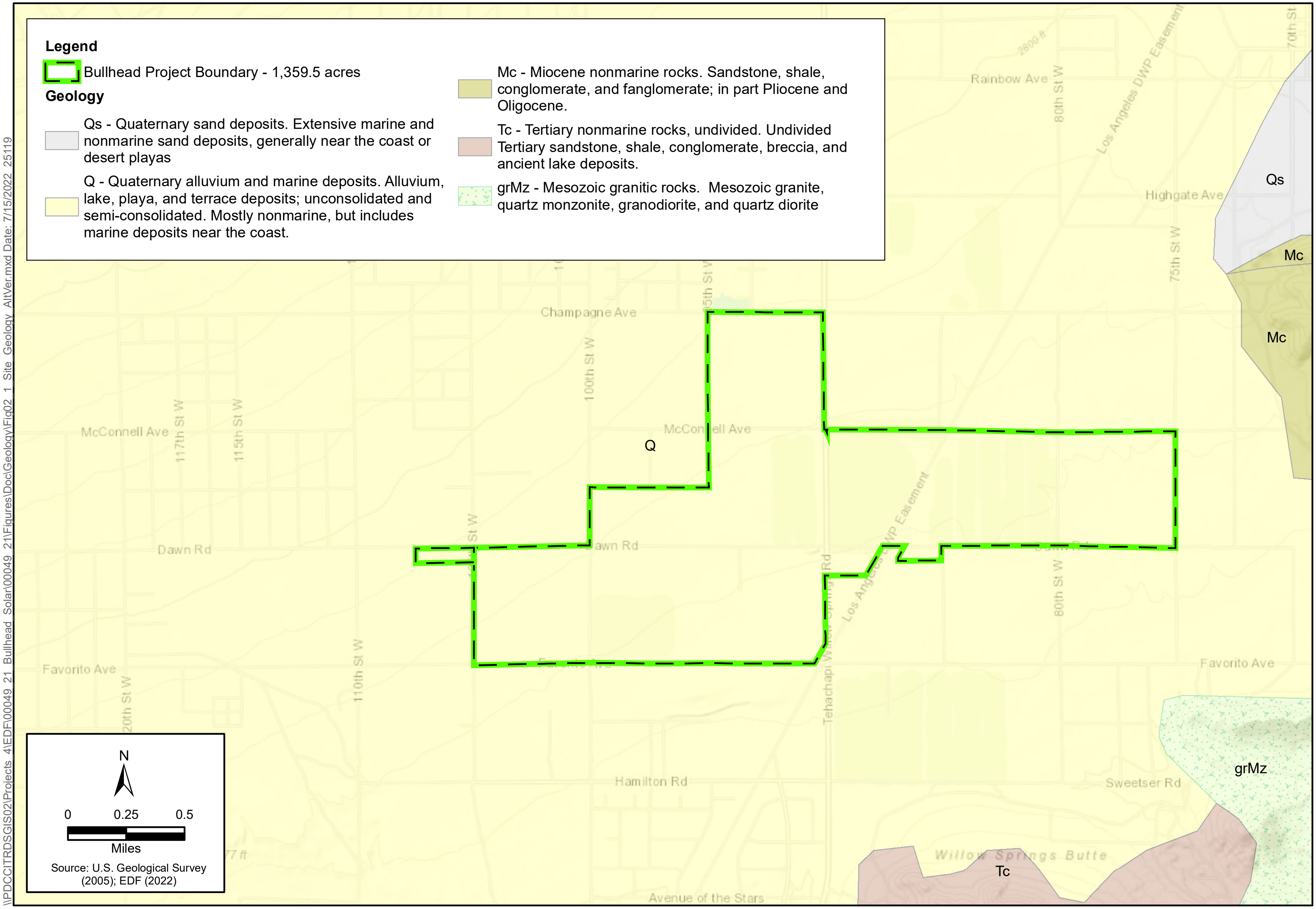

Figure 2-1
Site Geology
Bullhead Solar

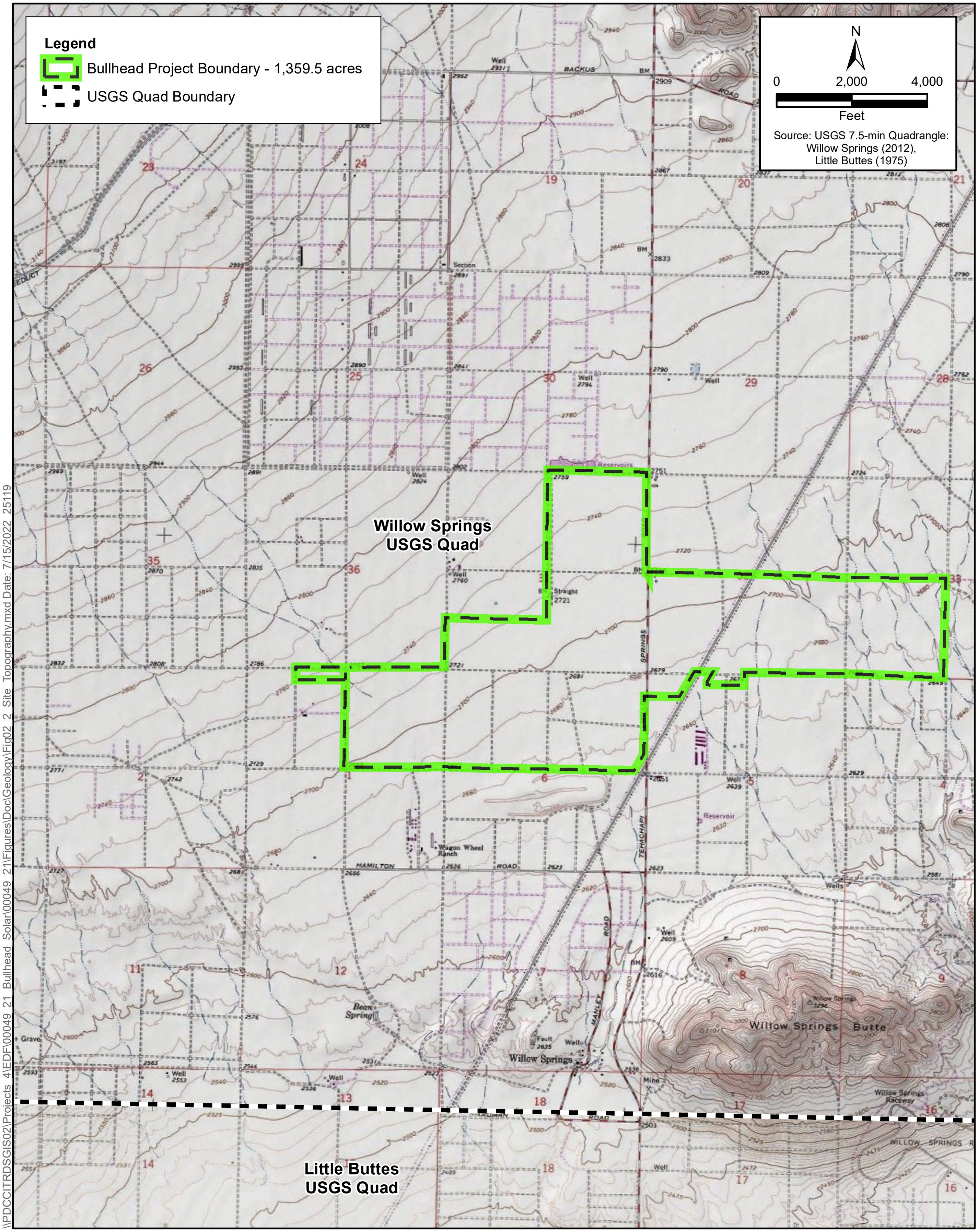

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Figure 2-2
Site Topography
Bullhead Solar

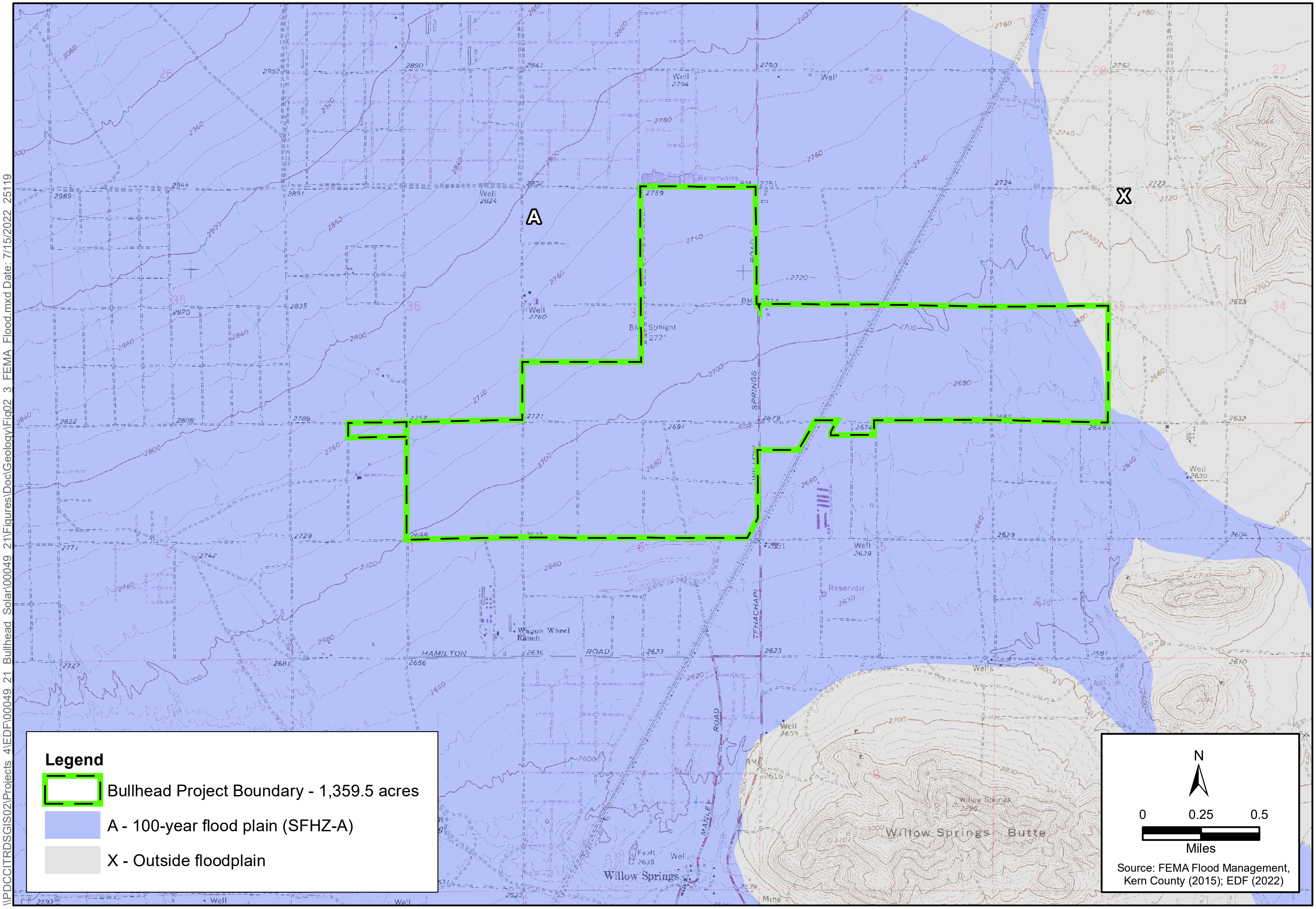

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Figure 2-3
FEMA Flood Hazard Zones
Bullhead Solar

2.4 Onsite Soils

The following descriptions are of the primary soil units located within the project study area for the solar field (Figure 2-4):

- **Cajon loamy sand**. The Cajon series consists of very deep, somewhat excessively drained soils that formed in sandy alluvium from dominantly granitic rocks. Cajon soils are on alluvial fans, fan aprons, fan skirts, inset fans, and river terraces and have moderately rapid over rapid permeability.
- **Hesperia fine sandy loam**. The Hesperia series consists of very deep, well-drained soils that formed in alluvium derived primarily from granite and related rocks. Hesperia soils are on alluvial fans, valley plains, and stream terraces and have negligible to low runoff, with moderately rapid permeability.
- **DeStazo sandy loam**. The DeStazo series consists of very deep, well-drained soils that formed in material from mixed alluvium. DeStazo soils are on fan piedmonts and stream flood plains and in basins and have negligible to medium runoff with moderately slow permeability.
- **Cajon sand**. The Cajon series consists of very deep, somewhat excessively drained soils that formed in sandy alluvium from dominantly granitic rocks. Cajon soils are on recent fans, fan skirts, fan aprons, inset fans and river terraces at elevations of 200 to 4,300 feet and rapid permeability.

The following descriptions are of the primary soil units within gen-tie locations.

2.4.1 Rosamond Gen-tie Option 1

- **DeStazo sandy loam** and **Hesperia fine sandy loam.** See description above.
- **Arizo gravelly loamy sand.** The Arizo series consists of very deep, excessively drained soils that formed in mixed alluvium. Arizo soils are on recent alluvial fans, inset fans, fan apron, fan skirts, stream terraces, and floodplains of intermittent streams and channels. Arizo soils have negligible to medium runoff.
- **Mohave coarse sandy loam.** The Mohave series consists of very deep, well-drained soils formed in mixed alluvium. Mohave soils are on fan terraces, basin floors, and stream terraces. The Mohave series consists of slow runoff soils with moderately slow permeability.
- **Adelanto coarse sandy loam.** The Adelanto series consists of very deep, well-drained soils that formed in granitic parent material on alluvial fans and plains. The Adelanto series consists of low- to very low-runoff soils with moderate to moderately rapid permeability.
- **Rosamond fine sandy loam.** The Rosamond series consists of deep, well-drained soils that formed in material weathered mainly from granitic alluvium. The Rosamond series consists of medium-runoff soils with moderately slow permeability.
- **Rosamond loam.** The Rosamond series consists of deep, well-drained soils that formed in material weathered mainly from granitic alluvium. The Rosamond series consists of medium-runoff soils with moderately slow permeability.

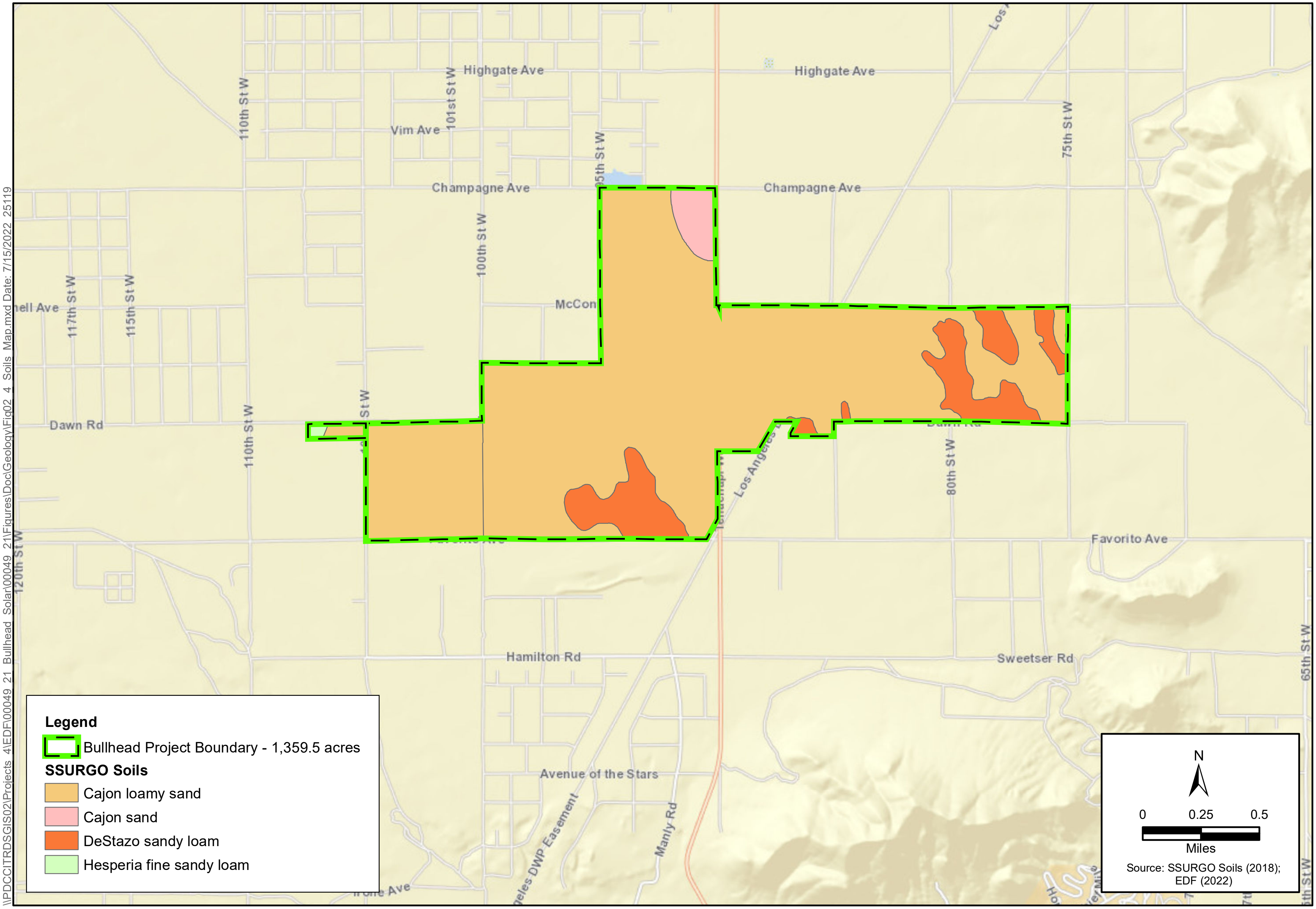

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Figure 2-4
Soil Units
Bullhead Solar

2.4.2 Rosamond Gen-tie Option 2

- **Cajon loamy sand**, **DeStazo sandy loam**, **Hesperia fine sandy loam**, **Rosamond loam**, and **Rosamond fine sandy loam**. See descriptions above.
- **Sunrise sandy loam.** The Sunrise series consists of deep, well-drained soils that formed in material from mixed alluvium. The Sunrise series consists of medium-runoff soils with moderately slow permeability.

2.4.3 Rosamond Gen-tie Option 3

- **DeStazo sandy loam**, **Arizo gravelly loamy sand**, **Hesperia fine sandy loam**, **Mohave coarse sandy loam**, **Cajon loamy sand**, and **Rosamond loam**. See descriptions above.
- **Adelanto loamy sand.** The Adelanto series consists of very deep, well-drained soils that formed in granitic parent material on alluvial fans and plains. The Adelanto series consists of low- to very low-runoff soils with moderate to moderately rapid permeability.
- **Rosamond silty clay loam.** The Rosamond series consists of deep, well-drained soils that formed in material weathered mainly from granitic alluvium. The Rosamond series consists of medium-runoff soils with moderately slow permeability.

2.4.4 Rosamond Gen-tie Option 3.1

- **Adelanto loamy sand**, **Hesperia fine sandy loam**, **Rosamond loam**, and **Rosamond silty clay loam**. See descriptions above.

2.4.5 Whirlwind Gen-tie Option 1 (including portion co-located with the existing AVTL)

- **Cajon loamy sand**, **Hesperia fine sandy loam**, and **Arizo gravelly loamy sand**. See descriptions above.
- **Hanford coarse sandy loam.** The Hanford series consists of very deep, well-drained soils that formed in moderately coarse textured alluvium dominantly from granite. Hanford soils are on stream bottoms, floodplains, and alluvial fans. The Hanford series consists of negligible to low-runoff soils with moderately rapid permeability.
- **Greenfield sandy loam.** The Greenfield series consists of deep, well-drained soils that formed in moderately coarse and coarse textured alluvium derived from granitic and mixed rock sources. Greenfield soils are on alluvial fans and terraces. The Greenfield series consists of slow- to medium-runoff soils with moderately rapid permeability.
- **Hanford gravelly sandy loam.** The Hanford series consists of very deep, well-drained soils that formed in moderately coarse textured alluvium dominantly from granite. Hanford soils are on stream bottoms, floodplains, and alluvial fans. The Hanford series consists of negligible to low-runoff soils with moderately rapid permeability.
- **Ramona coarse sandy loam.** The Ramona series is a member of the fine-loamy, mixed, thermic family of Typic Haploxeralfs (Haploxeralfs consist of shallow, somewhat excessively drained soils on volcanic flows and mountain side slopes formed in material weathering from andesite,

basalt, rhyolite, and rhyolitic tuff). The Ramona series consists of slow to rapid runoff soils with moderately slow permeability.

- **Ramona fine sandy loam.** The Ramona series is a member of the fine-loamy, mixed, thermic family of Typic Haploxeralfs (Haploxeralfs consist of shallow, somewhat excessively drained soils on volcanic flows and mountain side slopes formed in material weathering from andesite, basalt, rhyolite, and rhyolitic tuff). The Ramona series consists of slow to rapid runoff soils with moderately slow permeability.

2.4.6 Whirlwind Gen-tie Option 1.1

- **Hesperia fine sandy loam** and **Cajon loamy sand**. See descriptions above.

2.4.7 Whirlwind Gen-tie Option 1.2

- **Hesperia fine sandy loam** and **Cajon loamy sand**. See descriptions above.

2.5 Groundwater

The project site is within the Antelope Valley Groundwater Basin and includes approximately the area south of the Tehachapi Mountains and north of the San Gabriel Mountains. According to the Water Supply Assessment (ICF 2022) for the proposed project, analysts reviewed USGS National Water Information System and California State Elevation Monitoring databases to identify existing groundwater depth within the project site. USGS groundwater monitoring in March 2021 indicated a groundwater depth of 198.56 feet below ground surface. Groundwater monitoring data was recorded from a privately owned well onsite (well DW245). DW245 is an approximately 960-foot-deep irrigation well located in the southwestern portion of the proposed project footprint. The well location can be seen in Figure 6, Local Water Resources, in the *Water Supply Assessment* (ICF 2022).

Chapter 3
Faults and Seismicity

The western Mojave Desert region (which includes the proposed project area) is bounded on the southwest by the San Andreas fault zone (approximately 17 miles away from the proposed project site) and on the northwest by the Garlock fault zone (10 miles away from the proposed project site). Fault locations are depicted on Figure 3-1. The San Andreas and Garlock faults are the nearest fault zones to the proposed project and considered major active faults in which major displacements are characterized as strike slip or lateral[1] (U.S. Department of the Interior 1967).

3.1 San Andreas Fault

The San Andreas fault is a right-lateral strike-slip fault considered the boundary between the North American and the Pacific Plates. It extends from Northern California southward to Cajon Pass, near San Bernardino, ending at its southern terminus beneath the Salton Sea. The San Andreas is the "master" fault of an intricate fault network that cuts through rocks of the California coastal region. The entire San Andreas fault system is more than 800 miles long and extends to depths of at least 10 miles below ground level (U.S. Geological Survey 2016). At its closest point to the proposed project site, the San Andreas fault is approximately 17 miles to the southwest.

In the 1857 Fort Tejon earthquake, the San Andreas fault ruptured for a distance of 200 miles or more. This earthquake is ranked as one of California's greatest earthquakes, and its magnitude has been estimated as 8.0 ±0.5. Based on this estimate, an earthquake of magnitude 8.5 is considered the maximum credible earthquake on this portion of the San Andreas fault. The segment of the San Andreas fault through Kern County is relatively short but considered important, as the system breaks from its predominant N 351° trending direction between the San Luis Obispo and Los Angeles County lines. Perhaps a significant reason for the break is the existence of the Big Pine fault, trending southwest into Lockwood Valley, and the Garlock fault, trending northeast near Lebec (County of Kern 2004). Geologic studies show that over the past 1,400 to 1,500 years, large earthquakes have occurred at about 150-year intervals on the southern San Andreas fault. Because the last large earthquake on the southern San Andreas fault occurred in 1857, that section of the fault is considered a likely location for an earthquake within the next few decades (U.S. Geological Survey 2016).

[1]A *strike-slip displacement* occurs when two blocks slide past one another. These types of displacements can be characterized as left-lateral or right-lateral displacements.

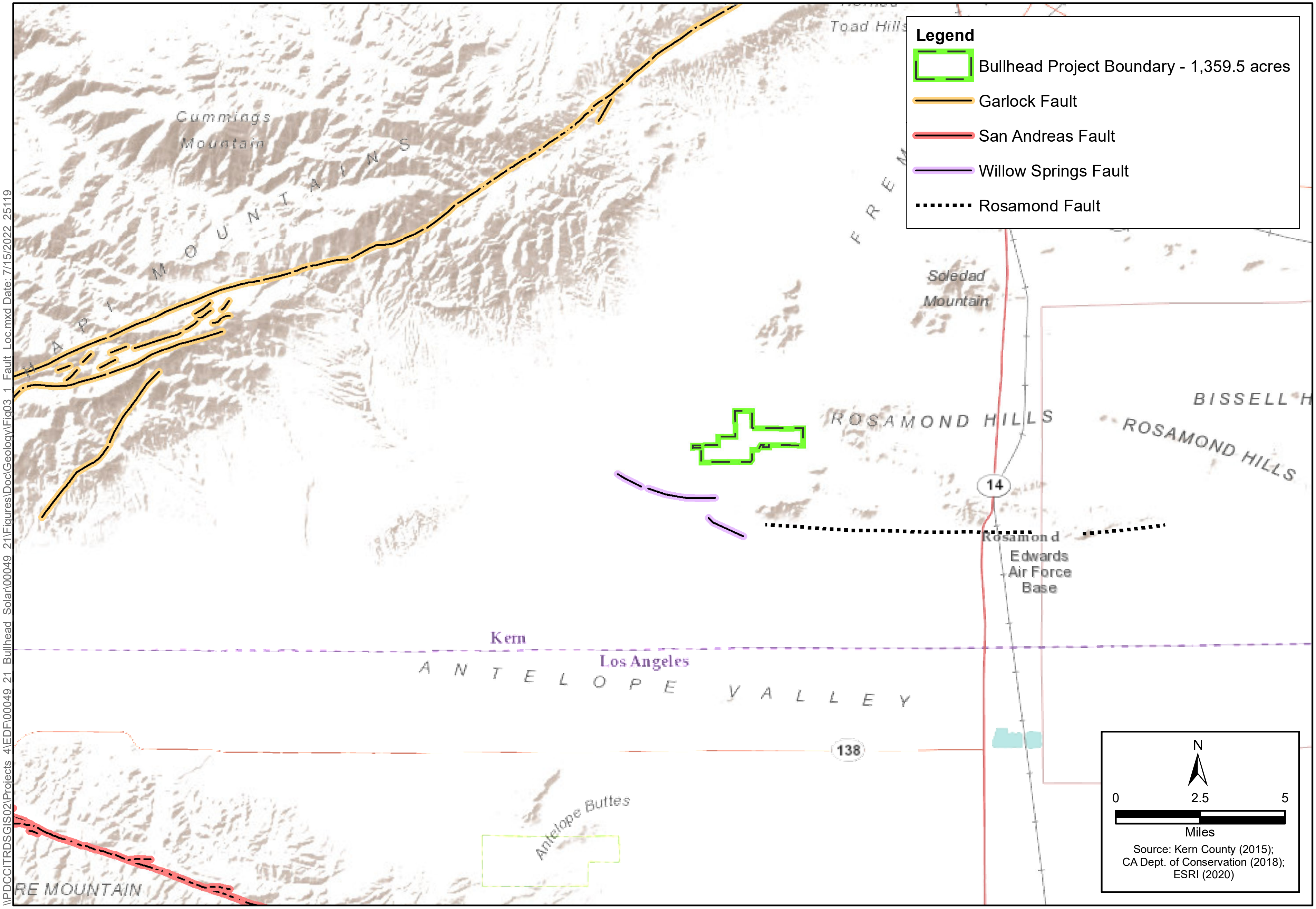

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Figure 3-1
Fault Locations
Bullhead Solar

3.2 2019 Ridgecrest Earthquake Sequence

The 2019 Ridgecrest Earthquake Sequence was the first major earthquake to occur in Southern California since the 1999 magnitude 7.1 Hector Mine earthquake. The 2019 Ridgecrest Earthquake Sequence consisted of a magnitude 6.4 earthquake centered 11.3 miles west-southwest of the town of Ridgecrest and a magnitude 7.1 earthquake (34 hours later), located 6.8 miles northwest of the magnitude 6.4 event (USGS 2021b). More than 47,000 people in Southern California and as far away as Northern California and Phoenix, Arizona, felt seismic shaking as a result of the Ridgecrest Earthquake Sequence. Due to the far-reaching effects of the sequence, seismic activity was also felt in the proposed project area. The potential for damage to structures or facilities would depend on the earthquake-specific magnitude, location of the earthquake and project design. Both events were thought to have happened on an unidentified shallow strike slip fault in the Eastern California shear zone. The town of Ridgecrest is approximately 57 miles to the northwest of the proposed project site and 9 miles north of the Garlock fault zone (at its closest point).

3.3 Garlock Fault

The Garlock fault zone is one of the most prominent geologic features in Southern California, clearly marking the northern boundary of the area known as the Mojave Block, as well as the southern ends of the Sierra Nevada and the valleys of the westernmost Basin and Range province (Southern California Earthquake Data Center 2021a). The Garlock fault is an active east–northeast-striking left-lateral strike-slip fault. At its closest point, the Garlock fault zone is approximately 10 miles northwest of the proposed solar development study area boundary. Several sizable earthquakes have been recorded along the Garlock fault zone, with the most recent being a magnitude[2] 5.7 near the town of Mojave (approximately 13 miles to the northeast of the project study area) on July 11, 1992, known as the Mojave Earthquake (Southern California Earthquake Data Center 2021b). At least one section of the fault has shown movement by creep (steady fault movement) in recent years. Current conditions indicate that future rupture along the Garlock fault zone is likely. The Garlock fault is capable of producing earthquakes of at least magnitude 8. The occurrence of the last large-magnitude earthquake on the Garlock fault and the recurrence interval are not known (County of Kern 2004).

[2] According to the *USGS Earthquake Hazards Program* glossary (U.S. Geological Survey 2021a), magnitude is a number that characterizes the relative size of an earthquake. Magnitude is based on measurement of the maximum motion recorded by a seismograph. Several scales have been defined, but the most commonly used are (1) local magnitude (ML); commonly referred to as *Richter magnitude*; (2) surface-wave magnitude (Ms); (3) body-wave magnitude (Mb); and (4) moment magnitude (Mw). Scales 1–3 have limited range and applicability and do not satisfactorily measure the size of the largest earthquakes. The Mw scale, based on the concept of seismic moment, is uniformly applicable to all sizes of earthquakes, but is more difficult to compute than the other types. All magnitude scales should yield approximately the same value for any given earthquake.

3.4 Inactive and Potentially Active Faults in the Project Area

3.4.1 Rosamond Fault

The Rosamond fault is considered a scarp of the Willow Springs fault and consists of a 3-mile-long southward-facing cliff of nearly 100 feet maximum height in Quaternary alluvium (U.S. Department of the Interior 1963). The westernmost terminus of the Rosamond fault begins south of the Willow Springs Butte and north of West Rosamond Boulevard (approximately 1 mile to the south of the project study area and approximately 0.25 mile east of the proposed Rosamond Gen-tie Option 1, located along 90th Street West) and runs parallel to the street. The fault is classified as a Pre-Quaternary[3] fault a fault without recognized Quaternary displacement—and therefore inactive (California Department of Conservation 2015). As a result, risks associated with fault rupture are low, and the potential for ground shaking (as a result of seismic activity occurring at the fault) is considered significantly lower than the active Garlock and San Andreas faults, described above. Fault locations in the region and near the project site are depicted on Figure 3-1.

3.4.2 Willow Springs Fault

The Willow Springs fault traverses the proposed Rosamond Gen-tie Options 1,2, and 3, to be located along 110th Street West and Tehachapi-Willow Springs Road (south of Hamilton Road); however, the fault is classified as a Quaternary fault (age undifferentiated), and therefore considered potentially active. Although a ground-shaking event from the Willow Springs fault cannot be completely ruled out, as similar to the Rosamond fault, risks associated with fault rupture are low and the potential for ground shaking is considered significantly lower than the Garlock and San Andreas faults, described above. Fault locations are depicted on Figure 3-1.

[3] USGS defines a *Quaternary fault* as one that has been recognized at the surface and has moved in the past 1,600,000 years, a portion of the Quaternary period.

Chapter 4
Other Geologic Hazards

The following chapter contains a description of the geologic and soils conditions within the project study area to be analyzed as part of the CEQA Thresholds of Significance (detailed in Section 6.1, *CEQA Thresholds of Significance*). The information found in this chapter is used to support the discussion in Chapter 6, *Impacts*.

4.1 Fault Rupture

The proposed project is not located in a fault-rupture hazard zone, the nearest of which is associated with the Garlock fault, approximately 10 miles northwest of the project study area boundary. As discussed in Section 3.4, *Inactive and Potentially Active Faults in the Project Area*, the Willow Springs fault (which traverses some of the proposed gen-tie locations) is considered a potentially active fault according to the most recent California Geologic Survey and USGS fault databases.

The proposed project is not within a State of California earthquake fault zone. Therefore, based on information reviewed, the potential for surface rupture along the proposed project footprint is considered low.

4.2 Ground Shaking

Ground shaking and secondary effects (e.g., landslides, ground cracking, settlement) are possible throughout Southern California, depending on local geology and the distance between the proposed project area and the causal fault. Due to the project's location in relation to nearby active faults, the proposed project site is likely subject to strong ground shaking in the event of a major earthquake. The closest major active faults that could produce strong seismic shaking in the proposed project area include the Garlock fault (approximately 10 miles to the northwest of the project study area boundary) and San Andreas fault (approximately 17 miles to the southwest).

California's building codes provide uniform requirements for structures throughout the state. These requirements are contained in Title 24 of the California Code of Regulations. The following portions of Title 24 govern installation of a solar energy system (Governor's Office of Planning and Research 2022):

- California Building Code, Title 24, Part 2
- California Electrical Code, Title 24, Part 3
- California Mechanical Code, Title 24, Part 4
- California Plumbing Code, Title 24, Part 5
- California Energy Code, Title 24, Part 6
- California Fire Code, Title 24, Part 9

4.3 Liquefaction

Liquefaction is the phenomenon in which saturated granular sediments temporarily lose their shear strength during periods of strong earthquake-induced ground shaking. The susceptibility of a site to liquefaction is a function of soil type, water content of granular sediments, and magnitude and frequency of earthquakes in the surrounding region. Saturated, unconsolidated silt, sand, and silty sand within 50 feet of the ground surface are most susceptible to liquefaction. Liquefaction-related phenomena may include lateral spreading, ground oscillation, loss of bearing strength, subsidence, and buoyancy effects.

Based on the Water Supply Assessment (ICF 2022) prepared for the proposed project, shallow groundwater conditions are not expected to exist on the proposed project site because groundwater depths were recorded at 198.56 feet below ground surface. In addition, the proposed project site is not within a California Geological Survey Earthquake Zone of Required Investigation (California Geological Survey 2019) for liquefaction (Figure 4-1). Therefore, based on information reviewed, the potential for liquefaction impacts within the proposed project footprint is considered low.

4.4 Landslides

Landslides generally occur where slopes are steep and/or soils lack cohesiveness. The proposed project area gently slopes northwest–southeast, with project study area topography decreasing gradually (with a 1.5 percent slope) from approximately 2,760 feet above mean sea level to approximately 2,640 feet (within the southeast portion of the project study area, Figure 2-3). Also, the proposed project area generally has low relief without significant topographic features and is not within a California Geological Survey Earthquake Zone of Required Investigation (California Geological Survey 2019) for landslides (Figure 4-1). Based on information ICF reviewed, potential for landslides within the proposed project footprint is considered low.

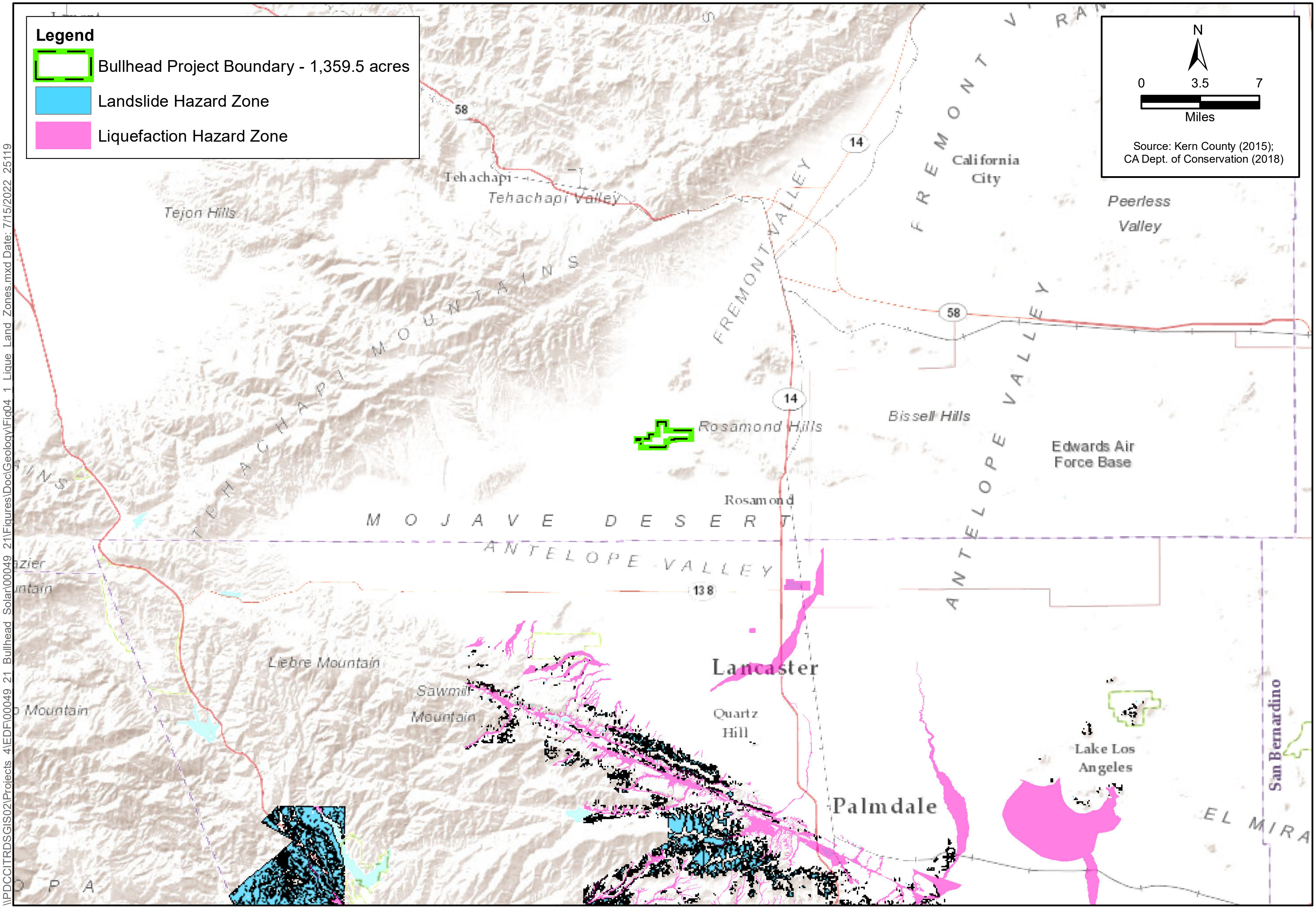

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Figure 4-1
Earthquake Zones of Required Investigation
Bullhead Solar

4.5 Soil Instability

Collapsible soils are those that undergo settlement upon wetting, even without the application of additional load (also known as *hydrocompaction*), which occurs when water weakens the bonds between soil particles and reduces the bearing capacity of that soil. Collapsible soils are typically associated with alluvial fans, windblown materials, or colluvium. Soil collapse can occur when the land surface is saturated to depths greater than those reached by typical rain events. This saturation eliminates the clay bonds that hold the soil grains together. More than 80 percent of known land subsidence in the United States is a consequence of groundwater use (U.S. Geological Survey 2017). *Land subsidence* is a gradual settling or sudden sinking of the Earth's surface due to removal or displacement of subsurface earth materials. The principal causes include:

- Aquifer-system compaction associated with groundwater withdrawals
- Drainage of organic soils
- Underground mining, including gas and oil extraction
- Natural compaction or collapse, such as with sinkholes or thawing permafrost

According to the Seismic Hazard Atlas map, Figure 15 of the *Kern County General Plan Safety Element*, the proposed project site is not in an area of land subsidence or hydrocompaction. Additionally, research conducted via the Geologic Energy Management Division (CalGEM) Well Finder website did not identify the project study area as lying within or near an oil or gas field or active oil or gas well (California Department of Conservation 2019). The nearest active oil or gas field (Tejon Hills) is located approximately 21 miles northwest of the project site. Therefore, based on information ICF reviewed, the potential for soil instability in the proposed project footprint associated with the conditions described above is considered low.

4.6 Expansive Soils

Expansive soils are typically composed of clays and can undergo a volume change with alterations in moisture content: they generally expand and soften when wet and harden when dry. If not properly considered prior to the construction of structures, this expansive behavior can damage foundations and other building components.

According to information reviewed via the Natural Resources Conservation Service's Web Soil Survey (Natural Resources Conservation Service 2019), soils found within the proposed project footprint (including gen-tie locations and access roads) are predominantly classified as nonplastic to having low plasticity (ranging from 0.0 percent to 15 percent in the plasticity index,[4] with the vast majority of the footprint within the 0.0 percent or 2.5 percent plasticity index) with low expansion potential (U.S. Department of Agriculture 1984). Therefore, based on information reviewed, the potential for impacts in the proposed project footprint associated with expansive soils is considered low.

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[4] Plasticity index (PI) is one of the standard Atterberg limits used to indicate the plasticity characteristics of a soil. It is defined as the numerical difference between the liquid limit and plastic limit of the soil. It is the range of water content in which a soil exhibits the characteristics of a plastic solid. Soils that have a high PI have a wide range of moisture content in which the soil performs as a plastic material. Soils with a PI greater than 20 usually have a medium to high swell potential; soils with a PI greater than 35 usually have a very high swell potential. Swelling greatly reduces soil strength.

Chapter 5
Regulatory Setting

The following chapter describes federal, state, and local geologic hazard and soils regulations applicable to the implementation of the proposed project.

5.1 Federal Regulations

5.1.1 Earthquake Hazards Reduction Act

The National Earthquake Hazards Reduction Program (NEHRP) leads the federal government's efforts to reduce the fatalities, injuries, and property losses caused by earthquakes. Congress established NEHRP in 1977, directing that four federal agencies coordinate their complementary activities to implement and maintain the program: the Federal Emergency Management Agency, the National Institute of Standards and Technology, the National Science Foundation, and USGS.

NEHRP agencies pursue the goals of the program through collaboration with each other and numerous partners. In addition to other federal agencies, program partners include state and local governments, universities, research centers, professional societies, trade associations, businesses, and associated councils, commissions, and consortia. NEHRP's work comprises research, development, and implementation activities. Program research helps advance the understanding of why and how earthquakes occur and affect the natural and built environments. NEHRP develops strategies, tools, techniques, and other measures that can reduce the adverse effects of earthquakes and facilitates and promotes implementation of these measures, thereby strengthening earthquake resilience within at-risk communities.

5.2 State Regulations

5.2.1 California Building Codes

The 2022 California Building Standards Code (Title 24) provide standards for building construction and seismic design parameters and grading requirements. These codes contain specific requirements for seismic safety, excavation, foundations, retaining walls, and all demolition and grading activities, including for solar facilities as noted in Section 4.2, *Ground Shaking*.

5.2.2 Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act (1990) addresses non-surface-fault rupture earthquake hazards, such as liquefaction and seismically induced landslides. The Act requires the State Geologist to designate seismic hazard zones. These Zones of Required Investigation referred to in the California Code of Regulations Article 10, Section 3722, are areas shown on Seismic Hazard Zone Maps where site investigations are required to determine the need for mitigation of potential liquefaction or earthquake-induced landslide ground displacements. Earthquake Zones of Required Investigation nearest to the proposed project are denoted on Figure 4-1 and located approximately 9 miles northwest (for fault rupture), 9.3 miles to the southeast (for liquefaction), and 15 miles south (for landslides).

5.2.3 Construction General Permit

Dischargers whose projects disturb 1 or more acres of soil, or whose projects disturb less than 1 acre, but are part of a larger common plan of development that in total disturbs 1 or more acres, are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity Construction General Permit Order 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground, such as stockpiling or excavation.

The Construction General Permit requires the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. The SWPPP would identify best management practices the discharger will use to protect storm water runoff and incorporate visual, chemical, and sediment monitoring programs.

5.3 Local Regulations

5.3.1 Kern County Code of Building Regulations

The 2022 Kern County Code of Building Regulations (County of Kern 2022) was developed to promote public safety and welfare by adopting minimum building standards required and enforced throughout the unincorporated territory of the County of Kern. Construction in Kern County is required to conform to the Code (Chapter 17.08, *Building Code*, of the Kern County Code of Ordinances). The 2022 Kern County Code of Building Regulations is partially comprised of the 2022 California Code of Regulations (CCR), Title 24, also referred to as the California Building Standards Code (described under section 5.2.1 *California Building Codes* above).

5.3.2 Chapter 17.28 Kern County Grading Code

The purpose of the Kern County Grading Code is to safeguard life, limb, property, and public welfare by regulating grading on private property. Applicable requirements of the Kern County Grading Code would be applied during implementation of the proposed project. All required grading permit(s) would be obtained prior to commencement of construction activities and require the completion of a soils engineering report, engineering geology report, engineering calculations, and drainage computations specific to the proposed project. Sections of the Grading Code that are particularly relevant to geology and soils are provided below.

Kern County Grading Code Section 17.28.140, *Erosion Control*

> **A. Slopes.** The faces of cut and fill slopes shall be prepared and maintained to control against erosion. This control may consist of effective planting. The protection for the slopes shall be installed as soon as practicable and prior to calling for final approval. Where cut slopes are not subject to erosion due to the erosion-resistant character of the materials, such protection may be omitted.
>
> **B. Other Devices.** Where necessary, check dams, cribbing, riprap or other devices or methods shall be employed to control erosion and provide safety.

C. Temporary Devices. Temporary drainage and erosion control shall be provided as needed at the end of each workday during grading operations, such that existing drainage channels would not be blocked. Dust control shall be applied to all graded areas and materials and shall consist of applying water or another approved dust palliative for the alleviation or prevention of dust nuisance. Deposition of rocks, earth materials or debris onto adjacent property, public roads or drainage channels shall not be allowed.

Kern County Grading Code Section 17.28.150, *Drainage Retention Facilities*

All drainage retention/detention facilities and their associated conveyance facilities shall be designed in accordance with the Kern County Development Standards or latest revision thereof.

Kern County Grading Code Section 17.28.160 *Maintenance*

The owner of any property on which grading has been performed pursuant to a permit issued under the provisions of this chapter, or any other person or agent in control of such property, shall maintain in good condition and repair all drainage structures, sumps and other protective devices shown on the grading plans filed with the application for grading permit and approved as a condition precedent to the issuance of such permit.

Kern County Grading Code Section 17.28.170 *Grading Inspection*

A. General. All grading operations for which a permit is required shall be subject to inspection by the building official. Professional inspection of grading operations and testing shall be provided by the civil engineer, soils engineer and the engineering geologist retained to provide such services in accordance with Subsection 17.28.170(E) for engineered grading and as required by the building official for regular grading.

B. Civil Engineer. The civil engineer shall provide professional inspection within such engineer's area of technical specialty, which shall consist of observation and review as to the establishment of line, grade and surface drainage of the development area. If revised plans are required during the course of the work they shall be prepared by the civil engineer.

C. Soils Engineer. The soils engineer shall provide professional inspection within such engineer's area of technical specialty, which shall include observation during grading and testing for required compaction. The soils engineer shall provide sufficient observation during the preparation of the natural ground and placement and compaction of the fill to verify that such work is being performed in accordance with the conditions of the approved plan and the appropriate requirements of this chapter. Revised recommendations relating to conditions differing from the approved soils engineering and engineering geology reports shall be submitted to the permittee, the building official and the civil engineer.

D. Engineering Geologist. The engineering geologist shall provide professional inspection within such engineer's area of technical specialty, which shall include professional inspection of the bedrock excavation to determine if conditions encountered are in conformance with the approved report. Revised recommendations relating to conditions differing from the approved engineering geology report shall be submitted to the soils engineer.

E. Permittee. The permittee shall be responsible for the work to be performed in accordance with the approved plans and specifications and in conformance with the provisions of this Ordinance Code, and the permittee shall engage consultants, if required, to provide professional inspections on a timely basis. The permittee shall act as a coordinator between the consultants, the contractor and the building official. In the event of changed conditions, the permittee shall be responsible for informing the building official of such change and shall provide revised plans for approval.

F. Building Official. The building official may inspect the project at the various stages of the work requiring approval to determine that adequate control is being exercised by the professional consultants.

G. Notification of Noncompliance. If, in the course of fulfilling their responsibility under this chapter, the civil engineer, the soils engineer, or the engineering geologist finds that the work is not being done in conformance with this chapter or the approved grading plans, the discrepancies shall be reported immediately in writing to the permittee and to the building official. Recommendations for corrective measures, if necessary, shall also be submitted.

H. Transfer of Responsibility. If the civil engineer, the soils engineer, or the engineering geologist of record is changed during the course of the work, the work shall be stopped until:

The civil engineer, soils engineer, or engineering geologist has notified the building official in writing that they will no longer be responsible for the work and that a qualified replacement has been found who will assume responsibility.

- The replacement civil engineer, soils engineer, or engineering geologist notifies the building official in writing that they have agreed to accept responsibility for the work.

Chapter 6
Impacts

This chapter describes the CEQA Thresholds of Significance related to geology and soils that apply to the proposed project. The impacts discussion below summarizes the proposed project's likelihood to affect geologic and soils conditions on the project site and whether or not those same conditions can affect construction and operation of the proposed project.

6.1 CEQA Thresholds of Significance

A project would normally be found to result in a significant impact if the project would:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

   1) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. Refer to Division of Mines and Geology Special Publication 42;

   2) Strong seismic ground shaking;

   3) Seismic-related ground failure, including liquefaction;

   4) Landslides.

b) Result in substantial soil erosion or the loss of topsoil;

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property;

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater; or

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

6.2 Impacts

Impact GEO-1. The project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault.

The proposed project area is not within an Earthquake Zone of Required Investigation (as it relates to fault zones), and there are no known active faults within the project study area. Thus, the proposed project is not expected to cause an indirect or direct adverse effect as it relates to fault rupture. No impacts are expected to occur.

Impact GEO-2. The project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.

Due to the proposed project site's location in relation to active faults, it can be subject to strong ground shaking in the event of a major earthquake. However, compliance with applicable state and local building codes would make potentially adverse effects associated with strong seismic ground shaking on the proposed project unlikely (the proposed project does not include habitable structures, further reducing potential risks to people). Additionally, none of the proposed project features are expected to contribute to or exacerbate major geologic phenomena (i.e., strong seismic shaking) that can potentially occur in the area. Furthermore, the preparation of a soils engineering report, engineering geology report, engineering calculations, and drainage computations specific to the proposed project, as required by the Kern County Code of Building Regulations (discussed in Section 5.3, *Local Regulations)* would provide final design and construction recommendations taking into account onsite geologic conditions. No adverse impacts are anticipated.

Impact GEO-3. The project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction.

Shallow groundwater is not expected on the proposed project site. Additionally, the proposed project site is not within an Earthquake Zone of Required Investigation for liquefaction. Therefore, the proposed project is unlikely to be affected by or exacerbate conditions associated with seismically related ground failure, including liquefaction. In addition, the preparation of a soils engineering report, engineering geology report, engineering calculations, and drainage computations (as required by the Kern County Code of Building Regulations) would confirm site suitability and provide final design and construction recommendations. No impacts are expected to occur.

Impact GEO-4. The project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides.

The proposed project site has low relief without significant topographic features. According to information reviewed, the proposed project site contains a gradual 160-foot decline slope from the northwest to the southeast within the proposed solar field area. In addition, the proposed project site is not within an Earthquake Zone of Required Investigation for landslides. Therefore, the potential for impacts associated with landslides within the proposed project site is considered low.

Impact GEO-5. The project would not result in substantial soil erosion or the loss of topsoil.

Erosion is a condition that could adversely affect development on any site. Construction activities could exacerbate erosive conditions by exposing and disturbing onsite soils. However, implementation of standard construction best management practices and compliance with applicable regulations would prevent disturbed soils from leaving the site. In addition, large construction projects (i.e., disturbing 1 acre or more of soils) are subject to the State Water Resources Control Board's Construction General Permit. The Construction General Permit requires the implementation of an SWPPP, further reducing the potential for erosion.

Impact GEO-6. The project would not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

According to information obtained from the *Kern County General Plan Safety Element* (County of Kern 2004), the proposed project site is not in an area of land subsidence or hydrocompaction; nor was it identified within or near an oil or gas field or active oil or gas well. Therefore, proposed project is unlikely to be affected by or exacerbate geological conditions associated with unstable soils. In addition, the preparation of a site-specific soils engineering report, engineering geology report, engineering calculations, and drainage computations (as required by the Kern County Code of Building Regulations) would confirm site suitability and provide final design and construction recommendations. No adverse impacts are anticipated.

Impact GEO-7. The project would not be located on expansive soil creating substantial direct or indirect risks to life or property.

According to information reviewed, soils found within the project study area boundary and gen-tie locations are predominantly classified as nonplastic to having low plasticity with low expansion potential. Therefore, the proposed project is unlikely to be affected by or exacerbate the expansion potential of onsite soils. In addition, the preparation of a soils engineering report, engineering geology report, engineering calculations, and drainage computations (as required by the Kern County Code of Building Regulations) would confirm site suitability and provide final design and construction recommendations.

Impact GEO-8. The project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

The proposed project does not feature septic tanks or alternative wastewater disposal systems. Once the project is operational, the site would be operated on an unstaffed basis and monitored remotely. Intermittent site visits by personnel for inspections or maintenance would be performed by staff using the Operations and Maintenance facility west and immediately adjacent to the project site. The Operations and Maintenance building was permitted under the BigBeau Solar Project and would house a number of facilities, including onsite office, kitchen, and bathroom facilities for operations staff. These facilities are not proposed to be located on the proposed project site. No impacts are anticipated.

Impact GEO-9. The project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Impacts on paleontological resources are discussed under separate cover in the Paleontological Technical Report (Paleo Solutions Inc. 2022).

Chapter 7
Conclusions and Recommendations

This Geology and Soils Report was developed to identify potential geologic hazards and soil conditions that, under CEQA, could have an adverse effect on the proposed project. The evaluation was based on available topographic and geologic maps, published geotechnical literature, geologic and seismic data, soil data, groundwater data, and the general geologic conditions and seismic hazards affecting the area. Based on the results of the data reviewed and the nature of the proposed project, implementation of the project is not expected to expose the proposed project features to or exacerbate potentially significant risks associated with seismic activity in the project study area. Furthermore, the proposed project is not expected to result in potential impacts associated with erosion, unstable geologic units, or soils and alternate wastewater disposal systems. However, in order to obtain definitive geologic and soil conditions of the proposed project site, a qualified geotechnical engineer should conduct a soils engineering report, engineering geology report, engineering calculations, and associated drainage computations (as required by the Kern County Code of Building Regulations) prior to construction to confirm site suitability and final design and construction recommendations.

Chapter 8
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Appendix I:
Paleontological Inventory Report

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PALEONTOLOGICAL INVENTORY REPORT

BULLHEAD SOLAR, KERN COUNTY, CALIFORNIA

Prepared for: **ICF Jones & Stokes, Inc.**
49 Discovery, Suite 250
Irvine, CA 92618

Prepared by: **Paleo Solutions, Inc.**
911 S. Primrose Ave., Unit N
Monrovia, CA 91016

Courtney Richards, M.S. – Principal Investigator
Joey Raum, B.S. – Report Author

PSI Report: CA21KernICF01R

July 2022

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1.0 EXECUTIVE SUMMARY

This Paleontological Inventory Report (PIR) presents the results of the paleontological technical study conducted by Paleo Solutions, Inc. (Paleo Solutions) in support of the EDF Renewables (EDFR) Bullhead Solar Project (Project) located in Kern County, California (see Figures 1 and 2). Paleo Solutions was contracted by ICF to conduct an analysis of existing paleontological data and field survey and to provide recommendations for mitigation based on the geological and paleontological data. This work was required by the Kern County Planning and Natural Resources Department (County) to meet their requirements as the lead agency under the California Environmental Quality Act (CEQA). The PIR was prepared in compliance with state and local regulations and best practices in mitigation paleontology (Murphey et al., 2019).

EDFR proposes the Bullhead Solar Project to develop up to 270 megawatts alternating current (MW_{AC}) of solar photovoltaic (PV) capacity derived from tracker technology and up to 270 MW of battery storage. The Project includes solar development with associated PV panels, inverters, converters, generators, foundations, transformers, and preferred and optional generation-tie (gen-tie) routes to the Rosamond and Whirlwind Substations, only one of which would be constructed. The Project also includes laydown yards, a meteorological station, a microwave/communication tower, a new substation, a temporary concrete batch plant, and a gen-tie line that would either travel south from the Project boundary and connect to the Rosamond Substation or would cross underneath Southern California Edison's (SCE's) Tehachapi Renewable Transmission Project (TRTP) to the east of the Project site and connect to the Whirlwind Substation.

The Project area is within the Willow Springs, California, United States Geological Survey (USGS) 7.5-minute topographic quadrangle. The Rosamond gen-tie Options 1, 2, 3, and 3.1 are within the Willow Springs and Little Buttes USGS 7.5-minute topographic quadrangles. The Whirlwind gen-tie Options 1, 1.1, and 1.2 are within the Willow Springs and Tylerhorse Canyon USGS 7.5-minute topographic quadrangles. Existing and improved access roads that would be used to access the Project area that falls within the Willow Springs and Little Buttes USGS 7.5-minute topographic quadrangles. This area of Kern County is recognized by the National Renewable Energy Laboratory as having solar and wind resources that are suitable for renewable energy development. The area surrounding the Project site is characterized by scattered vacant land and low population density. Existing development in the area includes rural access roads, scattered rural residences, producing and nonproducing water wells, off-highway vehicle use, open range grazing and maintenance facilities, and planned/existing meteorological towers. There are several existing and permitted, renewable energy and transmission projects in the region where the Project site is located. The Bullhead Solar Project would impact areas that are mostly agricultural zoned land.

The Project area and gen-tie routes were evaluated based on an analysis of existing paleontological data. The three components of the analysis included a geologic map review, a literature search, and a paleontological records search conducted at the Natural History Museum of Los Angeles County (LACM). According to the analysis of existing data, there is one previously recorded fossil locality that lies within close proximity to the Project area, as well as numerous fossil localities that are recorded within the Project vicinity and other areas of California from sediments similar to those mapped within the Project area. The analysis of existing data was supplemented with a pedestrian field survey, the results of which indicate that although no fossils were observed at the Project area surface, sediments conducive to fossil preservation, particularly Holocene- to Pleistocene-age older alluvium (Qoa), are exposed at the surface. Paleontological sensitivity assignments for geologic units mapped within the Project area and half-mile buffer were developed following the Potential Fossil Yield Classification (PFYC) system (Bureau of Land Management [BLM], 2016; see Section 5.2) and best practices in mitigation paleontology (Murphey et al., 2019).

Geologic mapping by T.W. Dibblee (1963) indicates that the Project area surface is mapped mostly as Holocene-age young alluvium (Qa) (PFYC 2) with lesser amounts of Holocene- to Pleistocene-age older alluvium (Qoa) (PFYC 3) (see Figure 3). Additionally, Holocene- to Pleistocene-age older alluvium (Qoa) occurs at relatively shallow depths below surficial sediments throughout the Mojave Desert Geomorphic Province and, therefore, may be encountered at shallow depths beneath Holocene-age young alluvium (Qa) within the Project area. Also mapped within the vicinity, within a half-mile of the Project area, are Holocene-age young sand deposits (Qs) (PFYC 2); and several members of the Miocene-age Gem Hill Formation, including porphyritic felsite (Tgf) (PFYC 1); porphyry (Tgp) (PFYC 1); and tuff, tuff-breccia, and tuffaceous sandstone (Tgt) (PFYC 1) (see Figure 3).

Construction excavations that disturb geologic units with moderate paleontological potential (PFYC 3), including Holocene- to Pleistocene-age older alluvium (Qoa), should be monitored by a professional paleontologist in order to reduce potential adverse impacts on scientifically important paleontological resources to a less than significant level. Because the results of the field survey could not be used to determine the depth at which Holocene- to Pleistocene-age older alluvium (Qoa) occurs within the majority of the Project area, ground disturbing activities should also be spot checked when excavations are expected to exceed a depth of 5 feet in areas mapped as Holocene-age young alluvium (Qa) (PFYC 2) to inspect for the presence of older more paleontologically sensitive geologic units at depth. If it is determined that Holocene- to Pleistocene-age older alluvium (Qoa) is present at depth, full-time monitoring should be implemented in those areas. Conversely, if it is determined that only geologic units with low paleontological potential (PFYC 2) are impacted, the monitoring program should be reduced or suspended. If it is determined that only geologic units with very low paleontological potential (PFYC 1) are impacted, the monitoring program should be halted.

Prior to construction, a Paleontological Mitigation Plan (PMP) should be prepared. It should provide detailed recommended monitoring locations; a description of a worker training program; detailed procedures for monitoring, fossil recovery, laboratory analysis, and museum curation; and notification procedures in the event of a fossil discovery by a paleontological monitor or other project personnel. A curation agreement with LACM or another accredited repository should also be obtained. Any subsurface bones or potential fossils that are unearthed during construction should be evaluated by a professional paleontologist as described in the PMP.

2.0 INTRODUCTION

This PIR presents the results of the paleontological technical study conducted by Paleo Solutions in support of the EDFR Bullhead Solar Project located in Kern County, California (Figures 1 and 2). Paleo Solutions was contracted by ICF to conduct an analysis of existing paleontological data and field survey and to provide recommendations for mitigation based on the geological and paleontological data. This work was required by the Kern County to meet their requirements as the lead agency under the CEQA. The PIR was prepared in compliance with state and local regulations and best practices in mitigation paleontology (Murphey et al., 2019). A Project summary is provided in Table 1.

2.1 Project Description

EDFR proposes the Bullhead Solar Project to develop up to 270 MW_{AC} of solar PV capacity derived from tracker technology and up to 270 MW of battery storage. The Project includes solar development with associated PV panels, inverters, converters, generators, foundations, transformers, and preferred and optional gen-tie routes to the Rosamond and Whirlwind Substations, only one of which would be constructed. The Project also includes laydown yards, a meteorological station, a microwave/communication tower, and a new substation.

The Project encompasses a study area of approximately 1,359.50 acres of private land. A larger study area has been provided for evaluation to ensure that all lands potentially affected by the Project are included in the analysis. Should the Kern County Board of Supervisors approve the Project, the County would issue Conditional Use Permits (CUPs) and other required approvals on land proposed for development of the solar facilities. The portion of the Project subject to the CUPs is 1,349.50 acres; 10 acres are excluded from the CUP boundary, but are included in the Study Area boundary for the purposes of environmental analysis. The proposed Project consists of solar array areas with three locations under consideration for the development of a substation. CUPs are required for the solar generation facilities (e.g., panels) and associated generation equipment (i.e., inverters, substation, and batteries), as well as the communications tower. Therefore, these facilities would be located within the CUP boundary (1,349.50 acres). Several other Project components do not require CUPs and would extend beyond the CUP boundary (but would be entirely within the study area). These components include access roads and gen-tie power lines (both collection and transmission).

EDFR is committed to creating a state-of-the-art solar energy project that would be constructed in a manner that minimizes environmental impacts to the greatest extent feasible. The Project includes four options for gen-tie routes, including two deviations to one option and one deviation to another. Only one route would be constructed. Three project optional gen-tie routes—Rosamond gen-tie Options 1, 2, and 3, including one deviation identified as Rosamond gen-tie Option 3.1—would travel south from the Project boundary and connect to the Rosamond Substation. The Rosamond Substation is planned to be constructed by Los Angeles Department of Water and Power (LADWP) by December 2025. One optional Project gen-tie route—Whirlwind gen-tie Option 1, including two deviation routes identified as Whirlwind gen-tie Option 1.1 and Whirlwind gen-tie Option 1.2—would cross underneath SCE's TRTP to the east of the Project site and connect to the Whirlwind Substation. SCE's TRTP 220/500 kilovolt (kV) corridor travels through Whirlwind gen-tie Option 1 and connects SCE's Vincent Substation with SCE's Windhub Substation to the south and north of the Project area, respectively. Many of the lands surrounding the Project area have either been approved for, or are in the planning stages of, development for solar or wind energy.

2.2 Project Location

The Project is generally located in southern Kern County. The land is controlled via lease or fee simple ownership (or in final negotiations thereof) by EDFR. The Project site is south of the Tehachapi Mountains on lands that gradually slope downward from the northwest to the southeast. It is approximately 52 miles southeast of the City of Bakersfield, 19 miles south of the City of Tehachapi, 8 miles northwest of the community of Rosamond, and 2 miles north of the community of Willow Springs. Other communities in the vicinity of the Project area include Mojave in Kern County and the cities of Lancaster, Palmdale, and Neenach in Los Angeles County, which are roughly 12 miles northeast, 17 miles southeast, 24 miles southeast, and 18 miles southwest of the Project, respectively. Edwards Air Force Base is 22 miles east of the Project's eastern boundary.

The Project area is approximately 12 miles southwest of State Route (SR-) 58 and approximately 34 miles east of Interstate (I-) 5. SR-14 (Antelope Valley Freeway) is approximately 7 miles to the east of the site, and SR-138 (West Avenue D) is approximately 9 miles to the south in Los Angeles County. The Project area is generally bounded by Favorito Avenue to the south, Champagne Avenue to the north, 110th Street West to the west, and 80th Street West to the east. The Project area is bisected by Tehachapi Willow Springs Road.

Secondary access to the Project area is provided via 120th Street West through the adjacent BigBeau Solar Project (BigBeau). Approximately 422.4 acres of land permitted in connection with BigBeau will be developed around the same time as the Project, and those facilities will use the same interconnection infrastructure as the Project. As background, the County Board of Supervisors approved BigBeau and certified an EIR for the project in June 2020. The environmental effects of developing on those lands were evaluated in the BigBeau Solar Project EIR (SCH # 2019071059), which is hereby incorporated by reference. EDFR will comply with all mitigation measures and conditions of approval applicable to BigBeau for any development of those lands.

The Project area is within the Willow Springs, California, USGS 7.5-minute topographic quadrangle. The Rosamond gen-tie Options 1, 2, and 3 (including Option 3.1) are within the Willow Springs and Little Buttes USGS 7.5-minute topographic quadrangles. The Whirlwind gen-tie Option 1 (including Options 1.1 and 1.2) are within the Willow Springs and Tylerhorse Canyon USGS 7.5-minute topographic quadrangles. Existing and improved access roads would be used to access the Project area that falls within the Willow Springs and Little Buttes USGS 7.5-minute topographic quadrangles. This area of Kern County is recognized by the National Renewable Energy Laboratory as having solar and wind resources that are suitable for renewable energy development. The area surrounding the Project site is characterized by scattered vacant land and low population density. Existing development in the area includes rural access roads, scattered rural residences, producing and nonproducing water wells, off-highway vehicle use, open range grazing and maintenance facilities, and planned/existing meteorological towers. There are several existing and permitted, renewable energy and transmission projects in the region where the Project site is located. The Bullhead Solar Project would impact areas that are mostly agricultural zoned land.

Table 1. Bullhead Solar Project Summary

<table>
<tr><td>Project Name</td><td colspan="4">Bullhead Solar Project</td></tr>
<tr><td>Total Acreage / Linear Mileage</td><td colspan="4">• Project area: 1,359.50 acres
• Rosamond gen-tie Option 1: 4.07 linear miles
• Rosamond gen-tie Option 2: 5.31 linear miles
• Rosamond gen-tie Option 3: 1.36 linear miles
• Rosamond gen-tie Option 3.1: 0.75 linear miles
• Whirlwind gen-tie Option 1: 7.28 linear miles
• Whirlwind gen-tie Option 1 (shared with existing AVTL): 5.60 linear miles
• Whirlwind gen-tie Option 1.1: 0.54 linear miles
• Whirlwind gen-tie Option 1.2: 1.49 linear miles</td></tr>
<tr><td rowspan="4">Location (Public Land Survey System [PLSS]): Solar Facility Main</td><td>Quarter-Quarter / Government Lot No.</td><td>Section</td><td>Township</td><td>Range</td></tr>
<tr><td>L2</td><td>Sec.04</td><td rowspan="3">T9N</td><td rowspan="3">R13W</td></tr>
<tr><td>SWSW, L2</td><td>Sec. 05</td></tr>
<tr><td>SESE, NESE, L1, L2</td><td>Sec.06</td></tr>
</table>

Project Name	Bullhead Solar Project			
Boundary and Substation	L1, L2	Sec.01		R14W
	L1, L2	Sec.02		
	SESE, SWSE	Sec.30	T10N	R13W
	NENE, NESE, NWNE, NWSE, SENE, SESE, SWNE, SWSE, L1, L2	Sec.31		
	NESE, NESW, NWSE, NWSW, SENW, SESE, SESW, SWNW, SWSE, SWSW	Sec.32		
	NESW, NWSE, NWSW, SESW, SWSW	Sec.33		
	SESW, SWSE, SESE, NWSE, NESE	Sec.35		R14W
	SWSW, SESW, SWSE, SESE, NESE	Sec.36		
Location (PLSS): Rosamond Gen-tie Option 1	SESE, NESE, L1	Sec.06	T9N	R13W
	SESE, NESE, SENE, NENE	Sec.07		
	SWNW, NWNW	Sec.08		
	SWSW, NWSW, SWNW, NWNW	Sec.17		
	NENE	Sec.18		
	NWNE, NENE, L1, L2	Sec.19		
	NWNW	Sec.20		
	NWNE, NENE	Sec.24		R14W
Location (PLSS): Rosamond Gen-tie Option 2	L1	Sec.06	T9N	R13W
	L1, L2	Sec.07		
	L1, L2	Sec.18		
	SESE, NESE, L1	Sec.01		R14W
	SESE, NESE, SENE, NENE	Sec.12		
	SWSE, SESE, NESE	Sec.13		
	NWNE	Sec.24		
Location (PLSS): Rosamond Gen-tie Option 3	NWNW	Sec.17	T9N	R13W
	SWNE, NWNE, NENE, L1, L2	Sec.18		
	SESE, NESE	Sec.13		R14W
	NENE	Sec.24		
Location (PLSS): Rosamond Gen-tie Option 3.1	SWSE, NWSE, SWNE	Sec.18	T9N	R13W
	NWNE	Sec.19		
Location (PLSS): Whirlwind Gen-tie Option 1	L2	Sec.01	T9N	R14W
	L2	Sec.02		
	SESE, NESE, L1, L2	Sec.02		R15W
	SWSE, NWSE, SENE, SWNE, NENE	Sec.11		
	SWSE, NWSE, SWNE, NWNE	Sec.14		
	NWNE	Sec.23		
	SWSW	Sec.26	T10N	R14W
	SESE, NESE, NWSE, SWNE, SENW, NENW, NWNW	Sec.27		
	SESW, SWSE, SESE, NESW, SWNW, SENW, NWNW	Sec.35		
Location (PLSS): Whirlwind Gen-tie	L2	Sec.02	T9N	R15W
	NWNW	Sec.27	T10N	R14W

<table>
<tr><td>Project Name</td><td colspan="5">Bullhead Solar Project</td></tr>
<tr><td rowspan="6">Option 1 (Shared with existing AVTL)</td><td colspan="2">SWNE, SENE, SENW, SWNW, NENE</td><td>Sec.28</td><td rowspan="6"></td><td rowspan="3"></td></tr>
<tr><td colspan="2">SWNW, SENW, SWNE, SENE</td><td>Sec.29</td></tr>
<tr><td colspan="2">SENE, SWNE, L1, L2</td><td>Sec.30</td></tr>
<tr><td colspan="2">SESE, NESE, SENE</td><td>Sec.25</td><td rowspan="3">R15W</td></tr>
<tr><td colspan="2">SESE</td><td>Sec.35</td></tr>
<tr><td colspan="2">SESW, SWSW, NESE, NWSE, NESW, SENE, NENE</td><td>Sec.36</td></tr>
<tr><td>Location (PLSS): Whirlwind Gen-tie Option 1.1</td><td colspan="2">SWSE, NWSE, SENW, SWNE</td><td>Sec.35</td><td>T10N</td><td>R14W</td></tr>
<tr><td>Location (PLSS): Whirlwind Gen-tie Option 1.2</td><td colspan="2">SESE, NESE, SENE, NWNW, NENW, NWNE, NENE</td><td>Sec.35</td><td>T10N</td><td>R14W</td></tr>
<tr><td>Land Owner/Surface Management Agency</td><td colspan="5">Private</td></tr>
<tr><td>Topographic Map(s)</td><td colspan="5">USGS Fairmont Butte (2015), Little Buttes (2015), Tylerhorse Canyon (2016), and Willow Springs (2018) 7.5-minute topographic quadrangles</td></tr>
<tr><td>Geologic Map(s)</td><td colspan="5">Geology of the Willow Springs and Rosamond quadrangles, California (Dibblee, 1963)</td></tr>
<tr><td rowspan="7">Mapped Geologic Unit(s) and Age(s)</td><td>Geologic Unit and Map Symbol</td><td colspan="2">Age</td><td colspan="2">Paleontological Potential (PFYC)</td></tr>
<tr><td>Young alluvium (Qa)</td><td colspan="2">Holocene</td><td colspan="2">2 (Low)</td></tr>
<tr><td>Young sand deposits (Qs)</td><td colspan="2">Holocene</td><td colspan="2">2 (Low)</td></tr>
<tr><td>Older alluvium (Qoa)</td><td colspan="2">Holocene to Pleistocene</td><td colspan="2">3 (Moderate)</td></tr>
<tr><td>Gem Hill Formation, felsite and porphyritic felsite (Tgf)</td><td colspan="2">Miocene</td><td colspan="2">1 (Very Low)</td></tr>
<tr><td>Gem Hill Formation, porphyry (Tgp)</td><td colspan="2">Miocene</td><td colspan="2">1 (Very Low)</td></tr>
<tr><td>Gem Hill Formation, tuff, tuff breccia, and tuffaceous sandstone (Tgt)</td><td colspan="2">Miocene</td><td colspan="2">1 (Very Low)</td></tr>
<tr><td>Surveyor(s)</td><td colspan="5">Betsy Kruk, M.S., and Scott Corlett, B.S.</td></tr>
<tr><td>Survey Date(s)</td><td colspan="5">Surveying took place on May 20 and 21, 2021 (see Section 7.0)</td></tr>
<tr><td>Geologic Units Surveyed</td><td colspan="5">Holocene-age young alluvium (Qa), Holocene- to Pleistocene-age older alluvium (Qoa)</td></tr>
<tr><td>Permits</td><td colspan="5">No paleontological permits were required for the work conducted.</td></tr>
<tr><td>Previously Documented Fossil Localities within the Project area</td><td colspan="5">A records search was requested from the LACM, the results of which yielded one vertebrate locality from within close proximity to the Project area as well as several additional localities recorded from within the vicinity from sediments similar to those that underlie the Project area (see Section 6.2; Appendix A). The museum records search was conducted for a larger study area, although the technical study has been updated to reflect the Project boundary as of May 2022.</td></tr>
<tr><td>Paleontological Results</td><td colspan="5">No paleontological resources were observed during the survey, although sediments determined to be conducive to fossilization were observed.</td></tr>
</table>

Project Name	Bullhead Solar Project
Disposition of Fossils	Not applicable; no fossils were observed or collected during the survey.
Recommendation(s)	Construction excavations that disturb geologic units with moderate paleontological potential (PFYC 3), including Holocene- to Pleistocene-age older alluvium (Qoa), should be monitored by a professional paleontologist in order to reduce potential adverse impacts on scientifically important paleontological resources to a less than significant level. Because the results of the field survey could not be used to determine the depth at which Holocene- to Pleistocene-age older alluvium (Qoa) occurs within the majority of the Project area, ground disturbing activities should also be spot checked when excavations are expected to exceed a depth of 5 feet in areas mapped as Holocene-age young alluvium (Qa) (PFYC 2) to inspect for the presence of older more paleontologically sensitive geologic units at depth. If it is determined that Holocene- to Pleistocene-age older alluvium (Qoa) is present at depth, full-time monitoring should be implemented in those areas. Conversely, if it is determined that only geologic units with low paleontological potential (PFYC 2) are impacted, the monitoring program should be reduced or suspended. If it is determined that only geologic units with very low paleontological potential (PFYC 1) are impacted, the monitoring program should be halted. Prior to construction, a PMP should be prepared. It should provide detailed recommended monitoring locations; a description of a worker training program; detailed procedures for monitoring, fossil recovery, laboratory analysis, and museum curation; and notification procedures in the event of a fossil discovery by a paleontological monitor or other project personnel. A curation agreement with LACM or another accredited repository should also be obtained. Any subsurface bones or potential fossils that are unearthed during construction should be evaluated by a professional paleontologist as described in the PMP.

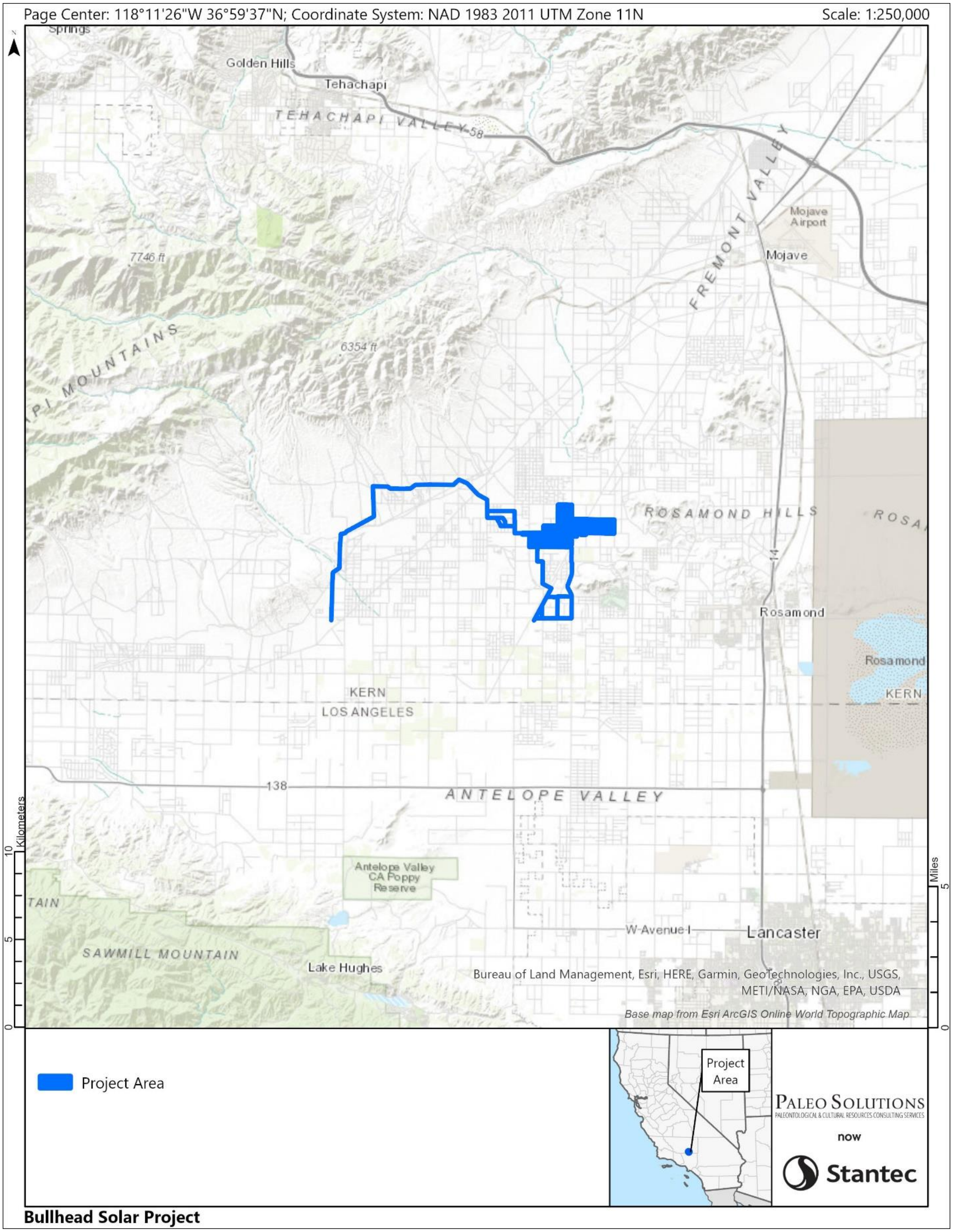

Figure 1. Project Location Map.

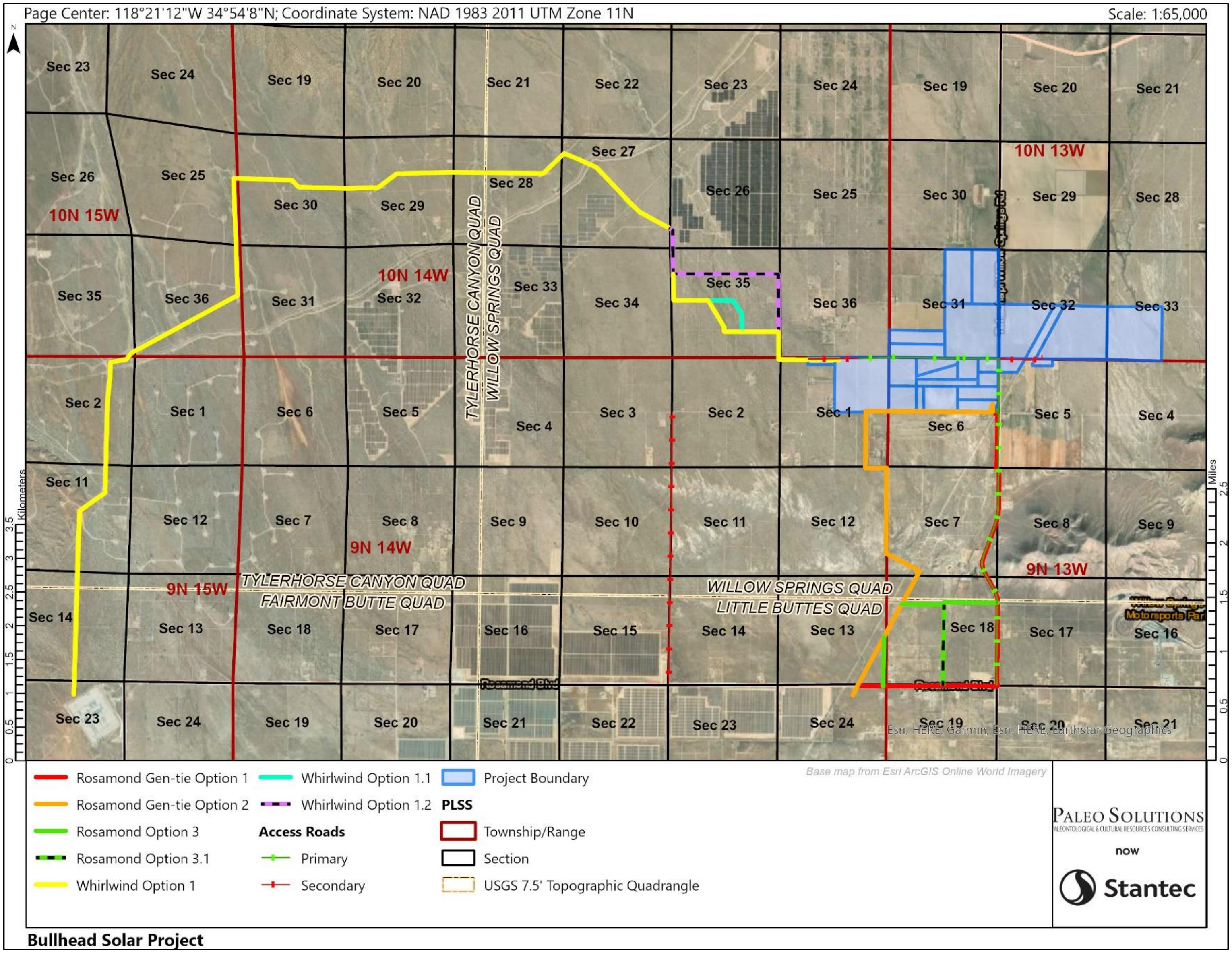

Figure 2. Project Overview Map.

3.0 DEFINITION AND SIGNIFICANCE OF PALEONTOLOGICAL RESOURCES

As defined by Murphey and Daitch (2007): "Paleontology is a multidisciplinary science that combines elements of geology, biology, chemistry, and physics in an effort to understand the history of life on earth. Paleontological resources, or fossils, are the remains, imprints, or traces of once-living organisms preserved in rocks and sediments. These include mineralized, partially mineralized, or unmineralized bones and teeth, soft tissues, shells, wood, leaf impressions, footprints, burrows, and microscopic remains. Paleontological resources include not only fossils themselves, but also the associated rocks or organic matter and the physical characteristics of the fossils' associated sedimentary matrix.

The fossil record is the only evidence that life on earth has existed for more than 3.6 billion years. Fossils are considered non-renewable resources because the organisms they represent no longer exist. Thus, once destroyed, a fossil can never be replaced. Fossils are important scientific and educational resources because they are used to:

- Study the phylogenetic relationships amongst extinct organisms, as well as their relationships to modern groups;
- Elucidate the taphonomic, behavioral, temporal, and diagenetic pathways responsible for fossil preservation, including the biases inherent in the fossil record;
- Reconstruct ancient environments, climate change, and paleoecological relationships;
- Provide a measure of relative geologic dating that forms the basis for biochronology and biostratigraphy, and which is an independent and corroborating line of evidence for isotopic dating;
- Study the geographic distribution of organisms and tectonic movements of land masses and ocean basins through time;
- Study patterns and processes of evolution, extinction, and speciation; and
- Identify past and potential future human-caused effects to global environments and climates."

Fossil resources vary widely in their relative abundance and distribution and not all are regarded as significant. According to the BLM Instructional Memorandum (IM) 2009-011, a "Significant Paleontological Resource" is defined as:

> "Any paleontological resource that is considered to be of scientific interest, including most vertebrate fossil remains and traces, and certain rare or unusual invertebrate and plant fossils. A significant paleontological resource is considered to be of scientific interest if it is a rare or previously unknown species, it is of high quality and well-preserved, it preserves a previously unknown anatomical or other characteristic, provides new information about the history of life on earth, or has an identified educational or recreational value. Paleontological resources that may be considered not to have scientific significance include those that lack provenience or context, lack physical integrity due to decay or natural erosion, or that are overly redundant or are otherwise not useful for research. Vertebrate fossil remains and traces include bone, scales, scutes, skin impressions, burrows, tracks, tail drag marks, vertebrate coprolites (feces), gastroliths (stomach stones), or other physical evidence of past vertebrate life or activities" (BLM, 2008).

Vertebrate fossils, whether preserved remains or track ways, are classified as significant by most state and federal agencies and professional groups (and are specifically protected under the California Public Resources Code). In some cases, fossils of plants or invertebrate animals are also considered significant and can provide important information about ancient local environments.

The full significance of fossil specimens or fossil assemblages cannot be accurately predicted before they are collected, and in many cases, before they are prepared in the laboratory and compared with previously collected fossils. Pre-construction assessment of significance associated with an area or formation must be made based on previous finds, characteristics of the sediments, and other methods that can be used to determine paleoenvironmental and taphonomic conditions.

4.0 LAWS, ORDINANCES, REGULATIONS, AND STANDARDS

This section of the report presents the state and local regulatory requirements pertaining to paleontological resources that would apply to this Project.

4.1 State Regulatory Setting

4.1.1 California Environmental Quality Act (CEQA)

The procedures, types of activities, persons, and public agencies required to comply with CEQA are defined in the Guidelines for Implementation of CEQA (State CEQA Guidelines), as amended on March 18, 2010 (Title 14, Section 15000 et seq. of the California Code of Regulations) and further amended January 4, 2013 and again December 28, 2018. One of the questions listed in the CEQA Environmental Checklist is: "Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?" (State CEQA Guidelines Appendix G, Section VII, Part F).

4.1.2 State of California Public Resource Code

The State of California Public Resources Code (Chapter 1.7), Sections 5097 and 30244, includes additional state level requirements for the assessment and management of paleontological resources. These statutes require reasonable mitigation of adverse impacts to paleontological resources resulting from development on state lands, and define the excavation, destruction, or removal of paleontological "sites" or "features" from public lands without the express permission of the jurisdictional agency as a misdemeanor. As used in Section 5097, "state lands" refers to lands owned by, or under the jurisdiction of, the state or any state agency. "Public lands" is defined as lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.

4.2 Local Regulatory Setting

4.2.1 Kern County

Paleontological resources are briefly mentioned in the Land Use, Open Space and Conservation element of the Kern County General Plan (Kern County, 2009) in Section 1.10.3, "Archaeological, Paleontological, Cultural, and Historical Preservation." Policy 25 states that the County will promote the preservation of cultural and historic resources which provide ties with the past and constitute a heritage value to residents and visitors. Implementation Measure M is the only measure which directly or indirectly addresses paleontological resources, and it states that in areas of known paleontological resources, the County should address the preservation of these resources where feasible.

5.0 METHODS

Components of the analysis included a geologic map review, a literature search, and an institutional record search. The analysis of existing data was supplemented with a pedestrian field survey. The goal of this report is to identify the paleontological potential of the Project area and make recommendations for the mitigation of adverse impacts on paleontological resources that may occur as a result of the proposed construction. Paleontological sensitivity assignments were determined using the PFYC system (BLM, 2016) and best practices in mitigation paleontology (Murphey et al., 2019). Joey Raum, B.S., completed the background research and authored this report. Courtney Richards, M.S., performed the technical review of this report and oversaw all aspects of the Project as the Project Manager and Paleontological Principal Investigator. GIS maps were prepared by Elisa Barrios, B.S.

Copies of this report will be submitted to ICF, EDFR, and the County. Paleo Solutions will retain an archival copy of all project information including field notes, maps, and other data.

5.1 Analysis of Existing Data

Paleo Solutions reviewed geologic mapping of the Project area and half-mile buffer by T.W. Dibblee (1963). A paleontological museum records search was conducted at LACM. Alyssa Bell, Ph.D., conducted the LACM search (dated May 17, 2021). The results of the museum records search are provided as Appendix A. The museum records search was conducted for a larger study area, although the technical study has been updated to reflect the Bullhead Solar Project boundary as of May 2022. Additionally, Paleo Solutions staff reviewed published and unpublished scientific papers and conducted paleontological records searches of online databases, including the University of California Museum of Paleontology (UCMP) database and the Paleobiology Database (PBDB). The online database searches included known fossil localities from Pleistocene- and Miocene-age sedimentary deposits as well as Miocene-age ash and tuff deposits within Kern County, California. Specific searches were conducted for geologic units with formal names, such as the Gem Hill Formation (Tgf, Tgp, Tgt). However, since geologic units that are unnamed or have informal names, such as Holocene- to Pleistocene-age older alluvium (Qoa), are not responsive to searches in the databases, general searches of sedimentary units of similar ages (e.g., Holocene and Pleistocene) were conducted.

5.2 Field Survey

The field survey was conducted by Paleo Solutions staff members Betsy Kruk, M.S., and Scott Corlett, B.S., on May 20 and 21, 2021. The paleontological survey was performed in order to determine the paleontological potential of the geologic deposits underlying the Project area. The survey was conducted after a review of aerial photographs indicated the Project site included areas of undisturbed native sediments. The pedestrian survey included inspection of the Project area with the majority of the focus occurring in areas with native sediment exposures and areas where there would likely be immediate construction impact. Sediment exposures as well as the surrounding areas were photographed and documented. Reference points were acquired using a GPS unit. Sediment lithologies were recorded, analyzed, and used to better interpret the Project's paleontological potential, and thus better understand the Project's potential impact.

5.3 Criteria for Evaluating Paleontological Potential

The PFYC system was developed by the BLM (BLM, 2016). Because of its demonstrated usefulness as a resource management tool, the PFYC has been utilized for many years for projects across the country, regardless of land ownership. It is a predictive resource management tool that classifies geologic units on their likelihood to contain paleontological resources on a scale of 1 (very low potential) to 5 (very high potential). This system is intended to aid in predicting, assessing, and mitigating paleontological resources. The PFYC system is summarized in Table 2.

Table 2. Summary of Paleontological Fossil Yield Classification.

BLM PFYC Designation	Assignment Criteria Guidelines and Management Summary
1 = Very Low Potential	Geologic units are not likely to contain recognizable paleontological resources.
	Units are igneous or metamorphic, excluding air-fall and reworked volcanic ash units.
	Units are Precambrian in age.
	Management concern is usually negligible, and impact mitigation is unnecessary except in rare or isolated circumstances.
2 = Low Potential	Geologic units are not likely to contain paleontological resources.
	Field surveys have verified that significant paleontological resources are not present or are very rare.
	Units are generally younger than 10,000 years before present.
	Recent aeolian deposits.
	Sediments exhibit significant physical and chemical changes (i.e., diagenetic alteration) that make fossil preservation unlikely.
	Management concern is generally low, and impact mitigation is usually unnecessary except in occasional or isolated circumstances.
3 = Moderate Potential	Sedimentary geologic units where fossil content varies in significance, abundance, and predictable occurrence.
	Marine in origin with sporadic known occurrences of paleontological resources.
	Paleontological resources may occur intermittently, but these occurrences are widely scattered.
	The potential for authorized land use to impact a significant paleontological resource is known to be low-to-moderate.
	Management concerns are moderate. Management options could include record searches, pre-disturbance surveys, monitoring, mitigation, or avoidance. Opportunities may exist for hobby collecting. Surface-disturbing activities may require sufficient assessment to determine whether significant paleontological resources occur in the area of a proposed action and whether the action could affect the paleontological resources.
4 = High Potential	Geologic units that are known to contain a high occurrence of paleontological resources.
	Significant paleontological resources have been documented but may vary in occurrence and predictability.
	Surface-disturbing activities may adversely affect paleontological resources.
	Rare or uncommon fossils, including nonvertebrate (such as soft body preservation) or unusual plant fossils, may be present.
	Illegal collecting activities may impact some areas.
	Management concern is moderate to high depending on the proposed action. A field survey by a qualified paleontologist is often needed to assess local conditions. On-site monitoring or spot-checking may be necessary during land disturbing activities. Avoidance of known paleontological resources may be necessary.
5 = Very High Potential	Highly fossiliferous geologic units that consistently and predictably produce significant paleontological resources.
	Significant paleontological resources have been documented and occur consistently.
	Paleontological resources are highly susceptible to adverse impacts from surface disturbing activities.
	Unit is frequently the focus of illegal collecting activities.

BLM PFYC Designation	Assignment Criteria Guidelines and Management Summary
	Management concern is high to very high. A field survey by a qualified paleontologist is almost always needed and on-site monitoring may be necessary during land use activities. Avoidance or resource preservation through controlled access, designation of areas of avoidance, or special management designations should be considered.
U = Unknown Potential	Geologic units that cannot receive an informed PFYC assignment
	Geological units may exhibit features or preservational conditions that suggest significant paleontological resources could be present, but little information about the actual paleontological resources of the unit or area is unknown.
	Geologic units represented on a map are based on lithologic character or basis of origin but have not been studied in detail.
	Scientific literature does not exist or does not reveal the nature of paleontological resources.
	Reports of paleontological resources are anecdotal or have not been verified.
	Area or geologic unit is poorly or under-studied.
	BLM staff has not yet been able to assess the nature of the geologic unit.
	Until a provisional assignment is made, geologic units with unknown potential have medium to high management concerns. Field surveys are normally necessary, especially prior to authorizing a ground-disturbing activity.

6.0 ANALYSIS OF EXISTING DATA

The Project area is located within the Mojave Desert Geomorphic Province. A geomorphic province is a geographical area of distinct landscape character, with related geophysical features, including relief, landforms, orientations of valleys and mountains, type of vegetation, and other geomorphic attributes (Harden, 2004). Attributes of the Mojave Desert Geomorphic Province consist of vast, arid expanses of barren mountain ranges, broad alluvial-filled flatlands, desiccated riverbeds and washes, extensive mesas, sand dunes, playas, volcanic cinder cones, and basaltic lava flows (Norris and Webb, 1990; Sylvester and O'Black Gans, 2016). Within California, the Mojave Desert Geomorphic Province occupies approximately 25,000 square miles of southeastern California and is bounded on the west by the Western Transverse Ranges, the San Gabriel Mountains, and the San Andreas Fault; on the north and northeast by the Garlock Fault, the Tehachapi Mountains, and the Basin and Range Geomorphic Province; on the east by the Nevada State Line and the Colorado River; and on the south by the Eastern Transverse Ranges, the San Andreas Fault, the Salton Trough, and the Colorado Desert, which generally coincide with the San Bernardino-Riverside counties boundary (Norris and Webb, 1990; Harden, 2004; Hall, 2007). Topographically, the Mojave Desert has a more subdued landform than the Basin and Range Geomorphic Province of California despite their related geologic histories, with the Mojave Desert containing relatively shorter and lower ranges and broader valleys than the Basin and Range (Harden, 2004). Additionally, the southeastern Mojave Desert lacks the north-south-trending mountain ranges and basins typical of the Basin and Range (Sylvester and O'Black Gans, 2016). Despite its more subdued topography, the Mojave Desert Geomorphic Province has elevations typically above 2,000 feet above sea level, unlike the southern and adjacent Colorado Desert, which has some areas with elevations below sea level.

Specifically, the Project area is situated within the western portion of the Mojave Desert Geomorphic Province, within the Antelope Valley, which is a triangular-shaped region that lies between the San Andreas and Garlock faults and is bound to the northwest by the Tehachapi Mountains, to the southwest by the San Gabriel Mountains, and to the east by a series of sparsely vegetated granitic hills and buttes (Duell, 1987). The Antelope Valley is mostly flat land with gently sloping alluvial plains and fans that extend into the area from adjacent mountains and higher slopes (Duell, 1987). The Antelope Valley has an elevation range of 2,300 to 3,500 feet (above mean sea level), and it is characterized by interior drainage (Duell, 1987). The Antelope

Valley is underlain by unconsolidated deposits of younger and older alluvium, the former of which has a maximum thickness of approximately 100 feet and the latter of which has a maximum thickness of approximately 400 feet (Duell, 1987).

6.1 Geologic Map and Literature Review

Geologic mapping by T.W. Dibblee (1963) indicates that the Project area surface is mapped mostly as Holocene-age young alluvium (Qa) with lesser amounts of Holocene- to Pleistocene-age older alluvium (Qoa). Also mapped within the vicinity, within a half-mile of the Project area, are Holocene-age young sand deposits (Qs); and several members of the Miocene-age Gem Hill Formation, including porphyritic felsite (Tgf); porphyry (Tgp); and tuff, tuff-breccia, and tuffaceous sandstone (Tgt). Further, Holocene- to Pleistocene-age older alluvium (Qoa) occurs at relatively shallow depths below surficial sediments throughout the Mojave Desert Geomorphic Province and, therefore, may be encountered at shallow depths beneath Holocene-age young alluvium (Qa) within the Project area. The distribution of the geologic units underlying the Project area and half-mile buffer, as mapped by Dibblee (1963), is illustrated in Figure 3.

6.1.1 Younger Sedimentary Deposits (Qa, Qs) (Holocene)

Younger sedimentary deposits are Holocene in age (approximately less than 11,700 years old) and include young alluvium (Qa) and young sand deposits (Qs). These younger surficial deposits consist of fluvial sediments deposited on broad canyon and valley floors by modern river and stream systems. Sediments consist of variable compositions of clay, silt, sand, gravel, and larger clasts. These younger sediments are generally unconsolidated, undissected, and less topographically developed than older deposits. Holocene-age young alluvium (Qa) is mapped at the surface of the majority of the Project area (both Project boundary and gen-tie lines), and Holocene-age young sand deposits (Qs) are mapped east of the northeast portion of the Project area (Project boundary), within a half-mile (Dibblee, 1963; Figure 3).

Holocene-age deposits that are less than approximately 5,000 years old are typically too young to contain significant fossil resources (Society of Vertebrate Paleontology [SVP], 2010). Although Holocene-age young alluvium (Qa) and young sand deposits (Qs) may comprise, in part, sediments greater than 5,000 years old, they are considered to have a low potential for producing significant paleontological resources (PFYC 2) based on BLM (2016) guidelines. However, these deposits may overlie sensitive, older (i.e., Pleistocene-age) deposits at variable depths.

6.1.2 Older Sedimentary Deposits (Qoa) (Holocene to Pleistocene)

Older sedimentary deposits are Holocene to Pleistocene in age (approximately 2.59 million to less than 11,700 years old) and include older alluvium (Qoa). These older deposits consist of fluvial sediments deposited on broad canyon and valley floors by ancient and modern river and stream systems. Sediments consist of medium- to coarse-grained silt, sand, and gravel from alluvial fans derived from the uplift of adjacent mountains. Compared with younger deposits, Holocene- to Pleistocene-age older sedimentary deposits typically have moderately- to well-developed soil horizons, are more topographically developed, and have moderately to well dissected surfaces, except where obscured by erosion. Holocene- to Pleistocene-age older alluvium (Qoa) is mapped at the surface of the Whirlwind gen-tie line along the western and southwestern margins of the Project area and is also mapped north and west of the gen-tie line along the Project area's northwestern margins (Dibblee, 1963; Figure 3).

Numerous fossil taxa have been recovered from Pleistocene-age deposits of Kern County, including specimens of extinct horse (*Equus occidentalis*), rabbit (Leporinae), camel (*Procamelus*), dog (Canidae), rodent (*Thomomys*, *Microtus*, *Dipodomys*, *Neotoma*), frog (*Hyla*), and lizard (Lacertilia) (UCMP, 2021; Table 3). Approximately 30,000 fossil specimens have been collected from Pleistocene sediments at McKittrick Tar Pits in western Kern County. These specimens include a diversity of species of rodents, rabbits, birds, camels, horses, bison, pronghorn antelope, and mammoths, as well as plants and preserved insects (UCMP, 2021;

Table 3). While the depositional environment of the McKittrick Tar Pit locality differs from that of the Project area, there is the potential for a similar fauna to be recovered during Project excavations.

Additionally, numerous vertebrate fossil localities are recorded from Pleistocene-age deposits in Riverside and San Bernardino counties. Specimens documented from Riverside County include plants, invertebrates, desert tortoise (*Gopherus agassizil*), vole (*Microtus californicus, Mimomys*), pack rat (*Neotoma*), pocket mouse (*Perognathus*), deer mouse (*Peromyscus hagermanensis, Peromyscus complexus*), cotton rat (*Sigmodon minor*), long-tailed shrew (*Sorex leahy*), pocket gopher (*Thomomys gidleyi*), cottontail rabbit (*Sylvilagus hibbardi*), hare (*Lepus*), medium-sized deer (*Odocoileus*), tapir (*Tapirus merriami*), pronghorn (*Antilocapra*), dwarf pronghorn (*Capromeryx*), horse (*Equus bautistensis*), mammoth (*Mammuthus*), and ground sloth (*Megalonyx*) (UCMP, 2021; Table 3). Specimens documented from San Bernardino County include Western fence lizard (*Sceloporus occidentalis*), Western whiptail (*Cnemidophorus tigris*), collared lizard *Crotaphytus*), venomous lizard (*Gila mojavensis*), desert tortoise (*Gopherus agassizii*), tortoise (*Hesperotestudo*), Western pond turtle (*Actinemys marmorata*), Western grebe (*Aechmophorus occidentalis*), golden eagle (*Aquila chrysaetos*), American white pelican (*Pelecanus erythrorhynchos*), double-crested cormorant (*Phalacrocorax auratus*), flamingo (*Phoenicopterus minutus*, *Phoenicopterus copei*), La Brea stork (*Ciconia maltha*), great horned owl (*Bubo virinianus*), hawk (*Buteo*), New World pygmy mouse (*Baiomys*), pocket mouse (*Chaetodipus*), kangaroo rat (*Dipodomys*), sagebrush vole (*Lemmiscus curtatus*), vole (*Microtus*), bushy-tailed woodrat (*Neotoma cinereal*), pika (*Ochotona*), pocket gopher (*Thomomys*), ground squirrel (*Spermophilus, Otospermophilus*), spotted skunk (*Spilogale*), bushy-tailed squirrel (*Sciurus*), yellow-bellied marmot (*Marmota flaviventris*), black-tailed rabbit (*Lepus californicus*), ringtail (*Bassariscus astutus*), cat (*Felis*), red lynx (*Lynx rufus*), coyote (*Canis latrans*), ice age coyote (*Canis orcuttii*), dire wolf (*Canis dirus*), gray fox (*Urocyon cinereoargenteus*), pronghorn (*Antilocapra*), bighorn sheep (*Ovis canadensis*), horse (*Equus*), bison (*Bison antiquus*), camel (*Camelops hesternus, Camelus, Tanupolama stevensi, Hemiauchenia*), miniature camel (*Stenomylus*), oreodont (*Merychyus calaminthus*), short-faced bear (*Arctodus*), cougar (*Puma concolor*), saber-toothed cat (*Smilodon californicus*), ground sloth (*Nothrotheriops*), and mammoth (*Mammuthus*) (UCMP, 2021; Table 3).

Further, additional localities recorded from Pleistocene-age sedimentary deposits throughout southern California have produced specimens including mammoth (*Mammuthus*), mastodon (*Mammut*), camel (Camelidae), horse (Equidae), bison (*Bison*), giant ground sloth (*Megatherium*), peccary (Tayassuidae), cheetah (*Acinonyx*), lion (*Panthera*), saber-toothed cat (*Smilodon*), capybara (*Hydrochoerus*), dire wolf (*Canis dirus*), and numerous taxa of smaller mammals (Rodentia) (Jahns, 1954; Jefferson, 1991; Table 3).

Holocene- to Pleistocene-age older alluvium (Qoa) is considered to have a moderate potential for producing significant paleontological resources (PFYC 3) based on BLM (2016) guidelines.

6.1.3 Gem Hill Formation (Tgf, Tgp, Tgt) (Miocene)

The Gem Hill Formation is Miocene in age (approximately 23 million to 5.33 million years old) and is part of the broader Tropico Group, which has a maximum thickness of 2,800 feet and comprises Pliocene- to Miocene-age non-marine sedimentary and volcanic rocks that are scattered throughout the western Mojave Desert including the proposed Project vicinity (Dibblee, 1963). The Pliocene- to Miocene-age units of the Tropico Group lie unconformably on deeply eroded pre-Tertiary-age plutonic and metamorphic crystalline basement rock and lie unconformably below Quaternary (i.e., Holocene and Pleistocene) deposits (Dibblee, 1963). The Miocene-age Gem Hill Formation is an older unit of the Tropico Group, and it consists primarily of rhyolite and pyroclastic material as well as mixtures of pyroclastic sedimentary rocks (Dibblee, 1963). The Gem Hill Formation records a period of heavy volcanic activity that occurred in the western portion of the Mojave Desert (Dibblee 1958). Three separate units or members of the Miocene-age Gem Hill Formation, including porphyritic felsite (Tgf); porphyry (Tgp); and tuff, tuff-breccia, and tuffaceous sandstone (Tgt), are mapped southeast of the Project boundary and east of the gen-tie line, within a half-mile (Dibblee, 1963; Figure 3).

Igneous rocks are crystalline or non-crystalline rocks that form through the cooling and subsequent solidification of lava or magma. Volcanic (extrusive) igneous rocks form at the earth's surface when lava, which is formed by the partial melting of pre-existing plutonic rocks in the earth's crust or mantle due to increases in temperature, changes in pressure, or changes in geochemical composition, erupts and rapidly solidifies. Extreme temperatures in the environments in which most extrusive igneous rocks form prevent the preservation of fossils (e.g., basaltic and andesitic lava flows, pyroclastic flows). However, some volcanic deposits, namely ash and tuff, can harbor significant intact paleontological resources. Although one Miocene-age Gem Hill Formation member that is mapped within the Project vicinity comprises a mixture of tuff and sedimentary rock (i.e., Gem Hill Formation tuff, tuff-breccia, and tuffaceous sandstone [Tgt]), the entire formation is considered to be non-fossiliferous and has no documented localities (Dibblee, 1963; PBDB, 2021; UCMP, 2021). The Miocene-age Gem Hill Formation, including all mapped members (Tgf, Tgp, Tgt), is, therefore, considered to have a very low potential for producing significant paleontological resources (PFYC 1) based on BLM (2016) guidelines.

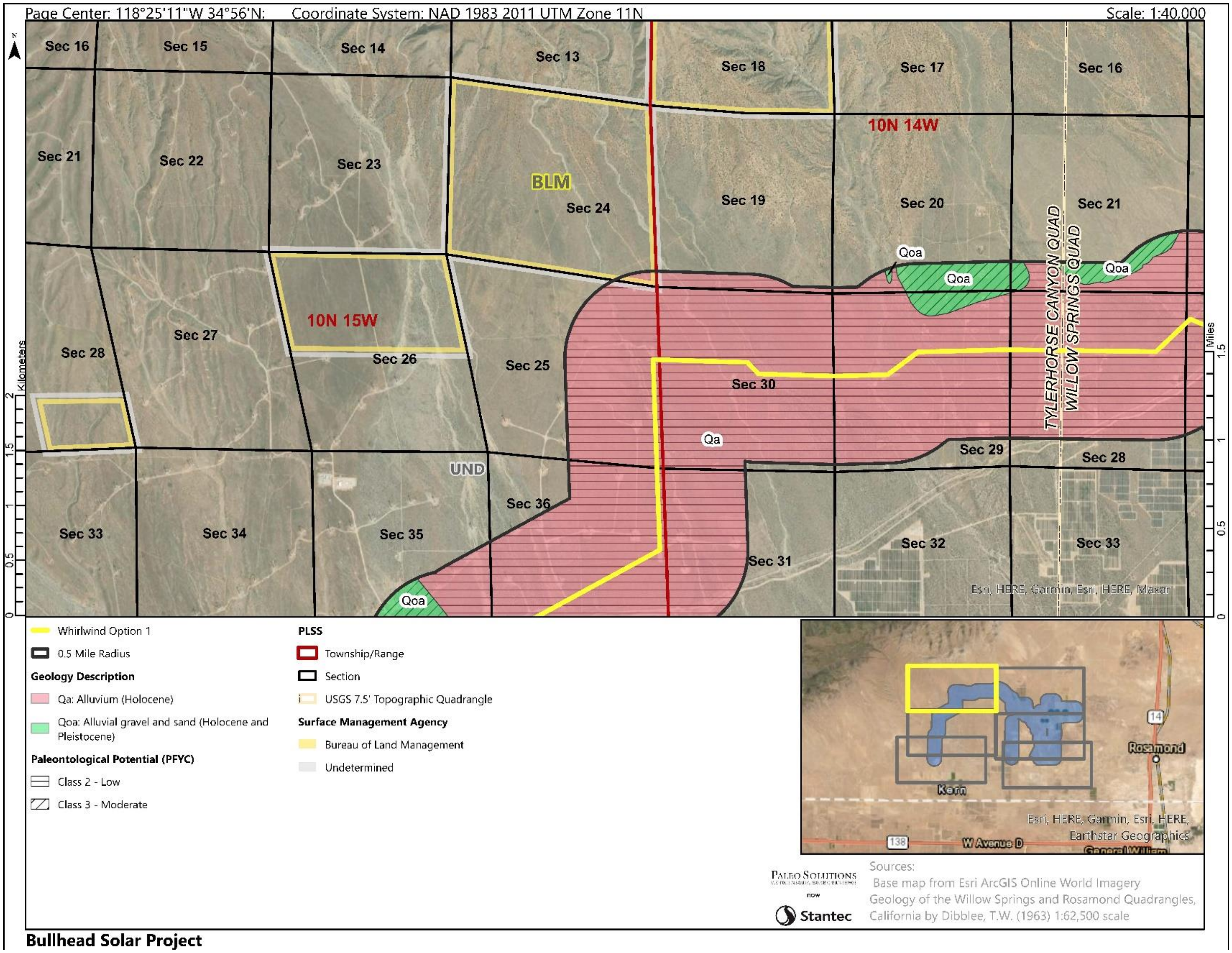

Figure 3a. Project Geology Map 1 of 6.

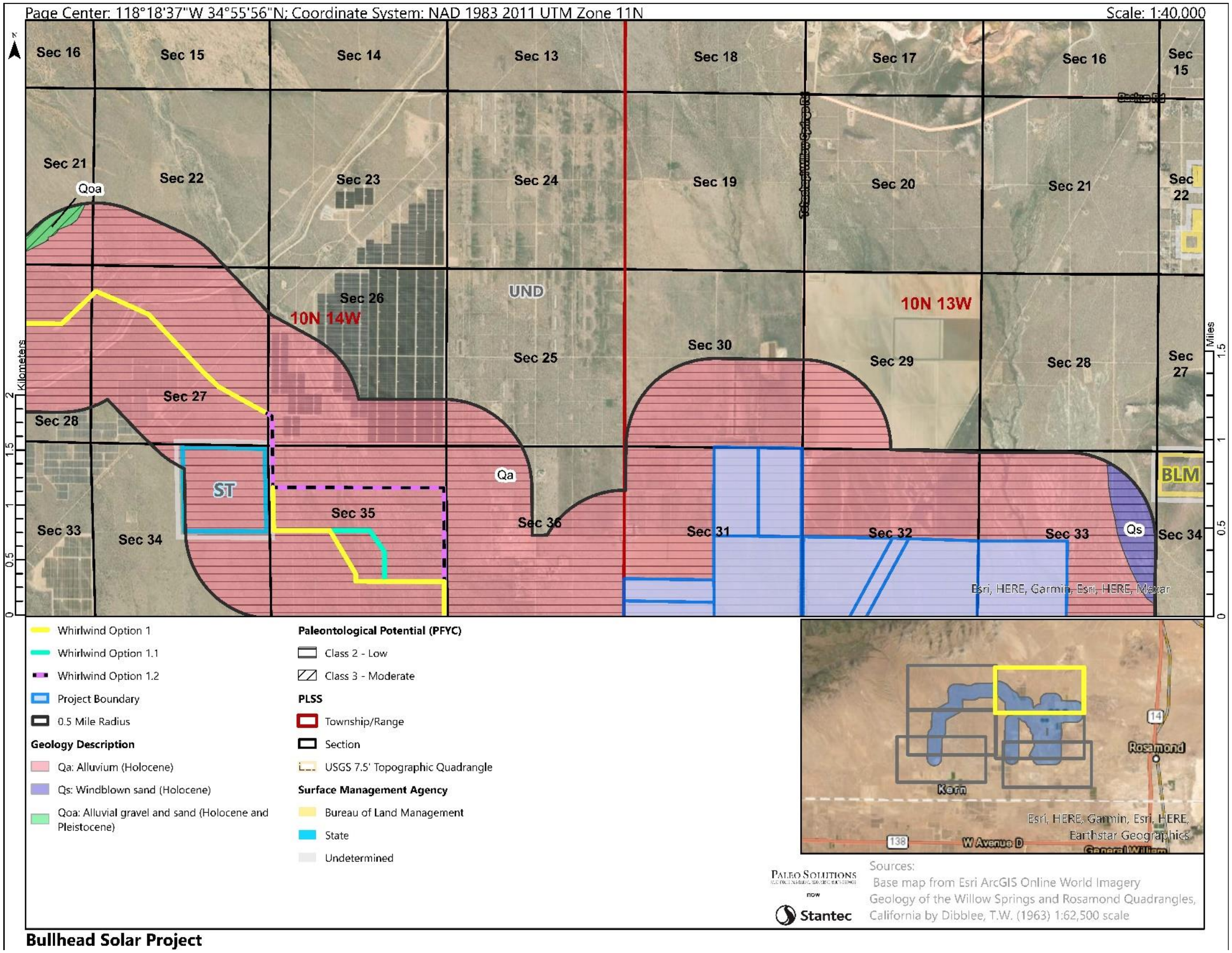

Figure 3b. Project Geology Map 2 of 6.

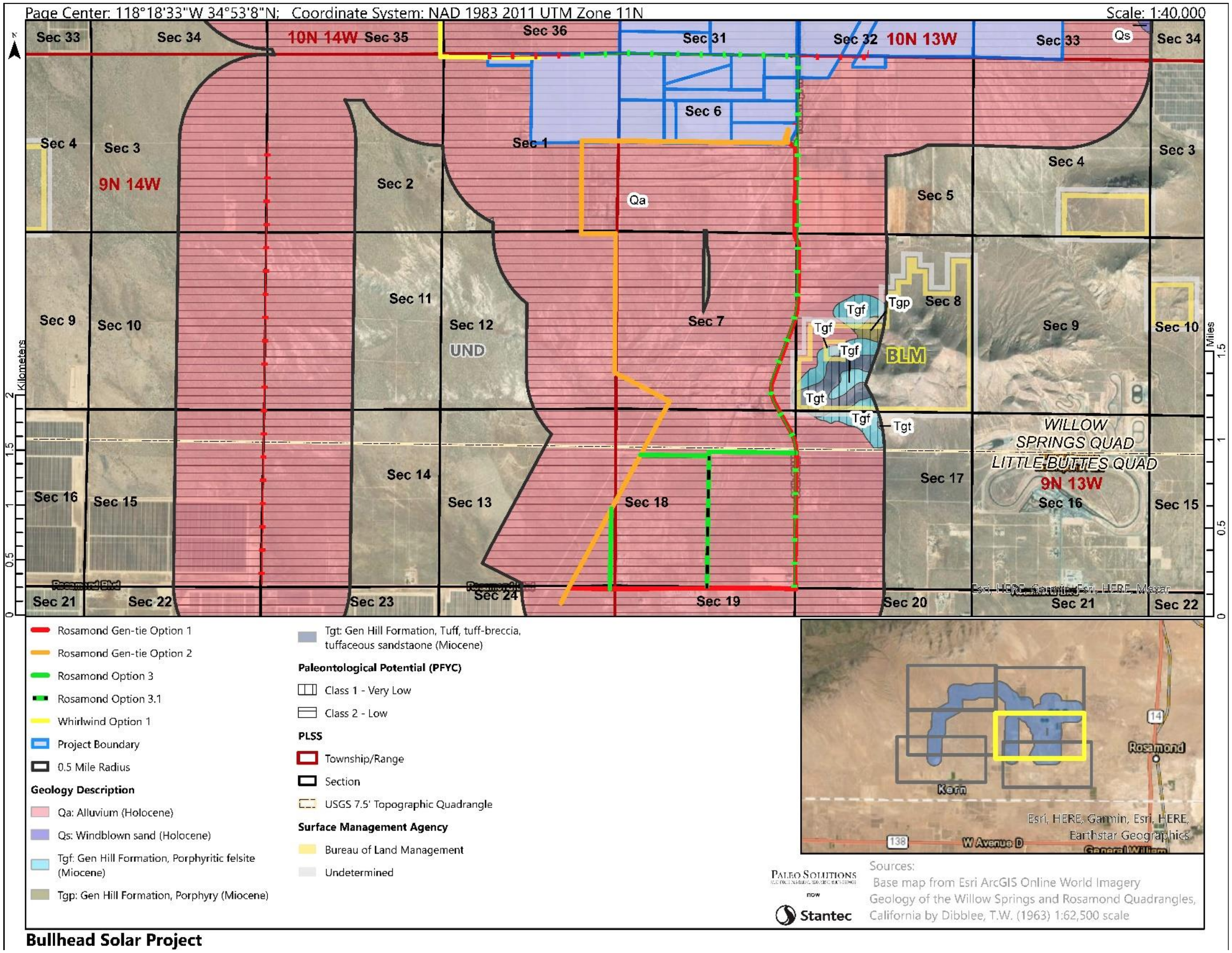

Figure 3c. Project Geology Map 3 of 6.

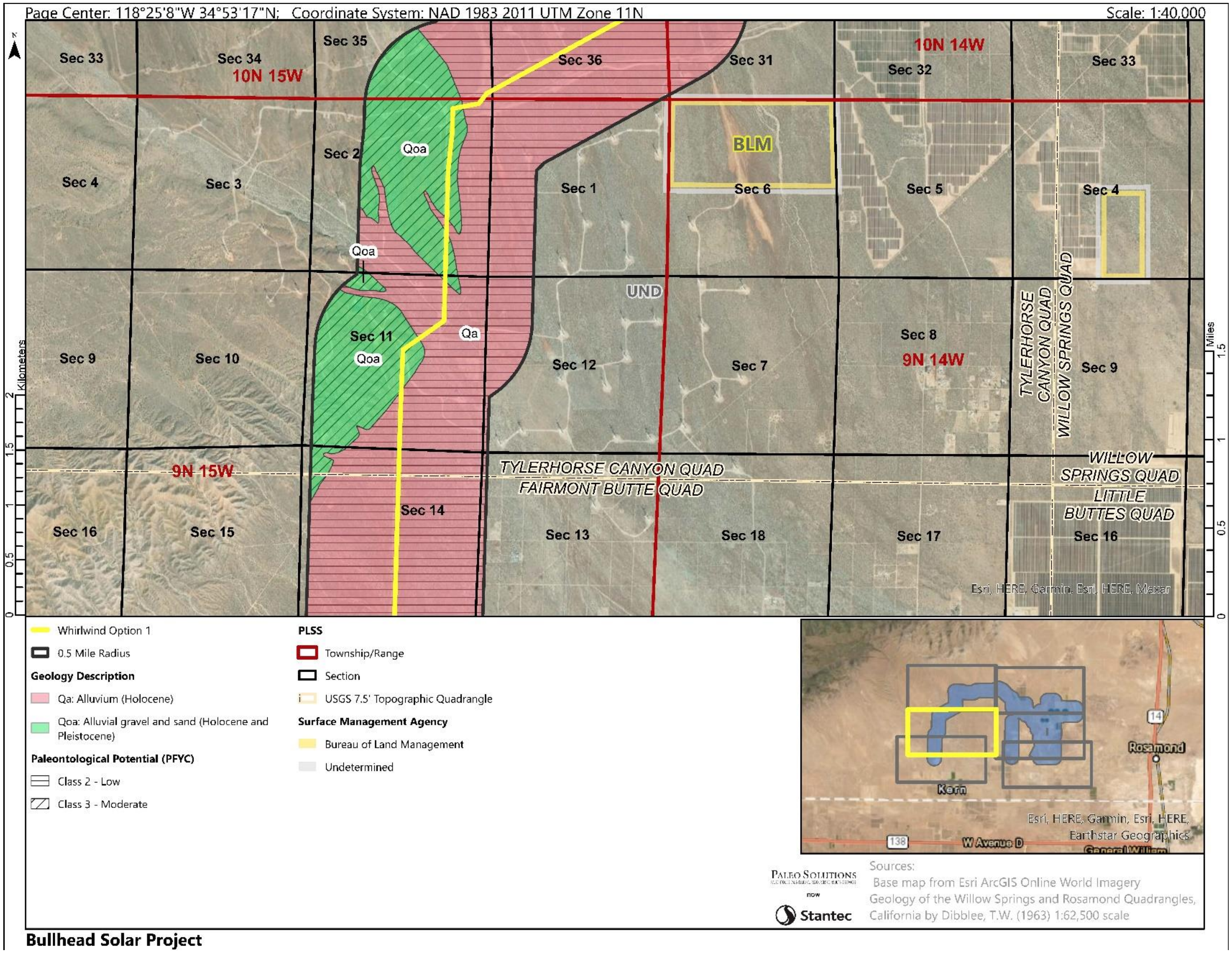

Figure 3d. Project Geology Map 4 of 6.

Figure 3d. Project Geology Map.

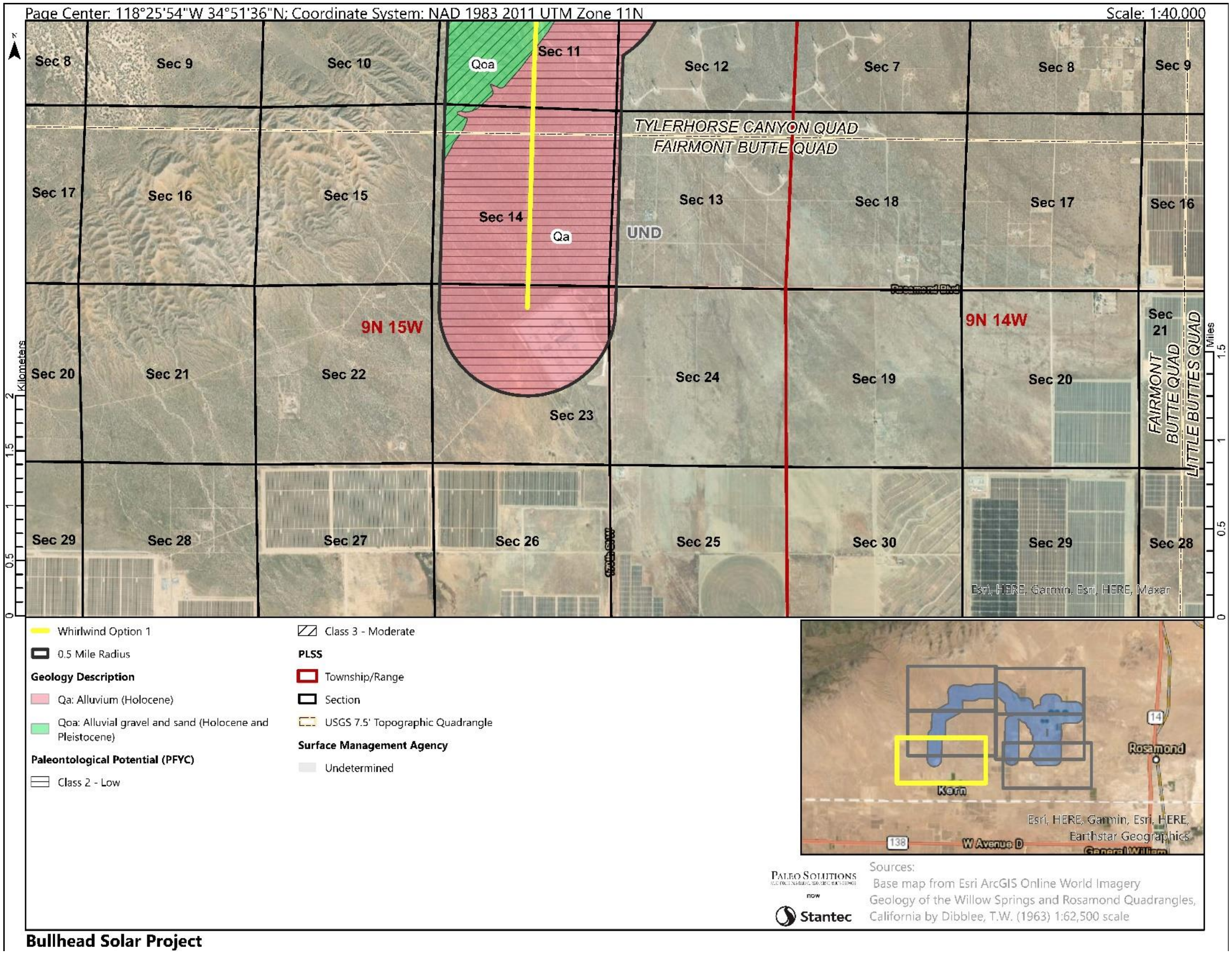

Figure 3e. Project Geology Map 5 of 6.

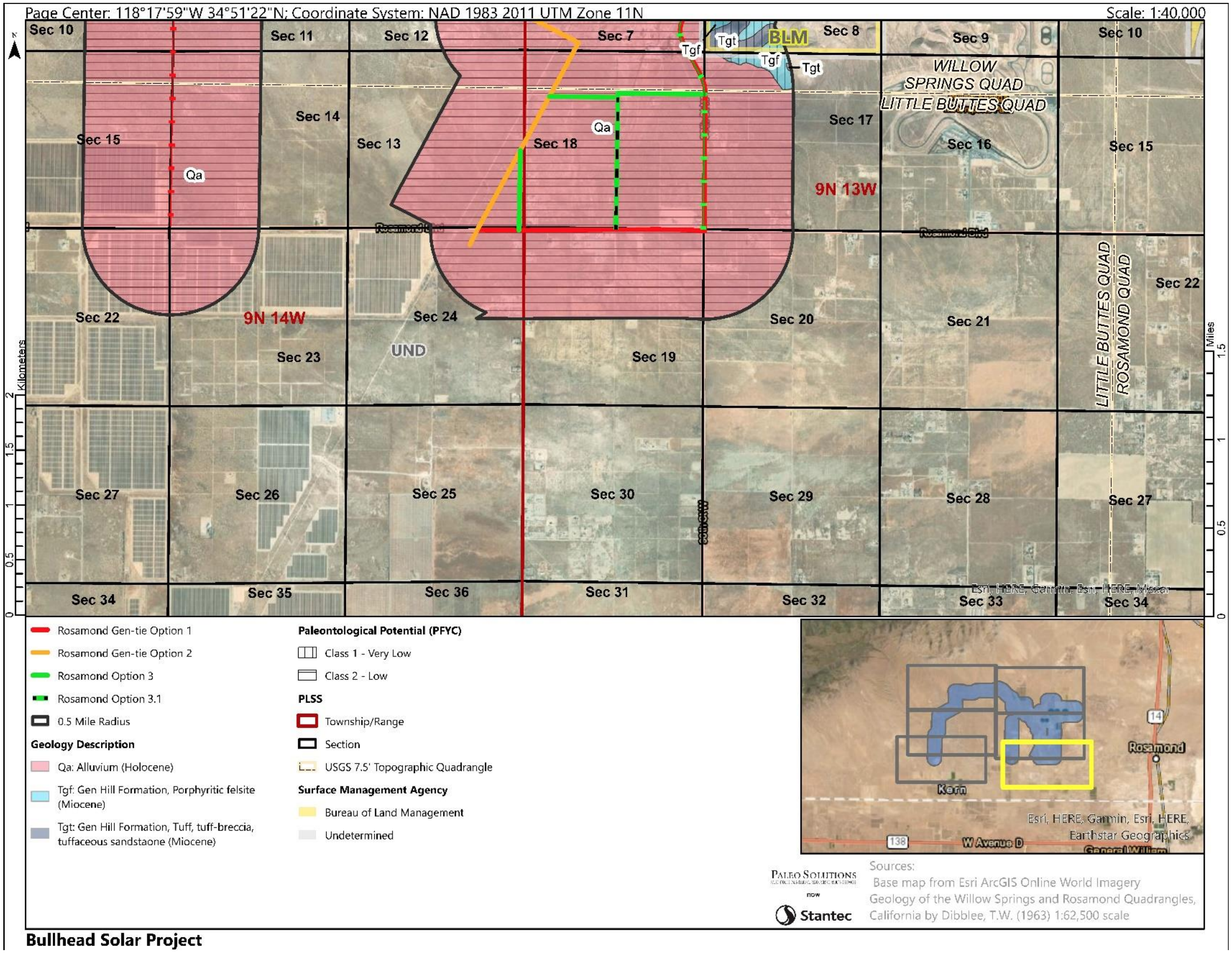

Figure 3f. Project Geology Map 6 of 6.

6.2 Paleontological Record Search Results

Paleo Solutions requested paleontological searches of records maintained by LACM. The museum responded on May 17, 2021 that there are no previously documented vertebrate fossil localities that lie within the Project area, although there is one that lies within close proximity. Locality LACM VP 7891, which is located near the California Aqueduct between the Tehachapi Mountains and the Rosamond Hills north of Willow Springs (northeast of the intersection of 110th Street and Champagne Road), was recorded from unknown Pleistocene-age sediments at 21 feet below the ground surface and produced fossil camel (*Hemiauchenia*) (Bell, 2021; Table 3). Additionally, there are several localities recorded from the vicinity from sediments similar to those that underlie the Project area surface (Bell, 2021). Locality LACM VP 7853, which is located at the Waste Management of North America Lancaster Landfill, was recorded from unknown Pleistocene-age sediments and produced fossil iguana (*Dipsosaurus*), spiny lizard (*Sceloporus*, Phrynosomatidae), side blotched lizard (*Uta*), night lizard (*Xantusia*), western alligator lizard (*Elgaria*), whiptail lizard (*Aspidocelis*), toothy skink (*Plestiodon*), colubrid snake (*Trimorphodon*, *Masticophis*, *Phyllorhynchus*), smelt (Osmeridae), pocket gopher (*Thomomys*), vole (Microtinae), deer mouse (*Peromyscus*), pack rat (*Neotoma*), pocket mouse (*Perognathus*), kangaroo rat (*Dipodymus*), antelope squirrel (*Ammospermophilus*), rabbit (*Sylvagus*), and camel (Camelidae) (Bell, 2021; Table 3). Locality LACM VP 7884, which is located east of the southeastern corner of the East 3rd Street and East Avenue H-13 intersection, was recorded from unknown Pleistocene-age sediments and produced fossil camel (*Camelops hesternus*) (Bell, 2021; Table 3). Locality LACM VP 3722, which is located in Tehachapi, was recorded from unknown Pleistocene-age sediments and produced fossil horse (*Equus*) (Bell, 2021; Table 3). Localities LACM VP 5941 through 5950, which are located between 90th Street East and 200th Street East in Palmdale, are recorded from unknown Holocene-age sediments and produced fossil leopard lizard (*Gambelia wislizenii*), kingsnake (*Lampropeltis*), bird (Aves), rodent (Rodentia), pocket gopher (*Thomomys*), and rabbit (*Sylvilagus*) (Bell, 2021; Table 3).

Table 3. Paleontological Literature and Record Search Results

Institutional Locality Number/ Name	Geologic Formation	Taxon	Common Name	Location	Source
LACM VP 5941-5950	Unknown Holocene-age sediments	*Gambelia wislizenii* *Lampropeltis* Aves Rodentia *Thomomys* *Sylvilagus*	leopard lizard kingsnake bird rodent pocket gopher rabbit	Between 90th Street East and 200th Street East in Palmdale	Bell, 2021
UCMP RV6311, V65247, V78041, V93068, 1041	Pleistocene-age older alluvium	Lacertilia *Hyla* *Thomomys* *Microtus* *Dipodomys* *Neotoma* Leporinae Canidae *Equus occidentalis* *Procamelus*	lizard frog rodent rodent rodent rodent rabbit dog horse camel	Kern County	UCMP, 2021
McKittrick Tar Pits	Pleistocene-age asphaltic seep deposit	- - - - - - - - - -	plant insect bird rodent rabbit camel horse bison pronghorn antelope	McKittrick Tar Pits (Kern County)	UCMP, 2021

Institutional Locality Number/ Name	Geologic Formation	Taxon	Common Name	Location	Source
		-	mammoth		
UCMP 3247, 3245, 3244, 3243, 3242, 3241, 3240, RV8601, RV9612, V65248, V7006, V99828	Older sedimentary deposits (Pleistocene)	- - *Gopherus agassizil* *Microtus californicus* *Neotoma* *Mimomys* *Perognathus* *Peromyscus hagermanensis* *Peromyscus complexus* *Sigmodon minor* *Sorex leahyi* *Thomomys gidleyi* *Sylvilagus hibbardi* *Lepus* *Odocoileus* *Tapirus merriami* *Antilocapra* *Capromeryx* *Equus bautistensis* *Mammuthus* *Megalonyx*	plant invertebrate desert tortoise California vole pack rat vole pocket mouse deer mouse deer mouse cotton rat long-tailed shrew pocket gopher cottontail rabbit hare medium-sized deer tapir pronghorn dwarf pronghorn horse mammoth ground sloth	Riverside County	UCMP, 2021
UCMP 791, RV6710, RV6711, RV6712, RV6713, RV6714, RV6715, RV6716, RV6717, RV6718, RV6719, RV6721, RV6723, RV6727, RV6730, RV6731, RV6733, RV6734, RV6735, RV6736, RV6738, RV6746, RV6751, RV6752, RV6754, RV6758, RV6763, RV6767, RV69123, RV7021, RV7051, RV7053, RV7054, RV7057, RV7063, RV7109,	Pleistocene-age sedimentary deposits	*Sceloporus occidentalis* *Cnemidophorus tigris* *Crotaphytus* *Gila mojavensis* *Gopherus agassizii* *Hesperotestudo* *Actinemys marmorata* *Aechmophorus occidentalis* *Aquila chrysaetos* *Pelecanus erythrorhynchos* *Phalacrocorax auratus* *Phoenicopterus minutus* *Phoenicopterus copei* *Ciconia maltha* *Bubo virinianus* *Buteo* *Baiomys* *Chaetodipus* *Dipodomys* *Lemmiscus curtatus* *Microtus* *Neotoma cinerea* *Ochotona* *Thomomys* *Spermophilus* *Otospermophilus* *Spilogale* *Sciurus* *Marmota flaviventris* *Lepus californicus* *Bassariscus astutus* *Felis* *Lynx rufus* *Canis latrans* *Canis orcuttii* *Canis dirus*	Western fence lizard Western whiptail collared lizard venomous lizard desert tortoise tortoise Western pond turtle Western grebe golden eagle American white pelican double-crested cormorant flamingo flamingo La Brea stork great horned owl hawk New World pygmy mouse pocket mouse kangaroo rat sagebrush vole vole bushy-tailed woodrat pika pocket gopher ground squirrel ground squirrel spotted skunk bushy-tailed squirrel yellow-bellied marmot black-tailed rabbit ringtail cat red lynx coyote ice age coyote dire wolf	San Bernardino County	UCMP, 2021

Institutional Locality Number/ Name	**Geologic Formation**	**Taxon**	**Common Name**	**Location**	**Source**
RV7131, RV7139, RV7140, V3625, V3864, V5930, V92103, V92104, V99366		*Urocyon cinereoargenteus* *Antilocapra* *Ovis canadensis* *Equus* *Bison antiquus* *Camelops hesternus* *Camelus* *Tanupolama stevensi* *Hemiauchenia* *Stenomylus* *Merychyus calaminthus* *Arctodus* *Puma concolor* *Smilodon californicus* *Nothrotheriops* *Mammuthus*	gray fox pronghorn bighorn sheep horse bison camel camel camel camel miniature camel oreodont short-faced bear cougar saber-toothed cat ground sloth mammoth		
Not Reported	Pleistocene-age sedimentary deposits	*Mammuthus* *Mammut* Camelidae Equidae *Bison* *Megatherium* Tayassuidae *Acinonyx* *Panthera* *Smilodon* *Hydrochoerus* *Canis dirus* Rodentia	mammoth mastodon camel horse bison giant ground sloth peccary cheetah lion saber-tooth cat capybara dire wolf rodent	Southern California	Jahns, 1954; Jefferson, 1991
LACM VP 7891	Unknown Pleistocene-age deposits	*Hemiauchenia*	camel	Near the California Aqueduct between the Tehachapi Mountains and the Rosamond Hills north of Willow Springs	Bell, 2021
LACM VP 7853	Unknown Pleistocene-age deposits	*Dipsosaurus* *Sceloporus* Phrynosomatidae *Uta* *Xantusia* *Elgaria* *Aspidocelis* *Plestiodon* *Trimorphodon* *Masticophis* *Phyllorhynchus* Osmeridae *Thomomys* Microtinae *Peromyscus* *Neotoma* *Perognathus* *Dipodymus*	iguana spiny lizard spiny lizard side blotched lizard night lizard western alligator lizard whiptail lizard toothy skink colubrid snake colubrid snake colubrid snake smelt pocket gopher vole deer mouse pack rat pocket mouse kangaroo rat	Waste Management of North America Lancaster Landfill	Bell, 2021

Institutional Locality Number/ Name	Geologic Formation	Taxon	Common Name	Location	Source
		Ammospermophilus *Sylvagus* Camelidae	antelope squirrel rabbit camel		
LACM VP 7884	Unknown Pleistocene-age deposits	*Camelops hesternus*	camel	East of the southeastern corner of the East 3rd Street and East Avenue H-13 intersection	Bell, 2021
LACM VP 3722	Unknown Pleistocene-age deposits	*Equus*	horse	Tehachapi	Bell, 2021

7.0 FIELD SURVEY

The Project is located approximately eight miles northwest of the community of Rosamond, and two miles north of the community of Willow Springs in southern California. The terrain consists of low to moderate relief hills and drainages in an overall low relief valley floor with mountains to the north and south (Figure 4). Existing ground disturbances include two-track dirt paths, unpaved and paved roads, transmission lines, wind farms, agricultural fields, and miscellaneous debris (Figures 4 and 5). Additionally, most of the Project area surface is covered in desert grasses, bushes, and Joshua Trees ranging from sparse to dense in coverage (Figures 4, 5, and 6). Geologic exposures were observed as topsoil float, along the surface, as well as in drainages and areas of higher topographic relief.

Paleo Solutions conducted a paleontological survey of the Project area on May 20, 2021 and May 21, 2021. The results of the survey are incorporated into the following Geology and Paleontology subsections (sections 7.1 and 7.2, respectively).

7.1 Geology

Holocene-age young alluvium (Qa) was observed at the surface of the majority of the Project area and consists of light yellowish-brown and light tannish-brown, poorly to moderately sorted, very poorly to poorly compacted, angular to subrounded, silt, very fine- to very coarse-grained sand with granules and pebbles composed of metamorphic and igneous clasts (Figures 7 and 8). The observed thickness of this unit was one foot, and no bottom contact was observed.

Holocene-age young sand deposits (Qs) were observed east of 80th Street West along the eastern portion of the Project area, and sediments consist of pale yellowish-tan, moderately sorted, very poorly compacted, angular, fine- to very coarse-grained sand with granules (Figures 9 and 10). The observed thickness of this unit was one foot, and no bottom contact was observed. Suggested geologic map revisions based on these observations are provided as Appendix B.

Holocene- to Pleistocene-age older alluvium (Qoa) was observed along the western and southwestern margins of the Project area (Whirlwind gen-tie line) and consist of dark reddish-brown, very poorly to poorly sorted, well compacted, angular to subrounded, silt, very fine- to very coarse-grained sand with granules, pebbles, and cobbles composed of metamorphic and igneous clasts (Figures 11 and 12). The observed thickness of this unit was six feet thick, and no bottom contact was observed.

Although mapped within close proximity to the Project area, no exposures of Miocene-age Gem Hill Formation (Tgf, Tgp, Tgt) were observed during the survey.

7.2 Paleontology

No paleontological resources were observed or collected during the survey. However, sediments conducive to fossil preservation were observed in Holocene- to Pleistocene-age older alluvium (Qoa).

Additionally, Paleo Solutions' technicians visited previously recorded fossil locality LACM VP 7891, which is located north of the Project area and northeast of the intersection of 110th Street and Champagne Road. The purpose of this supplementary exploration was to search for additional fossils that may be exposed at the surface as well as to compare the surficial sediments with those that are exposed at the Project area surface. No further paleontological resources were discovered at locality LACM VP 7891. Further, the surficial sediments, which are also mapped as Holocene-age young alluvium (Qa), are indistinguishable from those that are exposed within the Project boundaries and along the gen-tie line.

Figure 4. Photo taken from along gen-tie Whirlwind Option 1 and viewing toward the south: overview of the existing gen-tie alignment (AVTL) and low to moderate topographic relief and sparse vegetation ground cover.

Figure 5. Photo taken from along gen-tie Whirlwind Option 1 (AVTL section) and viewing toward the west: overview of the adjacent windfarm, including turbines situated on alluvial fan lobes comprising Holocene- to Pleistocene-age older alluvium (Qoa).

Figure 6. Photo taken from along the northwestern portion of the Project area (solar field) and viewing toward the east: overview of low topographic relief, moderate to dense vegetation ground cover, and existing two-track access road.

Figure 7. Photo taken from an existing locality (northeast of intersection 110th Street W/Champagne Road) located to the north of the Project area and viewing toward the south: overview of low topographic relief, sparse to moderate vegetation ground cover, and exposed Holocene-age young alluvium (Qa).

Figure 8. Photo taken from along the northwestern portion of the Project area (solar field) and viewing toward the ground surface: exposed surficial sediments comprising Holocene-age young alluvium (Qa).

Figure 9. Photo taken from along the eastern portion of the Project area (solar field) and viewing toward the east: overview of exposed Holocene-age young sand deposits (Qs) in an area mapped as Holocene-age young alluvium (Qa) (see Appendix B).

Figure 10. Photo taken from along the eastern portion of the Project area (solar field) and viewing toward the ground surface: exposed surficial sediments comprising Holocene-age young sand deposits (Qs) in an area mapped as Holocene-age young alluvium (Qa) (see Appendix B).

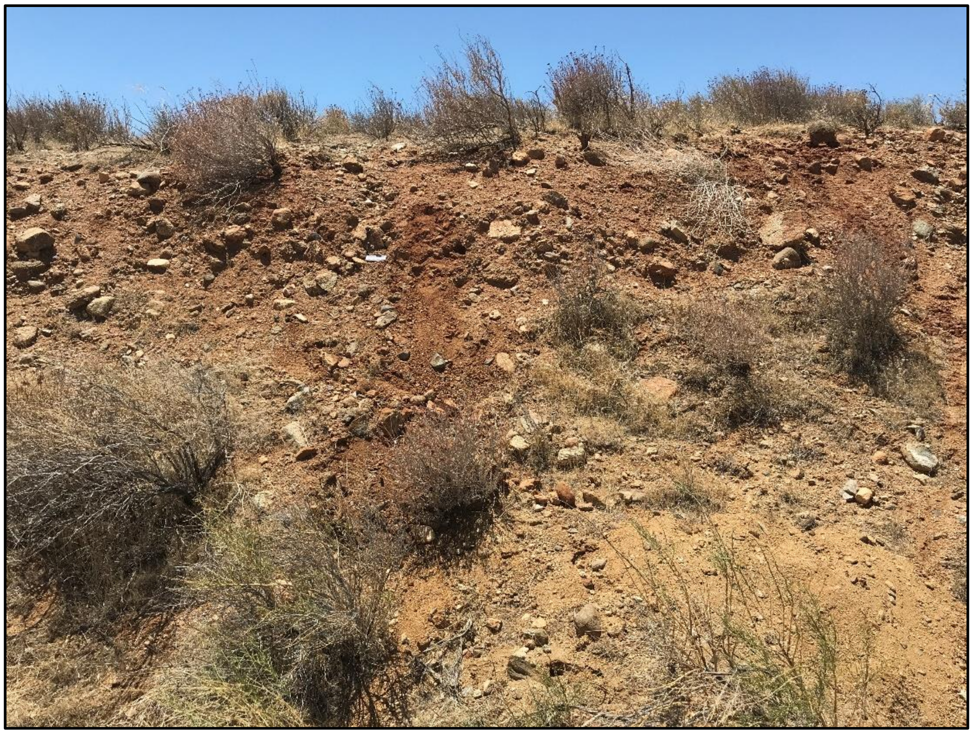

Figure 11. Photo taken from along gen-tie Whirlwind Option 1 and viewing toward the southwest: overview of hillside sediment exposure comprising Holocene- to Pleistocene-age older alluvium (Qoa).

Figure 12. Photo taken from along gen-tie Whirlwind Option 1 and viewing toward the ground surface: overview of hillside sediment exposure comprising Holocene- to Pleistocene-age older alluvium (Qoa).

8.0 IMPACTS TO PALEONTOLOGICAL RESOURCES

Impacts on paleontological resources can generally be classified as either direct, indirect, or cumulative. Direct adverse impacts on surface or subsurface paleontological resources are the result of destruction by breakage and crushing as the result of surface disturbing actions including construction excavations. In areas that contain paleontologically sensitive geologic units, ground disturbance has the potential to adversely impact surface and subsurface paleontological resources of scientific importance. Without mitigation, these fossils, and the paleontological data they could provide if properly recovered and documented, could be adversely impacted (damaged or destroyed), rendering them permanently unavailable to science and society.

Indirect impacts typically include those effects which result from the continuing implementation of management decisions and resulting activities, including normal ongoing operations of facilities constructed within a given project area. They also occur as the result of the construction of new roads and trails in areas that were previously less accessible. This increases public access and therefore increases the likelihood of the loss of paleontological resources through vandalism and unlawful collecting. Human activities that increase erosion also cause indirect impacts to surface and subsurface fossils as the result of exposure, transport, weathering, and reburial.

Cumulative impacts can result from incrementally minor but collectively significant actions taking place over a period of time. The incremental loss of paleontological resources over time as a result of construction-related surface disturbance or vandalism and unlawful collection would represent a significant cumulative adverse impact, because it would result in the destruction of non-renewable paleontological resources and the associated irretrievable loss of scientific information.

Excavations within the Project area that impact Holocene- to Pleistocene-age older alluvium (Qoa) (PFYC 3) at the surface or at depth beneath Holocene-age young alluvium (Qa) (PFYC 2) or young sand deposits (Qs) (PFYC 2), may well result in adverse direct impacts on scientifically important paleontological resources. With the exception of the western-most portion of the Project area (gen-tie line) where Holocene- to Pleistocene-age older alluvium (Qoa) is exposed at the surface, the depth at which Holocene- to Pleistocene-age older alluvium (Qoa) lies below Holocene-age young alluvium (Qa) throughout the remaining Project area could not be determined based on the pedestrian field survey. However, Holocene-age younger alluvium (Qa) was the deepest geological unit observed within the drainages along the valley floor, and it was exposed to a maximum depth of one foot below the ground surface. Surface grading or shallow excavations entirely within Holocene-age young alluvium (Qa) or young sand deposits (Qs) in the Project area are unlikely to uncover significant fossil remains since deposits that are less than approximately 5,000 years old are typically too young to contain significant fossil resources (SVP, 2010). However, these deposits may shallowly overlie older sedimentary deposits. Excavations into igneous or igneous-sedimentary rocks, including Miocene-age Gem Hill Formation, porphyritic felsite (Tgf); porphyry (Tgp); and tuff, tuff-breccia, and tuffaceous sandstone (Tgt), would not result in impacts to paleontological resources. Therefore, the potential for adverse direct impacts to paleontological resources are limited to substantial excavations that occur where older sedimentary deposits (e.g., Holocene- to Pleistocene-age older alluvium [Qoa]) occur at the surface or at depth.

No indirect or cumulative impacts are anticipated from any of the proposed Project activities.

9.0 CONCLUSIONS AND RECOMMENDATIONS

The results of the analysis of existing data indicate that the Project area is underlain by Holocene-age young alluvium (Qa) (PFYC 2) with lesser amounts of Holocene- to Pleistocene-age older alluvium (Qoa) (PFYC 3), the latter of which may also be present at shallow depths beneath the former. Further, the results of the field survey indicate that although not mapped within the Project area, Holocene-age young sand deposits (Qs) are present within the eastern portion of the Project area, east of 80th Street West (see Appendix B). No fossils were observed or collected during the field survey, although the results confirmed the presence of sediments that are conducive to fossil preservation, including Holocene- to Pleistocene-age older alluvium (Qoa) (PFYC 3). Specifically, these sediments were observed exposed at the Project area surface along the western and southwestern portions of the Whirlwind gen-tie line. Additionally, the results of the LACM paleontological records search indicate that there is one previously recorded fossil locality that lies within close proximity to the Project area, as well as numerous fossil localities that are recorded within the Project vicinity from sediments similar to those mapped within the Project area. Locality LACM VP 7891 was explored during the survey in order to document any additional fossil resources as well as to compare the surficial sediments with those that are exposed within the Project area. Although no new fossils were observed, the exposed surficial sediments are indistinguishable from those that are exposed at the Project area surface. A review of additional sources indicate that numerous fossils are documented from the vicinity as well as other areas of California from sediments similar to those mapped within the Project area.

Construction excavations that disturb geologic units with moderate paleontological potential (PFYC 3), including Holocene- to Pleistocene-age older alluvium (Qoa), should be monitored by a professional paleontologist in order to reduce potential adverse impacts on scientifically important paleontological resources to a less than significant level. Because the results of the field survey could not be used to determine the depth at which Holocene- to Pleistocene-age older alluvium (Qoa) occurs within the majority of the Project area, ground disturbing activities should also be spot checked when excavations are expected to exceed a depth of 5 feet in areas mapped as Holocene-age young alluvium (Qa) (PFYC 2) to inspect for the presence of older more paleontologically sensitive geologic units at depth. If it is determined that Holocene- to Pleistocene-age older alluvium (Qoa) is present at depth, full-time monitoring should be implemented in those areas during excavation. Conversely, if it is determined that only geologic units with low paleontological potential (PFYC 2) are impacted, the monitoring program should be reduced or suspended. If it is determined that only geologic units with very low paleontological potential (PFYC 1) are impacted, the monitoring program should be halted.

Prior to construction, a PMP should be prepared. It should provide detailed recommended monitoring locations; a description of a worker training program; detailed procedures for monitoring, fossil recovery, laboratory analysis, and museum curation; and notification procedures in the event of a fossil discovery by a paleontological monitor or other project personnel. A curation agreement with LACM or another accredited repository should also be obtained. Any subsurface bones or potential fossils that are unearthed during construction should be evaluated by a professional paleontologist as described in the PMP.

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APPENDIX A

Natural History Museum of Los Angeles County Record Search Results

(The museum records search was conducted for a larger study area, although the technical study has been updated to reflect the Bullhead Solar Project boundary as of May 2022.)

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

Research & Collections

e-mail: paleorecords@nhm.org

May 17, 2021

Paleo Solutions
Attn: Robert Fritz

re: Paleontological resources for the ICF Bullhead Solar Project

Dear Robert:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for proposed development at the ICF Bullhead Solar project area as outlined on the portion of the Tylerhorse Canyon, Willow Springs, Fairmont Butte, and Little Buttes USGS topographic quadrangles map that you sent via e-mail on May 7, 2021. We do have one fossil locality that appears to lie within the proposed project area, as well as additional fossil localities nearby from the same sedimentary deposits that occur in the proposed project area, either at the surface or at depth.

The following locality appears to be within the project area:

Locality Number	Location	Formation	Taxa	Depth
LACM VP 7891	Near the California Aqueduct between the Tehachapi Mountains & the Rosamond Hills north of Willow Springs (34.9439, -118.3269)	Unknown (Pleistocene)	Lamine camelid (*Hemiauchenia*)	21 ft bgs

The following table shows the closest known localities in the collection of the Natural History Museum of Los Angeles County.

Locality Number	Location	Formation	Taxa	Depth
LACM VP 7853	Waste Management of North America Lancaster Landfill	Unknown formation (Pleistocene; sandy loess under a dune deposit strand, sandy siltstone, siltstone to clayey siltstone)	Rabbit (*Sylvagus*), camel family (Camelidae), antelope squirrel (*Ammospermophilus*), kangaroo rat (*Dipodymus*), pocket mouse (*Perognathus*), pack rat (*Neotoma*), deer mouse (*Peromyscus*), vole family (Microtinae), iguana (*Dipsosaurus*), pocket gopher	3-11 feet bgs

			(*Thomomys*), spiny lizard (*Sceloporus*), side blotched lizard (*Uta*), colubrid snakes (*Trimorphodon, Masticophis, Phyllorhynchus*), night lizard (*Xantusia*), western alligator lizard (*Elgaria*), toothy skinks (*Plestiodon*), whiptail lizard (*Aspidocelis*), spiny lizards (Phrynosomatidae), smelt (Osmeridae)	
LACM VP 7884	E of the SE corner of the intersection of East 3rd Street & East Avenue H-13	Unknown formation (Pleistocene; fluvial brown clayey silt)	Camel (*Camelops hesternus*)	4 feet bgs
LACM VP 5942-5950	E avenue S between 90 St E and 200 St E. Palmdale	Unknown Formation (Holocene)	Pocket gopher (*Thomomys*), rabbit (*Sylvilagus*); rodent (Rodentia); Kingsnake (*Lampropeltis*), Lizard (*Gambelia wislizenii*); bird (Aves)	0-3 m bgs
LACM VP 3722	Tehachapi	Unknown Formation (Pleistocene)	Horse (*Equus*)	Unknown (sewer excavation)

VP, Vertebrate Paleontology; IP, Invertebrate Paleontology; bgs, below ground surface

This records search covers only the records of the Natural History Museum of Los Angeles County ("NHMLA"). It is not intended as a paleontological assessment of the project area for the purposes of CEQA or NEPA. Potentially fossil-bearing units are present in the project area, either at the surface or in the subsurface. As such, NHMLA recommends that a full paleontological assessment of the project area be conducted by a paleontologist meeting Bureau of Land Management or Society of Vertebrate Paleontology standards.

Sincerely,

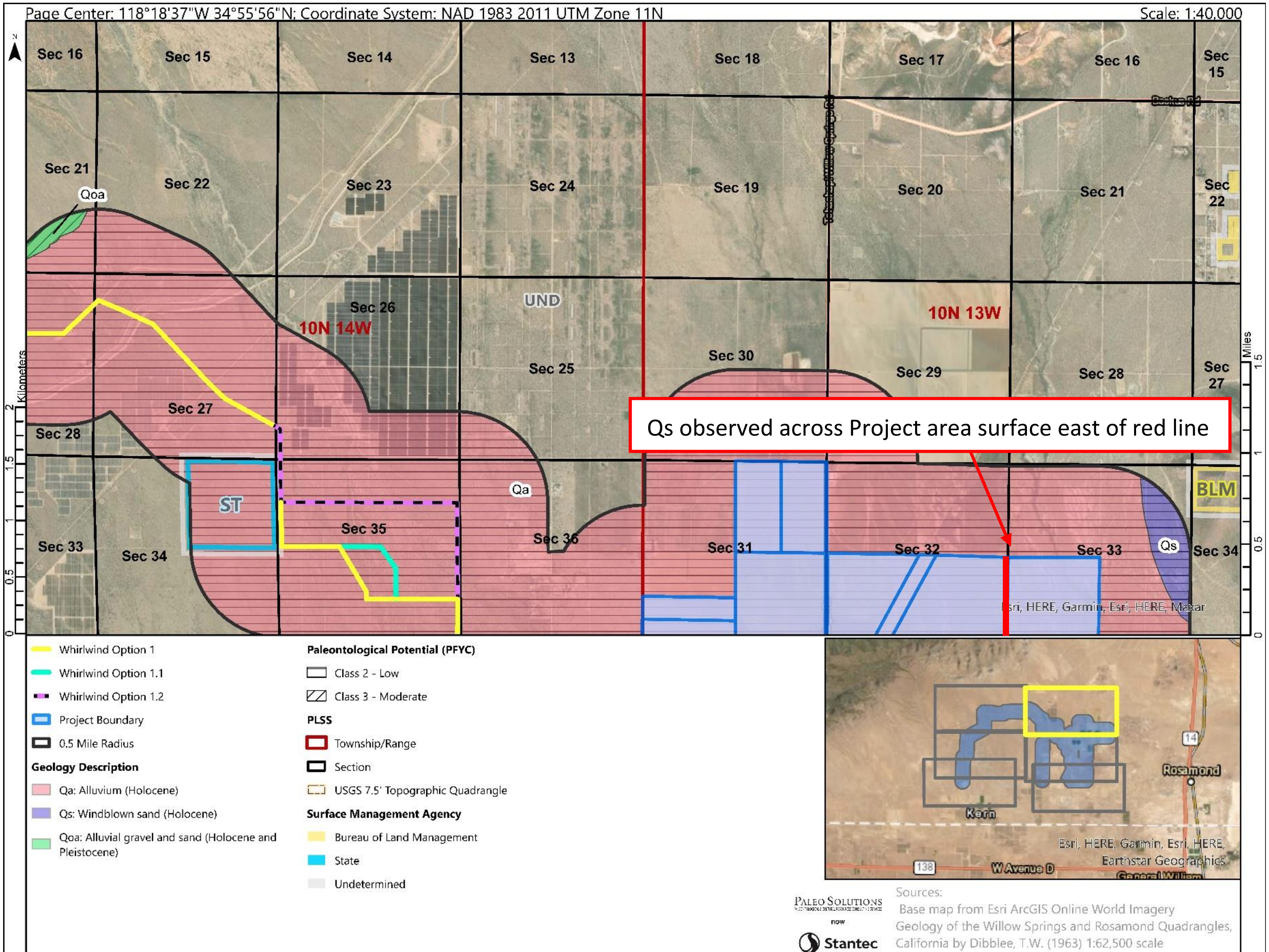
Alyssa Bell

Alyssa Bell, Ph.D.
Natural History Museum of Los Angeles County

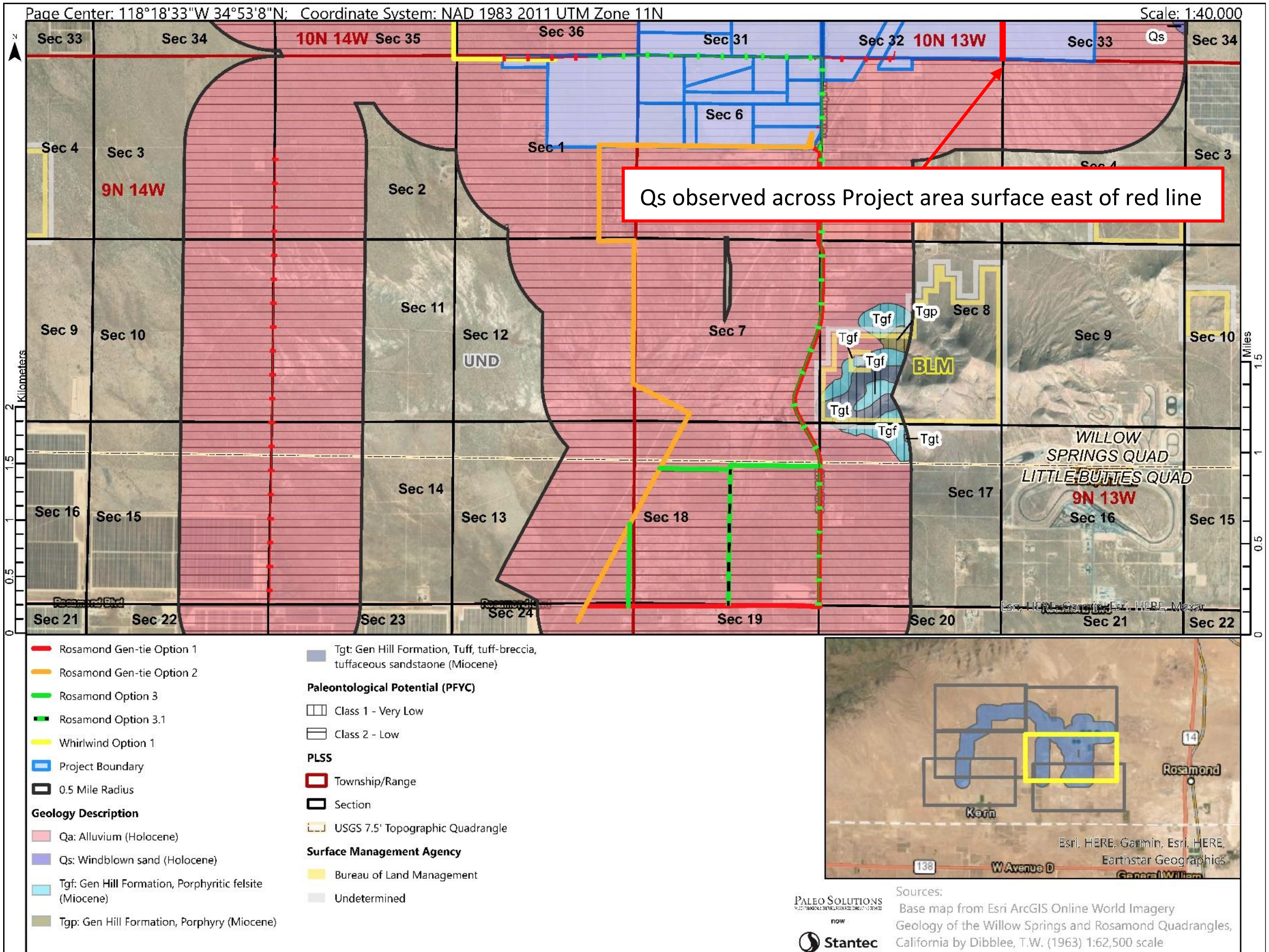
enclosure: invoice

APPENDIX B

Geology Map Revisions



Bullhead Solar Project



Bullhead Solar Project

Appendix J:
Phase I Environmental Site Assessment

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PHASE I ENVIRONMENTAL SITE ASSESSMENT

BULLHEAD SOLAR - 1359.5 ACRES
TEHACHAPI WILLOW SPRINGS ROAD
ROSAMOND, CA 93560

FINAL REPORT DATE: February 23, 2023

PREPARED FOR

EDF Renewables, Inc.
15445 Innovation Drive
San Diego, CA 92128

PREPARED BY

PES PRACTICAL ENVIRONMENTAL SOLUTIONS
Mail: P.O. Box 7402 ■ Gilford, NH 03247
Office: 166 Wild Acres Rd ■ Gilford, NH 03249
TEL: 610-857-1414 ■ FAX: 801-751-3594 ■ www.practicalenvironmentalsolutions.net

Mark Larocque
President

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1.0 EXECUTIVE SUMMARY

Practical Environmental Solutions (PES) was authorized by EDF Renewables, Inc. (EDFR) to conduct a Phase I Environmental Site Assessment (ESA) of the 23 individual parcels totaling 1359.5 acres located off of Tehachapi Willow Springs Road in Rosamond, Kern County, California ("the Site"). PES has conducted this ESA in general accordance with the scope and limitations of ASTM Designation E1527-21, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process."

EDFR proposes the Bullhead Solar Project (project) to develop up to 270 megawatts (MW) (alternating current or "AC") of solar photovoltaic (PV) capacity derived from tracker technology and up to 270 MW of battery storage. The project includes solar development with associated PV panels, inverters, converters, generators, foundations, transformers, and preferred and optional generation-tie (gen-tie) routes to the Rosamond and Whirlwind Substations, only one of which would be constructed. The project also includes laydown yards, a meteorological station, a microwave/ communication tower, and a substation.

The Site consists of 23 parcels totaling 1359.5 acres in Rosamond, CA. The parcels are owned by various individual and companies (see Table 1). The Site consist of farm land, some farm buildings, a residential building, and undeveloped land. PES noted three water wells on the parcels. Vehicle access to the Site is provided via Tehachapi Willow Springs Road which transects the center of the parcels from north to south.

The Site is situated within a rural/agricultural and residential area of Rosamond. The Site is bound farmland, residential land and open desert land. Based upon topographic map interpretation and site observations, groundwater flow beneath the Site is inferred to be in a southeasterly direction.

The Site is not listed in the regulatory databases reviewed in Section 4.1.1 of this report.

CONCLUSIONS

PES has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-21 of the 23 individual parcels totaling 1359.5 acres located off of Tehachapi Willow Springs Road in Rosamond, Kern County, California (the Site). Any exceptions to or deletions from this practice are described in Section 2.4 of this report. This assessment has revealed no evidence of recognized environmental conditions (RECs) in connection with the Site. No further actions or investigations are warranted at this time.

2.0 INTRODUCTION

Practical Environmental Solutions (PES) was retained by EDF Renewables, Inc. (EDFR) to conduct a Phase I Environmental Site Assessment of the 23 individual parcels totaling 1359.5 acres located off of Tehachapi Willow Springs Road in Rosamond, Kern County, California (the Site). The protocol used for this assessment is in general conformance with ASTM E1527-21, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process scope of work for Phase I Environmental Site Assessments."

PES assessed the possible presence of petroleum products and hazardous materials at the Site. PES's investigation included review of aerial photos, review of adjoining properties, background research, and review of available local, state, and federal regulatory records regarding the presence of petroleum products and/or hazardous materials at the Site.

PES contracted Environmental Data Resources of Shelton, CT (EDR) to perform a computer database search for local, state, and Federal regulatory records pertaining to environmental concerns for the Site and properties in the vicinity of the Site (see Section 4.0).

2.1 Purpose

The purpose of this Phase I Environmental Site Assessment (ESA) was to identify existing or potential Recognized Environmental Conditions (RECs) (as defined by ASTM Standard E1527-21) in connection with the Site. PES understands that the findings of this study will be used by EDFR and ultimately Kern County to evaluate the project under the California Environmental Quality Act (CEQA).

2.2 Scope of Services

PES has performed a Phase I Environmental Site Assessment on the Site in general conformance with the scope and limitations of ASTM Practice E1527-21. Any exceptions to or deletions from this practice are described in the body of this report.

In general, the scope of this assessment consisted of reviewing readily available information and environmental data relating to the Site; interviewing readily available persons knowledgeable about the Site; reviewing readily available maps, aerial photographs and records maintained by federal, state, and local regulatory agencies.

2.3 Assumptions

There is a possibility that even with the proper application of these methodologies there may exist on the Site conditions that could not be identified within the scope of the assessment or that were not reasonably identifiable from the available information. PES believes that the information obtained from the record review and the interviews concerning the Site is reliable.

2.4 Limitations and Exceptions

The findings and conclusions contain all of the limitations inherent in these methodologies that are referred to in ASTM E1527-21. Specific limitations and exceptions to this ESA are more specifically set forth below:

- PES encountered data limitations by not interviewing current/past Site owners or tenants, or adjoining property owners, as none were available for comment, did not respond to requests to information, or did not exist. This is considered a data gap. However, based on our review of the available municipal, regulatory, and historical information, the absence of information obtained from interviews with these individuals is not considered significant to the findings, conclusions, or recommendations of this assessment.
- PES was unable to access the residential building on Parcel 315-011-58 and farm structures on Parcel 315-011-60 due to fenced off areas and security concerns. This is considered a data gap. However, based on our review of the available municipal, regulatory, and historical information, the absence of information obtained in the field is not considered significant to the findings, conclusions, or recommendations of this assessment

2.5 Special Terms and Conditions

Authorization to perform this work was given by a directive from EDFR.

The conclusions and findings set forth in this report are strictly limited in time and scope to the date of the evaluations. The conclusions presented in the report are based solely on the services described therein, and not on scientific tasks or procedures beyond the scope of agreed-upon services or the time and budgeting restraints imposed by the client. No subsurface exploratory drilling or sampling was done under the scope of this work. Unless specifically stated otherwise in the report, no chemical analyses have been performed during the course of this ESA.

Some of the information provided in this report is based upon personal interviews, and research of available documents, records, and maps held by the appropriate government and private agencies. This is subject to the limitations of historical documentation, availability, and accuracy of pertinent records, and the personal recollections of those persons contacted.

The content and conclusions provided by PES in this report are based solely on the information collected during our investigation and activities at the Site, our present understanding of the Site conditions, and our professional judgment in light of such information at the time this report was prepared. Part of the findings in this investigation is based on data provided by others. This report presents PES's professional opinion, and no warranty, expressed or implied, is made.

2.6 User Reliance

EDFR and its affiliates (collectively, "Client") and Kern County may use and rely upon this Report in connection with upcoming CEQA documentation involving the Site.

3.0 SITE DESCRIPTION

3.1 User Provided Information

Pursuant to ASTM E1527-21, PES requested the following site information from EDFR (User of this report) and from the site contact.

3.2 Location and Legal Description

EDFR proposes the Bullhead Solar Project to develop up to 270 megawatts (MW) (alternating current or "AC") of solar photovoltaic (PV) capacity derived from tracker technology and up to 270 MW of battery storage. The project includes solar development with associated PV panels, inverters, converters, generators, foundations, transformers, and preferred and optional generation-tie (gen-tie) routes to the Rosamond and Whirlwind Substations, only one of which would be constructed. The project also includes laydown yards, a meteorological station, a microwave/ communication tower, and a substation. The Site is located off of Tehachapi Willow Springs Road in Rosamond, Kern County, CA. The Site is located in a rural/agricultural area of Rosamond. A listing of the parcel numbers, acreage and ownership is presented in Appendix C. Legal descriptions (from the title reports) were not available at the time of this report.

3.3 Site and Vicinity General Characteristics

The Site is situated within a rural/agricultural and residential area of Rosamond. The Site is bound farmland, residential land and open desert land. Based upon topographic map interpretation and site observations, groundwater flow beneath the Site is inferred to be in a southeasterly direction.

3.4 Current Use of the Site

The Site consists of 23 parcels totaling 1359.5 acres in Rosamond, CA. The parcels are owned by various individual and companies (see Table 1). The Site consist of farm land, some farm buildings, a residential building, and undeveloped land. PES noted three water wells on the parcels. Vehicle access to the Site is provided via Tehachapi Willow Springs Road which transects the center of the parcels from north to south.

3.5 Description of Site Improvements

The parcels consist of undeveloped land, farm land with some farm buildings, and some residential land. Electricity is provided to the Site area by the Southern California Edison.

3.6 Current Use of Adjoining Properties

During the vicinity review, PES noted the following land use on properties in the immediate vicinity of the Site.

North:	Areas immediately adjoining to the north of the Site include the following: undeveloped land, farm land, rural residential land
South:	Areas immediately adjoining to the south of the Site include the following: undeveloped land, farm land, rural residential land
East:	Areas immediately adjoining to the east of the Site include the following: undeveloped land, farm land, rural residential land
West:	Areas immediately adjoining to the west of the Site include the following: undeveloped land, farm land, rural residential land
No recognized environmental conditions (RECs) were identified based on the current uses of the adjoining properties.	

4.0 RECORDS REVIEW

4.1 Standard Environmental Record Sources

4.1.1 State and Federal Regulatory Review

Information from standard Federal and state environmental record sources was provided through Environmental Data Resources (EDR). Data from governmental agency lists are updated and integrated into one database, which is updated as these data are released. This integrated database also contains postal service data in order to enhance address matching. Records from one government source are compared to records from another to clarify any address ambiguities. The demographic and geographic information available provides assistance in identifying and managing risk. The accuracy of the geocoded locations is approximately +/-300 feet.

In some cases, location information supplied by the regulatory agencies is insufficient to allow the database companies to geocode facility locations. These facilities are listed under the unmappables section within the EDR report. A review of the unmappable facilities indicated that none of these facilities are within the ASTM minimum search distance from the Site. These facilities are discussed under the appropriate database heading below.

Regulatory information from the following database sources were reviewed for information within the ASTM minimum search distance from the Site. Specific facilities are discussed below if the potential for a recognized environmental condition (REC) has resulted at the Site from the listed facilities. PES ran four database searches to cover the entire project area. Please refer to Appendix A for a complete listing.

Federal NPL

The National Priorities List (NPL) is the U.S. Environmental Protection Agency (EPA) database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund Program. ***The Site is not listed as a NPL facility. No NPL sites are located within two mile of the Site.***

Federal Delisted NPL

The Delisted NPL is the U.S. EPA database of sites that have been deleted from the NPL where no further response is appropriate. ***The Site is not listed as a Delisted NPL facility. No Delisted NPL sites are located within two mile of the Site.***

Federal CERCLIS List

The Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) list is a compilation of sites that the EPA has investigated or is currently investigating for a release or threatened release of hazardous substances. ***The Site is not listed as a CERCLIS facility. No CERCLIS sites are listed within two mile of the Site.***

Federal CERCLIS NFRAP Sites List

The CERCLIS No Further Remedial Action Planned (NFRAP) List is a compilation of sites that the EPA has investigated, and has determined do not pose a threat to human health or the environment, under the CERCLA framework. ***The Site is not listed as a CERCLIS-NFRAP facility. No CERCLIS-NFRAP sites are listed within two mile of Site.***

Federal RCRA CORRACTS Facilities List

The EPA Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The CORRACTS database is the EPA's list of hazardous waste handlers subject to corrective action under RCRA. ***The Site is not listed as a RCRA CORRACTS facility. No RCRA CORRACTS sites are listed within two mile of the Site.***

Federal RCRA Non-CORRACTS TSD Facilities List

The RCRA Non-CORRACTS Treatment, Storage and Disposal (TSD) database is a compilation by the EPA of reporting facilities that treat, store or dispose of hazardous waste. ***The Site is not listed as a RCRA Non-CORRACTS TSD facility. No RCRA Non-CORRACTS TSD sites are listed within two mile of the Site.***

Federal RCRA Generators List

The RCRA program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Generators database is a compilation by the EPA of reporting facilities that generate hazardous waste. ***The Site is not listed as a RCRA facility. No RCRA Generator sites are listed on the adjoining properties.***

Federal Institutional Control / Engineering Control Registries

The U.S. institutional control (INST CONTROL) and engineering control (ENG CONTROL) registries include sites with engineering controls and institutional controls in place. Engineering controls including various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or affect human health. Institutional controls include administrative measures intended to prevent exposure to contaminants remaining on site. ***No U.S. INST CONTROL or ENG CONTROL sites are listed on the Site.***

Federal ERNS

The Emergency Response Notification System (ERNS) is a national database used to collect information on reported releases of oil or hazardous substances. ***No ERNS sites are listed for the Site.***

State CERCLIS-Equivalent List

The State maintains a State CERCLIS-equivalent list (SCL) of facilities under investigation that could be actually or potentially contaminated and presenting a possible threat to human health and the environment. ***The Site is not listed as a SCL facility. One non-geocoded SCL site is listed in the database. This site was not noted to be located within the two mile radius of the project area. The site is not considered hydrologically upgradient or to pose a risk to the parcels.***

Solid Waste/Landfill Facilities

A database of Solid Waste and/or Landfill (SWLF) facilities is maintained by the state. ***The Site is not listed as a SWLF facility. One SWLF site (Grimmway Farms - 1.41 miles north) is listed within two mile of the Site. This site is located to the north of the project area and*** *considered hydrologically upgradient. However, there are no reported violations or environmental issues at the SWL, therefore, this site poses no risk to the parcels.*

State Leaking Underground Storage Tank List

The State compiles lists of all leaking underground storage tanks (LUST). ***The Site is not listed as a LUST facility. No LUST sites are listed within two mile of the Site.***

State Registered Storage Tank List

The State compiles a list of registered petroleum tank (i.e. underground and aboveground storage tank (UST/AST) locations. ***The Site is not listed as a UST/AST facility. No registered UST/AST sites are listed for the adjoining properties. One non-geocoded UST/AST site is listed in the database. This site was not noted to be located within the two mile radius of the project area. The site is not considered hydrologically upgradient or to pose a risk to the parcels.***

State Institutional Control / Engineering Control Registries

The State compiles a list of INST CONTROL and ENG CONTROL sites. ***No State INST CONTROL or ENG CONTROL sites are listed for the Site.***

State Voluntary Cleanup Sites

The State compiles a list of Voluntary Cleanup Program (VCP) sites. ***No VCP facilities are listed for the Site. No VCP sites are listed within two mile of the Site.***

State Brownfields Sites

The State compiles a list of Brownfield sites. ***No Brownfield facilities are listed for the Site. No Brownfield sites are listed within two mile of the Site.***

State SPILLS/OTHER sites

No SPILLS/OTHER facilities are listed for the Site. No SPILLS are listed within two mile of the Site. There are 24 OTHER sites listed within the two mile radius of the database. Several of the listings are on the parcels including the Miner Farms and Lloyds Landing sites (west and southwestern parcels). The listings for these parcels include California Environmental Reporting Systems (CERS), Hazardous Waste Tracking System (HWTS), and FINDS listings. None of the listings are active or pose a risk to the project area. Additional OTHER sites within the two mile radius include: Calandri Farms (0.77 miles north), Grimmway Enterprises (1.41 miles north), and Gisler (1.76 miles north). None of the listings have reported violations or releases of hazardous materials that could affect the subject Site. None of the remaining OTHER listings are considered to be hydrologically upgradient or to pose a risk to the subject Site.

4.1.2 Regulatory Agency Review

4.1.2.1 State Agency

A file review was performed for the Site with the State. This file review consisted of an online search of the State records by EDR. There are no current records on file for the Site with the State.

4.1.2.2 County Assessor

According the County Assessor's Office, no environmentally-related liens or deed restrictions have been recorded against the Site.

4.1.2.3 Fire Officials

Records from local Fire Department were reviewed for evidence indicating the presence of petroleum bulk storage tanks and for the use of hazardous materials. No current records were found for the Site address.

4.1.2.4 Planning-Building Department

Records from Planning-Building Department were reviewed for evidence indicating the developmental history of the Site, and for the presence of documentation relative to petroleum bulk storage tanks. Land use was indicated as undeveloped land.

4.2 Physical Setting Sources

4.2.1 Topography

The United States Geological Survey (USGS), Willow Springs, CA Quadrangle 7.5 minute series topographic map was reviewed for this ESA. This map was published by the USGS in 2012. According to the contour lines on the topographic map, the Site is located at approximately 2600-2760 feet above mean sea level (MSL). The contour lines in the area of the Site indicate the area is sloping to the southeast.

4.2.2 Soils/Geology

Based on the on-line soil survey maps published by the USDA Soil Conservation Service, the Site is mapped as sandy soils of the Cajon-Hesperia-Destazo-Arizo Association. The estimated depth to bedrock at the Site is approximately >50 feet bgs.

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CaC	Cajon loamy sand, 2 to 9 percent slopes	389.6	11.9%
HkB	Hesperia fine sandy loam, 2 to 5 percent slopes	0.0	0.0%
Subtotals for Soil Survey Area		**389.6**	**11.9%**
Totals for Area of Interest		**3,269.4**	**100.0%**

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
104	Arizo gravelly loamy sand, 2 to 9 percent slopes	11.2	0.3%
113	Cajon sand, 5 to 15 percent slopes	46.3	1.4%
114	Cajon loamy sand, 0 to 5 percent slopes	1,931.9	59.1%
125	DeStazo sandy loam, 0 to 2 percent slopes	714.1	21.8%
126	DeStazo sandy loam, 5 to 9 percent slopes, eroded	176.2	5.4%
Subtotals for Soil Survey Area		**2,879.6**	**88.1%**
Totals for Area of Interest		**3,269.4**	**100.0%**

4.2.3 Hydrology

Based on the topography of the Site and vicinity, groundwater flow beneath the Site is inferred to be in a southeasterly direction. No surface water is located in the vicinity of the Site. No wetland areas were noted on the site. The National Wetlands Map shows no wetland areas on the parcel.

The EPA defines a sole or principal source aquifer as an aquifer that supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer. These areas may have no alternative drinking water source(s) that could physically, legally and economically supply all those who depend on the aquifer for drinking water. For convenience, all designated sole or principal source aquifers are referred to as "sole source aquifers" (SSA). This designation was made under Section 1424(e) of the Safe Drinking Water Act. The Site is not situated above a SSA.

4.2.4 Flood Zone Information

A review of the Flood Insurance Rate Maps, published by the Federal Emergency Management Agency (FEMA), was performed. According to Panel Number 06029C3650E, the Site is located in Flood Zone A. Flood Zone A regions consist of those areas mapped within the 100-year flood elevations, subject to flooding.

4.2.5 Oil and Gas Exploration

According to web-based information available from the State, the Site is mapped in an area where there is no indication of current or historical exploration or production of oil, gas, or geothermal resources.

4.3 Historical Use Information

The historical use of the Site was determined based on review of aerial photographs. The following briefly summarizes the developmental history of the Site.

The Site was undeveloped land in all aerial photos.

4.3.1 Aerial Photographs

Available aerial photographs dated 1995, 2004, 2012, and 2020, from Google Earth, were reviewed for this ESA. Copies of selected photographs are included in Appendix C of this report. The site appears as the same land use in all the photos.

4.3.2 Fire Insurance Maps

Fire insurance maps were created for insurance underwriters and often contain information regarding the uses of individual structures, and the locations of fuel and/or chemical storage tanks that may have historically been on a property. No fire insurance map collection was available for the Site area.

4.3.3 City Directories

Historical city directories were not available for review.

4.3.4 Chain of Title

A 50-year chain-of-title was not warranted for this study. Historical use of the Site was researched using other standard historical sources. The title reports for the parcels were not available at the time of this report.

4.3.5 Additional Environmental Record Sources

No previously prepared environmental reports such as Phase I or II Environmental Site Assessments were provided for PES's review.

4.3.6 Historical Use Information on Adjoining Properties

By review of the standard historical sources referenced above, the historical uses of the adjoining properties were similar to the current usage in all aerial photos.

5.0 SITE REVIEW

5.1 General Site Characteristics

The Site is undeveloped land, rural residential land and farm land. PES noted three water wells on the parcels. PES also noted a residence and farm buildings. These areas of the parcels were fenced off and inaccessible during the site visit.

5.1.1 Solid Waste Disposal

No indication of potentially hazardous material disposal was noted during PES's review. PES noted some minor amounts of concrete rubble on parcels #315-011-11 and #315-011-51.

5.1.2 Surface Water Drainage

There are no surface or storm water or swales located on the parcel. Surface water drains to the south-southeast overland from the site.

5.1.3 Wells and Cisterns

No aboveground evidence of cisterns were noted during the Site review. PES noted three water wells on the parcels #358-052-01, #346-032-10 and #346-032-53.

5.1.4 Wastewater

No indications of industrial/sanitary wastewater disposal or treatment facilities were noted during the Site review. It is likely that the residential structure on Parcel #315-011-58 has an on-site sanitary wastewater system. PES could not access the area of the structure due to fencing.

5.1.5 Additional Site Observations

PES noted no areas of dumping.

5.2 Potential Environmental Conditions

5.2.1 Hazardous Materials and Petroleum Products Used or Stored at the Site

No evidence of the use of hazardous materials or wastes was noted on the Site during the site review.

5.2.1.1 Unlabeled Containers and Drums

No unlabeled containers or drums were noted during the Site review. There were two drums of water treatment chemicals at the well heads on parcels #346-032-10 and #346-032-53. No leakage or staining was noted.

5.2.1.2 Disposal Locations of Regulated/ Hazardous Waste

No obvious indications of hazardous waste generation, storage or disposal were noted on the Site or were indicated during interviews.

5.2.2 Evidence of Releases

No obvious indications of hazardous material or petroleum product releases, such as stained areas or stressed vegetation, was noted during the Site review.

5.2.3 Polychlorinated Biphenyls (PCBs)

Older transformers and other electrical equipment could contain polychlorinated biphenyls (PCBs) at a level that subjects them to regulation by the U.S. EPA. PCBs in electrical equipment are controlled by United States Environmental Protection Agency regulations 40 CFR, Part 761. Under the regulations, there are three categories into which electrical equipment can be classified:

- Less than 50 parts per million (PPM) of PCBs – "*Non-PCB" transformer*
- 50 ppm-500 ppm – "PCB-Contaminated" electrical equipment
- Greater than 500 ppm – "*PCB" transformer*

PES noted no electrical transformers on the Site. No other electrical equipment expected to contain PCBs was noted on the Site during PES's review.

5.2.4 Landfills

No evidence of on-Site landfills were noted or reported during the Site review.

5.2.5 Pits, Ponds, Lagoons, Sumps, and Catch Basins

No evidence of on-Site pits, ponds, or lagoons was noted or reported during the Site review. No evidence of sumps or catch basins were noted or reported during the Site review.

5.2.6 On-Site ASTs and USTs

No evidence of aboveground storage tanks (ASTs) or underground storage tanks (USTs) for oils or fuel was noted during the Site review.

5.2.7 Vapor Migration

During PES's Site observations, review of historical sources, and review of regulatory databases, no current or historical usage of chemicals of concern at the Site or reported release or other indication of subsurface contamination from an onsite source was evident. Additionally, no release or material threat of a release to the subsurface from an offsite source was identified. As such, a vapor migration concern was not identified for the Site during the course of this assessment.

5.2.8 Radiological Hazards

No radiological substances or equipment was noted or reported to be stored on the Site.

5.2.9 Drinking Water

PES noted three water wells on the parcels #358-052-01, #346-032-10 and #346-032-53. PES was unable to access the residence on Parcel #315-011-58. This resident may have another water well associated with it.

5.2.10 Additional Hazard Observations

No additional hazards were noted on the Site.

5.2.11 Asbestos-Containing Materials (ACM)

Site is mainly undeveloped land, ACMs would not be present or of concern. It should be noted that PES was unable to inspect the residence on Parcel #315-011-58 for the presence of asbestos.

5.2.12 Radon

The U.S. EPA has prepared a map to assist National, State, and local organizations to target their resources and to implement radon-resistant building codes. The map divides the country into three Radon Zones, Zone 3 being those areas with the average predicted indoor radon concentration in residential dwellings below the EPA Action limit of 4.0 picoCuries per Liter (pCi/L). Review of the EPA Map of Radon Zones places the Site in Zone 2, where average predicted radon levels are greater than 4.0 pCi/L. Additionally, based on the undeveloped nature of the site, radon is not considered to be a concern for the Site.

5.2.13 Lead-Based Paint

Site is undeveloped land, lead-based paint would not be present or of concern. It should be noted that PES was unable to inspect the residence on Parcel #315-011-58 for the presence of lead paints. Given that the house will be demolished as part of the project, it is unlikely that any lead paints would be of concern.

5.2.14 Mold

Site is undeveloped land, Mold would not be present or of concern. It should be noted that PES was unable to inspect the residence on Parcel #315-011-58 for the presence of mold. Given that the house will be demolished as part of the project, it is unlikely that any mold issues would be of concern.

6.0 INTERVIEWS

Interviews were conducted with the following individuals. Findings from these interviews are discussed in the appropriate sections in this report.

Contact Name	Affiliation	Telephone No	Date Interviewed	Comments
Jon Lifquist	County Assessor	661-868-3485	7-21-22	No issues known
Brian Marshall	Fire Department	661-391-7000	7-21-22	No issues known
Adrenne Lane	County Planning	661-862-8600	7-21-22	No issues known

7.0 FINDINGS AND CONCLUSIONS

7.1 Findings

7.1.1 On-Site Environmental Conditions (RECs)

No on-Site RECs were identified during the course of this assessment.

7.1.2 Off-Site Environmental Conditions (RECs)

No off-Site RECs were identified on or near the Site.

7.1.3 Historical/Controlled Recognized Environmental Conditions (HRECs/CRECs)

No HRECs or CRECs were identified on the Site during the course of this assessment.

7.1.4 De Minimis Environmental Conditions (DECs)

PES noted no DECs were identified in connection with the Site during the course of this assessment.

7.2 Opinion

During the performance of this ESA, no environmental conditions were identified that likely would impact the Site.

7.3 Conclusions

PES has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-21 of the 23 individual parcels totaling 1359.5 acres located off of Tehachapi Willow Springs Road in Rosamond, Kern County, CA (the Site). Any exceptions to or deletions from this practice are described in Section 2.4 of this report. This assessment has revealed no evidence of recognized environmental conditions (RECs) in connection with the Site.

7.4 Recommendations

Based on the findings of this ESA, PES recommends no further actions/investigations at this time. If EDF plans to demolish the residential house and farm buildings during the project construction, PES would recommend that the buildings have an inspection completed prior to demolition.

7.5 Deviations

This Phase I ESA substantially complies with the scope of services and ASTM E1527-21, as amended, except for exceptions and/or limiting conditions as discussed in Section 3.4.

8.0 REFERENCES

REPORTS, PLANS, AND OTHER DOCUMENTS REVIEWED:

Aerial Photographs –1995, 2004, 2012, 2021

EDR Radius Map Report

Federal Emergency Management Agency, Federal Insurance Administration, National Flood Insurance Program, Flood Insurance Map, Community Panel Number 06029C3650E

State or Federal radon info.

State Groundwater or Water Well Maps

State Oil and Gas Map reviewed

USEPA National Radon Survey, 1993.

USGS - 7.5 Minute Topographic Quadrangle

USGS Soil Survey (online)

PES Site Visit - 7-24-22

AGENCIES CONTACTED:

Fire Dept.

Kern County - Tax Assessor

Kern County - Planning Dept.

FIGURES

Figure 1 - Topo

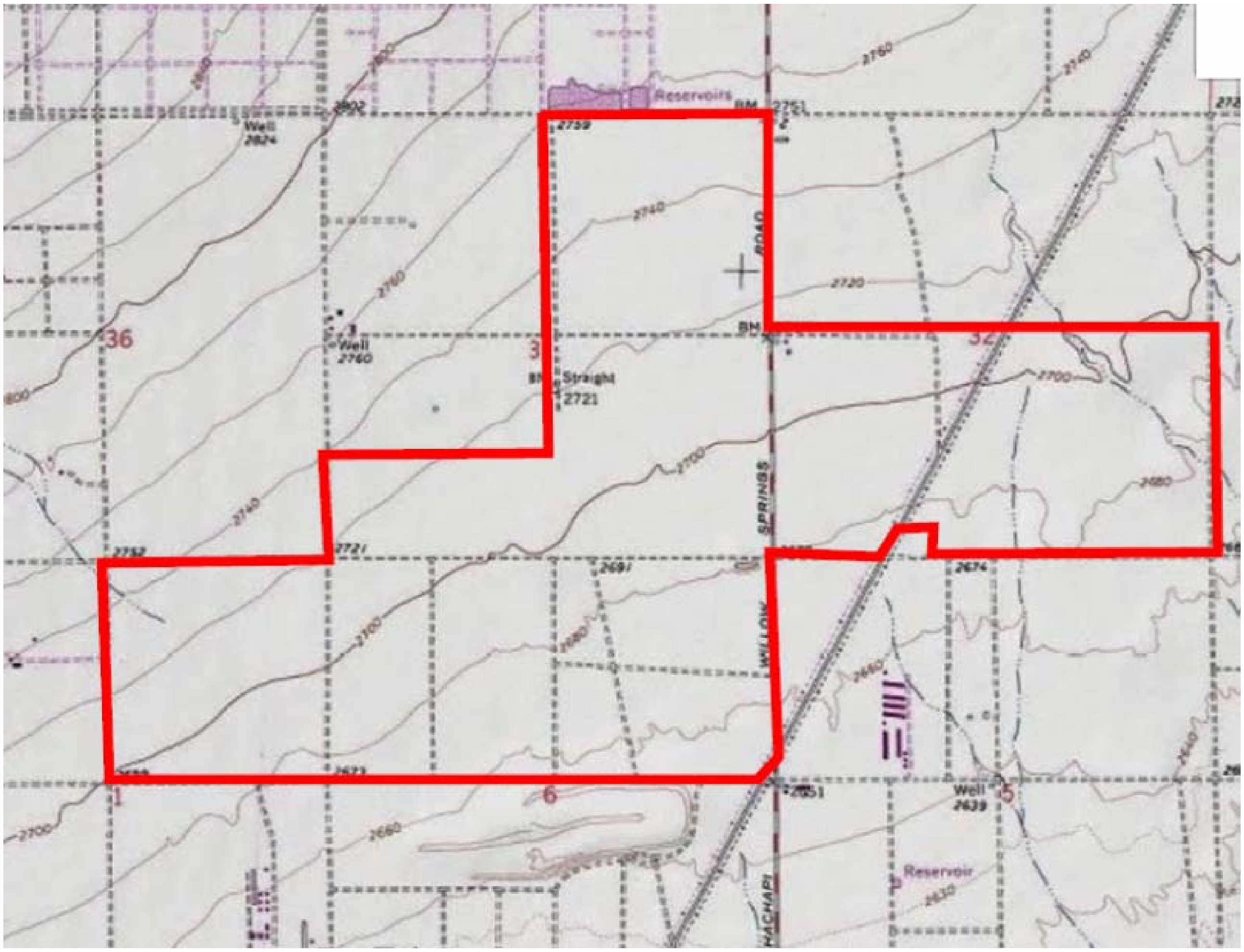

Figure 2 - Site Location

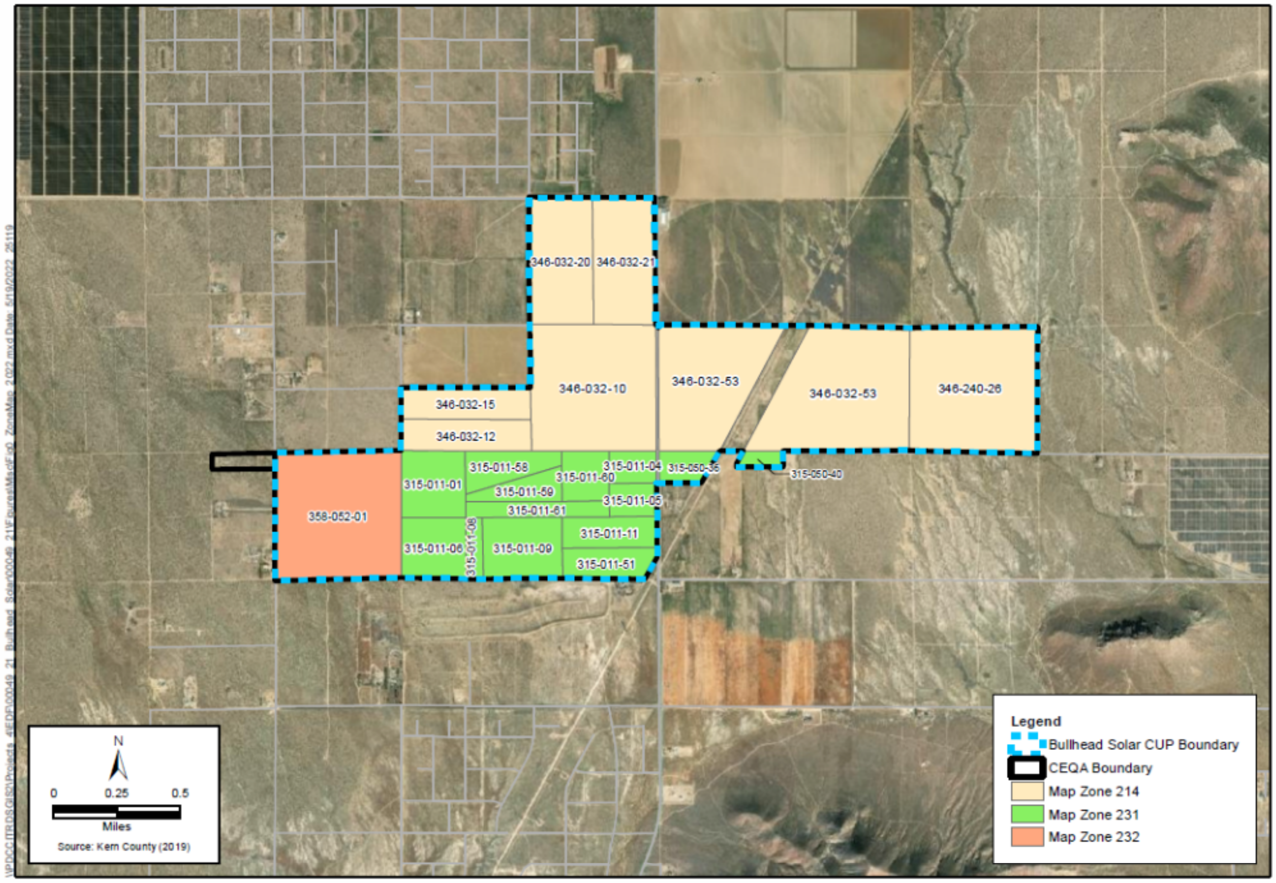

Table 1 - List of Parcels

APN_LABEL	type	ASSE_NAME	Area_ac	APN
358-051-03	CEQA ONLY CONNECTION	SEGAL	10	35805103
346-032-15	CEQA and CUP	EDF RENEWABLES DEV INC	41.3	34603215
346-032-12	CEQA and CUP	EDF RENEWABLES DEV INC	41.4	34603212
315-011-01	CEQA and CUP	EDF RENEWABLES DEV INC	42.9	31501101
315-011-04	CEQA and CUP	EDF RENEWABLES DEV INC	15.1	31501104
315-011-05	CEQA and CUP	EDF RENEWABLES DEV INC	15.7	31501105
315-011-06	CEQA and CUP	EDF RENEWABLES DEV INC	39.4	31501106
315-011-08	CEQA and CUP	EDF RENEWABLES DEV INC	10.3	31501108
315-011-09	CEQA and CUP	EDF RENEWABLES DEV INC	48.5	31501109
315-011-11	CEQA and CUP	EDF RENEWABLES DEV INC	29.5	31501111
315-011-51	CEQA and CUP	EDF RENEWABLES DEV INC	27.6	31501151
315-011-58	CEQA and CUP	EDF RENEWABLES DEV INC	27.9	31501158
315-011-59	CEQA and CUP	EDF RENEWABLES DEV INC	20.7	31501159
315-011-60	CEQA and CUP	EDF RENEWABLES DEV INC	23.6	31501160
315-011-61	CEQA and CUP	EDF RENEWABLES DEV INC	22.7	31501161
315-050-36	CEQA and CUP	GABRIEL LAND CO	16.3	31505036
315-050-40	CEQA and CUP	PRESSMAN BARRY K	7.1	31505040
346-032-10	CEQA and CUP	EDF RENEWABLES DEV INC	158.2	34603210
346-032-20	CEQA and CUP	EDF RENEWABLES DEV INC	80.8	34603220
346-032-21	CEQA and CUP	EDF RENEWABLES DEV INC	78.6	34603221
346-032-53	CEQA and CUP	EDF RENEWABLES DEV INC	283	34603253
346-240-26	CEQA and CUP	GM GABRYCH FAMILY L P	158.8	34624026
358-052-01	CEQA and CUP	LAPIS LAND CO LLC	160.1	35805201
Total			**1359.5**	

APPENDIX A

ENVIRONMENTAL DATABASE

Bullhead Solar
Tehachapi Willow Springs Rd
Rosamond, CA 93560

Inquiry Number: 7055746.2s
July 18, 2022

FirstSearch Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Search Summary Report

TARGET SITE **TEHACHAPI WILLOW SPRINGS RD**
ROSAMOND, CA 93560

Category	Sel	Site	1/8	1/4	1/2	> 1/2	ZIP	TOTALS
NPL	Y	0	0	0	0	0	0	0
NPL Delisted	Y	0	0	0	0	0	0	0
CERCLIS	Y	0	0	0	0	0	0	0
NFRAP	Y	0	0	0	0	0	0	0
RCRA COR ACT	Y	0	0	0	0	0	0	0
RCRA TSD	Y	0	0	0	0	0	0	0
RCRA GEN	Y	0	0	0	0	0	0	0
Federal IC / EC	Y	0	0	0	0	0	0	0
ERNS	Y	0	0	0	0	0	0	0
State/Tribal NPL	Y	0	0	0	0	0	0	0
State/Tribal CERCLIS	Y	0	0	0	0	0	1	1
State/Tribal SWL	Y	0	0	0	0	0	0	1
State/Tribal LTANKS	Y	0	0	0	0	0	0	0
State/Tribal Tanks	Y	0	0	0	0	0	0	1
State/Tribal VCP	Y	0	0	0	0	0	0	0
ST/Tribal Brownfields	Y	0	0	0	0	0	0	0
US Brownfields	Y	0	0	0	0	0	0	0
Other SWF	Y	0	0	0	0	0	0	0
Other Haz Sites	Y	0	0	0	0	0	0	2
Other Tanks	Y	0	0	0	0	0	0	1
Local Land Records	Y	0	0	0	0	0	0	0
Spills	Y	0	0	0	0	0	0	0
Other	Y	0	0	0	0	9	0	21
	- Totals --	0	0	0	0	26	1	27

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Search Summary Report

TARGET SITE: **TEHACHAPI WILLOW SPRINGS RD**
ROSAMOND, CA 93560

Category	Database	Update	Radius	Site	1/8	1/4	1/2	> 1/2	ZIP	TOTALS
NPL	NPL	04/27/2022	2.000	0	0	0	0	0	0	0
	Proposed NPL	04/27/2022	2.000	0	0	0	0	0	0	0
NPL Delisted	Delisted NPL	04/27/2022	2.000	0	0	0	0	0	0	0
CERCLIS	SEMS	04/27/2022	2.000	0	0	0	0	0	0	0
NFRAP	SEMS-ARCHIVE	04/27/2022	2.000	0	0	0	0	0	0	0
RCRA COR ACT	CORRACTS	06/20/2022	2.000	0	0	0	0	0	0	0
RCRA TSD	RCRA-TSDF	06/20/2022	2.000	0	0	0	0	0	0	0
RCRA GEN	RCRA-LQG	06/20/2022	2.000	0	0	0	0	0	0	0
	RCRA-SQG	06/20/2022	2.000	0	0	0	0	0	0	0
	RCRA-VSQG	06/20/2022	2.000	0	0	0	0	0	0	0
Federal IC / EC	US ENG CONTROLS	02/21/2022	2.000	0	0	0	0	0	0	0
	US INST CONTROLS	02/21/2022	2.000	0	0	0	0	0	0	0
ERNS	ERNS	06/14/2022	2.000	0	0	0	0	0	0	0
State/Tribal NPL	RESPONSE	04/25/2022	2.000	0	0	0	0	0	0	0
State/Tribal CERCLIS	ENVIROSTOR	04/25/2022	2.000	0	0	0	0	0	1	1
State/Tribal SWL	SWF/LF	02/07/2022	2.000	0	0	0	0	0	0	1
State/Tribal LTANKS	LUST	05/23/2022	2.000	0	0	0	0	0	0	0
	INDIAN LUST	04/28/2021	2.000	0	0	0	0	0	0	0
	CPS-SLIC	05/23/2022	2.000	0	0	0	0	0	0	0
State/Tribal Tanks	UST	03/07/2022	2.000	0	0	0	0	0	0	0
	AST	07/06/2016	2.000	0	0	0	0	0	0	1
	INDIAN UST	10/14/2021	2.000	0	0	0	0	0	0	0
State/Tribal VCP	VCP	04/25/2022	2.000	0	0	0	0	0	0	0
ST/Tribal Brownfields	BROWNFIELDS	03/21/2022	2.000	0	0	0	0	0	0	0

Search Summary Report

TARGET SITE: **TEHACHAPI WILLOW SPRINGS RD**
ROSAMOND, CA 93560

Category	Database	Update	Radius	Site	1/8	1/4	1/2	> 1/2	ZIP	TOTALS
US Brownfields	US BROWNFIELDS	02/23/2022	2.000	0	0	0	0	0	0	0
Other SWF	WMUDS/SWAT	04/01/2000	2.000	0	0	0	0	0	0	0
	IHS OPEN DUMPS	04/01/2014	2.000	0	0	0	0	0	0	0
Other Haz Sites	SCH	04/25/2022	2.000	0	0	0	0	0	0	0
	CERS HAZ WASTE	04/18/2022	2.000	0	0	0	0	0	0	2
	US CDL	02/22/2022	2.000	0	0	0	0	0	0	0
	AQUEOUS FOAM	02/20/2020	2.000	0	0	0	0	0	0	0
	PFAS	03/07/2022	2.000	0	0	0	0	0	0	0
Other Tanks	SWEEPS UST	06/01/1994	2.000	0	0	0	0	0	0	0
	CA FID UST	10/31/1994	2.000	0	0	0	0	0	0	0
	CERS TANKS	04/18/2022	2.000	0	0	0	0	0	0	1
Local Land Records	DEED	02/28/2022	2.000	0	0	0	0	0	0	0
Spills	HMIRS	03/21/2022	2.000	0	0	0	0	0	0	0
	CHMIRS	04/03/2022	2.000	0	0	0	0	0	0	0
	SPILLS 90	06/06/2012	2.000	0	0	0	0	0	0	0
Other	RCRA NonGen / NLR	06/20/2022	2.000	0	0	0	0	1	0	2
	TSCA	12/31/2016	2.000	0	0	0	0	0	0	0
	TRIS	12/31/2018	2.000	0	0	0	0	0	0	0
	SSTS	01/19/2022	2.000	0	0	0	0	0	0	0
	RMP	04/27/2022	2.000	0	0	0	0	0	0	0
	RAATS	04/17/1995	2.000	0	0	0	0	0	0	0
	PRP	01/25/2022	2.000	0	0	0	0	0	0	0
	PADS	01/20/2022	2.000	0	0	0	0	0	0	0
	ICIS	11/18/2016	2.000	0	0	0	0	0	0	0
	FTTS	04/09/2009	2.000	0	0	0	0	0	0	0
	MLTS	03/11/2022	2.000	0	0	0	0	0	0	0
	RADINFO	07/01/2019	2.000	0	0	0	0	0	0	0
	INDIAN RESERV	12/31/2014	2.000	0	0	0	0	0	0	0
	FUSRAP	07/26/2021	2.000	0	0	0	0	0	0	0
	US AIRS	10/12/2016	2.000	0	0	0	0	0	0	0
	ABANDONED MINES	03/10/2022	2.000	0	0	0	0	0	0	0
	FINDS	05/13/2022	2.000	0	0	0	0	3	0	5
	ECHO	04/02/2022	2.000	0	0	0	0	0	0	0
	UXO	12/31/2020	2.000	0	0	0	0	0	0	0
	DOCKET HWC	05/06/2021	2.000	0	0	0	0	0	0	0
	FUELS PROGRAM	02/17/2022	2.000	0	0	0	0	0	0	0

Search Summary Report

TARGET SITE: **TEHACHAPI WILLOW SPRINGS RD**
ROSAMOND, CA 93560

Category	Database	Update	Radius	Site	1/8	1/4	1/2	> 1/2	ZIP	TOTALS
	Cortese	03/21/2022	2.000	0	0	0	0	0	0	0
	CUPA Listings		2.000	0	0	0	0	1	0	3
	HAZNET	12/31/2019	2.000	0	0	0	0	0	0	1
	ICE	02/14/2022	2.000	0	0	0	0	0	0	0
	MINES	03/07/2022	2.000	0	0	0	0	0	0	0
	PEST LIC	02/28/2022	2.000	0	0	0	0	0	0	0
	UIC GEO	05/23/2022	2.000	0	0	0	0	0	0	0
	WASTEWATER PITS	02/11/2021	2.000	0	0	0	0	0	0	0
	WDS	06/19/2007	2.000	0	0	0	0	0	0	0
	MILITARY PRIV SITES	05/23/2022	2.000	0	0	0	0	0	0	0
	PROJECT	05/23/2022	2.000	0	0	0	0	0	0	0
	WDR	03/07/2022	2.000	0	0	0	0	0	0	0
	CIWQS	02/28/2022	2.000	0	0	0	0	0	0	0
	CERS	04/18/2022	2.000	0	0	0	0	1	0	4
	NON-CASE INFO	05/23/2022	2.000	0	0	0	0	0	0	0
	OTHER OIL GAS	05/23/2022	2.000	0	0	0	0	0	0	0
	PROD WATER PONDS	05/23/2022	2.000	0	0	0	0	0	0	0
	SAMPLING POINT	05/23/2022	2.000	0	0	0	0	0	0	0
	WELL STIM PROJ	05/23/2022	2.000	0	0	0	0	0	0	0
	HWTS	04/05/2022	2.000	0	0	0	0	3	0	6
	MINES MRDS	04/06/2018	2.000	0	0	0	0	0	0	0
	- Totals --			0	0	0	0	26	1	27

Site Information Report

Request Date:	JULY 18, 2022	**Search Type:**	COORD
Request Name:	MARK LAROCQUE	**Job Number:**	2022-095

Target Site: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

Site Location

	Degrees (Decimal)	**Degrees (Min/Sec)**		**UTMs**
Longitude:	118.291344	118.2913440 - 118ˆ 17’ 28.83’’	Easting:	382025.7
Latitude:	34.908597	34.9085970 - 34ˆ 54’ 30.94’’	Northing:	3863470.5
Elevation:	2688 ft. above sea level		Zone:	Zone 11

Demographics

Sites: 29 **Non-Geocoded:** 1 **Population:** N/A

RADON

Federal EPA Radon Zone for KERN County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 93560

Number of sites tested: 2

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.250 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

Federal Area Radon Information for KERN COUNTY, CA

Number of sites tested: 94

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.422 pCi/L	98%	2%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

Site Information Report

RADON

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
93560	12	1

Target Site Summary Report

Target Property:	TEHACHAPI WILLOW SPRINGS RD ROSAMOND, CA 93560	JOB:	2022-095

TOTAL:	30	GEOCODED:	29	NON GEOCODED:	1

Map ID	DB Type --ID/Status	Site Name	Address	Dist/Dir	ElevDiff	Page No.

No sites found for target address

Sites Summary Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

TOTAL: 30 GEOCODED: 29 NON GEOCODED: 1

Map ID	DB Type --ID/Status	Site Name	Address	Dist/Dir	ElevDiff	Page No.
1	HWTS	RICHARD MINER	9678 DAWN RD ROSAMOND, CA 93560	0.62 West	+ 12	1
A2	CERS	LLOYD'S LANDING	UNKNOWN ROSAMOND, CA 00000	0.63 WSW	+ 3	2
A3	FINDS --110041465875	LLOYD'S LANDING	UNKNOWN ROSAMOND, CA 00000	0.63 WSW	+ 3	3
B4	RCRA NonGen / NLR --CAL000356680	CALANDRI/SONRISE FARMS LP	6963 TEHACHAPI WILLOW SPR ROSAMOND, CA 93560	0.77 North	+ 58	4
B5	HWTS	JOHN CALANDRI FARMS INC	6963 TEHACHAPI WILLOW SPR ROSAMOND, CA 93560	0.77 North	+ 58	8
B6	HWTS	CALANDRI/SONRISE FARMS LP	6963 TEHACHAPI WILLOW SPR ROSAMOND, CA 93560	0.77 North	+ 58	9
B6	CUPA Listings	CALANDRI/SONRISE FARMS LP	6963 TEHACHAPI WILLOW SPR ROSAMOND, CA 93560	0.77 North	+ 58	10
B7	ECHO --110070477113	CALANDRI/SONRISE FARMS LP	6963 TEHACHAPI WILLOW SPR ROSAMOND, CA 93560	0.77 North	+ 58	11
B7	FINDS --110070477113	CALANDRI/SONRISE FARMS LP	6963 TEHACHAPI WILLOW SPR ROSAMOND, CA 93560	0.77 North	+ 58	12
B8	FINDS --110066700243	JOHN CALANDRI FARMS INC-WILLOW	6963 TEHACHAPI WILLOW SPR ROSAMOND, CA 93560	0.77 North	+ 58	13
9	HWTS	LOS ANGELES DEPARTMENT OF WATE	LAT/LONG_USED ROSAMOND, CA 93560	1.08 SSW	- 60	14
C10	AST	GRIMMWAY ENTERPRISES INC.- WIL	7500 TEH WILLOW SPRINGS R ROSAMOND, CA 93560	1.39 North	+ 99	15
C11	CERS	GRIMMWAY ENTERPRISES INC.- WIL	7500 TEH WILLOW SPRINGS R ROSAMOND, CA 93560	1.39 North	+ 99	16
C11	CUPA Listings	GRIMMWAY ENTERPRISES INC.- WIL	7500 TEH WILLOW SPRINGS R ROSAMOND, CA 93560	1.39 North	+ 99	20
C11	CERS TANKS	GRIMMWAY ENTERPRISES INC.- WIL	7500 TEH WILLOW SPRINGS R ROSAMOND, CA 93560	1.39 North	+ 99	21
C11	CERS HAZ WASTE	GRIMMWAY ENTERPRISES INC.- WIL	7500 TEH WILLOW SPRINGS R ROSAMOND, CA 93560	1.39 North	+ 99	22

Sites Summary Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

TOTAL: 30 GEOCODED: 29 NON GEOCODED: 1

Map ID	DB Type --ID/Status	Site Name	Address	Dist/Dir	ElevDiff	Page No.
12	CERS	GRIMMWAY FARMS COMPOSTING	TEHACHAPIWILLOWSP. RD. 1. ROSAMOND, CA 93560	1.41 North	+ 104	23
12	SWF/LF --Active --Notification --15-AA-0375	GRIMMWAY FARMS COMPOSTING	TEHACHAPIWILLOWSP. RD. 1. ROSAMOND, CA 93560	1.41 North	+ 104	24
13	MINES MRDS	GOLDENROD PROSPECT	ROSAMOND, CA 93560	1.52 ESE	- 73	28
14	HWTS	1X CHARLES GISLER	635 LOS ANGELES AVE MOORPARK, CA 91360	1.76 NE	+ 64	30
14	HAZNET --CAC000615128	1X CHARLES GISLER	635 LOS ANGELES AVE MOORPARK, CA 91360	1.76 NE	+ 64	31
D15	HWTS	WILLOW SPRINGS CO	4040 MANLY RD ROSAMOND, CA 93560	1.97 South	- 125	32
D16	RCRA NonGen / NLR --CAL000230296	WILLOW SPRINGS CO	4040 MANLY RD ROSAMOND, CA 93560	1.97 South	- 125	33
D17	CERS	WILLOW SPRINGS CO A CORP	4040 MANLY RD WILLOW SPRI ROSAMOND, CA 93560	1.97 South	- 125	37
D17	CUPA Listings	WILLOW SPRINGS CO A CORP	4040 MANLY RD WILLOW SPRI ROSAMOND, CA 93560	1.97 South	- 125	43
D17	CERS HAZ WASTE	WILLOW SPRINGS CO A CORP	4040 MANLY RD WILLOW SPRI ROSAMOND, CA 93560	1.97 South	- 125	44
D18	FINDS --110064933309	WILLOW SPRINGS COMPANY	4040 MANLY RD WILLOW SPRI ROSAMOND, CA 93560	1.97 South	- 125	45
D19	ECHO --110070453729	WILLOW SPRINGS CO	4040 MANLY RD ROSAMOND, CA 93560	1.97 South	- 125	46
D19	FINDS --110070453729	WILLOW SPRINGS CO	4040 MANLY RD ROSAMOND, CA 93560	1.97 South	- 125	47

Sites Summary Report

Target Property:	TEHACHAPI WILLOW SPRINGS RD ROSAMOND, CA 93560	JOB:	2022-095

TOTAL: 30 GEOCODED: 29 NON GEOCODED: 1

Map ID	DB Type --ID/Status	Site Name	Address	Dist/Dir	ElevDiff	Page No.
	ENVIROSTOR --15140002 --Refer: RWQCB	SWEETSER ROAD UNAUTHORIZED DIS	SWEETSER RD NEAR HWY 14 & ROSAMOND, CA 93560	NON GC	N/A	N/A

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

HWTS

EDR ID: S124879467 **DIST/DIR:** 0.618 West **ELEVATION:** 2700 **MAP ID:** 1

NAME: RICHARD MINER **Rev:** 04/05/2022

ADDRESS: 9678 DAWN RD
ROSAMOND, CA 93560
KERN

SOURCE: CA Department of Toxic Substances Control

HWTS:
Name: RICHARD MINER
Address: 9678 DAWN RD
Address 2: Not reported
City,State,Zip: ROSAMOND, CA 93560
EPA ID: CAL000349040
Inactive Date: 06/30/2016
Create Date: 12/28/2009
Last Act Date: Not reported
Mailing Name: Not reported
Mailing Address: 9678 DAWN RD
Mailing Address 2: Not reported
Mailing City,State,Zip: ROSAMOND, CA 935607503
Owner Name: RICHARD MINER
Owner Address: 9678 DAWN RD
Owner Address 2: Not reported
Owner City,State,Zip: ROSAMOND, CA 935607503
Contact Name: RICHARD MINER
Contact Address: 9678 DAWN RD
Contact Address 2: Not reported
City,State,Zip: ROSAMOND, CA 93560
Facility Status: Inactive
Facility Type: PERMANENT
Category: STATE
Latitude: 34.907301
Longitude: -118.303282

NAICS:
EPA ID: CAL000349040
Create Date: 2009-12-28 15:12:29.313
NAICS Code: 111998
NAICS Description: All Other Miscellaneous Crop Farming
Issued EPA ID Date: 2009-12-28 15:12:29.28000
Inactive Date: 2016-06-30 00:00:00
Facility Name: RICHARD MINER
Facility Address: 9678 DAWN RD
Facility Address 2: Not reported
Facility City: ROSAMOND
Facility County: Not reported
Facility State: CA
Facility Zip: 935607503

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

CERS

EDR ID: S123526994 **DIST/DIR:** 0.625 WSW **ELEVATION:** 2691 **MAP ID:** A2

NAME: LLOYD'S LANDING **Rev:** 04/18/2022

ADDRESS: UNKNOWN
ROSAMOND, CA 00000

SOURCE: CA California Environmental Protection Agency

CERS:
Name: LLOYD'S LANDING
Address: UNKNOWN
City,State,Zip: ROSAMOND, CA 00000
Site ID: 477817
CERS ID: 110041465875
CERS Description: US EPA Air Emission Inventory System (EIS)

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

FINDS

EDR ID: 1014675393 **DIST/DIR:** 0.625 WSW **ELEVATION:** 2691 **MAP ID:** A3

NAME: LLOYD'S LANDING
ADDRESS: UNKNOWN
ROSAMOND, CA 00000
KERN
SOURCE: US EPA

Rev: 05/13/2022
ID/Status: 110041465875

FINDS:
Registry ID: 110041465875

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
AIR MINOR

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

RCRA NonGen / NLR

EDR ID: 1024827349 **DIST/DIR:** 0.770 North **ELEVATION:** 2746 **MAP ID:** B4

NAME: CALANDRI/SONRISE FARMS LP

ADDRESS: 6963 TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560
KERN

SOURCE: US Environmental Protection Agency

Rev: 06/20/2022
ID/Status: CAL000356680

RCRA NonGen / NLR:
Date Form Received by Agency: 20100908
Handler Name: CALANDRI/SONRISE FARMS LP
Handler Address: 6963 TEHACHAPI WILLOW SPRINGS RD
Handler City,State,Zip: ROSAMOND, CA 93560-7502
EPA ID: CAL000356680
Contact Name: CONNIE ELROD
Contact Address: P.O. BOX 8010
Contact City,State,Zip: LANCASTER, CA 93539
Contact Telephone: 661-946-9022
Contact Fax: 661-946-2500
Contact Email: CONNIE@CALANDRISONRISEFARMS.COM
Contact Title: Not reported
EPA Region: 09
Land Type: Not reported
Federal Waste Generator Description: Not a generator, verified
Non-Notifier: Not reported
Biennial Report Cycle: Not reported
Accessibility: Not reported
Active Site Indicator: Handler Activities
State District Owner: Not reported
State District: Not reported
Mailing Address: P.O. BOX 8010
Mailing City,State,Zip: LANCASTER, CA 93539-0000
Owner Name: CALANDRI/SON RISE FARMS LP
Owner Type: Other
Operator Name: CONNIE ELROD
Operator Type: Other
Short-Term Generator Activity: No
Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility Activity: No
Recycler Activity with Storage: No
Small Quantity On-Site Burner Exemption: No
Smelting Melting and Refining Furnace Exemption: No
Underground Injection Control: No
Off-Site Waste Receipt: No
Universal Waste Indicator: Yes
Universal Waste Destination Facility: Yes
Federal Universal Waste: No
Active Site Fed-Reg Treatment Storage and Disposal Facility: Not reported
Active Site Converter Treatment storage and Disposal Facility: Not reported
Active Site State-Reg Treatment Storage and Disposal Facility: Not reported

- Continued on next page -

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

RCRA NonGen / NLR

EDR ID: 1024827349 **DIST/DIR:** 0.770 North **ELEVATION:** 2746 **MAP ID:** B4

NAME: CALANDRI/SONRISE FARMS LP
ADDRESS: 6963 TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560
KERN
SOURCE: US Environmental Protection Agency

Rev: 06/20/2022
ID/Status: CAL000356680

Active Site State-Reg Handler: ---
Federal Facility Indicator: Not reported
Hazardous Secondary Material Indicator: N
Sub-Part K Indicator: Not reported
Commercial TSD Indicator: No
Treatment Storage and Disposal Type: Not reported
2018 GPRA Permit Baseline: Not on the Baseline
2018 GPRA Renewals Baseline: Not on the Baseline
Permit Renewals Workload Universe: Not reported
Permit Workload Universe: Not reported
Permit Progress Universe: Not reported
Post-Closure Workload Universe: Not reported
Closure Workload Universe: Not reported
202 GPRA Corrective Action Baseline: No
Corrective Action Workload Universe: No
Subject to Corrective Action Universe: No
Non-TSDFs Where RCRA CA has Been Imposed Universe: No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: No
TSDFs Only Subject to CA under Discretionary Auth Universe: No
Corrective Action Priority Ranking: No NCAPS ranking
Environmental Control Indicator: No
Institutional Control Indicator: No
Human Exposure Controls Indicator: N/A
Groundwater Controls Indicator: N/A
Operating TSDF Universe: Not reported
Full Enforcement Universe: Not reported
Significant Non-Complier Universe: No
Unaddressed Significant Non-Complier Universe: No
Addressed Significant Non-Complier Universe: No
Significant Non-Complier With a Compliance Schedule Universe: No
Financial Assurance Required: Not reported
Handler Date of Last Change: 20180905
Recognized Trader-Importer: No
Recognized Trader-Exporter: No
Importer of Spent Lead Acid Batteries: No
Exporter of Spent Lead Acid Batteries: No
Recycler Activity Without Storage: No
Manifest Broker: No
Sub-Part P Indicator: No

Handler - Owner Operator:
Owner/Operator Indicator: Operator
Owner/Operator Name: CONNIE ELROD

- Continued on next page -

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

RCRA NonGen / NLR

EDR ID: 1024827349 **DIST/DIR:** 0.770 North **ELEVATION:** 2746 **MAP ID:** B4

NAME: CALANDRI/SONRISE FARMS LP
ADDRESS: 6963 TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560
KERN
SOURCE: US Environmental Protection Agency

Rev: 06/20/2022
ID/Status: CAL000356680

Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: P.O. BOX 8010
Owner/Operator City,State,Zip: LANCASTER, CA 93539
Owner/Operator Telephone: 661-946-9022
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: CALANDRI/SON RISE FARMS LP
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: P.O. BOX 8010
Owner/Operator City,State,Zip: LANCASTER, CA 93539-0000
Owner/Operator Telephone: 661-946-9022
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20100908
Handler Name: CALANDRI/SONRISE FARMS LP
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 111219
NAICS Description: OTHER VEGETABLE (EXCEPT POTATO) AND MELON FARMING

Facility Has Received Notices of Violations:
Violations: No Violations Found

- Continued on next page -

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

RCRA NonGen / NLR

EDR ID: 1024827349 **DIST/DIR:** 0.770 North **ELEVATION:** 2746 **MAP ID:** B4

NAME: CALANDRI/SONRISE FARMS LP
ADDRESS: 6963 TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560
KERN
SOURCE: US Environmental Protection Agency

Rev: 06/20/2022
ID/Status: CAL000356680

Evaluation Action Summary:
Evaluations: No Evaluations Found

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

HWTS

EDR ID: S124596855 **DIST/DIR:** 0.770 North **ELEVATION:** 2746 **MAP ID:** B5

NAME: JOHN CALANDRI FARMS INC **Rev:** 04/05/2022

ADDRESS: 6963 TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560
KERN

SOURCE: CA Department of Toxic Substances Control

HWTS:
Name: JOHN CALANDRI FARMS INC
Address: 6963 TEHACHAPI WILLOW SPRINGS RD
Address 2: Not reported
City,State,Zip: ROSAMOND, CA 93560
EPA ID: CAC002629568
Inactive Date: 10/22/2008
Create Date: 04/24/2008
Last Act Date: Not reported
Mailing Name: Not reported
Mailing Address: 6135 W AVE M-8
Mailing Address 2: Not reported
Mailing City,State,Zip: PALMDALE, CA 93551
Owner Name: JOHN CALANDRI FARMS INC
Owner Address: 6135 W AVE M-8
Owner Address 2: Not reported
Owner City,State,Zip: PALMDALE, CA 93551
Contact Name: KATHRINE CALANDRI
Contact Address: 6135 W AVE M-8
Contact Address 2: Not reported
City,State,Zip: PALMDALE, CA 93551
Facility Status: Inactive
Facility Type: TEMPORARY
Category: STATE
Latitude: 34.919863
Longitude: -118.29152

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

HWTS

EDR ID: S124882918 **DIST/DIR:** 0.770 North **ELEVATION:** 2746 **MAP ID:** B6

NAME: CALANDRI/SONRISE FARMS LP **Rev:** 04/05/2022

ADDRESS: 6963 TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560
KERN

SOURCE: CA Department of Toxic Substances Control

HWTS:
Name: CALANDRI/SONRISE FARMS LP
Address: 6963 TEHACHAPI WILLOW SPRINGS RD
Address 2: Not reported
City,State,Zip: ROSAMOND, CA 93560
EPA ID: CAL000356680
Inactive Date: 06/30/2018
Create Date: 09/08/2010
Last Act Date: Not reported
Mailing Name: Not reported
Mailing Address: P.O. BOX 8010
Mailing Address 2: Not reported
Mailing City,State,Zip: LANCASTER, CA 935390000
Owner Name: CALANDRI/SON RISE FARMS LP
Owner Address: P.O. BOX 8010
Owner Address 2: Not reported
Owner City,State,Zip: LANCASTER, CA 935390000
Contact Name: CONNIE ELROD
Contact Address: P.O. BOX 8010
Contact Address 2: Not reported
City,State,Zip: LANCASTER, CA 93539
Facility Status: Inactive
Facility Type: PERMANENT
Category: STATE
Latitude: 34.919863
Longitude: -118.29152

NAICS:
EPA ID: CAL000356680
Create Date: 2010-09-08 16:30:12.647
NAICS Code: 111219
NAICS Description: Other Vegetable (except Potato) and Melon Farming
Issued EPA ID Date: 2010-09-08 16:30:12.61700
Inactive Date: 2018-06-30 00:00:00
Facility Name: CALANDRI/SONRISE FARMS LP
Facility Address: 6963 TEHACHAPI WILLOW SPRINGS RD
Facility Address 2: Not reported
Facility City: ROSAMOND
Facility County: Not reported
Facility State: CA
Facility Zip: 935607502

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

CUPA Listings

EDR ID: S124882918 **DIST/DIR:** 0.770 North **ELEVATION:** 2746 **MAP ID:** B6

NAME: CALANDRI/SONRISE FARMS LP **Rev:**

ADDRESS: 6963 TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560
KERN

SOURCE: CA Please see county level database for agency information.

KERN CO CUPA:
Facility ID: FA0001795
CERS ID: 10190869
Name: JOHN CALANDRI FARMS INC-WILLOW SPRINGS
Address: 6963 TEHACHAPI WILLOW SPRINGS RD
Address 2: 6963 TEHACHAPI WILLOW SPRINGS RD
City,State,Zip: ROSAMOND, CA
Billing Status: Inactive, non-billable
Program Element: BUS PLAN SMALL LOW RISK 1 UNIT
Program Element Code: CB1T
HMIRRP Due Date: 1/31/2013
Current Inspection Date: 3/1/2017
Employee: COGLEY
Mailing Address: 3803 CAMINO HERMANOS
Mailing Address 2: Not reported
Mailing City: LANCASTER
Mailing State: CA
Mailing Zip: 93536-2822

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

ECHO

EDR ID: 1024688719 **DIST/DIR:** 0.770 North **ELEVATION:** 2746 **MAP ID:** B7

NAME: CALANDRI/SONRISE FARMS LP
ADDRESS: 6963 TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560
KERN
SOURCE: US Environmental Protection Agency

Rev: 04/02/2022
ID/Status: 110070477113

ECHO:
Envid: 1024688719
Registry ID: 110070477113
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110070477113
Name: CALANDRI/SONRISE FARMS LP
Address: 6963 TEHACHAPI WILLOW SPRINGS RD
City,State,Zip: ROSAMOND, CA 93560

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

FINDS

EDR ID: 1024688719 **DIST/DIR:** 0.770 North **ELEVATION:** 2746 **MAP ID:** B7

NAME: CALANDRI/SONRISE FARMS LP
ADDRESS: 6963 TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560
KERN
SOURCE: US EPA

Rev: 05/13/2022
ID/Status: 110070477113

FINDS:
Registry ID: 110070477113

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

Site Detail Report

Target Property:	TEHACHAPI WILLOW SPRINGS RD ROSAMOND, CA 93560	JOB:	2022-095

FINDS

EDR ID: 1023372133 **DIST/DIR:** 0.770 North **ELEVATION:** 2746 **MAP ID:** B8

NAME: JOHN CALANDRI FARMS INC-WILLOW SPRINGS
ADDRESS: 6963 TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560
KERN
SOURCE: US EPA

Rev: 05/13/2022
ID/Status: 110066700243

FINDS:
Registry ID: 110066700243

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
STATE MASTER

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

Site Detail Report

Target Property:	TEHACHAPI WILLOW SPRINGS RD ROSAMOND, CA 93560	JOB:	2022-095

HWTS

EDR ID: S128380279 **DIST/DIR:** 1.081 SSW **ELEVATION:** 2628 **MAP ID:** 9

NAME: LOS ANGELES DEPARTMENT OF WATER AND POWER **Rev:** 04/05/2022

ADDRESS: LAT/LONG_USED
ROSAMOND, CA 93560
KERN

SOURCE: CA Department of Toxic Substances Control

HWTS:
Name: LOS ANGELES DEPARTMENT OF WATER AND POWER
Address: LAT/LONG_USED
Address 2: Not reported
City,State,Zip: ROSAMOND, CA 93560
EPA ID: CAC003170151
Inactive Date: Not reported
Create Date: 04/07/2022
Last Act Date: Not reported
Mailing Name: Not reported
Mailing Address: 111 N. HOPE STREET, ROOM 1050
Mailing Address 2: Not reported
Mailing City,State,Zip: LOS ANGELES, CA 90012
Owner Name: BRIAN GONZALEZ
Owner Address: 111 N. HOPE STREET, ROOM 1050
Owner Address 2: Not reported
Owner City,State,Zip: LOS ANGELES, CA 90012
Contact Name: VANGIE PARAGAS
Contact Address: 111 N. HOPE STREET, ROOM 1050
Contact Address 2: Not reported
City,State,Zip: LOS ANGELES, CA 90012
Facility Status: Active
Facility Type: TEMPORARY
Category: STATE
Latitude: 34.89338
Longitude: -118.29597

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

AST

EDR ID: A100420548 **DIST/DIR:** 1.394 North **ELEVATION:** 2787 **MAP ID:** C10

NAME: GRIMMWAY ENTERPRISES INC.- WILLOW SPRINGS YARD **Rev:** 07/06/2016

ADDRESS: 7500 TEH WILLOW SPRINGS RD
ROSAMOND, CA 93560
KERN

SOURCE: CA California Environmental Protection Agency

AST:
Name: GRIMMWAY ENTERPRISES INC.- WILLOW SPRINGS YARD
Address: 7500 TEH WILLOW SPRINGS RD
City/Zip: ROSAMOND,93560
Certified Unified Program Agencies: Not reported
Owner: GRIMMWAY ENTERPRISES INC
Total Gallons: Not reported
CERSID: 10157725
Facility ID: Not reported
Business Name: Grimmway Enterprise Inc.
Phone: (661) 363-4732
Fax: (661) 845-5201
Mailing Address: PO BOX 81498
Mailing Address City: BAKERSFIELD
Mailing Address State: CA
Mailing Address Zip Code: Not reported
Operator Name: Grimmway Enterprises Inc.
Operator Phone: (661) 363-4732
Owner Phone: (661) 854-6212
Owner Mail Address: PO BOX 81498
Owner State: CA
Owner Zip Code: Not reported
Owner Country: United States
Property Owner Name: Not reported
Property Owner Phone: Not reported
Property Owner Mailing Address: Not reported
Property Owner City: Not reported
Property Owner Stat : Not reported
Property Owner Zip Code: Not reported
Property Owner Country: Not reported
EPAID: CAL000258195

Site Detail Report

Target Property:	TEHACHAPI WILLOW SPRINGS RD ROSAMOND, CA 93560	JOB:	2022-095

CERS

EDR ID: S123515615 **DIST/DIR:** 1.394 North **ELEVATION:** 2787 **MAP ID:** C11

NAME: GRIMMWAY ENTERPRISES INC.- WILLOW SPRINGS YARD **Rev:** 04/18/2022

ADDRESS: 7500 TEH WILLOW SPRINGS RD
ROSAMOND, CA 93560

SOURCE: CA California Environmental Protection Agency

CERS:
Name: GRIMMWAY ENTERPRISES INC.- WILLOW SPRINGS YARD
Address: 7500 TEH WILLOW SPRINGS RD
City,State,Zip: ROSAMOND, CA 93560
Site ID: 394186
CERS ID: 10157725
CERS Description: Chemical Storage Facilities

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 03-08-2017
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Kern County Env Health Services Department
Eval Program: APSA
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 03-10-2020
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Kern County Env Health Services Department
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-04-2014
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Kern County Env Health Services Department
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 03-10-2020
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Kern County Env Health Services Department
Eval Program: APSA
Eval Source: CERS,

- Continued on next page -

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

CERS

EDR ID: S123515615 **DIST/DIR:** 1.394 North **ELEVATION:** 2787 **MAP ID:** C11

NAME: GRIMMWAY ENTERPRISES INC.- WILLOW SPRINGS YARD **Rev:** 04/18/2022

ADDRESS: 7500 TEH WILLOW SPRINGS RD
ROSAMOND, CA 93560

SOURCE: CA California Environmental Protection Agency

Eval General Type: Compliance Evaluation Inspection
Eval Date: 03-10-2020
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Kern County Env Health Services Department
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-04-2014
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Kern County Env Health Services Department
Eval Program: APSA
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 03-08-2017
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Kern County Env Health Services Department
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 03-08-2017
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Kern County Env Health Services Department
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-04-2014
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Kern County Env Health Services Department
Eval Program: HW
Eval Source: CERS,

- Continued on next page -

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

CERS

EDR ID: S123515615 **DIST/DIR:** 1.394 North **ELEVATION:** 2787 **MAP ID:** C11

NAME: GRIMMWAY ENTERPRISES INC.- WILLOW SPRINGS YARD **Rev:** 04/18/2022

ADDRESS: 7500 TEH WILLOW SPRINGS RD
ROSAMOND, CA 93560

SOURCE: CA California Environmental Protection Agency

Affiliation:
Affiliation Type Desc: CUPA District
Entity Name: Kern County Environmental Health Services Departme
Entity Title: Not reported
Affiliation Address: 2700 M Street, Suite 300
Affiliation City: Bakersfield
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 93301-2370
Affiliation Phone: (661) 862-8740,

Affiliation Type Desc: Parent Corporation
Entity Name: Grimmway Enterprise Inc.
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: ,

Affiliation Type Desc: Legal Owner
Entity Name: GRIMMWAY ENTERPRISES INC.
Entity Title: Not reported
Affiliation Address: PO Box 81498
Affiliation City: Bakersfield
Affiliation State: CA
Affiliation Country: United States
Affiliation Zip: 93380-1498
Affiliation Phone: (661) 854-6212,

Affiliation Type Desc: Operator
Entity Name: GRIMMWAY ENTERPRISES INC.
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: (661) 363-4732,

Affiliation Type Desc: Document Preparer
Entity Name: Malu Juarez
Entity Title: Not reported

- Continued on next page -

Site Detail Report

Target Property:	TEHACHAPI WILLOW SPRINGS RD ROSAMOND, CA 93560	JOB:	2022-095

CERS

EDR ID: S123515615 **DIST/DIR:** 1.394 North **ELEVATION:** 2787 **MAP ID:** C11

NAME: GRIMMWAY ENTERPRISES INC.- WILLOW SPRINGS YARD **Rev:** 04/18/2022

ADDRESS: 7500 TEH WILLOW SPRINGS RD
ROSAMOND, CA 93560

SOURCE: CA California Environmental Protection Agency

Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: ,

Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title: Not reported
Affiliation Address: PO Box 81498
Affiliation City: Bakersfield
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 93380-1498
Affiliation Phone: ,

Affiliation Type Desc: Identification Signer
Entity Name: Robert Wegis
Entity Title: Regulatory Compliance Manager
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: ,

Affiliation Type Desc: Environmental Contact
Entity Name: ROBERT WEGIS
Entity Title: Not reported
Affiliation Address: PO Box 81498
Affiliation City: Bakersfield
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 93380-1498
Affiliation Phone: ,

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

CUPA Listings

EDR ID: S123515615 **DIST/DIR:** 1.394 North **ELEVATION:** 2787 **MAP ID:** C11

NAME: GRIMMWAY ENTERPRISES INC.- WILLOW SPRINGS YARD **Rev:**

ADDRESS: 7500 TEH WILLOW SPRINGS RD
ROSAMOND, CA 93560

SOURCE: CA Please see county level database for agency information.

KERN CO CUPA:
Facility ID: FA0004306
CERS ID: 10157725
Name: GRIMMWAY ENTERPRISES INC.- WILLOW SPRINGS YARD
Address: 7500 TEH WILLOW SPRINGS RD
Address 2: Not reported
City,State,Zip: ROSAMOND, CA
Billing Status: Active, billable
Program Element: BUS PLAN LARGE LOW RISK 1 UNIT
Program Element Code: CB3T
HMIRRP Due Date: 2/28/2014
Current Inspection Date: 2/1/2023
Employee: COGLEY
Mailing Address: PO Box 81498
Mailing Address 2: Not reported
Mailing City: Bakersfield
Mailing State: CA
Mailing Zip: 93380-1498

Site Detail Report

Target Property:	TEHACHAPI WILLOW SPRINGS RD ROSAMOND, CA 93560	JOB:	2022-095

CERS TANKS

EDR ID: S123515615 **DIST/DIR:** 1.394 North **ELEVATION:** 2787 **MAP ID:** C11

NAME: GRIMMWAY ENTERPRISES INC.- WILLOW SPRINGS YARD **Rev:** 04/18/2022

ADDRESS: 7500 TEH WILLOW SPRINGS RD
ROSAMOND, CA 93560

SOURCE: CA California Environmental Protection Agency

CERS TANKS:
Name: GRIMMWAY ENTERPRISES INC.- WILLOW SPRINGS YARD
Address: 7500 TEH WILLOW SPRINGS RD
City,State,Zip: ROSAMOND, CA 93560
Site ID: 394186
CERS ID: 10157725
CERS Description: Aboveground Petroleum Storage

Site Detail Report

Target Property:	TEHACHAPI WILLOW SPRINGS RD ROSAMOND, CA 93560	JOB:	2022-095

CERS HAZ WASTE

EDR ID:	S123515615	**DIST/DIR:**	1.394 North	**ELEVATION:**	2787	**MAP ID:**	C11

NAME: GRIMMWAY ENTERPRISES INC.- WILLOW SPRINGS YARD **Rev:** 04/18/2022

ADDRESS: 7500 TEH WILLOW SPRINGS RD
ROSAMOND, CA 93560

SOURCE: CA CalEPA

CERS HAZ WASTE:
Name: GRIMMWAY ENTERPRISES INC.- WILLOW SPRINGS YARD
Address: 7500 TEH WILLOW SPRINGS RD
City,State,Zip: ROSAMOND, CA 93560
Site ID: 394186
CERS ID: 10157725
CERS Description: Hazardous Waste Generator

Site Detail Report

CERS

EDR ID: S105964526 **DIST/DIR:** 1.413 North **ELEVATION:** 2792 **MAP ID:** 12

NAME: GRIMMWAY FARMS COMPOSTING **Rev:** 04/18/2022

ADDRESS: TEHACHAPIWILLOWSP. RD. 1.5 S. BACKUS RD.
ROSAMOND, CA 93560
KERN

SOURCE: CA California Environmental Protection Agency

CERS:
Name: GRIMMWAY FARMS COMPOSTING
Address: TEHACHAPIWILLOWSP. RD. 1.5 S. BACKUS RD.
City,State,Zip: ROSAMOND, CA
Site ID: 509047
CERS ID: 15-AA-0375
CERS Description: Solid Waste and Recycle Sites

Affiliation:
Affiliation Type Desc: Legal Operator
Entity Name: Grimmway Enterprises, Inc.
Entity Title: Not reported
Affiliation Address: Gerald DavisP.O Box 81498
Affiliation City: Bakersfield
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 93380
Affiliation Phone: 6188580129,

Affiliation Type Desc: Legal Owner
Entity Name: Grimmway Enterprises, Inc.
Entity Title: Not reported
Affiliation Address: Gerald DavisP.O Box 81498
Affiliation City: Bakersfield
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 93380
Affiliation Phone: 6188580129,

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

SWF/LF

EDR ID: S105964526 **DIST/DIR:** 1.413 North **ELEVATION:** 2792 **MAP ID:** 12

NAME: GRIMMWAY FARMS COMPOSTING
ADDRESS: TEHACHAPIWILLOWSP. RD. 1.5 S. BACKUS RD.
ROSAMOND, CA 93560
KERN
SOURCE: CA Department of Resources Recycling and Recovery

Rev: 02/07/2022
ID/Status: Active
ID/Status: Notification
ID/Status: 15-AA-0375

SWF/LF (SWIS):
Name: GRIMMWAY FARMS COMPOSTING
Address: TEHACHAPIWILLOWSP. RD. 1.5 S. BACKUS RD.
City,State,Zip: ROSAMOND, CA 93560
Region: STATE
Facility ID: 15-AA-0375
SWIS Number: 15-AA-0375
Point of Contact: Christine Karl
Is Archived: No
Is Closed Illegal Abandoned: No
Is Site Inert Debris Engineered Fill: No
Is Financial Assurances Responsible: No
Absorbed On: Not reported
Operational Status: Active
Absorbed By: Not reported
Closed Illegal Abandoned Category: Not reported
EPA Federal Registry ID: Not reported
ARB District: Kern
SWRCB Region: Lahontan
Local Government: Kern County (Unincorporated)
Reporting Agency Legal Name: County of Kern
Reporting Agency Department: Environmental Health Division
Enforcing Agency Legal Name: County of Kern
Enforcing Agency Department: Environmental Health Division
Regulation Status: Notification

Activity:
SWIS Number: 15-AA-0375
Site Name: Grimmway Farms Composting
Activity: Agricultural Material Composting Operation
Activity Is Archived: No
Category: Composting
Activity Classification: Solid Waste Operation
WDR Number: Not reported
WDR Landfill Class: Not reported
Cease Operation: Not reported
Cease Operation Type: Not reported
Inspection Frequency: Annual
Throughput: 2500
Throughput Units: Tons
Remaining Capacity: Not reported
Remaining Capacity Date: Not reported
Capacity: 5600
Capacity Units: Tons per year
Total Acreage: 5

- Continued on next page -

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

SWF/LF

EDR ID: S105964526 **DIST/DIR:** 1.413 North **ELEVATION:** 2792 **MAP ID:** 12

NAME: GRIMMWAY FARMS COMPOSTING
ADDRESS: TEHACHAPIWILLOWSP. RD. 1.5 S. BACKUS RD.
ROSAMOND, CA 93560
KERN
SOURCE: CA Department of Resources Recycling and Recovery

Rev: 02/07/2022
ID/Status: Active
ID/Status: Notification
ID/Status: 15-AA-0375

Disposal Acreage: Not reported
Permitted Elevation: Not reported
Permitted Elevation Type: Not reported
Permitted Depth: Not reported
Permitted Depth Type: Not reported
Point of Contact: Christine Karl
Site Operational Status: Active
Site Regulatory Status: Notification
Site Is Archived: No
Is Closed Illegal Abandoned: No
Is Site Inert Debris Engineered Fill: No
Is Financial Assurances Responsible: No
Absorbed On: Not reported
Absorbed By: Not reported
Closed Illegal Abandoned Category: Not reported
EPA Federal Registry ID: Not reported
County: Kern
ARB District: Kern
SWRCB Region: Lahontan
Local Government: Kern County (Unincorporated)
Street Address: TehachapiWillowSp. Rd. 1.5 S. Backus Rd.
City: Rosamond
State: CA
ZIP Code: 93560
Reporting Agency Legal Name: County of Kern
Reporting Agency Department: Environmental Health Division
Enforcing Agency Legal Name: County of Kern
Enforcing Agency Department: Environmental Health Division

Operator:
SWIS Number: 15-AA-0375
Site Name: Grimmway Farms Composting
Site Operational Status: Active
Site Type: Non-Disposal Only
Site Regulatory Status: Notification
Latitude: 34.92911
Longitude: -118.29134
Is Archived: No
Operator: Grimmway Enterprises, Inc.
Started On: Not reported
Contact Name: Not reported
Contact Title: Not reported
Contact Email: Not reported
Contact Phone: (618) 858-0129

- Continued on next page -

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

SWF/LF

EDR ID: S105964526 **DIST/DIR:** 1.413 North **ELEVATION:** 2792 **MAP ID:** 12

NAME: GRIMMWAY FARMS COMPOSTING
ADDRESS: TEHACHAPIWILLOWSP. RD. 1.5 S. BACKUS RD.
ROSAMOND, CA 93560
KERN
SOURCE: CA Department of Resources Recycling and Recovery

Rev: 02/07/2022
ID/Status: Active
ID/Status: Notification
ID/Status: 15-AA-0375

Street Address: PO Box 81498
Operator City: Bakersfield
Operator State: CA
Operator Zip: 93380

Owner:
SWIS Number: 15-AA-0375
Owner: Grimmway Enterprises, Inc.
Owner Address: PO Box 81498
Owner City: Bakersfield
Owner State: CA
Owner Zip: 93380
Site Name: Grimmway Farms Composting
Site Operational Status: Active
Site Type: Non-Disposal Only
Site Regulatory Status: Notification
Latitude: 34.92911
Longitude: -118.29134
Is Archived: No
Started On: Not reported
Contact Name: Not reported
Contact Title: Not reported
Contact Email: Not reported
Contact Phone: (618) 858-0129

Waste:
SWIS Number: 15-AA-0375
Site Name: Grimmway Farms Composting
Activity: Agricultural Material Composting Operation
Waste Type: Agricultural
Site Is Archived: No
Site Operational Status: Active
Site Regulatory Status: Notification
Site Type: Non-Disposal Only
Point of Contact: Christine Karl
Activity Is Archived: No
Activity Operational Status: Active
Activity Regulatory Status: Notification
Activity Category: Composting
Activity Classification: Solid Waste Operation

SWIS Number: 15-AA-0375
Site Name: Grimmway Farms Composting
Activity: Agricultural Material Composting Operation

- Continued on next page -

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

SWF/LF

EDR ID: S105964526 **DIST/DIR:** 1.413 North **ELEVATION:** 2792 **MAP ID:** 12

NAME: GRIMMWAY FARMS COMPOSTING
ADDRESS: TEHACHAPIWILLOWSP. RD. 1.5 S. BACKUS RD.
ROSAMOND, CA 93560
KERN
SOURCE: CA Department of Resources Recycling and Recovery

Rev: 02/07/2022
ID/Status: Active
ID/Status: Notification
ID/Status: 15-AA-0375

Waste Type: Manure
Site Is Archived: No
Site Operational Status: Active
Site Regulatory Status: Notification
Site Type: Non-Disposal Only
Point of Contact: Christine Karl
Activity Is Archived: No
Activity Operational Status: Active
Activity Regulatory Status: Notification
Activity Category: Composting
Activity Classification: Solid Waste Operation

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

MINES MRDS

EDR ID: 1025622347 **DIST/DIR:** 1.521 ESE **ELEVATION:** 2615 **MAP ID:** 13

NAME: GOLDENROD PROSPECT **Rev:** 04/06/2018

ADDRESS:
ROSAMOND, CA 93560
KERN

SOURCE: US USGS

MINES MRDS:
Name: GOLDENROD PROSPECT
Address: Not reported
Deposit identification Number: 10139080
City,State,Zip: ROSAMOND, CALIFORNIA 93560
URL: https://mrdata.usgs.gov/mrds/show-mrds.php?dep_id=10139080
MRDS Identification Number: Not reported
MAS/MILS Identification Number: 0060290872
Region: NA
Country: United States
Primary Commodities: Uranium
Secondary Commodities: Not reported
Tertiary Commodities: Not reported
Operation Type: Unknown
Deposit Type: Not reported
Production Size: Not reported
Development Status: Past Producer
Ore Minerals or Materials: Not reported
Gangue Minerals or Materials: Not reported
Other Minerals or Materials: Not reported
Ore Body Form: Not reported
Workings Type: Not reported
Mineral Deposit Model: Not reported
Alteration Processes: Not reported
Concentration Processes: Not reported
Previous Names: Not reported
Ore Controls: Not reported
Reporter: Raney, Russell G.
Host Rock Unit Name: Not reported
Host Rock Type: Not reported
Associated Rock Unit Name: Not reported
Associated Rock Type Code: Not reported
Structural Characteristics: Not reported
Tectonic Setting: Not reported
References: Not reported
First Production Year: Not reported
Began Before/After FPY: Not reported
Last Production Year: Not reported
Ended Before/After LPY: Not reported
Year Discovered: Not reported
Found Before/After YD: Not reported
Production History: Not reported
Discovery Information: Not reported
Latitude: 34.8964

- Continued on next page -

Site Detail Report

Target Property:	TEHACHAPI WILLOW SPRINGS RD ROSAMOND, CA 93560	JOB:	2022-095

MINES MRDS

EDR ID:	1025622347	**DIST/DIR:**	1.521 ESE	**ELEVATION:**	2615	**MAP ID:**	13

NAME: GOLDENROD PROSPECT **Rev:** 04/06/2018

ADDRESS:
ROSAMOND, CA 93560
KERN

SOURCE: US USGS

Longitude: -118.26901

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

HWTS

EDR ID: S123738486 **DIST/DIR:** 1.762 NE **ELEVATION:** 2752 **MAP ID:** 14

NAME: 1X CHARLES GISLER **Rev:** 04/05/2022

ADDRESS: 635 LOS ANGELES AVE
MOORPARK, CA 91360
VENTURA

SOURCE: CA Department of Toxic Substances Control

HWTS:
Name: 1X CHARLES GISLER
Address: 635 LOS ANGELES AVE
Address 2: Not reported
City,State,Zip: MOORPARK, CA 91360
EPA ID: CAC000615128
Inactive Date: 10/25/2000
Create Date: 07/11/1991
Last Act Date: Not reported
Mailing Name: Not reported
Mailing Address: P O BOX 211
Mailing Address 2: Not reported
Mailing City,State,Zip: MOORPARK, CA 913600000
Owner Name: CHARLES GISLER
Owner Address: Not reported
Owner Address 2: Not reported
Owner City,State,Zip: Not reported
Contact Name: ROGER GISLER
Contact Address: Not reported
Contact Address 2: Not reported
City,State,Zip: Not reported
Facility Status: Inactive
Facility Type: TEMPORARY
Category: STATE
Latitude: 34.928982
Longitude: -118.272624

Site Detail Report

Target Property:	TEHACHAPI WILLOW SPRINGS RD ROSAMOND, CA 93560	JOB:	2022-095

HAZNET

EDR ID:	S123738486	**DIST/DIR:**	1.762 NE	**ELEVATION:**	2752	**MAP ID:**	14

NAME: 1X CHARLES GISLER
ADDRESS: 635 LOS ANGELES AVE
MOORPARK, CA 91360
VENTURA
SOURCE: CA California Environmental Protection Agency

Rev: 12/31/2019
ID/Status: CAC000615128

HAZNET:
Name: 1X CHARLES GISLER
Address: 635 LOS ANGELES AVE
Address 2: Not reported
City,State,Zip: MOORPARK, CA 913600000
Contact: ROGER GISLER
Telephone: 7145245923
Mailing Name: Not reported
Mailing Address: P O BOX 211

Year: 1991
Gepaid: CAC000615128
TSD EPA ID: CAT080011059
CA Waste Code: 222 - Oil/water separation sludge
Disposal Method: R01 - Recycler
Tons: 0.0917

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

HWTS

EDR ID: S124829934 **DIST/DIR:** 1.968 South **ELEVATION:** 2563 **MAP ID:** D15

NAME: WILLOW SPRINGS CO **Rev:** 04/05/2022

ADDRESS: 4040 MANLY RD
ROSAMOND, CA 93560
KERN

SOURCE: CA Department of Toxic Substances Control

HWTS:
Name: WILLOW SPRINGS CO
Address: 4040 MANLY RD
Address 2: Not reported
City,State,Zip: ROSAMOND, CA 93560
EPA ID: CAL000230296
Inactive Date: Not reported
Create Date: 02/14/2002
Last Act Date: Not reported
Mailing Name: Not reported
Mailing Address: 4040 MANLY ROAD
Mailing Address 2: Not reported
Mailing City,State,Zip: ROSAMOND, CA 935600000
Owner Name: WILLOW SPRINGS CO
Owner Address: 4040 MANLY RD
Owner Address 2: Not reported
Owner City,State,Zip: ROSAMOND, CA 935600000
Contact Name: RICHARD NELSON, SHOP MGR.
Contact Address: 4040 MANLY
Contact Address 2: Not reported
City,State,Zip: ROSAMOND, CA 93560
Facility Status: Active
Facility Type: PERMANENT
Category: STATE
Latitude: 34.878629
Longitude: -118.296248

NAICS:
EPA ID: CAL000230296
Create Date: 2002-03-14 16:36:29.000
NAICS Code: 92119
NAICS Description: Other General Government Support
Issued EPA ID Date: 2002-02-14 00:00:00
Inactive Date: Not reported
Facility Name: WILLOW SPRINGS CO
Facility Address: 4040 MANLY RD
Facility Address 2: Not reported
Facility City: ROSAMOND
Facility County: Not reported
Facility State: CA
Facility Zip: 935600000

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

RCRA NonGen / NLR

EDR ID: 1024801445 **DIST/DIR:** 1.968 South **ELEVATION:** 2563 **MAP ID:** D16

NAME: WILLOW SPRINGS CO
ADDRESS: 4040 MANLY RD
ROSAMOND, CA 93560
KERN
SOURCE: US Environmental Protection Agency

Rev: 06/20/2022
ID/Status: CAL000230296

RCRA NonGen / NLR:
Date Form Received by Agency: 20020214
Handler Name: WILLOW SPRINGS CO
Handler Address: 4040 MANLY RD
Handler City,State,Zip: ROSAMOND, CA 93560-0000
EPA ID: CAL000230296
Contact Name: RICHARD NELSON, SHOP MGR.
Contact Address: 4040 MANLY
Contact City,State,Zip: ROSAMOND, CA 93560
Contact Telephone: 661-256-2275
Contact Fax: Not reported
Contact Email: KYLEMDDAVIS@GMAIL.COM
Contact Title: Not reported
EPA Region: 09
Land Type: Not reported
Federal Waste Generator Description: Not a generator, verified
Non-Notifier: Not reported
Biennial Report Cycle: Not reported
Accessibility: Not reported
Active Site Indicator: Handler Activities
State District Owner: Not reported
State District: Not reported
Mailing Address: 4040 MANLY ROAD
Mailing City,State,Zip: ROSAMOND, CA 93560-0000
Owner Name: WILLOW SPRINGS CO
Owner Type: Other
Operator Name: RICHARD NELSON, SHOP MGR.
Operator Type: Other
Short-Term Generator Activity: No
Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility Activity: No
Recycler Activity with Storage: No
Small Quantity On-Site Burner Exemption: No
Smelting Melting and Refining Furnace Exemption: No
Underground Injection Control: No
Off-Site Waste Receipt: No
Universal Waste Indicator: Yes
Universal Waste Destination Facility: Yes
Federal Universal Waste: No
Active Site Fed-Reg Treatment Storage and Disposal Facility: Not reported
Active Site Converter Treatment storage and Disposal Facility: Not reported
Active Site State-Reg Treatment Storage and Disposal Facility: Not reported

- Continued on next page -

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

RCRA NonGen / NLR

EDR ID: 1024801445 **DIST/DIR:** 1.968 South **ELEVATION:** 2563 **MAP ID:** D16

NAME: WILLOW SPRINGS CO
ADDRESS: 4040 MANLY RD
ROSAMOND, CA 93560
KERN
SOURCE: US Environmental Protection Agency

Rev: 06/20/2022
ID/Status: CAL000230296

Active Site State-Reg Handler: ---
Federal Facility Indicator: Not reported
Hazardous Secondary Material Indicator: N
Sub-Part K Indicator: Not reported
Commercial TSD Indicator: No
Treatment Storage and Disposal Type: Not reported
2018 GPRA Permit Baseline: Not on the Baseline
2018 GPRA Renewals Baseline: Not on the Baseline
Permit Renewals Workload Universe: Not reported
Permit Workload Universe: Not reported
Permit Progress Universe: Not reported
Post-Closure Workload Universe: Not reported
Closure Workload Universe: Not reported
202 GPRA Corrective Action Baseline: No
Corrective Action Workload Universe: No
Subject to Corrective Action Universe: No
Non-TSDFs Where RCRA CA has Been Imposed Universe: No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: No
TSDFs Only Subject to CA under Discretionary Auth Universe: No
Corrective Action Priority Ranking: No NCAPS ranking
Environmental Control Indicator: No
Institutional Control Indicator: No
Human Exposure Controls Indicator: N/A
Groundwater Controls Indicator: N/A
Operating TSDF Universe: Not reported
Full Enforcement Universe: Not reported
Significant Non-Complier Universe: No
Unaddressed Significant Non-Complier Universe: No
Addressed Significant Non-Complier Universe: No
Significant Non-Complier With a Compliance Schedule Universe: No
Financial Assurance Required: Not reported
Handler Date of Last Change: 20180905
Recognized Trader-Importer: No
Recognized Trader-Exporter: No
Importer of Spent Lead Acid Batteries: No
Exporter of Spent Lead Acid Batteries: No
Recycler Activity Without Storage: No
Manifest Broker: No
Sub-Part P Indicator: No

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: WILLOW SPRINGS CO

- Continued on next page -

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

RCRA NonGen / NLR

EDR ID: 1024801445 **DIST/DIR:** 1.968 South **ELEVATION:** 2563 **MAP ID:** D16

NAME: WILLOW SPRINGS CO
ADDRESS: 4040 MANLY RD
ROSAMOND, CA 93560
KERN
SOURCE: US Environmental Protection Agency

Rev: 06/20/2022
ID/Status: CAL000230296

Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 4040 MANLY RD
Owner/Operator City,State,Zip: ROSAMOND, CA 93560-0000
Owner/Operator Telephone: 661-256-2275
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: RICHARD NELSON, SHOP MGR.
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 4040 MANLY
Owner/Operator City,State,Zip: ROSAMOND, CA 93560
Owner/Operator Telephone: 661-256-2275
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20020214
Handler Name: WILLOW SPRINGS CO
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 92119
NAICS Description: OTHER GENERAL GOVERNMENT SUPPORT

Facility Has Received Notices of Violations:
Violations: No Violations Found

- Continued on next page -

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

RCRA NonGen / NLR

EDR ID: 1024801445 **DIST/DIR:** 1.968 South **ELEVATION:** 2563 **MAP ID:** D16

NAME: WILLOW SPRINGS CO

ADDRESS: 4040 MANLY RD
ROSAMOND, CA 93560
KERN

SOURCE: US Environmental Protection Agency

Rev: 06/20/2022
ID/Status: CAL000230296

Evaluation Action Summary:
Evaluations: No Evaluations Found

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

CERS

EDR ID: S121777644 **DIST/DIR:** 1.968 South **ELEVATION:** 2563 **MAP ID:** D17

NAME: WILLOW SPRINGS CO A CORP **Rev:** 04/18/2022

ADDRESS: 4040 MANLY RD WILLOW SPRINGS RD
ROSAMOND, CA 93560

SOURCE: CA California Environmental Protection Agency

CERS:
Name: WILLOW SPRINGS CO A CORP
Address: 4040 MANLY RD WILLOW SPRINGS RD
City,State,Zip: ROSAMOND, CA 93560
Site ID: 407785
CERS ID: 10233421
CERS Description: Chemical Storage Facilities

Violations:
Site ID: 407785
Site Name: WILLOW SPRINGS CO A CORP
Violation Date: 06-06-2014
Citation: 22 CCR 12 66262.12 - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.12
Violation Description: Failure to obtain and/or maintain an Active EPA ID.
Violation Notes: Returned to compliance on 08/26/2014. Submit active EPA ID number to CERS online.
Violation Division: Kern County Env Health Services Department
Violation Program: HW
Violation Source: CERS,

Site ID: 407785
Site Name: WILLOW SPRINGS CO A CORP
Violation Date: 06-06-2014
Citation: HSC 6.95 25504(b) - California Health and Safety Code, Chapter 6.95, Section(s) 25504(b)
Violation Description: Failure to include adequate emergency response procedures in the business plan for a release or threatened release.
Violation Notes: Returned to compliance on 06/13/2014. Submit Emergency response/Contingency Plan to CERS online.
Violation Division: Kern County Env Health Services Department
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 407785
Site Name: WILLOW SPRINGS CO A CORP
Violation Date: 06-28-2017
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description: Failure to complete and electronically submit hazardous material inventory information for all reportable hazardous materials on site at or above reportable quantities.
Violation Notes: Returned to compliance on 07/05/2018. Add Acetone to your hazardous materials inventory.
Violation Division: Kern County Env Health Services Department

- Continued on next page -

CERS

EDR ID: S121777644 **DIST/DIR:** 1.968 South **ELEVATION:** 2563 **MAP ID:** D17

NAME: WILLOW SPRINGS CO A CORP **Rev:** 04/18/2022

ADDRESS: 4040 MANLY RD WILLOW SPRINGS RD
ROSAMOND, CA 93560

SOURCE: CA California Environmental Protection Agency

Violation Program: HMRRP
Violation Source: CERS,

Site ID: 407785
Site Name: WILLOW SPRINGS CO A CORP
Violation Date: 06-06-2014
Citation: HSC 6.95 25504(a) - California Health and Safety Code, Chapter 6.95, Section(s) 25504(a)
Violation Description: Failure to complete and/or submit hazardous material inventory forms for all reportable hazardous materials on site.
Violation Notes: Returned to compliance on 08/26/2014. Please update the maximum Daily Amount of these hazardous materials reported to CERS: Gasoline (300 gallons), Diesel (300 gallons), Oxygen (500 cubic feet), and Argon Mix (1000 cubic feet).
Violation Division: Kern County Env Health Services Department
Violation Program: HMRRP
Violation Source: CERS,

Site ID: 407785
Site Name: WILLOW SPRINGS CO A CORP
Violation Date: 06-06-2014
Citation: HSC 6.95 25504(c) - California Health and Safety Code, Chapter 6.95, Section(s) 25504(c)
Violation Description: Failure to include an adequate training program in the business plan, which is reasonable and appropriate for the size of the business and the nature of the hazardous material handled.
Violation Notes: Returned to compliance on 06/13/2014. Submit Training Plan to CERS online.
Violation Division: Kern County Env Health Services Department
Violation Program: HMRRP
Violation Source: CERS,

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 03-11-2020
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: No HazWaste present at time of inspection.
Eval Division: Kern County Env Health Services Department
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-06-2014

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Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

CERS

EDR ID: S121777644 **DIST/DIR:** 1.968 South **ELEVATION:** 2563 **MAP ID:** D17

NAME: WILLOW SPRINGS CO A CORP **Rev:** 04/18/2022

ADDRESS: 4040 MANLY RD WILLOW SPRINGS RD
ROSAMOND, CA 93560

SOURCE: CA California Environmental Protection Agency

Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Kern County Env Health Services Department
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-28-2017
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Kern County Env Health Services Department
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 03-11-2020
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Kern County Env Health Services Department
Eval Program: HMRRP
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-28-2017
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Kern County Env Health Services Department
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-06-2014
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Kern County Env Health Services Department
Eval Program: HMRRP
Eval Source: CERS,

Enforcement Action:

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Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

CERS

EDR ID: S121777644 **DIST/DIR:** 1.968 South **ELEVATION:** 2563 **MAP ID:** D17

NAME: WILLOW SPRINGS CO A CORP **Rev:** 04/18/2022

ADDRESS: 4040 MANLY RD WILLOW SPRINGS RD
ROSAMOND, CA 93560

SOURCE: CA California Environmental Protection Agency

Site ID: 407785
Site Name: WILLOW SPRINGS CO A CORP
Site Address: 4040 MANLY RD WILLOW SPRINGS RD
Site City: ROSAMOND
Site Zip: 93560
Enf Action Date: 06-06-2014
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Kern County Env Health Services Department
Enf Action Program: HMRRP
Enf Action Source: CERS,

Site ID: 407785
Site Name: WILLOW SPRINGS CO A CORP
Site Address: 4040 MANLY RD WILLOW SPRINGS RD
Site City: ROSAMOND
Site Zip: 93560
Enf Action Date: 06-06-2014
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Kern County Env Health Services Department
Enf Action Program: HW
Enf Action Source: CERS,

Affiliation:
Affiliation Type Desc: Environmental Contact
Entity Name: RICHARD NELSON
Entity Title: Not reported
Affiliation Address: 4040 MANLY
Affiliation City: ROSAMOND
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 93560
Affiliation Phone: ,

Affiliation Type Desc: Legal Owner
Entity Name: WILLOW SPRINGS CO A CORP
Entity Title: Not reported
Affiliation Address: 4040 MANLY RD
Affiliation City: ROSAMOND
Affiliation State: CA
Affiliation Country: United States

- Continued on next page -

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

CERS

EDR ID: S121777644 **DIST/DIR:** 1.968 South **ELEVATION:** 2563 **MAP ID:** D17

NAME: WILLOW SPRINGS CO A CORP **Rev:** 04/18/2022

ADDRESS: 4040 MANLY RD WILLOW SPRINGS RD
ROSAMOND, CA 93560

SOURCE: CA California Environmental Protection Agency

Affiliation Zip: 93560
Affiliation Phone: (661) 256-2275,

Affiliation Type Desc: CUPA District
Entity Name: Kern County Environmental Health Services Departme
Entity Title: Not reported
Affiliation Address: 2700 M Street, Suite 300
Affiliation City: Bakersfield
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 93301-2370
Affiliation Phone: (661) 862-8740,

Affiliation Type Desc: Operator
Entity Name: R.H. NELSON
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: (661) 823-9111,

Affiliation Type Desc: Parent Corporation
Entity Name: WILLOW SPRINGS CO A CORP
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: ,

Affiliation Type Desc: Document Preparer
Entity Name: Kyle Davis
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: ,

Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address

- Continued on next page -

Site Detail Report

CERS

EDR ID: S121777644 **DIST/DIR:** 1.968 South **ELEVATION:** 2563 **MAP ID:** D17

NAME: WILLOW SPRINGS CO A CORP **Rev:** 04/18/2022

ADDRESS: 4040 MANLY RD WILLOW SPRINGS RD
ROSAMOND, CA 93560

SOURCE: CA California Environmental Protection Agency

Entity Title: Not reported
Affiliation Address: 4040 MANLY RD
Affiliation City: ROSAMOND
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 93560
Affiliation Phone: ,

Affiliation Type Desc: Identification Signer
Entity Name: Kyle Davis
Entity Title: Manager
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: ,

Site Detail Report

Target Property:	TEHACHAPI WILLOW SPRINGS RD ROSAMOND, CA 93560	JOB:	2022-095

CUPA Listings

EDR ID:	S121777644	**DIST/DIR:**	1.968 South	**ELEVATION:**	2563	**MAP ID:**	D17

NAME: WILLOW SPRINGS CO A CORP **Rev:**

ADDRESS: 4040 MANLY RD WILLOW SPRINGS RD
ROSAMOND, CA 93560

SOURCE: CA Please see county level database for agency information.

KERN CO CUPA:
Facility ID: FA0002385
CERS ID: 10233421
Name: WILLOW SPRINGS CO A CORP
Address: 4040 MANLY RD WILLOW SPRINGS RD
Address 2: 4040 MANLY RD WILLOW SPRINGS RD
City,State,Zip: ROSAMOND, CA
Billing Status: Active, billable
Program Element: BUS PLAN SMALL LOW RISK 1 UNIT
Program Element Code: CB1T
HMIRRP Due Date: 12/31/2013
Current Inspection Date: 2/1/2023
Employee: COGLEY
Mailing Address: 4040 MANLY RD
Mailing Address 2: Not reported
Mailing City: ROSAMOND
Mailing State: CA
Mailing Zip: 93560

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

CERS HAZ WASTE

EDR ID: S121777644 **DIST/DIR:** 1.968 South **ELEVATION:** 2563 **MAP ID:** D17

NAME: WILLOW SPRINGS CO A CORP **Rev:** 04/18/2022

ADDRESS: 4040 MANLY RD WILLOW SPRINGS RD
ROSAMOND, CA 93560

SOURCE: CA CalEPA

CERS HAZ WASTE:
Name: WILLOW SPRINGS CO A CORP
Address: 4040 MANLY RD WILLOW SPRINGS RD
City,State,Zip: ROSAMOND, CA 93560
Site ID: 407785
CERS ID: 10233421
CERS Description: Hazardous Waste Generator

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

FINDS

EDR ID: 1023208084 **DIST/DIR:** 1.968 South **ELEVATION:** 2563 **MAP ID:** D18

NAME: WILLOW SPRINGS COMPANY
ADDRESS: 4040 MANLY RD WILLOW SPRINGS RD
ROSAMOND, CA 93560
KERN
SOURCE: US EPA

Rev: 05/13/2022
ID/Status: 110064933309

FINDS:
Registry ID: 110064933309

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
AIR EMISSIONS CLASSIFICATION UNKNOWN
STATE MASTER

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

ECHO

EDR ID: 1024665335 **DIST/DIR:** 1.968 South **ELEVATION:** 2563 **MAP ID:** D19

NAME: WILLOW SPRINGS CO
ADDRESS: 4040 MANLY RD
ROSAMOND, CA 93560
KERN
SOURCE: US Environmental Protection Agency

Rev: 04/02/2022
ID/Status: 110070453729

ECHO:
Envid: 1024665335
Registry ID: 110070453729
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110070453729
Name: WILLOW SPRINGS CO
Address: 4040 MANLY RD
City,State,Zip: ROSAMOND, CA 93560

Site Detail Report

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

FINDS

EDR ID: 1024665335 **DIST/DIR:** 1.968 South **ELEVATION:** 2563 **MAP ID:** D19

NAME: WILLOW SPRINGS CO
ADDRESS: 4040 MANLY RD
ROSAMOND, CA 93560
KERN
SOURCE: US EPA

Rev: 05/13/2022
ID/Status: 110070453729

FINDS:
Registry ID: 110070453729

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

Database Descriptions

NPL: NPL National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices. NPL - National Priority List Proposed NPL - Proposed National Priority List Sites.

NPL Delisted: Delisted NPL The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate. Delisted NPL - National Priority List Deletions

CERCLIS: SEMS SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL. SEMS - Superfund Enterprise Management System

NFRAP: SEMS-ARCHIVE SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site. SEMS-ARCHIVE - Superfund Enterprise Management System Archive

RCRA COR ACT: CORRACTS CORRACTS identifies hazardous waste handlers with RCRA corrective action activity. CORRACTS - Corrective Action Report

RCRA TSD: RCRA-TSDF RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste. RCRA-TSDF - RCRA - Treatment, Storage and Disposal

RCRA GEN: RCRA-LQG RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. RCRA-LQG - RCRA - Large Quantity Generators RCRA-SQG - RCRA - Small Quantity Generators. RCRA-VSQG - RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators).

Federal IC / EC: US ENG CONTROLS A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health. US ENG CONTROLS - Engineering Controls Sites List US INST CONTROLS - Institutional Controls Sites List.

Database Descriptions

ERNS: ERNS Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances. ERNS - Emergency Response Notification System

State/Tribal NPL: RESPONSE Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk. RESPONSE - State Response Sites

State/Tribal CERCLIS: ENVIROSTOR The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites. ENVIROSTOR - EnviroStor Database

State/Tribal SWL: SWF/LF (SWIS) Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites. SWF/LF (SWIS) - Solid Waste Information System

State/Tribal LTANKS: SAN MATEO CO. LUST ORANGE CO. LUST - List of Underground Storage Tank Cleanups. LUST REG 5 - Leaking Underground Storage Tank Database. RIVERSIDE CO. LUST - Listing of Underground Tank Cleanup Sites. SOLANO CO. LUST - Leaking Underground Storage Tanks. LUST REG 8 - Leaking Underground Storage Tanks. VENTURA CO. LUST - Listing of Underground Tank Cleanup Sites. SAN FRANCISCO CO. LUST - Local Oversite Facilities. SONOMA CO. LUST - Leaking Underground Storage Tank Sites. NAPA CO. LUST - Sites With Reported Contamination. LUST REG 9 - Leaking Underground Storage Tank Report. LUST - Leaking Underground Fuel Tank Report (GEOTRACKER). LUST REG 4 - Underground Storage Tank Leak List. LUST REG 6L - Leaking Underground Storage Tank Case Listing. LUST SANTA CLARA - LOP Listing. LUST REG 6V - Leaking Underground Storage Tank Case Listing. LUST REG 7 - Leaking Underground Storage Tank Case Listing. LUST REG 1 - Active Toxic Site Investigation. SAN DIEGO CO. SAM - Environmental Case Listing. LUST REG 2 - Fuel Leak List. LUST REG 3 - Leaking Underground Storage Tank Database. Orange County Underground Storage Tank Cleanups (LUST). LUST REG 3 - List of Underground Storage Tank Cleanups INDIAN LUST R8 - Leaking Underground Storage Tanks on Indian Land. INDIAN LUST R1 - Leaking Underground Storage Tanks on Indian Land. INDIAN LUST R5 - Leaking Underground Storage Tanks on Indian Land. INDIAN LUST R6 - Leaking Underground Storage Tanks on Indian Land. INDIAN LUST R4 - Leaking Underground Storage Tanks on Indian Land. INDIAN LUST R10 - Leaking Underground Storage Tanks on Indian Land. INDIAN LUST R9 - Leaking Underground Storage Tanks on Indian Land. INDIAN LUST R7 - Leaking Underground Storage Tanks on Indian Land. CPS-SLIC - Statewide SLIC Cases (GEOTRACKER). SLIC REG 1 - Active Toxic Site Investigations. SLIC REG 2 - Spills, Leaks, Investigation & Cleanup Cost Recovery Listing. SLIC REG 3 - Spills, Leaks, Investigation & Cleanup Cost Recovery Listing. SLIC REG 4 - Spills, Leaks, Investigation & Cleanup Cost Recovery Listing. SLIC REG 5 - Spills, Leaks, Investigation & Cleanup Cost Recovery Listing. SLIC REG 6V - Spills, Leaks, Investigation & Cleanup Cost Recovery Listing. SLIC REG 6L - SLIC Sites. SLIC REG 7 - SLIC List. SLIC REG 8 - Spills, Leaks, Investigation & Cleanup Cost Recovery Listing. Sacramento Co. CS - Toxic Site Clean-Up List. SLIC REG 9 - Spills, Leaks, Investigation & Cleanup Cost Recovery Listing.

State/Tribal Tanks: UST CLOSURE MILITARY UST SITES - Military UST Sites (GEOTRACKER). UST - Active UST Facilities. Active UST facilities gathered from the local regulatory agencies UST - Active UST Facilities AST - Aboveground Petroleum Storage Tank Facilities. INDIAN UST R4 - Underground Storage Tanks on Indian Land. INDIAN UST R10 - Underground Storage Tanks on Indian Land. INDIAN UST R1 - Underground Storage Tanks on Indian Land. INDIAN UST R6 - Underground Storage Tanks on Indian Land. INDIAN UST R5 - Underground Storage Tanks on Indian Land. INDIAN UST R8 - Underground Storage Tanks on Indian Land. INDIAN UST R9 - Underground Storage Tanks on Indian Land. INDIAN UST R7 - Underground Storage Tanks on Indian Land.

Database Descriptions

State/Tribal VCP: VCP Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs. VCP - Voluntary Cleanup Program Properties SAN FRANCISCO MAHER - Maher Ordinance Property Listing.

ST/Tribal Brownfields: BROWNFIELDS A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process. BROWNFIELDS - Considered Brownfieds Sites Listing

US Brownfields: US BROWNFIELDS Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs. US BROWNFIELDS - A Listing of Brownfields Sites

Other SWF: VENTURA CO. LF CA LA LF - City of Los Angeles Landfills. WMUDS/SWAT - Waste Management Unit Database. SAN DIEGO CO. LF - Solid Waste Facilities. LOS ANGELES CO. LF - List of Solid Waste Facilities. Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites. LOS ANGELES CO. LF - Inventory of Illegal Abandoned and Inactive Sites IHS OPEN DUMPS - Open Dumps on Indian Land.

Other Haz Sites: SCH This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose. SCH - School Property Evaluation Program SAN DIEGO CO. HMMD - Hazardous Materials Management Division Database. CERS HAZ WASTE - CERS HAZ WASTE. US CDL - Clandestine Drug Labs. PFAS - PFAS Contamination Site Location Listing. AQUEOUS FOAM - Former Fire Training Facility Assessments Listing.

Other Tanks: SWEEPS UST Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list. SWEEPS UST - SWEEPS UST Listing ALAMEDA CO. UST - Underground Tanks. KERN CO. UST - Underground Storage Tank Sites & Tank Listing. MARIN CO. UST - Underground Storage Tank Sites. NAPA CO. UST - Closed and Operating Underground Storage Tank Sites. ORANGE CO. UST - List of Underground Storage Tank Facilities. RIVERSIDE CO. UST - Underground Storage Tank Tank List. SAN FRANCISCO CO. UST - Underground Storage Tank Information. SOLANO CO. UST - Underground Storage Tanks. SUTTER CO. UST - Underground Storage Tanks. VENTURA CO. UST - Underground Tank Closed Sites List. LOS ANGELES UST - Active & Inactive UST Inventory. YOLO CO. UST - Underground Storage Tank Comprehensive Facility Report. EL SEGUNDO UST - City of El Segundo Underground Storage Tank. LONG BEACH UST - City of Long Beach Underground Storage Tank. UST MENDOCINO - Mendocino County UST Database. UST SAN JOAQUIN - San Joaquin Co. UST. TORRANCE UST - City of Torrance Underground Storage Tank. SAN FRANCISCO AST - Aboveground Storage Tank Site Listing. LOS ANGELES AST - Active & Inactive AST Inventory. CA FID UST - Facility Inventory Database. CERS TANKS - California Environmental Reporting System (CERS) Tanks.

Local Land Records: DEED Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners. DEED - Deed Restriction Listing

Database Descriptions

Spills: HMIRS Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT. HMIRS - Hazardous Materials Information Reporting System CHMIRS - California Hazardous Material Incident Report System. Orange Co. Industrial Site - List of Industrial Site Cleanups. SPILLS 90 - SPILLS90 data from FirstSearch.

Other: RCRA NonGen / NLR RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste. RCRA NonGen / NLR - RCRA - Non Generators / No Longer Regulated FEDLAND - Federal and Indian Lands. TSCA - Toxic Substances Control Act. TRIS - Toxic Chemical Release Inventory System. SSTS - Section 7 Tracking Systems. RMP - Risk Management Plans. RAATS - RCRA Administrative Action Tracking System. PRP - Potentially Responsible Parties. PADS - PCB Activity Database System. ICIS - Integrated Compliance Information System. FTTS - FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act). FTTS INSP - FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act). MLTS - Material Licensing Tracking System. RADINFO - Radiation Information Database. BRS - Biennial Reporting System. INDIAN RESERV - Indian Reservations. FUSRAP - Formerly Utilized Sites Remedial Action Program. US AIRS (AFS) - Aerometric Information Retrieval System Facility Subsystem (AFS).
US AIRS MINOR - Air Facility System Data. ABANDONED MINES - Abandoned Mines. FINDS - Facility Index System/Facility Registry System. ECHO - Enforcement & Compliance History Information. UXO - Unexploded Ordnance Sites. DOCKET HWC - Hazardous Waste Compliance Docket Listing. FUELS PROGRAM - EPA Fuels Program Registered Listing. CORTESE - "Cortese" Hazardous Waste & Substances Sites List. CUPA - CUPA Resources List. CUPA AMADOR - CUPA Facility List. CUPA BUTTE - CUPA Facility Listing. CUPA CALVERAS - CUPA Facility Listing. CUPA COLUSA - CUPA Facility List. CUPA DEL NORTE - CUPA Facility List. CUPA EL DORADO - CUPA Facility List. CUPA FRESNO - CUPA Resources List. CUPA HUMBOLDT - CUPA Facility List. CUPA GLENN - CUPA Facility List. CUPA TULARE - CUPA Facility List. CUPA LIVERMORE-PLEASANTON - CUPA Facility Listing. CUPA SAN BENITO - CUPA Facility List. CUPA IMPERIAL - CUPA Facility List. CUPA TEHAMA - CUPA Facility List. CUPA PLUMAS - CUPA Facility List. CUPA LASSEN - CUPA Facility List. CUPA TRINITY - CUPA Facility List. CUPA STANISLAUS - CUPA Facility List. CUPA SAN FRANCISCO CO - CUPA Facility Listing. CUPA INYO - CUPA Facility List. CUPA KINGS - CUPA Facility List.
CUPA LAKE - CUPA Facility List. CUPA MADERA - CUPA Facility List. CUPA MERCED - CUPA Facility List. CUPA MONO - CUPA Facility List. CUPA MONTEREY - CUPA Facility Listing. CUPA NEVADA - CUPA Facility List. CUPA SAN LUIS OBISPO - CUPA Facility List. CUPA SANTA BARBARA - CUPA Facility Listing. CUPA SANTA CLARA - Cupa Facility List. CUPA SANTA CRUZ - CUPA Facility List. CUPA SHASTA - CUPA Facility List. CUPA SONOMA - Cupa Facility List. CUPA TUOLUMNE - CUPA Facility List. CUPA YUBA - CUPA Facility List. KERN CO CUPA - CUPA Facility List. HAZNET - Facility and Manifest Data. ICE - ICE. MINES - Mines Site Location Listing. Sacramento Co. ML - Master Hazardous Materials Facility List. San Bern. Co. Permit - Hazardous Material Permits. PEST LIC - Pesticide Regulation Licenses Listing.
LA Co. Site Mitigation - Site Mitigation List. UIC GEO - Underground Injection Control Sites (GEOTRACKER). WASTEWATER PITS - Oil Wastewater Pits Listing. WDS - Waste Discharge System. MILITARY PRIV SITES - Military Privatized Sites (GEOTRACKER). PROJECT - Project Sites (GEOTRACKER). WDR - Waste Discharge Requirements Listing. SAN DIEGO CO LOP - Local Oversight Program Listing. CIWQS - California Integrated Water Quality System. CERS - CalEPA Regulated Site Portal Data. NON-CASE INFO - Non-Case Information Sites (GEOTRACKER). OTHER OIL GAS - Other Oil & Gas Projects Sites (GEOTRACKER). PROD WATER PONDS - Produced Water Ponds Sites (GEOTRACKER). SAMPLING POINT - Sampling Point ? Public Sites (GEOTRACKER). WELL STIM PROJ - Well Stimulation Project (GEOTRACKER). MINES MRDS - Mineral Resources Data System. PCS INACTIVE - Listing of Inactive PCS Permits. PCS - Permit Compliance System. HWTS - Hazardous Waste Tracking System. LOS ANGELES CO LF METHANE - Methane Producing Landfills. PCS ENF - Enforcement data.

Database Sources

NPL: EPA

Updated Quarterly

NPL Delisted: EPA

Updated Quarterly

CERCLIS: EPA

Updated Quarterly

NFRAP: EPA

Updated Quarterly

RCRA COR ACT: EPA

Updated Quarterly

RCRA TSD: Environmental Protection Agency

Updated Quarterly

RCRA GEN: Environmental Protection Agency

Updated Quarterly

Federal IC / EC: Environmental Protection Agency

Varies

ERNS: National Response Center, United States Coast Guard

Updated Quarterly

State/Tribal NPL: Department of Toxic Substances Control

Updated Quarterly

State/Tribal CERCLIS: Department of Toxic Substances Control

Updated Quarterly

State/Tribal SWL: Department of Resources Recycling and Recovery

Updated Quarterly

State/Tribal LTANKS: California Regional Water Quality Control Board Central Coast Region (3)

No Update Planned

Database Sources

State/Tribal Tanks: SWRCB

Updated Semi-Annually

State/Tribal VCP: Department of Toxic Substances Control

Updated Quarterly

ST/Tribal Brownfields: State Water Resources Control Board

Updated Quarterly

US Brownfields: Environmental Protection Agency

Updated Semi-Annually

Other SWF: Environmental Health Division

No Update Planned

Other Haz Sites: Department of Toxic Substances Control

Updated Quarterly

Other Tanks: State Water Resources Control Board

No Update Planned

Local Land Records: DTSC and SWRCB

Updated Semi-Annually

Spills: U.S. Department of Transportation

Updated Quarterly

Other: Environmental Protection Agency

Updated Quarterly

Street Name Report for Streets near the Target Property

Target Property: TEHACHAPI WILLOW SPRINGS RD
ROSAMOND, CA 93560

JOB: 2022-095

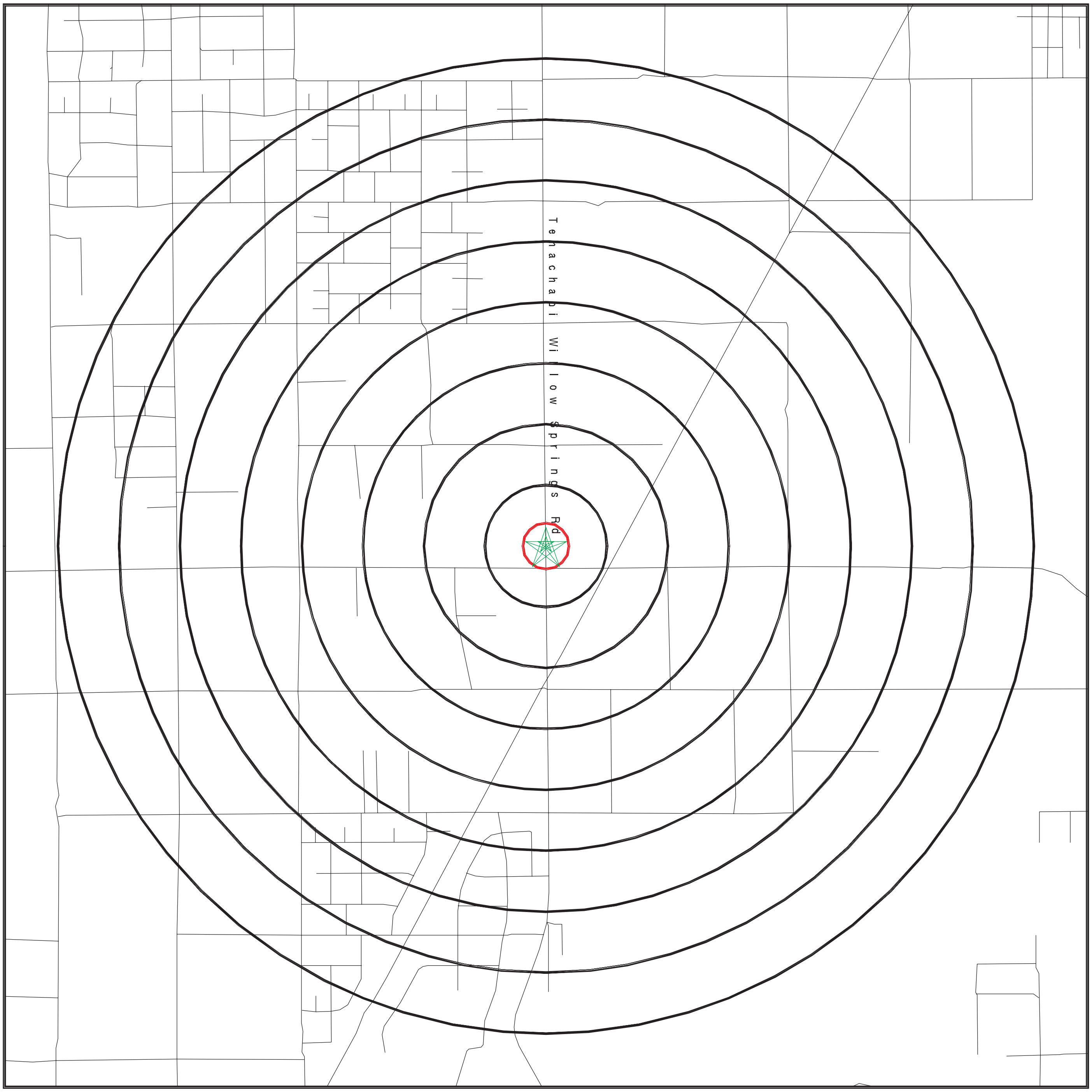
Street Name	Dist/Dir	Street Name	Dist/Dir
Dawn Rd	0.09 South		
Tehachapi Willow Springs Rd	0.00 --		

Environmental FirstSearch

2.000 Mile Radius

ASTM MAP: NPL, RCRACOR, STATES Sites

TEHACHAPI WILLOW SPRINGS RD ROSAMOND, CA 93560



Black Rings Represent Qtr. Mile Radius; Red Ring Represents 500 ft. Radius

Target Property (Latitude: 34.908597 Longitude: 118.291344)

Identified Sites

Indian Reservations BIA

National Priority List Sites

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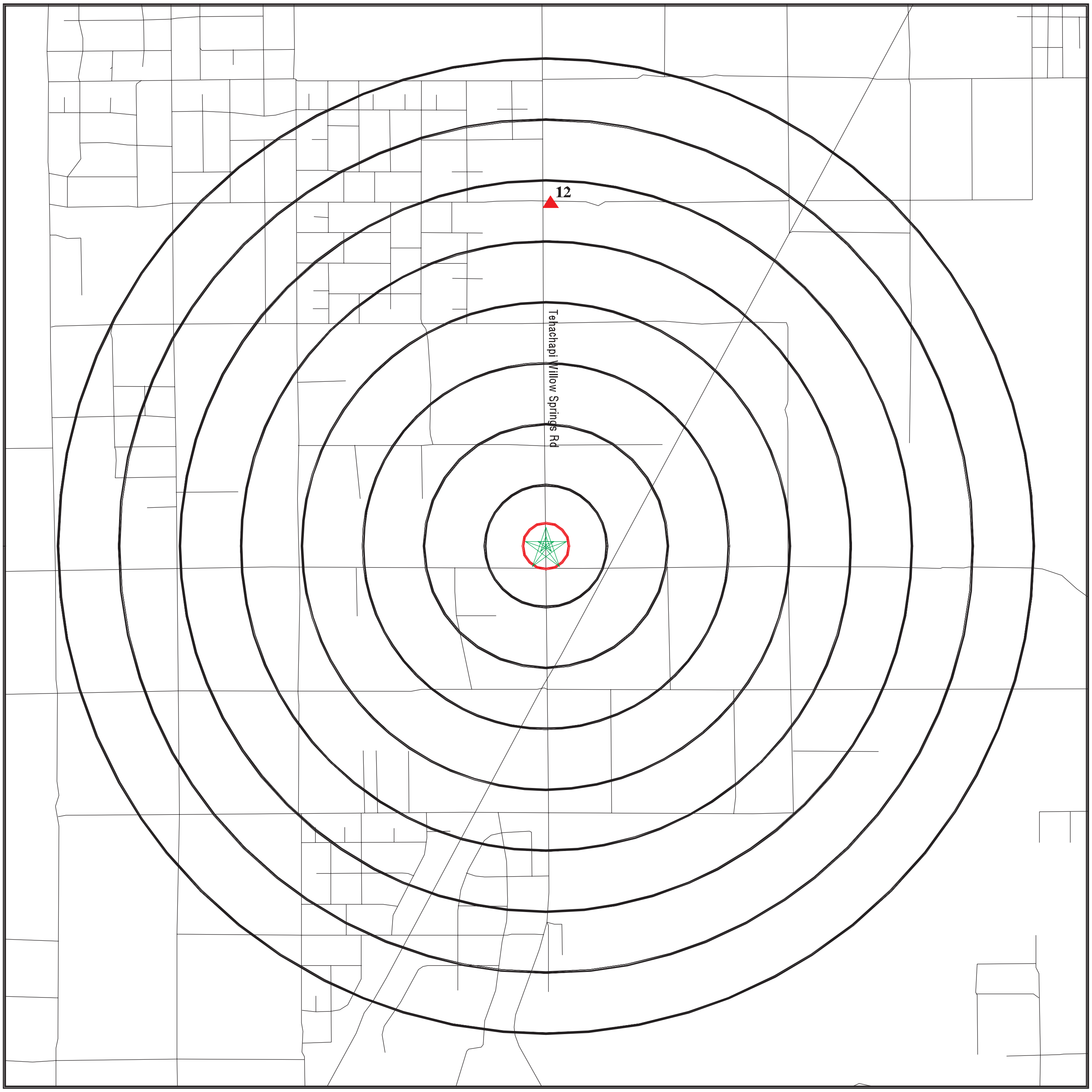
Environmental FirstSearch

2.000 Mile Radius

ASTM MAP: CERCLIS, RCRATSD, LUST, SWL

TEHACHAPI WILLOW SPRINGS RD ROSAMOND, CA 93560



Black Rings Represent Qtr. Mile Radius; **Red Ring Represents 500 ft. Radius**

- Target Property (Latitude: 34.908597 Longitude: 118.291344)
- Identified Sites
- National Priority List Sites
- Indian Reservations BIA

EDR Reference Code (EDR internal use only): 7055746.2s
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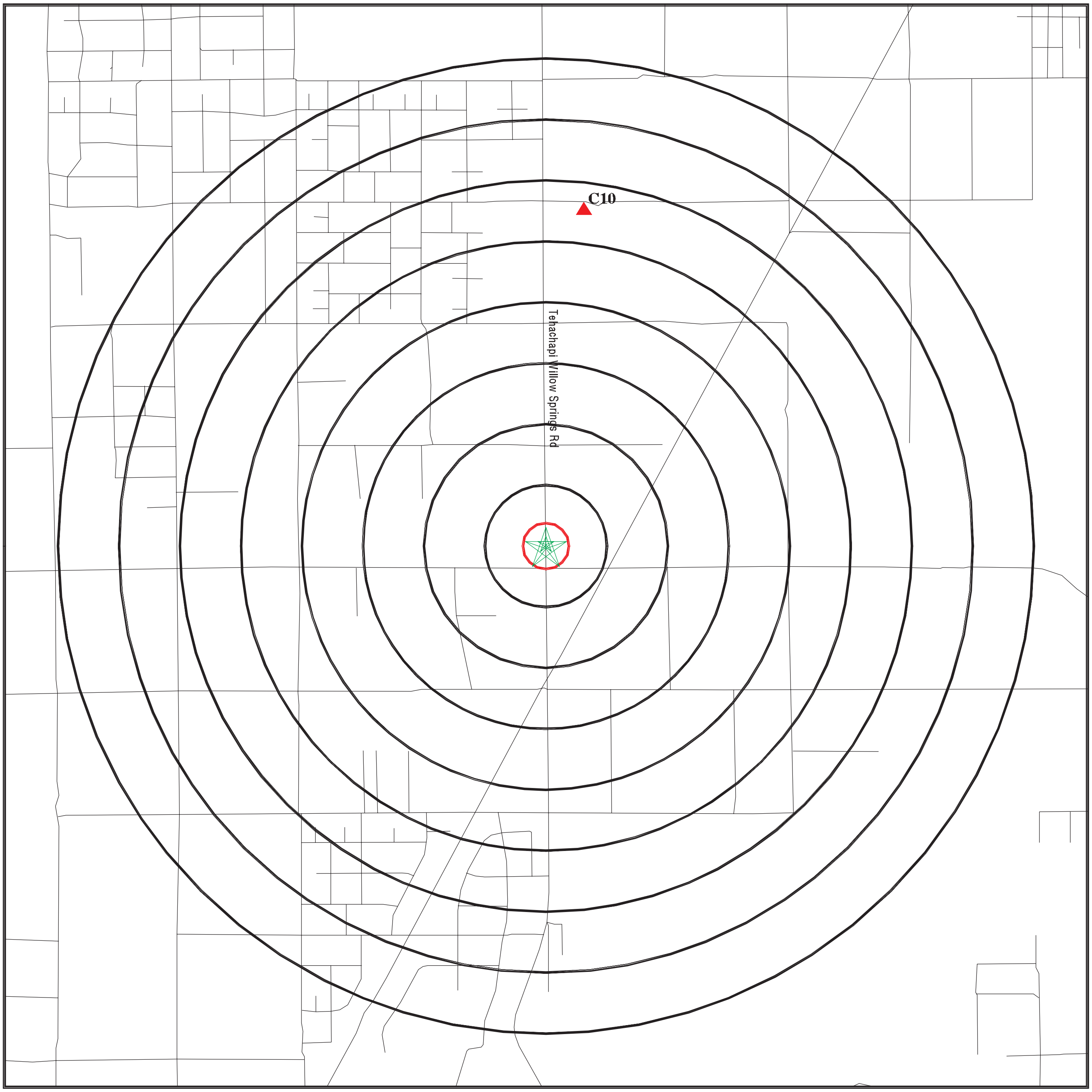
22-07-18.11:29:23.Mon

Environmental FirstSearch

2.000 Mile Radius

ASTM MAP: RCRAGEN, ERNS, UST, FED IC/EC, METH LABS

TEHACHAPI WILLOW SPRINGS RD ROSAMOND, CA 93560



Black Rings Represent Qtr. Mile Radius; **Red Ring Represents 500 ft. Radius**

- **Target Property (Latitude: 34.908597 Longitude: 118.291344)**
- **Identified Sites**
- **Indian Reservations BIA**
- **National Priority List Sites**

EDR Reference Code (EDR internal use only): 7055746.2s

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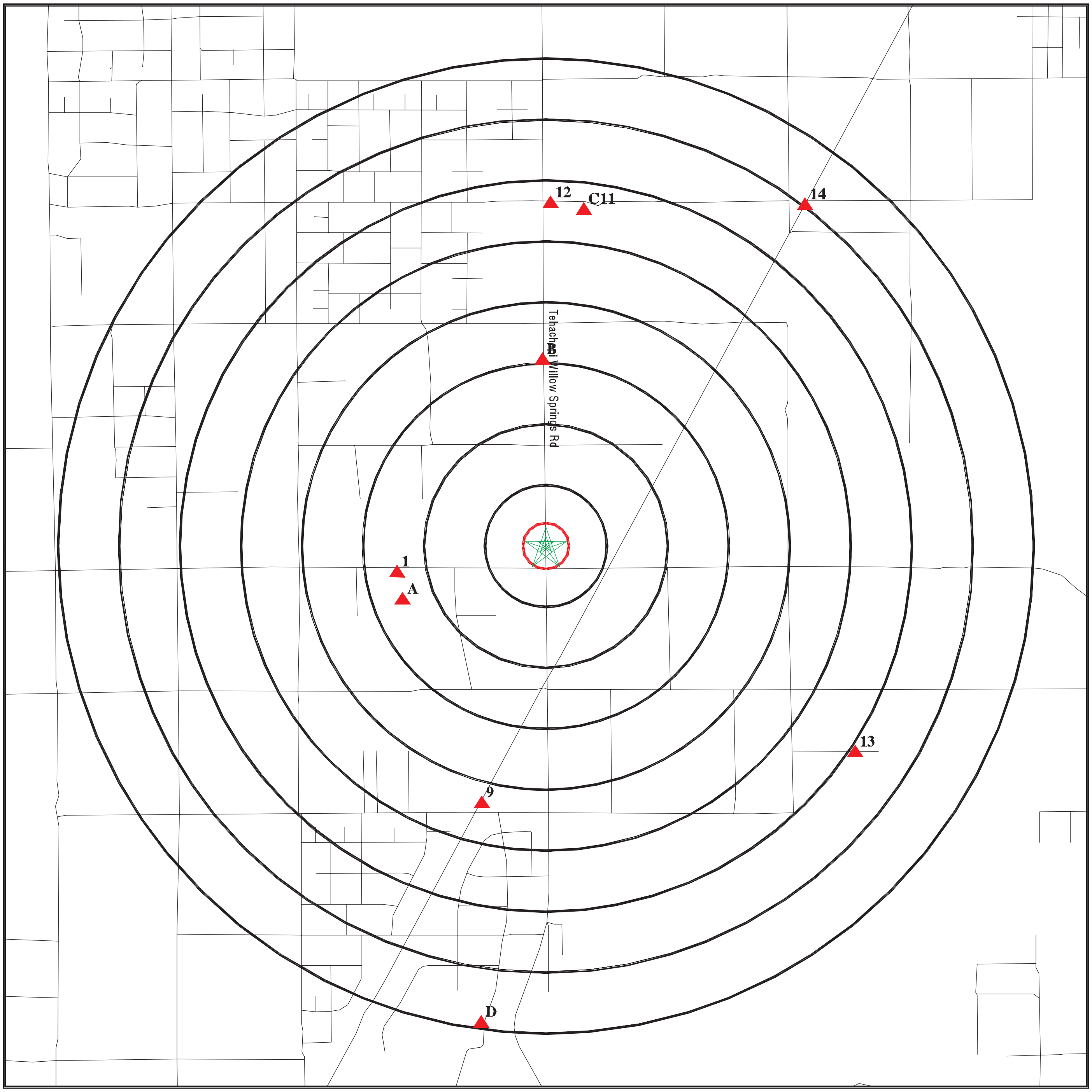
22-07-18.11:29:32.Mon

Environmental FirstSearch

2.000 Mile Radius

Non ASTM Map, Spills, FINDS

TEHACHAPI WILLOW SPRINGS RD ROSAMOND, CA 93560



Black Rings Represent Qtr. Mile Radius; **Red Ring Represents 500 ft. Radius**

Target Property (Latitude: 34.908597 Longitude: 118.291344)

Identified Sites

Indian Reservations BIA

Sensitive Receptors

National Priority List Sites

EDR Reference Code (EDR internal use only): 7055746.2s

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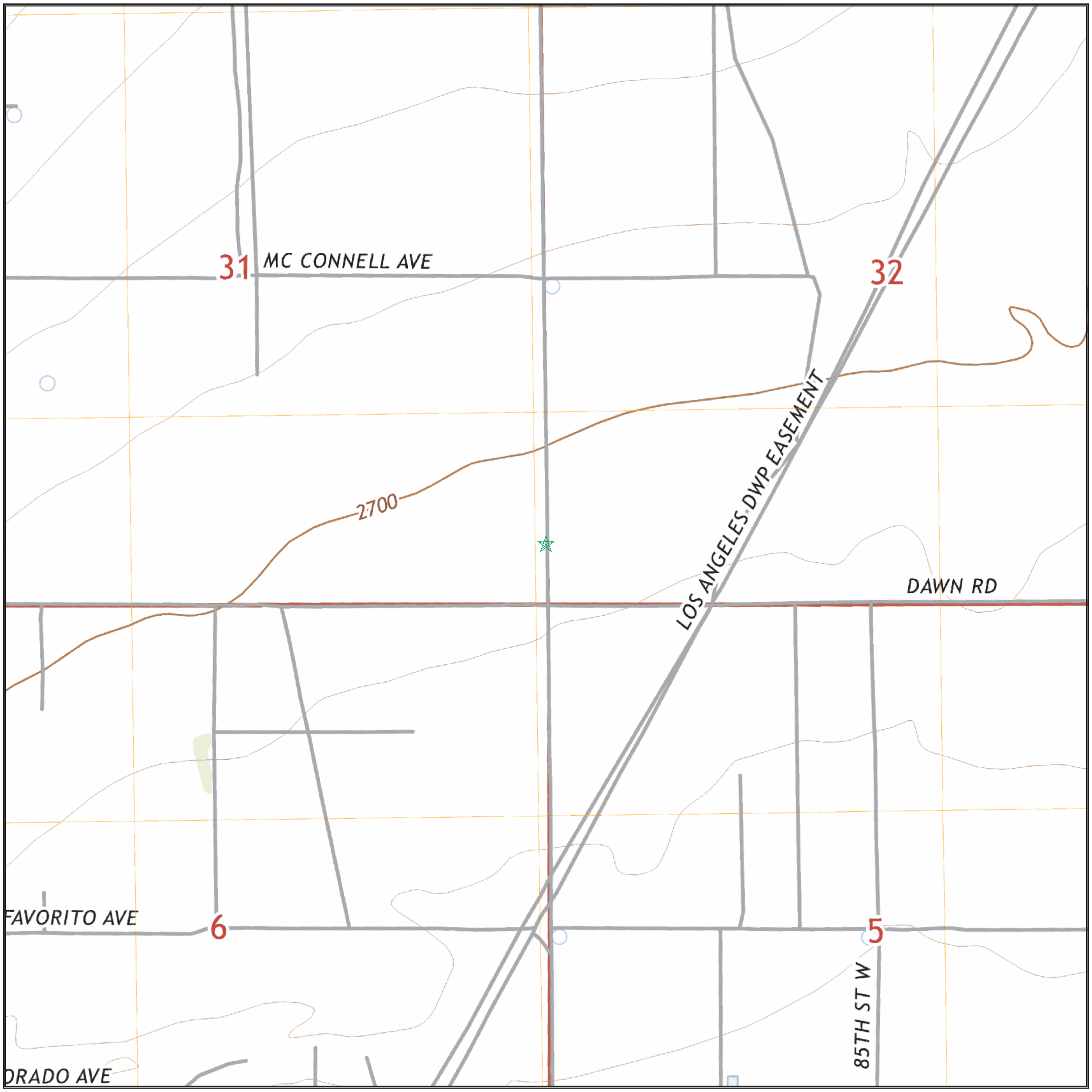
Site location Map

Topo: 0.75 Mile Radius

TEHACHAPI WILLOW SPRINGS RD ROSAMOND, CA 93560



Map Image Position: TP
Map Reference Code & Name: 11994324 Willow Springs
Map State(s): CA
Version Date: 2018

EDR Reference Code (EDR internal use only): 7055746.2s

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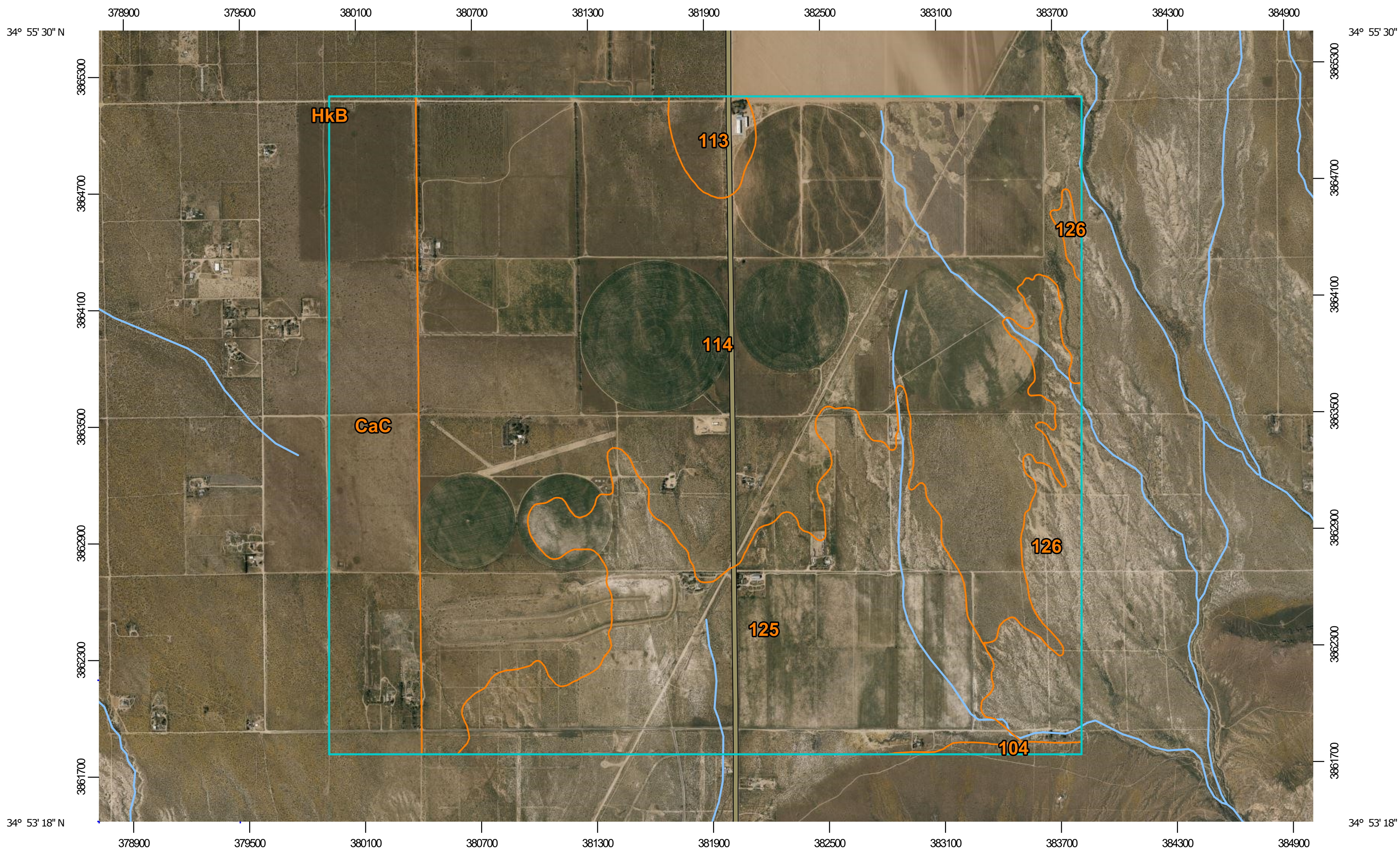


Map Scale: 1:28,700 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0, 400, 800, 1600, 2400

Feet: 0, 1000, 2000, 4000, 6000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Antelope Valley Area, California
Survey Area Data: Version 13, May 27, 2020

Soil Survey Area: Kern County, California, Southeastern Part
Survey Area Data: Version 11, May 27, 2020

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

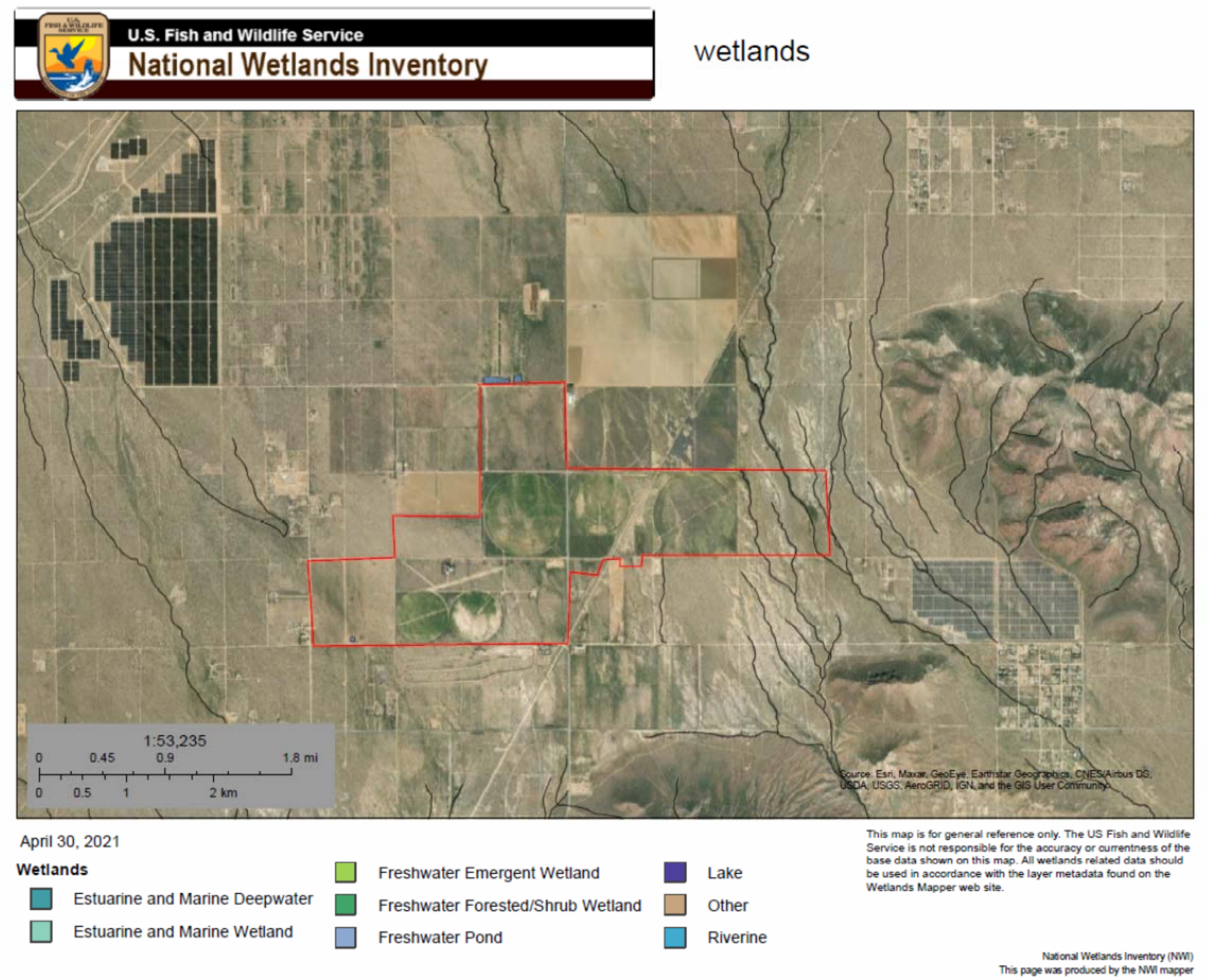
Date(s) aerial images were photographed: Apr 8, 2019—Apr 13, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

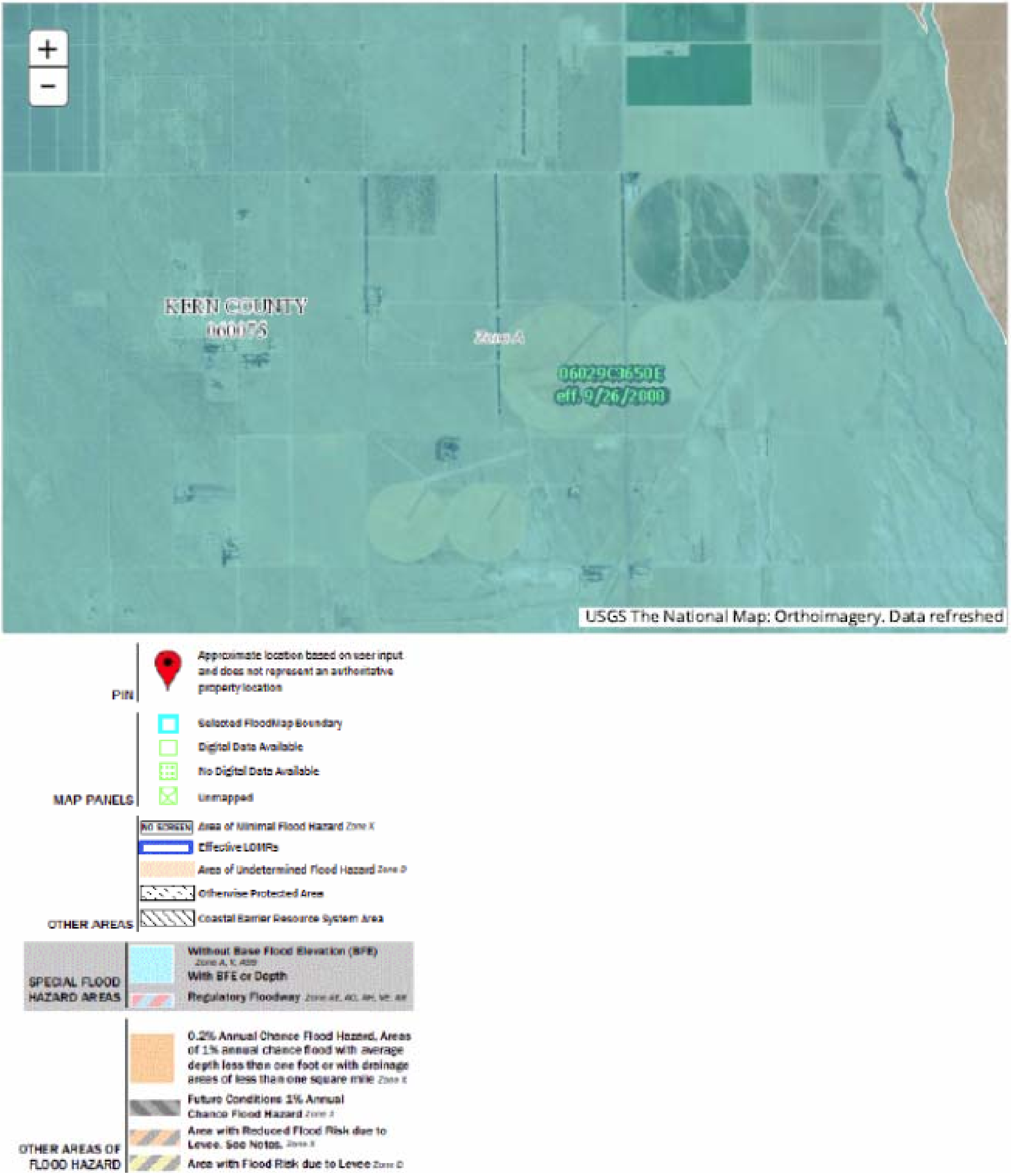
Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CaC	Cajon loamy sand, 2 to 9 percent slopes	389.6	11.9%
HkB	Hesperia fine sandy loam, 2 to 5 percent slopes	0.0	0.0%
Subtotals for Soil Survey Area		**389.6**	**11.9%**
Totals for Area of Interest		**3,269.4**	**100.0%**

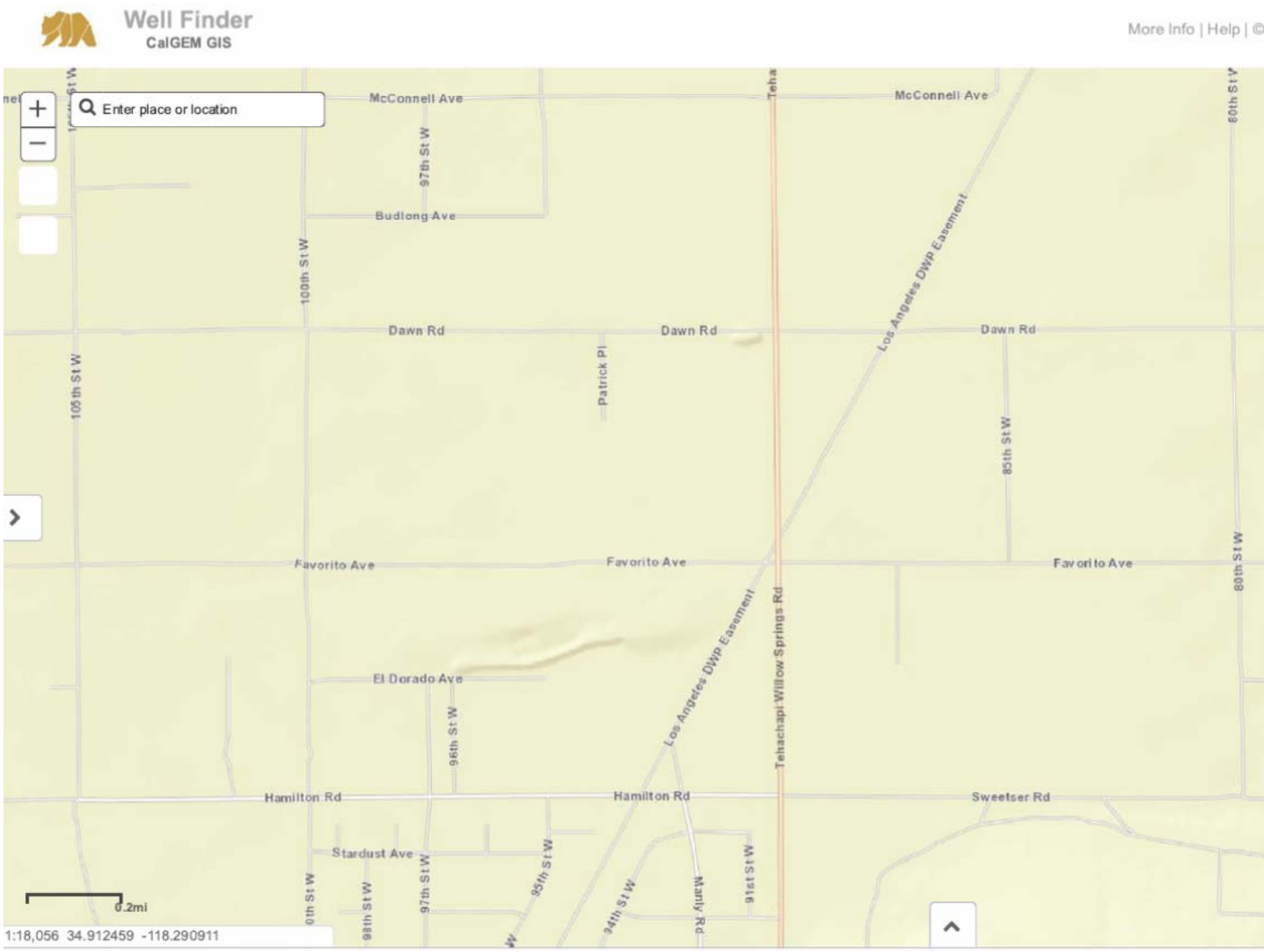
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
104	Arizo gravelly loamy sand, 2 to 9 percent slopes	11.2	0.3%
113	Cajon sand, 5 to 15 percent slopes	46.3	1.4%
114	Cajon loamy sand, 0 to 5 percent slopes	1,931.9	59.1%
125	DeStazo sandy loam, 0 to 2 percent slopes	714.1	21.8%
126	DeStazo sandy loam, 5 to 9 percent slopes, eroded	176.2	5.4%
Subtotals for Soil Survey Area		**2,879.6**	**88.1%**
Totals for Area of Interest		**3,269.4**	**100.0%**



National Wetlands Map



Flood Zone Map



Oil & Gas Well Map

APPENDIX B

RESUME OF ENVIRONMENTAL PROFESSIONAL

MARK J. LAROCQUE

EDUCATION

Bachelor of Sciences in Environmental Science/Biology, University of Massachusetts, Amherst, Massachusetts, 1980 - 1984.

EXPERIENCE

Practical Environmental Solutions, Sanbornton, NH (1998 to present), President and Owner.
Dames & Moore, Willow Grove, PA (1995 to 1998), Senior Project Manager
Lexicon Environmental Associates, Inc., West Chester, PA (1994 to 1995) - Project Manager/Environmental Scientist IV.
Groundwater & Environmental Services, Inc. in Exton, PA (1990 - 1994) - Project Manager/Senior Environmental Scientist.
IEP, Inc. in Northboro, Massachusetts (1984 - 1990) - Environmental Scientist

PROFESSIONAL COURSES

Resource Education Institute, Inc. - Northeast Regional Underground Storage Tank Management and Hydrocarbon Cleanup Conferences 1988 and 1989
University of Massachusetts/Massachusetts Department of Environmental Quality - Hydrocarbon Contaminated Soils Conferences 1991 and 1992
Shell Oil Development - Soil Remediation Workshop 1992
Government Institutes, Inc. - Resource Compensation Recovery Act (RCRA) Regulations Workshop 1994.
Occupational Health and Safety Training 1988 through 1995 - Including 40-hour, 8-hour Refreshers, and Supervisor Training.

CERTIFICATIONS & AFFILIATIONS

National Water Well Association
New Jersey Underground Storage Tank & Subsurface Investigator Certification No. 0013515
Texas Corrective Action Project Manager No.CAPM00197
California Registered Environmental Assessors Class I – No. 07357

EXPERIENCE SUMMARY

Over 30 years of experience in various aspects of environmental assessments and remediation projects. Currently owns his own firm, which conducts due diligence and property transfer assessments nationally and internationally. Conducted and managed numerous single and multi-site Phase I and Phase II pre-purchase assessments on a variety of large and small-scale manufacturing facilities across the United States. Has performed over 2,000 Phase I & NEPA/NHPA assessments for several cellular tower firms across US. NEPA compliance work has included Section 106 reviews, Fish & Wildlife Endangered Species Surveys, FONZI applications, and negotiations with Tribal Historical Officers. He has conducted and prepared several ACM O&M Programs for several radio stations, hotels, and golf courses.

He has also designed and managed over 100 ground water and soil remediation projects utilizing a variety of remedial techniques. Implemented various remedial techniques including ground water pump & treat, soil vapor extraction, air sparging, and bioremediation on numerous sites in MA, MD, NY, NJ, DE, and PA. Conducted soil and ground water sampling, quality control, and decontamination procedures on Super Fund projects in MA and Environmental Compensation Recovery Act (ECRA) projects in NJ.

REPRESENTATIVE PROJECT EXPERIENCE

- Has performed over 2000 Phase 1 and NEPA compliance projects throughout the USA including WA, CA, OR, UT, AZ, NV, FL. GA, SC, NC, MO, IL, IN, MI, MA, CT, RI, VA, OH, MS, AL, TX, and CO. This work has been completed for various cellular tower carriers (Nextel, Sprint, Cingular, AT&T Verizon) and owners (Crown, ATC, AAT).
- Conducts single and multi-site Phase I, Phase II, and Compliance assessments across the USA and internationally on behalf of various law firms for Hick, Muse, Tate & Furst, International Home Foods, Olympus Real Estate Corporation, and Arnold Palmer Golf.
- Conducts Phase I & NEPA/NHPA assessments for several national cell tower firms. Provides full compliance with NHPA and Section 106 of NEPA.
- Conducted Phase I and Compliance Assessments of General Cable Corporation - telecommunication cable manufacturing facilities in MI, IL, GA, and NJ.
- Conducted a Phase I and Compliance Assessment of Simonds Industries, a file manufacturing facility which is actively under a RCRA cleanup in OH.
- Conducted several Phase I assessments of Flex-O-Lite - glass bead manufacturing facilities in IA, KY, TN, and MS.
- Conducted numerous Phase I, Phase II, and Compliance assessments in CA, NC, SC, MS, MA, and AL for various industries including radio station acquisitions, headware manufacturers, computer cable/harness manufacturers, and brass regulating equipment manufacturers.
- Senior Project Manager/Director for engineering firm on a multi-site investigation program for Exxon, that included additional subsurface delineation and preparation of CEAs and RAWs for the NJDEP.
- Designed and managed numerous in-situ ground water remediation projects using bioremediation for Bell Atlantic and NYNEX.

APPENDIX C

PARCEL & OWNERSHIP LIST

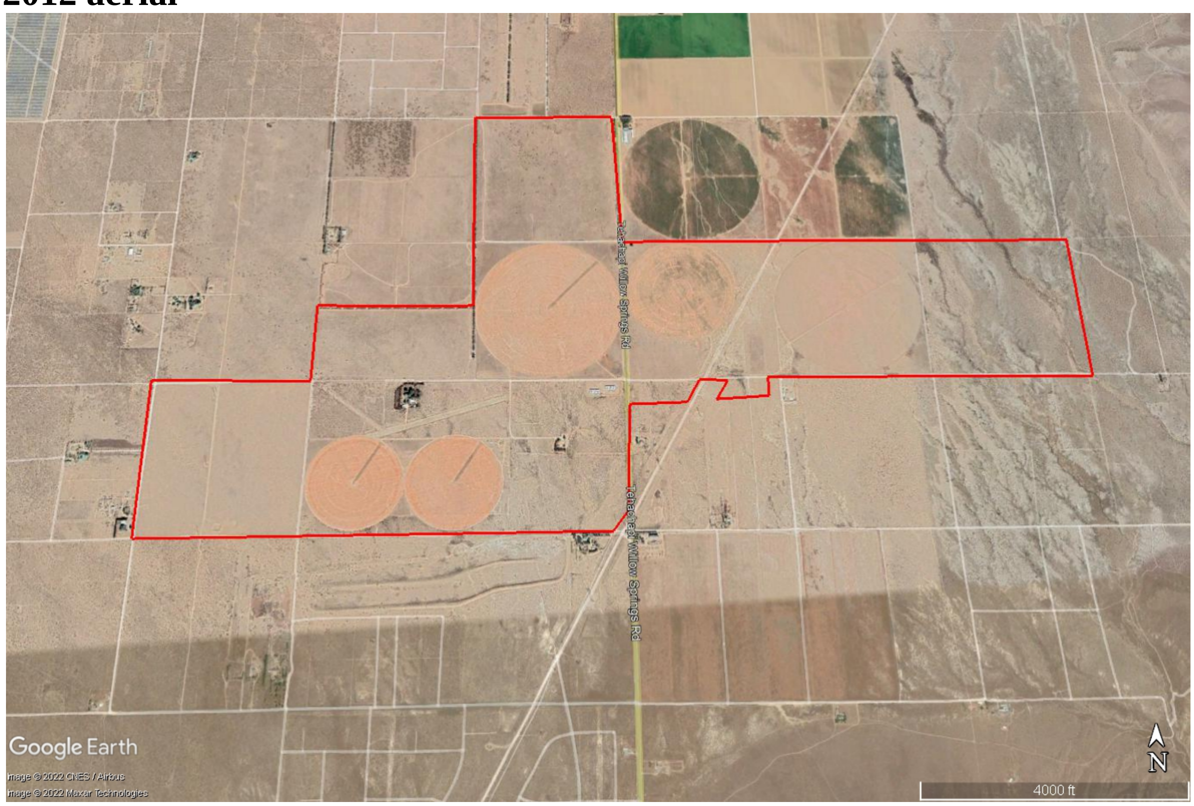
APPENDIX D

PHOTOGRAPHS

1995 aerial

2006 aerial

2012 aerial



2020 aerial

Photo Locations

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

Photo 6

Photo 7

Photo 8 - water well

Photo 9

Photo 10


Photo 11 - toward residence - access restricted

Photo 12

Photo 13

Photo 14

Photo 15

Photo 16


Photo 17


Photo 18

Photo 19 - water well

Photo 20

Photo 21

Photo 22

Photo 23

Photo 24 - water well

Photo 25

Photo 26


Photo 27

Photo 28

Appendix K:
Hydrology Technical Report

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HYDROLOGY ASSESSMENT TECHNICAL REPORT BULLHEAD SOLAR PROJECT

PREPARED FOR:

EDF Renewables
1999 Harrison Street, Suite 675
Oakland, CA 94612

PREPARED BY:

ICF
49 Discovery, Suite 250
Irvine, CA 92618

March 2023

ICF. 2023. *Hydrology Assessment Technical Report, Bullhead Solar Project.* March. (ICF 104036.0.002.) Prepared for: EDF Renewables, Oakland, CA.

Executive Summary

In accordance with the California Environmental Quality Act (CEQA), the purpose of this Hydrology Assessment Technical Report is to determine the potential impacts on hydrology and water quality for the proposed up to 270-megawatt (MW) alternating current (AC) solar photovoltaic (PV) facility and up to 270-MW battery-storage development known as the Bullhead Solar Project (project), proposed by EDF Renewables (EDFR).

Located in southern Kern County, central California, the project would cover approximately 1,359.50 acres of private land. The project site is 52 miles southeast of the city of Bakersfield, 19 miles south of the City of Tehachapi, 8 miles northwest of the community of Rosamond, and 2 miles north of the community of Willow Springs. Other communities within the vicinity of the project site include Mojave in Kern County and the cities of Lancaster, Palmdale, and Neenach in Los Angeles County, which are roughly 12 miles northeast, 17 miles southeast, 24 miles southeast, and 18 miles southwest of the project, respectively. The high desert environment of the plan area is dry, with annual precipitation measuring from 2 to 7 inches per year.

The project would consist of PV panels, battery storage inverters, converters, generators, foundations, transformers, and preferred and optional generation-tie (gen-tie) routes to the Rosamond and Whirlwind Substations, only one of which would be constructed. The project also includes laydown yards, a meteorological station, a microwave/communication tower, and a substation. Three alternative locations onsite are being considered for the battery energy storage system that would be with the substation. Because the final site layout plan is not finalized at this time, the Hydrology Assessment Technical Report considers the entire study area would be disturbed and analyzes impacts within the boundary, along with the various gen-tie line alternatives.

The project includes four options for gen-tie routes, including two deviations to one option (Whirlwind Options 1.1 and 1.2) and one deviation to another (Rosamond Option 3.1). Only one route would be constructed. Three project optional gen-tie routes—Rosamond Gen-tie Options 1, 2, and 3, including one deviation identified as Rosamond Gen-tie Option 3.1—would travel south from the project boundary and connect to the Rosamond Substation. One optional project gen-tie route—Whirlwind Gen-tie Option 1, including two deviation routes identified as Whirlwind Gen-tie Option 1.1 and Whirlwind Gen-tie Option 1.2—would cross underneath Southern California Edison's (SCE's) Tehachapi Renewable Transmission Project (TRTP) to the east of the project site and connect to the Whirlwind Substation. SCE's TRTP 220/500-kilovolt (kV) corridor travels through Whirlwind Gen-tie Option 1 and connects SCE's Vincent Substation with SCE's Windhub Substation to the south and north of the project site, respectively. Many of the lands surrounding the site have either been approved for, or are in the planning stages of, development for solar or wind energy.

The primary access to the project from the regional transportation system would be gained by exiting State Route (SR)-14 (Antelope Valley Freeway) on to Rosamond Boulevard. SR-14 is 7 miles to the east of the project area, and access would be gained by heading west on Rosamond Boulevard, north on Tehachapi Willow Springs Road, and west on Dawn Road. One possible secondary route has been identified on the western side the project area; however, the Tehachapi Willow Springs Road access would be the primary route. The secondary route includes using 120th Street West, north from Rosamond Boulevard, and then east on Hamilton Road or Favorito Avenue; a portion of this route would cross through the approved Big Beau Solar Project study area that was evaluated under entitlements and CEQA review.

Although existing roads would be used to the greatest extent possible, potential unpaved roads may need to be improved to serve as access roads from the existing road network to the project. If 120th Street West is ultimately used as a secondary access route, then it may be improved between Rosamond Boulevard and Favorito Avenue. Improvement activities may include grading, widening up to 50 feet, compacting, or applying an approved soil stabilizer. In addition, a minimum 20-foot-wide road is required around the perimeter of the solar arrays for the fire department and emergency vehicles. Additional internal maintenance roads would be located throughout the project area. Spacing between each row would depend on final panel type, orientation, and any County regulations. Internal access roads would be up to 20 feet wide and cleared and compacted for equipment and emergency vehicle travel and access to the solar blocks. These project site access roads would remain in place for ongoing operations and maintenance (O&M) activities after construction is completed. The hydrologic analysis identified drainages that would require crossing design according to detailed hydraulic analysis to comply with Kern County floodplain management regulations. All streams and drainage areas are ephemeral and are not well studied for water quality parameters. To meet drainage requirements for Kern County, a stormwater retention basin may be required, which would be sized and located based on site conditions. Note that under Kern County Development Standards, Division 4, retention basins are defined as structures without an outlet/spillway, and detention basins contain an outlet or spillway.

Several sources of water supply have been identified in the *Water Supply Assessment Bullhead Solar Project* (WSA; ICF 2022) for construction and operations, including use of onsite well water or purchase of water from a local purveyor. The WSA finds that construction and operational water needs can be met by available sources, with estimated water requirements lower than the agricultural activities that formerly occurred at the site (ICF 2022). Water availability during dry and multiple-dry year conditions would require the implementation of regional agency measures, including increased groundwater pumping and demand reduction by retail agencies.

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Tables and Figures

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Acronyms and Abbreviations

°F	degrees Fahrenheit
AF	acre-feet
AVGWB	Antelope Valley Groundwater Basin
BESS	battery energy storage system
BMP	best management practice
CDFW	California Department of Fish and Wildlife
CDWR	California Department of Water Resources
CEQA	California Environmental Quality Act
cfs	cubic feet per second
CWA	Clean Water Act
EDFR	EDF Renewables
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
gen-tie	generation tie
MW	megawatts
NPDES	National Pollutant Discharge Elimination System
Porter–Cologne	Porter–Cologne Water Quality Control Act
project	Bullhead Solar Project
PV	photovoltaic
RWQCB	Regional Water Quality Control Board
SFHA	Special Flood Hazard Area
SR	State Route
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TRTP	Tehachapi Renewable Transmission Project
USGS	U.S. Geological Survey
WDR	waste discharge requirement
WSA	Water Supply Assessment

Chapter 1
Introduction

1.1 Project Description

The Bullhead Solar Project (project) is located in southern Kern County, California, approximately 12 miles south of State Route (SR) 58 and approximately 30 miles east of Interstate 5. The Antelope Valley Freeway (SR 14) is approximately 10 miles to the east, and SR 138 (West Avenue D) is approximately 10 miles to the south of the site. The project site is generally bound by Rosamond Boulevard to the south, Champagne Avenue to the north, 120th Street West to the west, and 71st Street West to the east.

The project would include up to 270-megawatts (MW) solar and up to 270-MW battery-energy storage development with associated photovoltaic (PV) panels, battery modules, containers with heating, ventilation, and air conditioning, converters, inverters, generators, foundations, transformers, and preferred and alternative generation tie (gen-tie) routes. The project would also include laydown yards, a meteorological tower, a substation, and communication towers, and access and internal project roads. For the purposes of this analysis, the area dedicated to PV panels would occupy the remaining project area within the study area boundary; a detailed panel layout plan is not available at this time.

EDF Renewables (EDFR) is committed to creating a state-of-the-art solar energy and battery storage project that would be constructed in a manner that minimizes environmental impacts to the greatest extent feasible. The gen-tie for the project may cross underneath Southern California Edison's Tehachapi Renewable Transmission Project (TRTP). Many of the lands surrounding the site have either been approved for or are in the planning stages for development for solar and wind energy.

Existing 120th Street West may be used as a secondary access route and may need to be improved between Rosamond Boulevard and Favorito Avenue. A 20-foot-wide service road would follow the perimeter of the solar panels to provide access to fire department and emergency vehicles. Internal project road spacing and layout would depend on final array design and regulations. Internal project roads would be 20 feet wide. Similar to the solar array development, gen-ties would require vehicular access for construction and operations and maintenance.

The substation site would be cleared, graded, and graveled. The total construction and operation of the project substation and battery storage would affect up to 25 acres. The battery storage containers would either be within a substation yard or adjacent to it. The foundational pads would be crushed aggregate, concrete, or steel. The batteries would contain lead-acid materials. The project may involve installing a 6-foot-tall fence with an additional 2 feet of barbed wire around the entire perimeter.

Chapter 2
Existing Conditions

2.1 Environmental Setting

The project site is in the South Lahontan Hydrologic Region, and specifically within the Antelope Valley Groundwater Basin (AVGWB) (CDWR 2004, 2016). AVGWB is approximately 1,110,000 acres (1,580 square miles) and comprises an extensive alluvial valley in the western Mojave Desert. Regional runoff flows from Big Rock and Little Rock Creeks from the San Gabriel Mountains to the southwest, accounting for 80 percent of runoff into the basin, and Cottonwood Creek from the Tehachapi Mountains to the northwest feeds the groundwater basin. Most recharge occurs in the dry lake beds.

The project is located on generally undeveloped farmland, naturally vegetated land, and disturbed or vacant land. The existing impervious surface area is well under 1 percent. The project site is mainly undeveloped with medium to poor vegetative cover and off-road vehicle trails subject to erosion.

2.1.1 Topography and Climate

The site is on a gently sloping hillside from the northwest toward the southeast. Across the greater project area, which includes the gen-tie line options and access roads, the elevation ranges from approximately 3,400 feet at the highest gen-tie line point to 2,400 feet. The topography within the study area boundary ranges from 2,600 to 2,760 feet (USGS 2018). The proposed solar array area slopes at an average gradient of 4 percent in an area that transitions from backslope to toeslope. Whirlwind Gen-tie Options 1, 1.1, and 1.2 would be located at the highest elevations and traverse the mountain toeslope and upslope. A portion of Whirlwind Gen-Tie Option 1 generally parallels the California Aqueduct, as shown in Figure 2-1a.

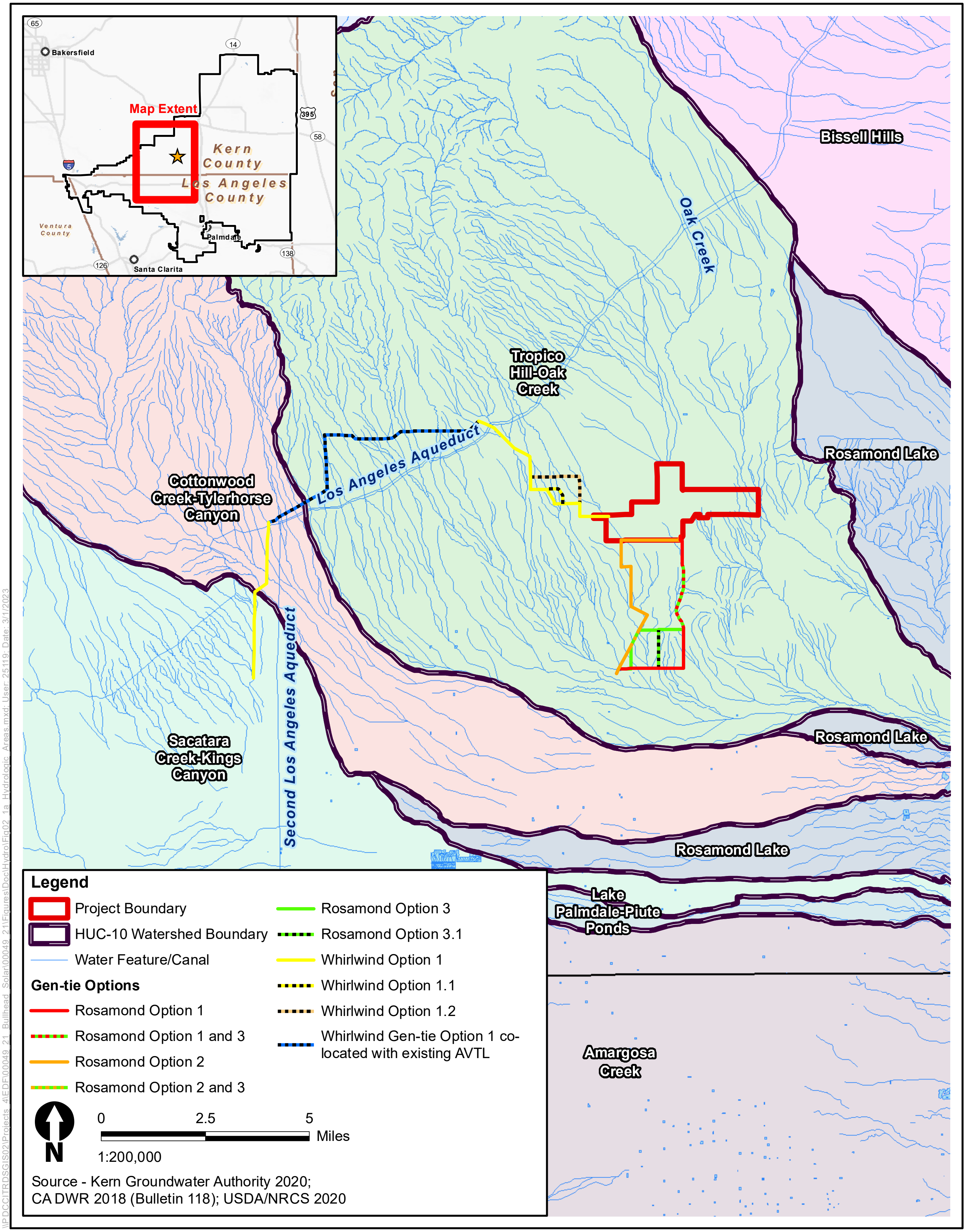

Figure 2-1a
Hydrologic Areas
Bullhead Solar

The project area is typical of a high-desert climate. Table 2-1 provides monthly precipitation and average air temperatures. The average maximum air temperature is approximately 75 degrees Fahrenheit (°F) and the average minimum is around 50, whereas the absolute high temperature ranges from 110 to 115°F, with absolute lows near 5°F (County of Kern 2008).

Table 2-1. Climate Data

Month	Total Precipitation (in)	Average Max Air Temp (°F)	Average Min Air Temp (°F)
January	1.2	57	33
February	1.53	60	37
March	0.97	66	41
April	0.23	71	46
May	0.1	80	56
June	0.04	89	64
July	0.32	96	70
August	0.28	96	67
September	0.14	88	61
October	0.37	78	50
November	0.60	65	40
December	0.89	56	33
Annual	6.67	75	50

Source: U.S. Climate Data 2019.
°F = degrees Fahrenheit; in = inches; max = maximum; min = minimum

2.1.2 Soils

Soils in the project site consist predominantly of sandy loams, with most of the site exhibiting Cajon loamy sand and a smaller percentage of Destazo sandy loam mapped inside the project boundary. Refer to the *Geology and Soils Technical Report Bullhead Solar Project* (ICF 2022) for additional details about gen-tie soils.

All of the soils are alluvium derived from granite, and their geomorphic settings are considered alluvial fans or toeslope, except for the small portion of Arizo, which is classified as a drainageway. None of the soils present are rated as hydric. *Hydric rating* indicates whether the soil is formed under conditions of saturation, flooding, or ponding during the growing season. Hydric soils are used to define wetlands. *Drainage class* refers to the frequency and duration of wet periods under which the soil developed. *Somewhat excessively drained* means water is removed from the soil rapidly. *Well drained* means the water is removed from the soil readily, but not rapidly. All of the soils are classified as well drained to excessively drained.

The hydrologic soil group was developed by the U.S. Department of Agriculture to describe whether rainwater is likely to run off the soil or infiltrate it, with soils likely to infiltrate at a higher rate having a classification of A and soils that are most likely to experience little infiltration having a rating of D. As shown in Table 2-2, soils in the project area tend toward high infiltration rates, and thus would absorb most of the infiltrated moisture rather than creating substantial runoff.

Table 2-2. Soil Groups for Study Area

Soil Map Description	Percent Slopes	Hydrologic Group	Setting	Drainage
Cajon Loamy Sand	0 to 5	A	Alluvial fans, flood plains	Somewhat excessively drained
Cajon Loamy Sand	2 to 9	A	Alluvial fans	Excessively drained
Cajon Sand	5 to 15	A	Alluvial fans, flood plains	Somewhat excessively drained
Destazo Sandy Loam	0 to 2	B	Basin floor, flood plains	Well drained
Destazo Sandy Loam	5 to 9	B	Basin floor, flood plains	Well drained
Hesperia Fine Sandy Loam	2 to 5	A	Alluvial fans	Well drained

Source: NRCS 2020.

2.2 Surface Water

The project would be located in the Antelope–Fremont Valley. The Rosamond Gen-ties, solar array, substation, battery complex, and associated equipment would be located in the Tropico Hill–Oak Creek watershed. Whirlwind Gen-tie Options 1, 1.1, and 1.2 would traverse from Tropico Hill–Oak Creek watershed into Cottonwood Creek–Tylerhorse Canyon and Sacatara Creek–Kings Canyon Watersheds (Figure 2-1a). The total drainage area of the Tropico Hill–Oak Creek watershed is approximately 100,140 acres. Within Tropico Hill–Oak Creek, the study area boundary spans four subwatersheds. From west to east, they include unnamed Hydrographic Unit 12 (180902061702), Burham Canyon, Bean Canyon, and Tropico Hill (Figure 2-1b).

The watersheds are closed drainages inside the Antelope Valley; therefore, there is no connection to the ocean, and any precipitation or surface water is transferred via ephemeral streams to existing playas. The closest playa to the project site is Rosamond Lake to the southeast of the project site, approximately 10 miles from the project. Most rainfall infiltrates into the surrounding soils quickly. The region is characterized by ephemeral streams.

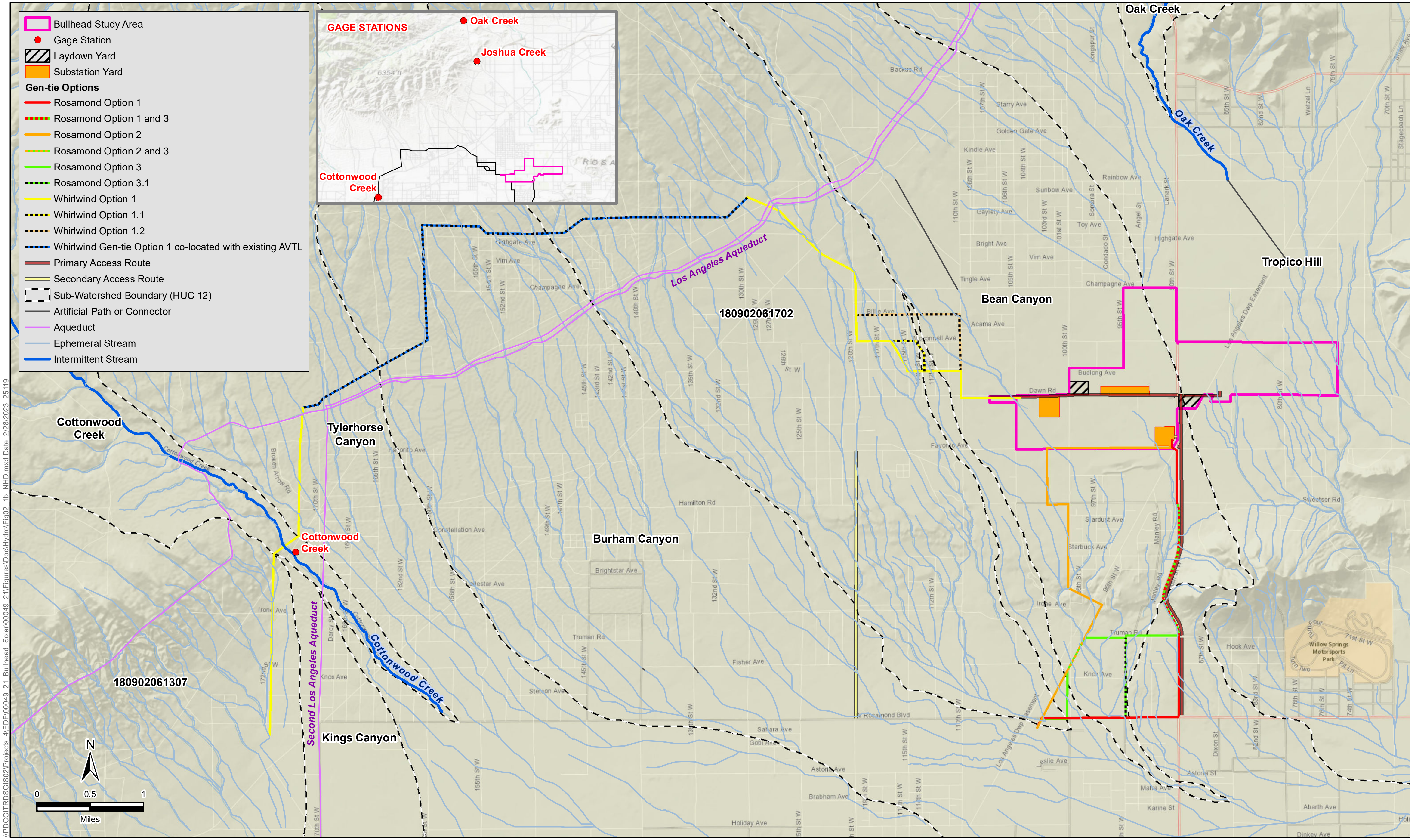

Figure 2-1b
National Hydrographic Database Flow Lines by Sub-Watershed
Bullhead Solar

Source: EDF (2022); USGS (2021)

2.2.1 Sources and Quantities

The project area has minimal perennial water (Figure 2-1b), but does contain confirmed jurisdictional features and features that are likely to be jurisdictional (Figure 2-3). Refer to the *Bullhead Solar Facility and Gen-tie Jurisdictional Waters Report* (Heritage 2022) for additional details about the jurisdictional features. The nearest surface-water gage data available are from U.S. Geological Survey (USGS) gages 10264590 Cottonwood Creek near Rosamond, California, and 10264605 Joshua Creek and 10264600 Oak Creek, both near Mojave, California. Cottonwood Creek crosses Whirlwind Gen-tie Option 1.1 only, but not the proposed study area boundary. Joshua Creek does not cross any project elements or boundaries directly. However, Joshua Creek, which flows into Oak Creek approximately 3 miles north of the study area, has the most recent data. Oak Creek directly contributes to a County-delineated flood Hazard Area Map Code 2.5[1], which crosses the far eastern edge of the study area (Figure 2-5). The gage station on Joshua Creek is 8 miles from the study area, and the station on Oak Creek is approximately 10 miles from the study area. The USGS National Hydrographic Database classifies Oak and Cottonwood Creeks as *intermittent streams*, meaning they convey surface water for part of the year, after precipitation events, snowmelt, or from a spring[2]. Under the National Hydrographic Database, both the flowline in the flood hazard area and Joshua Creek are unnamed, ephemeral streams. *Ephemeral streams* contain surface water only in response to a rain event.

Figure 2-2 presents the timeseries of mean daily discharge for Cottonwood, Joshua, and Oak creeks. Mean daily discharge at Cottonwood Creek was monitored for 8 years from 1964 to 1972 (USGS 2021a). The average mean daily discharge over the period of record was 0.01 cubic feet per second (cfs). The maximum mean daily discharge was 11 cfs. Close to 99 percent of the days on record had a discharge of 0 cfs. USGS reported annual instantaneous peak streamflow for Cottonwood Creek at Rosamond from 1965 to 1972. Peak streamflow was 0 in 1966, 1968, and 1970. The maximum peak flow on record is estimated to be 30 cfs (USGS 2021b).

Mean daily discharge at Joshua Creek was monitored for 6 years, from 1988 to 1994 (USGS 2021c), as shown on Figure 2-2. The average mean daily discharge over the period of record was 0.004 cfs. The maximum mean daily discharge was 2.1 cfs. More than 99 percent of the days on record had a discharge of 0 cfs. USGS recorded annual instantaneous peak flows for Joshua Creek for 21 years, between 1959 to 2004. Peak flow was 0 in 1989, 1990, 2002, 2003, and 2004. The maximum peak flow on record was 2,540 cfs in 1965. Over the 21 years on record, the average peak was 142 cfs (USGS 2021d).

Mean daily discharge to Oak Creek was monitored for 30 years, from 1957 through 1986 (USGS 2021d), as shown on Figure 2-2. The average mean daily discharge over the period of record was 1.3 cfs. The maximum mean daily discharge was 413 cfs. Fewer than 15 percent of the days on record had a discharge of 0 cfs. USGS recorded annual instantaneous peak flows for Oak Creek for 30 years between 1958 and 1989. The maximum peak flow on record was 1,740 cfs in 1973. Peak flow was lowest in 1989 at 0.13 cfs.

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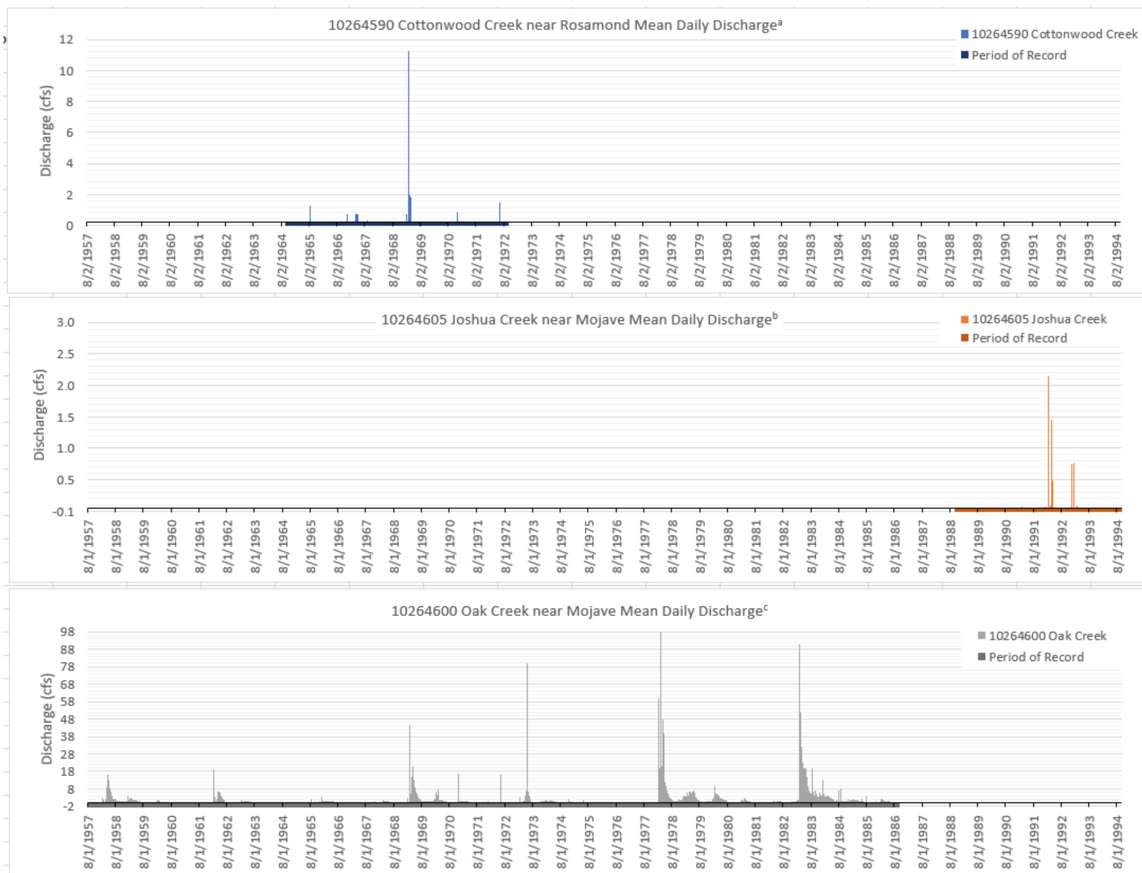
[1] County of Kern *General Plan* (2017) defines Map Code 2.5 as a Special Flood Hazard Area (Zone A), as identified by FEMA, and supplemented by floodplain delineation maps that are approved by Kern County Engineering and Survey Services Department.

[2] nhd.usgs.gov/userguide.html

As described in the topography and soils sections in Chapter 2, *Existing Conditions*, the backslope and toeslope of the Tehachapi Mountains are characterized by alluvial fans across which many drainages form during high energy events and dissipate as the grade flattens. Figure 2-1b shows the many and discontinuous flowlines across the sub-watersheds and project elements.

Further details on ephemeral drainages and characteristics are provided by *Bullhead Solar Facility and Gen-tie Jurisdictional Waters Report* (Heritage 2022). Jurisdictional delineation mapping shows water feature areas that are governed by the Regional Water Quality Control Board (RWQCB under the Porter–Cologne water quality regulations and California Department of Fish and Wildlife (CDFW) lake and streambed alteration agreements. RWQCB delineations are typically to the ordinary high-water mark, whereas CDFW delineations are usually to the top of the channel bank. The jurisdictional delineations in relation to the project area are depicted on Figure 2-3. Chapter 3, *Regulatory Setting*, describes the applicable regulations.

Figure 2-2. Mean Daily Discharge Records for USGS Stream Gage Stations



[a] Source: USGS 2021a
[b] Source: USGS 2021c.
[c] Source: USGS 2021d.

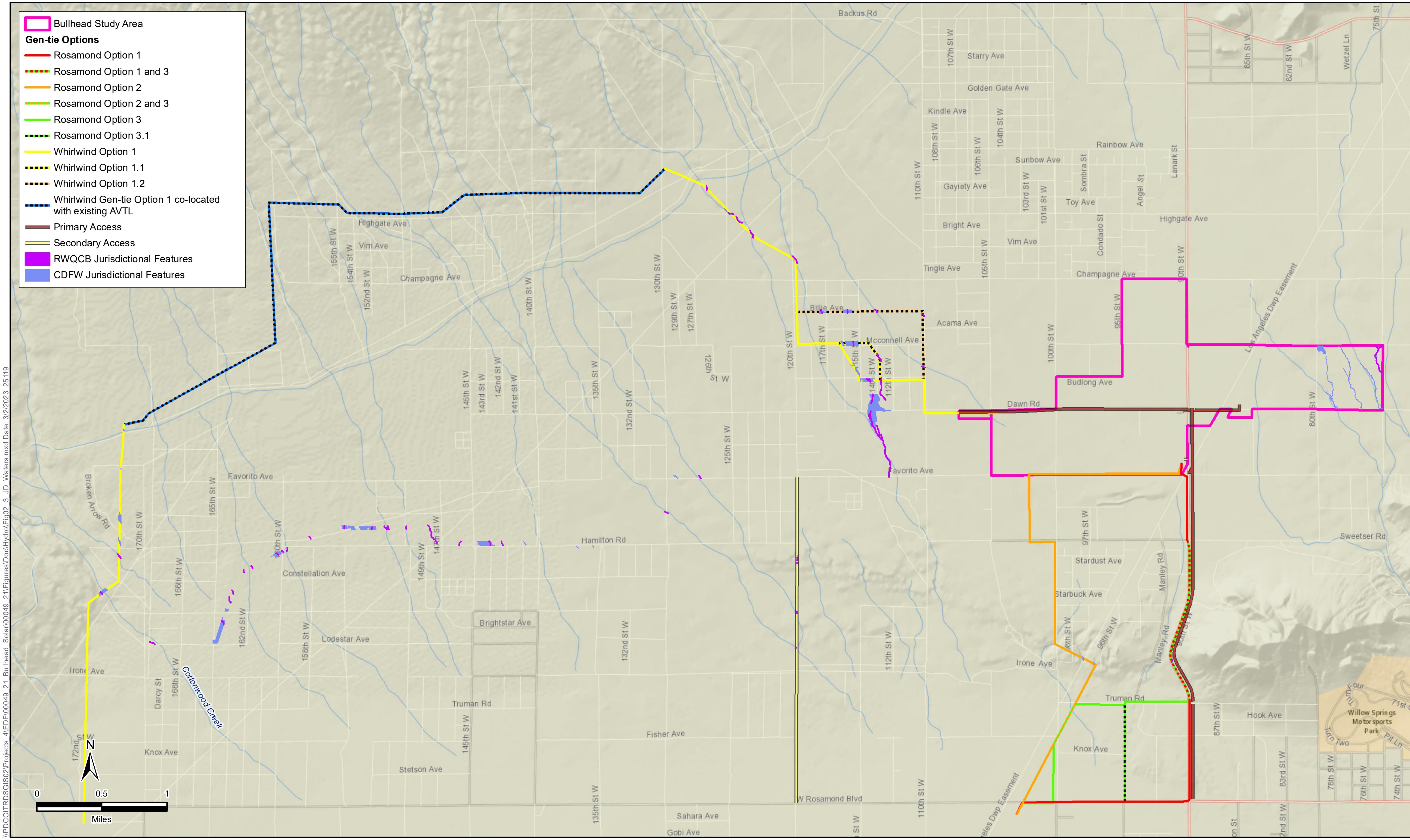


Figure 2-3
Jurisdictional Delineation relative to Project Elements
Bullhead Solar

ICF

Source: EDF (2022); USGS (2021)

2.2.2 Water Quality

The project area is within the Regional Water Quality Control Board (RWQCB) Region 6 – Lahontan Region. The California 2022 Integrated Report 303d list of impaired water bodies does not list any waterbodies in Kern County (California RWQCB 2022).

The Lahontan Basin Plan sets objectives for waterbodies within the Antelope Valley. These include Lake Palmdale, Little Rock Reservoir, Lower Amargosa Creek, and Piute Ponds. All these waterbodies are outside the project area watersheds. The nearest USGS water quality monitoring stations are in ponds in Amargosa Creek watershed, which is approximately 7 miles south of the project area watersheds.

2.3 Groundwater

2.3.1 Sources and Quantities

The project site is in the AVGWB of the South Lahontan Hydrologic Region and encompasses 1,580 square miles in the western Mojave Desert (CDWR 2004, 2016). The basin is bounded by the Garlock fault zone on the northwest and the San Andreas fault, where the Tehachapi Mountains meet the San Gabriel Mountains. The runoff from the northern mountains flows through ridges, buttes, and low hills into Rosamond Lake. Big Rock and Little Rock Creeks alone are estimated to contribute more than 50 percent of the runoff. Total runoff from the San Gabriel Mountains (including runoff from Big Rock and Little Rock Creeks) has been estimated to contribute up to 80 percent of the total natural recharge in the basin.

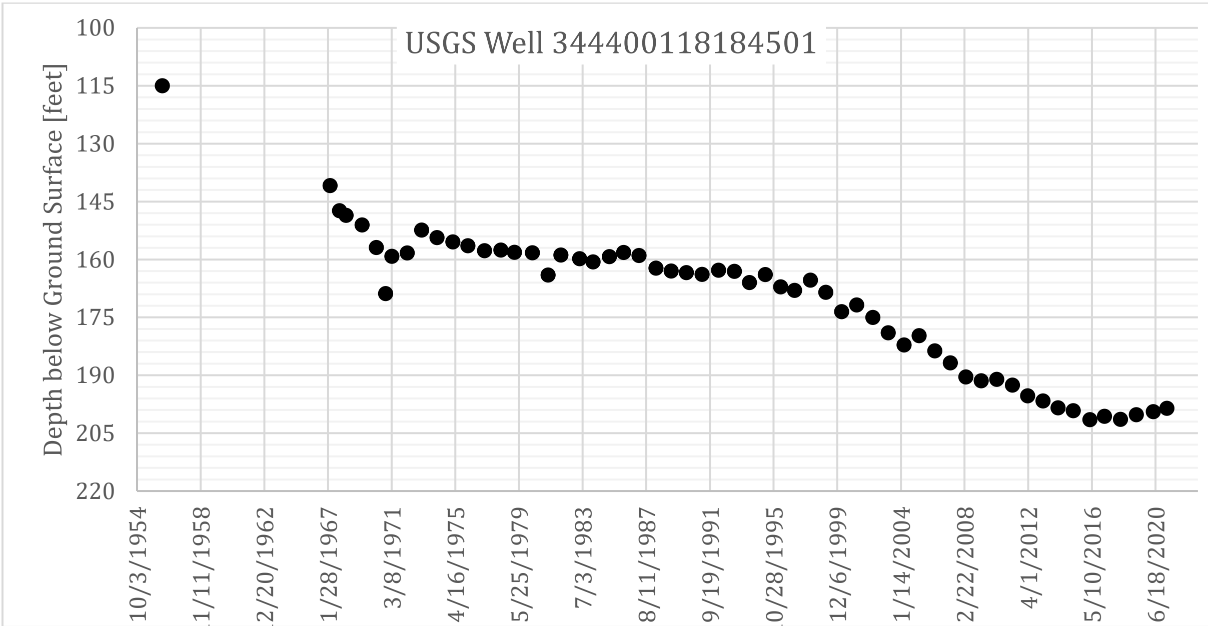
Historically, the primary sources of natural recharge in AVGWB were precipitation and infiltration of mountain runoff in the alluvial fans at the foot of the mountains (CDWR 2004; USGS 2014). During high runoff, the streams can flow onto the valley floor, which can cause some recharge along drainages and washes near where the streams enter the valleys, although concentrated runoff rarely occurs in the valley except in a few main channels (USGS 2014), including Cottonwood Creek, as described in Section 2.2.1, *Sources and Quantities*. Aquifer recharge proceeds through lateral groundwater underflow from adjacent bedrock areas and basins. Through groundwater development, agricultural irrigation has become an important source of recharge through infiltration of irrigation return flow (USGS 2014). The entire AVGWB is estimated to have 68 million to 70 million acre-feet (AF) of storage capacity, with a range in natural recharge of 31,200 to 59,100 AF annually (CDWR 2016).

Groundwater provides approximately 79 percent of the Antelope Valley basin's water supply. The Sustainable Groundwater Management Act 2019 – Basin Prioritization Process and Results (CDWR 2020), considers Antelope Valley (Basin 6-044) as not critically over-drafted and "very low" priority, despite its reliance on groundwater, population growth, and history of subsidence due to groundwater withdrawals (Groundwater Exchange 2018; USGS 2014).[3] Almost 90 percent of the groundwater is adjudicated. Figure 2-4 shows groundwater level measurements at a well near the

[3] For information on basin prioritization, see California DWR Groundwater Management webpage: water.ca.gov/Programs/Groundwater-Management/Basin-Prioritization

proposed study area, which indicates a drop from 115 feet below ground surface in 1956 to 198 feet below ground surface in 2021.

Figure 2-4. Groundwater Well Level Data near the Proposed Study Area



Source: USGS 2021g.

2.3.2 Groundwater Water Quality

In 2013, USGS collaborated with the California State Water Resources Control Board (SWRCB) to evaluate groundwater quality in Antelope Valley (USGS 2013). Up to 40 percent of the valley's drinking water is sourced from groundwater in California, making water quality an important issue for human health. California regulates drinking water standards to maximum contaminant levels. Within Antelope Valley, the testing detected high concentrations of aluminum, arsenic, vanadium, boron, and fluoride. Radioactive constituents were found to be above human-health benchmarks, although these constituents are naturally occurring. Nitrate was detected at concentrations above human-health benchmarks, which is often a result of agriculture-related exposure. Perchlorate was found in the Antelope Valley study area in moderate concentrations in 29 percent of primary aquifers. It occurs naturally in low concentrations and is also a constituent of rocket fuel, fireworks, flares, and some fertilizers.

2.4 Flooding

The Federal Emergency Management Agency (FEMA) has classified Flood Zones for the project area, which are depicted in the Flood Insurance Rate Map (FIRM 06029C3650E). The entire project lies in FEMA Special Flood Hazard Area (SFHA) Zone A, otherwise defined as an area subject to the 1 percent annual chance for flooding, commonly referred to as a *100-year flood event*. FEMA Zone A SFHAs do not have defined floodways or elevations. A portion of the project area has been delineated as flood hazard by Kern County engineers and classified as a Map Code 2.5 Flood Hazard in the *Kern County General Plan* and floodplain combining districts[4] by Kern County Zoning Ordinance. As shown on Figure 2-5, Map Code 2.5 areas extend into the eastern edge of the study area, slightly into the western edge of the study area, and cross Whirlwind Gen-tie Options 1, 1.1, and 1.2 at multiple locations.

[4] Floodplain combining districts are defined by Kern County *Zoning Ordinance* (2021) as those areas lying within Zone A on the FEMA FIRM or those areas potentially subject to flooding as designed by Kern County Engineering and Survey Services Department pending reclassification of such areas into the Floodplain Primary District or the Floodplain Secondary Combining Districts. Regulations in the Floodplain Combining District are in addition to the regulations of the base district.

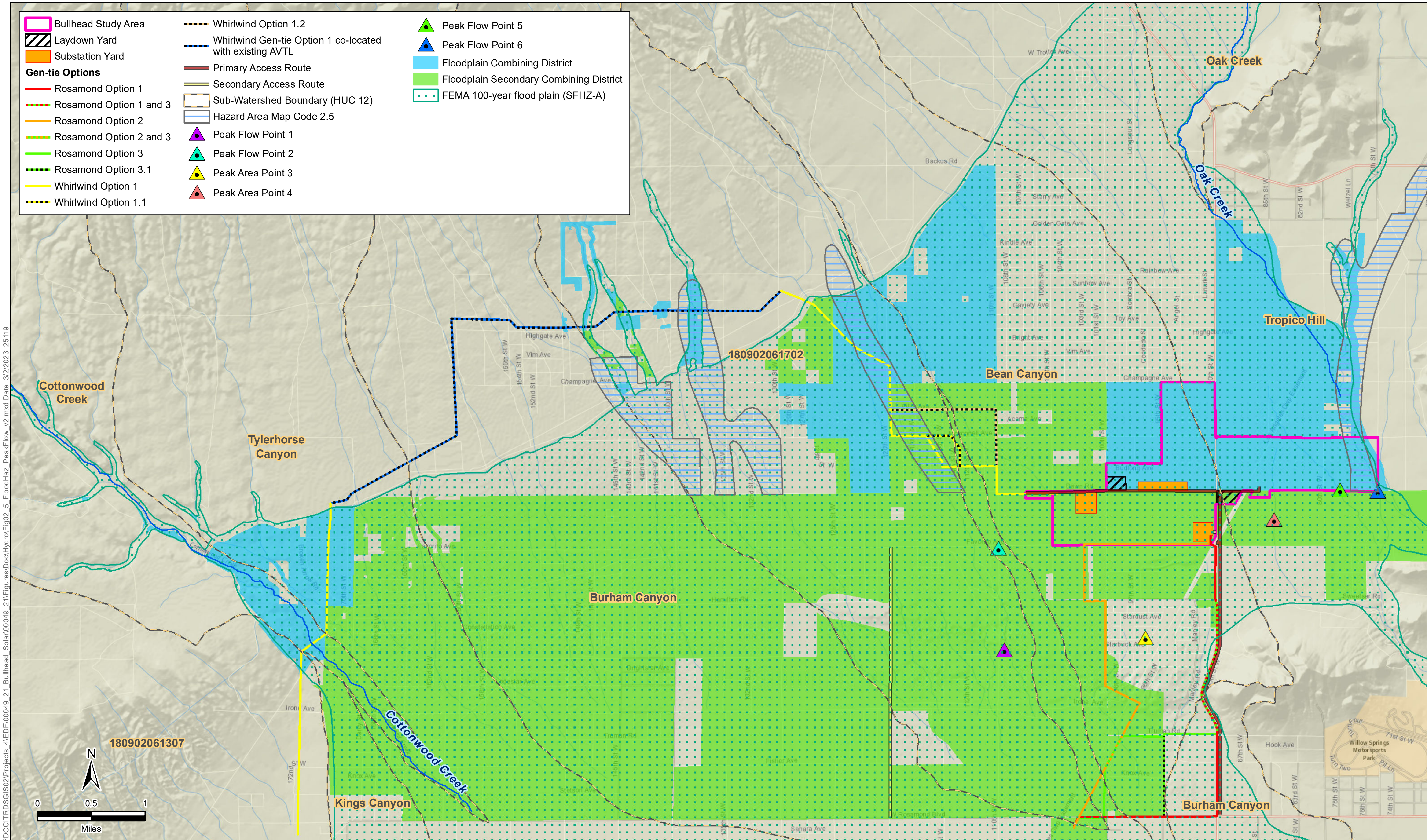


Figure 2-5
Flood Hazard and Estimated Peak Flow Areas
Bullhead Solar

Source: EDF (2022); USGS (2021)

Chapter 3
Regulatory Setting

3.1 California Environmental Quality Act

Hydrology and water quality are important environmental factors; as such, the California Environmental Quality Act (CEQA) requires analysis to determine if the project would result in potentially significant impacts compared to the current conditions on the site. The areas of analysis included in the CEQA checklist are as follows:

A. Would the project violate any water quality standards and waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

B. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

C. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:

   i. Result in substantial erosion or siltation onsite or offsite?

   ii. Substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or off site?

   iii. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

   iv. Impede or redirect flood flows?

D. In flood hazard, seiche or tsunami zones, would the project risk release of pollutants due to project inundation?

E. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Chapter 5 of this report, *Project Impacts*, includes the analysis for each of these items.

3.2 Clean Water Act and Pollutant Discharge

The federal Clean Water Act (CWA) (33 United States Code 1251–1387) originated in 1899 with the Rivers and Harbor Act. Since that time, the CWA has been modified by several amendments, notably the Federal Water Pollution Control Act of 1972 (P.L.92-217), the CWA of 1977 (P.L. 95-217), and the Water Quality Act of 1987 (P.L. 100-4). The U.S. Environmental Protection Agency oversees the enforcement of the CWA, but has delegated authority and enforcement to some states, including California, through the National Pollutant Discharge Elimination System (NPDES) permit.

A jurisdictional waters report is required to determine whether the project area contains waters of the United States and is therefore subject to CWA Section 404 and associated provisions and permit requirements. The jurisdictional report concludes there are no waters of the United States that would experience impacts from the project.

Regardless of whether waters of the United States are contained within the project area, the area is subject to California's Porter–Cologne Water Quality Control Act (Porter–Cologne). As such, the Lahontan RWQCB issues waste discharge requirements (WDR) to permit discharges to waters of the state.

3.2.1 Porter–Cologne Water Quality Act

In California, water quality is further protected under Porter–Cologne (California Water Code § 13000, *et seq.*). This law is overseen by the SWRCB, which is responsible for protecting the quality of the state's surface and groundwater supplies and is the state agency responsible for implementing regulations related to CWA Sections 401, 402, and 303(d). The SWRCB is divided into nine statewide RWQCBs, which enforce water quality standards. The project site falls within the jurisdiction of the Lahontan RWQCB, with offices in Victorville, California (CDWR 2016).

Porter–Cologne regulates discharges that may affect water quality and implements them through the NPDES permit or through local regulations when there is no federal jurisdiction, such as is the case for the project. The RWQCB encourages implementation of best management practices (BMPs) similar to those required under the NPDES stormwater permit to protect water quality and beneficial uses of local surface waters and groundwater.

Under this act, the SWRCB has confirmed the state's jurisdiction over isolated wetlands as *waters of the state*. The definition under state law includes any surface water, groundwater, or saline water within the state's boundaries. The SWRCB regulates waters of the state in a similar fashion as the CWA for waters of the United States without the federal oversight. The project applicant would apply to the Lahontan RWQCB for compliance with the WDR, if required.

The project area is in a closed water system and not technically subject to the federal NPDES program. However, Kern County requires compliance with its NPDES program to ensure maintenance of water quality in the County. The Kern County NPDES Storm Water Program is applicable to projects disturbing 1 acre or more during construction; therefore, the project is subject to the Kern County NPDES Storm Water Program and is subject to compliance with the SWRCB Construction General Permit requirements.

For a discussion on the Lake and Streambed Alteration Agreement that CDFW requires, refer to the *Bullhead Solar Project Biological Resources Technical Report*, under separate cover.

3.2.2 Kern County NPDES Storm Water Program

Kern County requires the project to submit a Kern County NPDES Storm Water Program form for projects that disturb more than 1 acre so that the Kern County Public Works Department can verify the applicant's stormwater plans. The following four factors would be considered in preparing the form:

1. All stormwater is retained onsite and no stormwater runoff, sediment, or pollutants from onsite construction activity can discharge directly or indirectly offsite or to a river, lake, stream, municipal storm drain, or offsite drainage facilities.

2. All stormwater runoff is not retained on site but does not discharge to a water of the United States (i.e., drain to a terminal drainage facility). Therefore, a Stormwater Pollution Prevention Plan (SWPPP) would be developed, and BMPs must be implemented.
3. All stormwater runoff is not retained onsite, and the discharge is to a water of the United States. Therefore, a Notice of Intent must be filed with the SWRCB prior to issuance of the building permit. Also, an SWPPP has been developed, and BMPs must be implemented.
4. Construction activity is between 1 and 5 acres, and an Erosivity Waiver was granted by the SWRCB. BMPs must be implemented.

The project would meet the requirements of the Kern County Grading Code, which regulates grading on private property. All grading permits must be obtained prior to starting construction activities including Section 17.28.140, Erosion Control (see Section 3.6, *Waters of the State and Kern County Grading Code*, below).

3.3 Department of Water Resources

The California Department of Water Resources (CDWR) is responsible for managing water resources in California in cooperation with other local, County, and state agencies. One of the major responsibilities of the Department of Water Resources is preparing and updating the California Water Plan to guide development and management of the state's water resources. The California Water Plan provides a status update of the major water resource trends in California, but does not mandate actions or authorize spending for actions or projects.

3.4 Lake or Streambed Alteration Agreement

CDFW would review the project in accordance with the requirements of Section 1600 of the State Fish and Game Code. Section 1600 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes within state boundaries. Based on the findings of the Jurisdictional Delineation and the final site layout, a Lake or Streambed Alteration Agreement may be needed for the project.

3.5 Willow Springs Specific Plan

The Willow Springs Specific Plan includes goals, policies, and standards that pertain to the Willow Springs area specifically. Its area consists of the Antelope Valley Desert land.

There is one goal related to water quality and availability, which states:

- To ensure that new developments are provided with an adequate water supply and wastewater disposal/treatment facilities.

Applicable policies for this goal are:

- Water supply method and wastewater disposal/treatment facilities shall be as required by Kern County.

Separate environmental documentation shall be required for the methods of water supply and wastewater disposal/treatment selected. There are several goals related to safety from flooding issues, including minimizing damage to electric facilities in areas of special flood hazard.

Applicable policies for safety from flooding include:

- New development within the 100-year floodplain shall be regulated in accordance with the Floodplain Management Section of the Department of Planning and Development Services according to the Flood Damage Prevention Ordinance, the Kern Land Division Ordinance, and the Kern County Zoning Ordinance.
- Minimize topographic alteration.
- Development on steep slopes must conform with the Hillside Development Ordinance.

Several of the mitigation/implementation measures for multiple goals describe required water quality BMPs, including use of infiltration trenches, infiltration basins, water quality inlets, vegetative biofilter, grass swales, and porous pavement to manage small on-site runoff.

3.6 Flood Plain Management Regulations

3.6.1 Federal Flood Plain Management Criteria

Code of Federal Regulations Chapter 44, Section 60.3, sets minimum standards that govern the adequacy of the flood plain management regulations for flood-prone areas adopted by a community. The minimum standards depend on the amount of technical data formally provided to the community by the Federal Insurance Administrator. In the case of the project area, section b applies, as follows.

> (b) When the Federal Insurance Administrator has designated areas of special flood hazards (A zones) by the publication of a community's FHBM or FIRM, but has neither produced water surface elevation data nor identified a floodway or coastal high hazard area, the community shall:
>
> > (7) Assure that the flood carrying capacity within the altered or relocated portion of any watercourse is maintained

3.6.2 Kern County General Plan

Section 1.3 of the Kern County *General Plan 2040* (County of Kern 2017) describes policies related to physical environmental constraints, including the policy that new developments will not be sited on land that is constrained by Map Code 2.5 Flood Hazard unless appropriate studies establish that such development will not result in unmitigated significant impacts.

3.6.3 Kern County Floodplain Management Ordinance

Section 17.48.030 of the County Floodplain Management code describes that flood losses are caused by:

> [T]he cumulative effect of obstructions in areas of special flood hazards which increase flood heights and velocities, and when inadequately anchored, damage uses in other area. Uses that are inadequately flood proofed, elevated, or otherwise protected from flood damage also contribute to flood loss.

As defined in Section 17.48.060, obstructions include fencing along, across, or projecting into a watercourse which may "alter, impede, retard, or change the direction and or velocity of the flow of water, or due to its location, its propensity to snare or collect debris carried by the flow of water or its likelihood of being carried downstream." *Watercourse*, defined in the same section, includes washes and other topographic features or specifically designated areas in which substantial flood damage may occur.

Section 17.48.140 to 220 of the County floodplain management code requires that a development permit be obtained before any construction or other development begins within any area of special flood hazards as established in Section 17.48.080. The permit requires that the proposed development does not adversely affect the carrying capacity of the special flood hazard area (Section 17.48.180.D). In areas where floodways have not been designated, adversely affects means that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, would increase the water surface elevation of the base flood more than 1 foot at any point (County of Kern 2019).

Article III describes provisions for flood hazard reduction:

- Anchoring is required of all new construction to prevent flotation, collapse, or lateral movement during a flood.
- For areas of shallow flooding, new development of any structure must have the lowest floor elevated at least 2 feet above the highest adjacent grade where no depth number is specified on the flood insurance rate map.

3.6.4 Kern County Zoning Ordinance

For areas mapped as Floodplain Combining and Floodplain Secondary Combining Districts, development may not cumulatively increase the Base Flood Elevation at any point more than 1 foot. All computations would be made or approved by Kern County. Oil storage is prohibited unless floodproofed or sufficiently elevated as determined by Kern County.

3.7 Waters of the State and Kern County Grading Code

To ensure compliance, Kern County has implemented a Grading Code under Title 17 of the Ordinance Code of Kern County that covers stormwater management, erosion control, and water quality provisions during construction. Additionally, Division 4 of the Kern County Development Standards apply and is described below.

3.7.1 Kern County Grading Code

Applicable provisions of Section 17.28.070, Grading Permit Requirements, require the following:

> C. **Grading Designation.** Grading in excess of 2,000 cubic yards shall be performed in accordance with the approved grading plan prepared by a civil engineer or architect, and shall be designated as "engineered grading."

Note that this requires a soils or engineering geology report.

Applicable provisions of Section 17.28.100, Cuts, require the following:

B. **Slope**. The slope of cut surfaces shall be no steeper than is safe for the intended use and shall be no steeper than two (2) units horizontal to one (1) unit vertical unless the applicant furnishes a soils engineering or an engineering geology report, or both, stating that the site has been investigated and giving an option that a cut at the steeper slope will be stable and not create a hazard to public or private property.

Some exceptions are allowed for a cut surface with a slope of 1.5 horizontal to 1 vertical.

Applicable provisions of Section 17.28.110, Fills, require the following:

A. **General**. Unless otherwise recommended in the approved soils engineering report, fills shall conform to the provisions of this section. In the absence of an approved soils engineering report, these provisions may be waived for minor fills not intended to support structures.

B. **Fill Location**. Fill slopes shall not be constructed on natural slopes steeper than two (2) horizontal units to one (1) vertical unit.

C. **Preparation of Ground**. The ground surface shall be prepared to receive fill by removing vegetation, noncomplying fill, topsoil and other unsuitable materials scarifying to provide a bond with new fill and, where slopes are steeper than five (5) horizontal units to one (1) vertical unit and the height is greater than five (5) feet, by benching into sound bedrock or other competent material as determined by the soils engineer. The bench under the toe of fill on a slope steeper than five (5) horizontal units to one (1) vertical unit shall be at least ten (10) feet wide. The area beyond the toe of fill shall be sloped for sheet overflow or a paved drain shall be provided. When fill is to be placed over a cut, the bench under the toe of the fill shall be at least ten (10) feet wide, but the cut shall be made before placing the fill and the cut shall be qualified by the soils engineer or engineering geologist or both as a suitable foundation for fill.

D. **Fill material**. Detrimental amounts of organic material shall not be permitted in fills. Except as permitted by the building official, no rock or similar irreducible material with a maximum dimension greater that (twelve) 12 inches shall be buried or placed in fills."

[Some exceptions are permitted for placement of larger rock.]

E. **Compaction**. All fills shall be compacted to a minimum of ninety (90) percent of maximum density.

Applicable provisions of Section 17.28.130, Drainage and Terracing, require the following:

A. **General**. Unless otherwise indicated on the approved grading plan, drainage facilities and terracing shall conform to the provisions of this section for cut or fill slopes steeper than three (3) units horizontal to (1) unit vertical.

B. **Terrace**. Terraces at least six (6) feet in width shall be established at not more than thirty (30) foot vertical intervals on all cut or fill slopes to control surface drainage and debris except that where only one (1) terrace is required, it shall be at mid-height. For cut or fill slopes greater than sixty (60) feet and up to one hundred twenty (120) feet in vertical height, one (1) terrace at approximately mid-height shall be twelve (12) feet in width. Terrace widths and spacing for cut and fill slopes greater than one hundred twenty (120) feet in height shall be designed by a civil engineer and approved by the building official. Suitable access shall be provided to permit proper cleaning and maintenance.

Swales or ditches on terraces shall have a minimum gradient of five (5) percent and must be paved with reinforced concrete not less than three (3) inches in thickness or an approved equal paving. They shall have a minimum depth at the deepest point of one (1) foot and a minimum paved width of five (5) feet.

A single run of swale or ditch shall not collect runoff from a tributary area exceeding thirteen thousand five hundred (13,500) square feet (projected) without discharging into a down drain.

C. **Subsurface Drainage**. Cut and fill slopes shall be provided with subsurface drainage as necessary for stability.

D. **Disposal**. All drainage facilities shall be designed to carry waters to the nearest practicable drainage way approved by the building official and/or other appropriate jurisdiction as a safe place to deposit such waters. Erosion of ground in the area of discharge shall be prevented by installation of non-erosive downdrains or other devices.

Building pads shall have a drainage gradient of two (2) percent toward approved drainage facilities, unless waived by the building official.

[Exception for one percent gradient on building pad available.]

E. **Interceptor Drains**. Paved interceptor drains shall be installed along the top of all cut slopes where the tributary drainage area above slopes toward the cut and has a drainage path greater than forty (40) feet measured horizontally. Interceptor drains shall be paved with a minimum of three (3) inches of concrete or gunite and reinforced. They shall have a minimum depth of twelve (12) inches and a minimum paved width of thirty (30) inches measured horizontally across the drain. The slope of drain shall be approved by the building official.

Applicable provisions of Section 17.28.140, Erosion Control, require the following:

A. **Slopes**. The faces of cut-and-fill slopes shall be prepared and maintained to control erosion. This control may consist of effective planting. Protection for the slopes shall be installed as soon as practicable and prior to calling for final approval. Where cut slopes are not subject to erosion due to the erosion-resistant character of the materials, such protection may be omitted.

B. **Other Devices**. Where necessary, check dams, cribbing, riprap, or other devices or methods shall be employed to control erosion and provide safety.

C. **Temporary Devices**. Temporary drainage and erosion control shall be provided as needed at the end of each work day during grading operations, such that existing drainage channels would not be blocked. Dust control shall be applied to all graded areas and materials and shall consist of applying water or another approved dust palliative for the alleviation or prevention of dust nuisance. Deposition of rocks, earth materials or debris onto adjacent property, public roads or drainage channels shall not be allowed.

Applicable provisions of Section 17.28.150, Drainage Retention Facilities, require the following:

General. All drainage retention/detention facilities and their associated conveyance facilities shall be designed in accordance with the Kern County Development Standards or latest revision thereof.

Note that under Kern County Development Standards, Division 4, *retention basins* are defined as structures without an outlet/spillway and detention basins contain an outlet or spillway.

3.7.2 Kern County Development Standards, Division Four, Drainage

The Kern County development standards are intended to protect life and property and maintain necessary access to property or passage of the traveling public on the public highways, including but not limited to minimizing impacts due to flood waters and general drainage needs. The standard includes the following:

III. Drainage Plans. The project site is not included in a Special District so the general drainage plan provisions apply.

IV. Alluvial Fan Development. The project site is located on an alluvial fan and designated as Zone A on the FEMA FIRM for that reason. This section requires analysis and "mitigation [to] ensure that the one-percent risk flow will be received into the development site, without causing more than one foot of water surface rise resulting from encroachment at the development site, and discharge the one percent risk flow in a manner, as close as possible, to the flow pattern existing prior to development of the site."

If as part of development near Map Code 2.4 Flood Hazard Area, any flood control facilities are proposed, the following would apply.

- **Sec. 404-2** Flood Control Facility Requirements

The design of structural flood control measures on alluvial fans shall demonstrate that the measures will effectively eliminate alluvial fan flood hazards from the area protected by such measures. The provided analyses must include, but are not limited to, the following:

- **404-2.01** Engineering analyses that quantify the discharges and volumes of water, debris, and sediment movement associated with the flood that has a one percent probability of being exceeded in any year at the apex under current watershed conditions and under potential adverse conditions (e.g., deforestation of the watershed by fire). The potential for debris flow and sediment movement must be assessed using an engineering method acceptable to the Director and Federal Emergency Management Agency (FEMA). The assessment should consider the characteristics and availability of sediment in the drainage basin above the apex and on the alluvial fan.
- **404-2.02** Engineering analyses showing that the measures will accommodate the estimated peak discharges and volumes of water, debris, and sediment, as determined in accordance with Section 404-2.01, and will withstand the associated hydrodynamic and hydrostatic forces.
- **404-2.03** Engineering analyses showing that the measures have been designed to withstand the potential erosion and scour associated with estimated discharges.
- **404-2.04** Engineering analyses or evidence showing that the measures will provide protection from hazards associated with the possible relocation of flow paths from other parts of the fan.
- **404-2.05** Engineering analyses that assess the effect of the project on flood hazards, including depth and velocity of floodwaters and scour and sediment deposition, on other areas of the fan.
- **404-2.06** Engineering analyses demonstrating that flooding from sources other than the fan apex, including local runoff, is either insignificant or has been accounted for in the design.

- **VI. Culverts, Bridges & At-Grade-Crossings.** Kern County requires publicly maintained crossings of natural channels to be culverted or bridged. Private roadways can use at-grade crossings; however, they cannot encroach on a floodway.

- **VIII. Retention Basin Design.** This chapter contains the following applicable sections:
  - **Sec. 408-1 Design Volume.** The design volume of stormwater retention basins shall be based upon the runoff from the ISDD five-day storm event and a volume of nuisance water determined by the engineer. No runoff generated on site from the design storm or from nuisance flows will be allowed to leave the site unless downstream drainage disposal facilities exist to handle the flow. [Note that there are not downstream drainage disposal facilities available at the project site at this time.] The retention of upstream off-site flows shall not be considered to reduce the size of the required on-site retention facilities or mitigate the runoff from the proposed development. An evaluation of the runoff volumes associated with the site in its existing condition shall not reduce the size of the required drainage facilities.
  - **Sec. 408-2 Hydraulic Design.** In the absence of a hydrologic volume routing analysis, the storm drain hydraulic grade line calculations shall assume that 50 percent of the design storm volume and 100 percent of the nuisance volume is in the basin when the peak flow rates occur.
  - **Sec. 408-3 Freeboard.** Freeboard shall be required for all retention basins having a design water depth exceeding 18 inches. Six (6) inches of freeboard will be required when the design ponding depth within the basin is four (4) feet or less. For basins with a design ponding depth greater than four (4) feet the amount of freeboard required shall be one (1) foot. Freeboard shall be measured from the lowest gutter inlet or top of bank, whichever is lower.

In addition, this standard requires fencing, rodent and nuisance control, and access, and it provides construction requirements around natural channels.

- **IX. Detention Basin Design.** This chapter has similar design requirements as Chapter VII, Retention Basin Design, with additional requirements for outlets, spillways, and (when required) pump stations.
- **XII. Natural Channels**
  - **Sec. 412-1 Delineation** All natural channels shall be identified and clearly delineated on the plans with the appropriate floodplain designation. For defined natural channels, the Floodplain and Floodway Boundaries shall be delineated, subject to the approval of the Director.
  - **Sec. 412-2 Setback** The minimum setback from the top of bank of a natural channel with side slopes steeper than two (2) horizontal to one (1) vertical, shall be a two (2) to one (1) slope plus a 10 foot wide buffer strip. The setback shall be measured from the toe of the slope. Where the slopes are flatter than two (2) to one (1), the required setback shall be a minimum of 10 feet from the Floodway limit.

3.8 Kern County Review Authority

The County of Kern, Department of Planning and Natural Resources and Development Services, would review all grading and drainage improvements, including hydrology and hydraulic calculations. In accordance with the Uniform Building Code and Grading Guidelines for Kern County, a Grading Permit would be required and, depending on design details, a floodplain development permit may be required.

Chapter 4
Hydrology and Water Quality Analysis

4.1 Storm Water Runoff Analysis

Peak flows for storm events were estimated using USGS regression equations for California (Gotvald 2012) at or near the study area boundary at points that drain the Kern County General Plan flood hazard areas, as well as broad areas of the study area boundary. The estimated peak flows are shown in Table 4-1, and the peak streamflow estimate points are shown on Figure 2-5 in Section 2, *Existing Conditions*.

Table 4-1. Estimated Peak Streamflow across Project Area

Sub-watershed	HUC 12 Area (acres)	Peak flow estimate point	Estimated Peak Streamflow (cfs) 10% AEP	1% AEP
HU 180902061702	12,980	Peak flow point 1	308	2,760
Burham Canyon	20,361	Peak flow point 2	95	849
Bean Canyon	12,545	Peak flow point 3	235	2,100
Tropico Hill	27,092	Peak flow point 4	151	1,350
		Peak flow point 5	368	3,290
		Peak flow point 6	377	3,370

Source: USGS 2021f.
AEP = annual exceedance probability; cfs = cubic feet per second; HU = Hydrological Unit; HUC = Hydrological Unit Code

The Runoff Curve Number method, as outlined by the Natural Resources Conservation Service's Technical Release 55 (TR-55), Urban Hydrology for Small Watersheds (1986), was used for the preliminary analysis of the project's effect on storm water runoff. Project design engineers would perform detailed runoff analysis. The potential change in runoff generated by a 25-year 1-hour precipitation event (NOAA 2017; NRCS 1986) was analyzed by varying the landcover type across the study area boundary. The TR 55 method has been used in concert with other methods to support solar PV site grading design to manage stormwater effects (Barnard 2017).

For the project, changes in impervious area would be limited to the substation and battery energy storage system (BESS) area of up to25 acres. This amounts to approximately 2 percent of the study area. PV cells are mounted on small columns and allow percolation of runoff from each panel to occur in pervious areas effectively the same size as the panel. Because vegetation may be removed during routine maintenance, the area covered by PV panels was treated as newly graded areas. Because the internal project roads are likely to be designed flush with existing grade and native material, they were also treated as newly graded areas. The substation and laydown yards were treated as gravel roads. Although the laydown yards may be temporary areas, separate temporary and long-term effects are not presented here because their effect on runoff is minimal (within a few hundredths of an inch). The analysis assumes that all areas outside the substation/BESS options and laydown yards would be either panel array or access road and therefore pervious, with no plants. Based on estimated project areas, land cover, and soil hydrologic category, the overall runoff within the study area boundary from a 25-year, 1-hour storm could potentially increase by tenfold over current conditions, regardless of the alternative.

Table 4-2 shows the details of the land cover percentages and curve numbers for each alternative.

Table 4-2. Estimated Change in Runoff under Various Alternatives

Land Cover – Hydrologic Soil Complex	Approx. Acres	%	CN[1]	Product	Weighted Average CN	S[2] [in]	P[3] [in]	Q[4] [in]
Existing Conditions								
Farmsteads – A	37	3	59	2	50	10	3.2	0.12
Desert shrub (poor) – A	432	32	63	20				
Desert shrub (fair) – A	240	18	55	10				
Agricultural Meadow – A	495	36	30	11				
Desert shrub (poor) – B	29	2	77	2				
Farmsteads – B	2	0.2	74	0				
Agricultural Meadow – B	44	3	58	2				
Desert shrub (fair) – B	80	6	72	4				
Proposed Project – BESS/Substation Option 1								
BESS/Substation Option 1 – Paved Battery Storage Facility – A	25	2	98	2	78	3	3.2	1.26
Laydown Yard – Gravel Road – A	30	2	76	2				
Panel Array – Newly graded area (pervious, no plants) – A	1,149	85	77	65				
Panel Array – Newly graded area (pervious, no plants) – B	155	11	86	10				
Proposed Project – BESS/Substation Option 2								
BESS/Substation Option 2 – Paved Battery Storage Facility – A	23	2	98	2	78	3	3.2	1.26
Laydown Yard – Gravel Road – A	30	2	76	2				
Panel Array – Newly graded area (pervious, no plants) – A	1,150	84	77	65				
Panel Array – Newly graded area (pervious, no plants) – B	155	11	86	10				
Proposed Project – BESS/Substation Option 3								
BESS/Substation Option 3 – Paved Battery Storage Facility – A	17	1	98	1	78	3	3.15	1.26
BESS/Substation Option 3 – Paved Battery Storage Facility – B	3	0.25	98	0				
Laydown Yard – Gravel Road – A	30	2	76	2				
Panel Array – Newly graded area (pervious, no plants) – A	1,157	85	77	66				
Panel Array – Newly graded area (pervious, no plants) – B	152	11	86	10				

Precipitation Source: NOAA 2017; Curve Number Source and Runoff Method: NRCS 1986; Land Cover and Soil Hydrologic Class Source: NRCS 2020.

[1] CN is based on hydrologic soil group, land cover type, and degree of impervious surface connection to drainage system. CNs were selected from tables in NRCS TR-55.

[2] Potential maximum retention after runoff begins. S is estimated as a function of curve number.

[3] Precipitation depth

[4] Estimated runoff

Based on current information regarding site grading design, most of this runoff would occur as sheetflow across the project area. Four drainages were identified in the study area in the jurisdictional analysis (Figure 2-3). Three of these drainages are regulated by CDFW and the fourth by RWQCB. The proposed BESS/Substation Sites are in the Bean Canyon sub-watershed, which does not contain a flood hazard area as delineated by County engineers, although it is in the 100-year floodplain. Although the local runoff would increase, it would occur primarily as sheet-flow throughout the study area. The size of the solar array complex proposed for development is small relative to the total watershed area, accounting for less than 2 percent of the Tropico Hill–Oak Creek watershed. Because the area outside of the study area boundary is largely desert scrub and an agricultural meadow land type with A-type soils, it is expected that additional runoff would infiltrate the soil in the surrounding area fairly quickly. Additional runoff analysis would be performed during grading design to ensure that grading would manage runoff according to regulations.

4.1.1 Internal Roads and Secondary Access Road

Generally, stormwater in defined ephemeral drainages would be conveyed across project roads via improved at-grade crossings. Based on the hydrologic reports referenced in the environmental setting section, water is expected to infiltrate into the groundwater rather quickly. In the case of the project, an effective design for increasing infiltration would be to design the internal access road surfaces to the panels essentially flush with the existing and surrounding ground to allow sheetflow to pass over and across the roadway, without impeding or adding to the natural flow. In these cases, it would be desirable that sheetflows remain in an unconfined and low-velocity state. By designing this way, these unpaved roads would not change the existing drainage or affect flow within the project site.

On the northeastern end of the project boundary, the perimeter fire/emergency access road would cross three ephemeral drainages, two of which are in a flood hazard area designated by the Kern County engineering department. On the northwestern end of the project, the internal road would cross another drainage in a County-designated flood hazard area. Using access road 120th Street West between Rosamond and Favorito may include grading and widening this dirt road up to 50 feet. Currently, 120th Street West is 10–15 feet wide for approximately 2.5 miles. The road crosses three CDFW-jurisdictional drainages and potentially RWQCB-jurisdictional ephemeral drainages: BBSP F-02, BSP010, BSP009. The primary access road of Tehachapi Willow Springs Road is already improved; no changes are proposed to that County-maintained road.

4.1.2 Retention Basin

Per the Grading Code under Title 17 of the Ordinance Code of Kern County and Division 4 of the Kern County Development Standards, as described above in Section 3.6, *Waters of the State and Kern County Grading Code*, Kern County may require the development of a retention basin or basins in the project. The Kern County Development Standard differentiates a *retention basin* from a *detention basin* in that an outlet/spillway is included with the detention basin. Both basin types can allow for infiltration to groundwater. Based on other solar projects in the area, the areas of the project with compacted soils, such as roads and solar array areas, may require retention basins to manage onsite stormwater generated due to reduced vegetative cover, increased compacted soil, and increased impervious surface. The size and location of the retention basin(s) would depend on a number of site conditions, including selected location for the BESS/Substation site and the amount of new impervious surface within the study area boundary.

Chapter 5
Project Impacts

5.1 Impacts

HYD-1 – Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Construction

Development of the project could result in impacts on hydrology and water quality if associated construction or decommissioning activities result in the violation of any water quality or waste discharge standards. Such violations could occur through the creation of erosion, sedimentation, or polluted runoff; through the accidental release of potentially hazardous materials required during construction activities; or through the discharge of contaminated groundwater during dewatering activities. The largest component of impervious surface construction would be development of the 25-acre BESS/substation site. The area at highest risk of erosion and sedimentation would be the new drainage crossings. The most extensive area of construction would be the foundations of PV modules, a tower pads and temporary construction areas for laydown at more than 1,350 acres.

During construction of the project, potential impacts on water quality associated with erosion and sedimentation would be localized and temporary. Construction of the entire project would disturb more than 1 acre and therefore is required to comply with the Kern County NPDES Storm Water Program, as well as the Kern County Grading Code. The project would implement construction BMPs to reduce the risk of erosion and sedimentation in accordance with the Kern County Grading Code, including implementation of SWPPP requirements. Water would be used for dust control and compaction of the roadway. The SWPPP would include the responsible party's construction activities and requirements to install and follow BMPs to ensure water quality impacts from erosion and sediment, and hazardous spills would be minimized to the maximum extent practicable.

Operation

Development standards require site drainage plans to manage onsite water. Project O&M would require small quantities of water for washing of the PV panels up to once per year. The accumulated dust would be windblown and could potentially contain local agriculturally sourced contaminants. However, these are likely to be at fairly low levels. O&M would require small quantities of hazardous materials offsite, such as diesel fuel, gasoline, and motor oil for vehicles, mineral oil to be sealed within transformers, and lead acid-based or lithium-ion batteries for emergency backup. All hazardous materials would be stored in secure areas with appropriate spill prevention and containment equipment offsite at the Big Beau O&M facility.

Therefore, the project is not anticipated to affect water quality standards or otherwise substantially degrade surface or groundwater quality. The project may include construction of a retention basin for stormwater management, which would provide limited recharge to the aquifer and minimize runoff risks such as erosion and degrading water quality.

Operation and maintenance of the project would have little to no potential for impacts on water quality, such as an accidental spill or release of hazardous materials that could cause water quality degradation, because the quantities of hazardous material used during operation is minimal. Development of the project would comply with Kern County Code of Building Regulations, as well as with the Kern County Development Standards, and Floodplain Management Ordinance. Compliance with these Kern County standards would reduce the potential impacts on water quality during project operation.

HYD-2 – Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Construction

As documented in the Water Supply Assessment (WSA) completed for the project (ICF 2022), water demands during construction would be a maximum 200 AF over an 18-month period and up to 11 AF per year over an 18.5-year O&M period. During construction, water would be used primarily for soil compaction and dust control. Water sources are currently being evaluated, but would likely include use of groundwater from onsite wells or purchase of water from a local purveyor. Construction or decommissioning activities should not prevent or inhibit any incidental groundwater recharge that may occur onsite during precipitation events, because the project site would not create substantial new impermeable areas. Given the limited amount of water used during construction, the project is not anticipated to substantially decrease groundwater supplies or interfere with groundwater recharge during construction such that the project may impede sustainable groundwater management of the basin.

The project would introduce new temporary impervious areas through construction of laydown areas. The remainder of the area would be pervious native material, and water would be allowed to infiltrate onsite and offsite following its natural flow. The new areas of impervious surfaces that would be introduced as a result of the project would not have a measurable effect on groundwater recharge. Any increase in runoff would be localized and would not result in an appreciable impact on groundwater recharge.

Operation

As documented in the WSA for this project, water would be provided to the project site for the purposes of dust control and annual panel washing. The water would be delivered via water truck. The water demand for panel washing and miscellaneous needs is estimated at 11 AF per year during operation. The AVGB was adjudicated in December 2015. The basin's native safe yield (82,300 AFY) includes both natural recharge and return flows from unused groundwater that is pumped and then percolates back into the groundwater basin. Total sustainable yield is defined in the judgment as the amount of groundwater that may be safely pumped from the basin on a long-term basis and is specified as the sum of the native safe yield plus return flows from imported water. The total sustainable yield (i.e., recharge and return flows) was determined to be 110,000 AFY in the final judgment. Water demand for the project represents less than 0.03 percent of the total yearly recharge for the groundwater basin. Most of the water may return to groundwater because most of the area would be shaded from radiation by the solar panels. Operational water use would be limited to accessory purposes, such as panel cleaning. If groundwater is used for construction water demands, EDFR would use existing onsite wells.

The impervious surfaces for the panels, substation, communication, and microwave tower pads and other accessory structures would be minimal (less than 2 percent of the total project area). In addition, the layout of the impervious surfaces would be spread throughout site, allowing for the runoff from the panels and pads to percolate into the surrounding pervious surface areas and follow its natural flow.

The new areas of impervious surfaces that would be introduced as a result of the project would not have a measurable effect on groundwater recharge. Any increase in runoff would be localized and would not result in an appreciable impact on groundwater recharge, due to high soil infiltration rates and vegetated land cover of surrounding areas. Any onsite retention basin for stormwater management, as required, would intercept stormwater from the new impervious surface and allow for infiltration to the groundwater while minimizing risk for offsite flows.

HYD-3(i) – Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would result in substantial erosion or siltation on or offsite?

Construction can be divided into two types: long, linear construction related to improved access roads and internal emergency access roads and concentrated site development. Concentrated site development is estimated to cover less than 2 percent of the project site and would include the BESS/Substation site and communication tower pads; these site features can typically avoid or minimize impacts on drainage channels. The internal access roads would be long, linear construction zones and therefore could run cross-gradient to drainage channels and be more difficult to avoid. Offsite impacts are anticipated from the construction of the gen-tie line and any associated maintenance/access roads to the line. To minimize these impacts, the project anticipates using an existing transmission corridor partially, if feasible (i.e., a portion of Whirlwind Gen-tie Option 1 along the Antelope Valley Transmission Line, where new line would be strung on existing electrical poles) and utilize existing access roads. For new gen-tie line routes, the project is expected to have a negligible effect on impervious areas and surface flow because the poles and associated concrete foundations would be widely spaced, and their associated surface area would not be a significant factor in the hydrology of the study area.

The project would include grubbing, grading, and installation of solar arrays, battery storage modules, and associated infrastructure that could alter existing onsite drainage patterns and flow paths, and could potentially affect the way that stormwater from up-gradient areas flows onto the site during major events. Given the unconsolidated and erosive nature of soils within the project area and its vicinity, these changes could result in increased erosion onsite. Construction of internal access roads and widening a secondary access road may result in alterations to the existing drainage pattern in areas with sheetflow, which could result in localized erosion.

EDRF uses at-grade crossings for access roads to the extent possible to minimize impacts on existing drainage courses. Site development elements would be required to meet grading and site development requirements (Kern County Grading Code, Chapter 17.28), such as minimizing cuts and fill slopes to reduce risk for erosion, grading buildings sites and pads to direct flows to stormwater facilities, such as a retention basin, and permanent erosion control measures, as appropriate. Grading permits require acceptable engineering reports, including drainage computations accompanied by drainage plans.

In order to reduce runoff impacts, items to consider during development of the site grading plan, access road improvements, and floodplain development should include the following:

- The number of watercourse crossings should be minimized.
- Where appropriate, access roads improvements should be completed with the upstream edge of the roadway at or below natural grade with a slope downstream to allow sheetflow across the road. Access roads should be watered and compacted to form a stable surface.
- Crossings should be as perpendicular as practical to the watercourse.
- Planning of internal and perimeter emergency access roads should follow natural contours to the extent practical. In general, design longitudinal grades should not exceed 10 percent, with a maximum of 15 percent for short sections. Areas of unstable or highly erodible soils should be avoided. The soils investigation should seek to identify problematic areas subject to erosion.
- If the road plan proposes a "cut" and "fill" of more than 12 inches, or movement of more than 50 cubic yards of material, the emergency access road plan should be submitted in the form of a grading permit application to the Kern County Engineering, Surveying, and Permit Services Department for review and approval.

Kern County would review placement of perimeter fencing and solar array in Flood Hazard Map Code 2.5, Floodplain Combining, and Floodplain Secondary Combining Districts.

HYD-3(ii) – Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or offsite?

As discussed under Threshold HYD-3(i), above, the project would include minimal alteration of existing drainage patterns onsite and in the immediate surrounding area. However, the gen-tie options access roads that include overhead electrical are often cross-gradient to existing drainages and ephemeral streams, making avoidance impossible. The gen-tie access roads are not anticipated to result in substantial increase in the rate or amount of surface runoff that would result in flooding onsite or offsite. The majority of the gen-tie project development would be on gravel pads and uralitize existing dirt roadways using at-grade crossings, which may act similar to pervious surfaces and encourage sheetflow. The amount of new impervious surface would be less than 2 percent.

The entire project site is within FIRM Zone A and, as such, is at risk for flooding. Project activities that occur within FEMA-designated SFHAs would comply with the requirements and construction design specifications of the Kern County Floodplain Management Ordinance. Grading would be required for panel installation, internal access roads, the BESS/substation yard, and the communication tower. Any increase in surface water runoff resulting from permanent project features is anticipated to be location-specific. However, this minor increase would be evaluated by project engineers in accordance with floodplain regulations to ensure that it would not influence surface runoff in a manner that could result in additional flooding onsite or offsite or impede or redirect flood flows.

All facilities would need to comply with Kern County requirements for development within a 100-year floodplain because the entire project site is designated as Zone A, which means there is a 1 percent chance of flooding annually, and portions of the project site are designated as General Plan 2.5 Flood Hazards. Drainage plans would need to include measures to direct potential flood waters without increasing the water surface elevations more than 1 foot or as required by Kern County's Floodplain Ordinance.

As noted in HYD-3(i), above, a drainage plan would be prepared that would include engineering recommendations to be incorporated into the project and applied within the site boundary. Engineering recommendations would include measures to offset increases in stormwater runoff that would result from the project, as well as implementation of design measures to minimize or manage flow concentration and changes in flow depth or velocity so as to minimize any potential flooding on- or offsite.

HYD-3(iii) – Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

The project area is drained by natural stream channels and does not rely on existing constructed stormwater drainage systems such as an underground stormwater system or human-made culverts. Internal access roads and any improvements to existing roads (i.e., 120th Street West) would be designed for at-grade conveyance, such as sheetflow across the roadway to manage stormwater. Engineering measures identified in Threshold HYD-3(i), above, would be applicable to minimize HYD-3(iii) impacts.

Managing potentially polluting materials, such as oils and grease for mechanical device maintenance of construction vehicles and equipment, outside of delineated flood hazard areas would minimize impacts and risk of polluted runoff.

HYD-3(iv) – Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would impede or redirect flood flows?

The project is entirely with the FEMA-designated SFHA Zone A. Structures that could impede or redirect flood flows would be limited to structures that concentrate flow that otherwise may have been sheetflow. These structures include fences, footings for solar arrays, battery storage modules, the substation, and associated infrastructure. Engineering measures identified in Threshold HYD-3(i) above would be applicable to minimize HYD-3(iv) impacts.

HYD-4 – In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

The project is entirely with the FEMA-designated SFHA Zone A and portions of the far eastern and western extent cross into General Plan Flood Hazard delineated areas. Managing potentially polluting materials, such as oils and grease for mechanical device maintenance outside of natural drainage channels and flood zones, would minimize impacts and risk of release of pollutants due to project inundation. The Kern County required Drainage Plan includes measures to offset increases in stormwater runoff that would result from the project, as well as design measures to minimize or manage flow concentration and changes in flow depth or velocity. The Floodplain Management Ordinance outlines floodplain development requirements to avoid the potential for flood damage to release pollutants into the environment.

The project site is more than 100 miles from the nearest coastline, within a valley surrounded by mountainous terrain, and at an elevation about 2,600 feet above sea level; therefore, the project site is not within a tsunami zone.

A *seiche* is a large wave generated in an enclosed body of water in response to ground-shaking. The project is not within a seiche zone, nor are there significant bodies of water uphill (northwest) of the project site.

HYD-5 – Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

As discussed in Threshold HYD-1, above, construction and operation of the project is not anticipated to affect water quality standards or WDRs or otherwise substantially degrade surface or groundwater quality. As such, construction and operation of the project is similarly not anticipated to conflict with or obstruct implementation of a water quality control plan. As identified in Chapter 3, *Regulatory Setting*, the project applicant would apply to the Lahontan RWQCB for compliance with the WDR, which would ensure no conflicts or obstructions with the water quality control plan.

As discussed in Threshold HYD-2, above, construction and operation of the project is not anticipated to substantially decrease groundwater supplies or interfere with groundwater recharge such that the project may impede sustainable groundwater management of the basin. The AVGWB is actively managed by the court-appointed Watermaster, and the sustainable groundwater management plan is being implemented. The basin was adjudicated in December 2015, and this provides a framework to sustainably manage the basin and reduce groundwater level declines and subsidence. The Final Judgment was entered on December 23, 2015, and is posted on the Watermaster website for reference (www.avwatermaster.net). A native safe yield of 82,300 AF per year was established by the court for the Antelope Valley Area of Adjudication, and the adjudication parties were divided into various classes to establish respective water rights among groundwater producers. To achieve sustainable groundwater elevations, groundwater production would be reduced (i.e., ramped down) over a 7-year period (2016–2022) to a final Production Right. As documented in the WSA for this project, potential sources of water, which individually or in combination could supply water to the project site include groundwater from onsite wells, AVEK, RCSD, and reclaimed water from LCSD or nearby municipal sources. AVEK and RCSD obtain their supply through surface water imports and groundwater extracted from the underlying Antelope Valley Groundwater Basin in accordance with their adjudicated production rights. It is anticipated that onsite groundwater wells could supply the construction water demands, and the long-term operational demands for annual panel washing would be supplied by a local purveyor, requiring water to be trucked to the site. The project is not anticipated to conflict with or obstruct implementation of a sustainable groundwater management plan.

Chapter 6
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Appendix L:
Water Supply Assessment

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WATER SUPPLY ASSESSMENT BULLHEAD SOLAR PROJECT

PREPARED FOR:

Bullhead Solar, LLC/EDF Renewables
1999 Harrison Street, Suite 675
Oakland, CA 94612
Contact: Scott Kuhlke, Development Director
Phone: (510) 457-2168

Kern County
Planning and Natural Resources Department
2700 M Street, Suite 100
Bakersfield, CA 93301
Contact: Katrina Slayton, Advanced Planning Division Chief
Phone: (661) 862-8600

PREPARED BY:

ICF
525 B Street, #1700
San Diego, CA 92101
Contact: Gary Clendenin, Principal
Phone: (714) 478-2690

March 2023

ICF. 2023. *Water Supply Assessment for the Bullhead Solar Project*. March. (104036.0.002). San Diego, CA. Prepared for Bullhead Solar, LLC/EDF Renewables, Oakland, CA, and the Kern County Planning and Natural Resources Department, Bakersfield, CA.

Executive Summary

This Water Supply Assessment (WSA) has been prepared for EDF Renewables (EDFR) and Kern County to satisfy the requirements of Senate Bill (SB) 610 for the proposed Bullhead Solar Project (project). For a qualifying project, SB 610 requires the preparation of a WSA to evaluate the water supply under normal year, single dry year, and multiple dry year conditions over a 20-year projection. The 20-year projection includes the construction and operations and maintenance (O&M) phases of the project, which would begin in 2024 and continue through 2043. It should be noted that the project has a life cycle of 35 years; however, this study evaluates the supply over a 20-year period in accordance with SB 610. The project would require approximately 200 acre-feet (AF) of water to support construction over an 18-month period and up to 11 acre-feet per year (AFY) to support O&M activities over an additional 18.5-year period. Over the 20-year evaluation period, the project would require an estimated 404 AF of water to support construction and O&M activities.

This WSA identifies several potential sources of water that individually or in combination could supply the project's construction and O&M water demands. These potential water-supply sources are groundwater from the Antelope Valley Groundwater Basin and surface water imports from the State Water Project. Groundwater could be sourced onsite using water rights, consisting of 1 AF of permanent production rights and 200 AF of carry-over water rights.

Long-term O&M water demands for the project would be relatively minor, with estimated water requirements substantially lower than those of the agricultural activities that formerly occurred at the site. Estimates of water demand for agricultural use range from 450 AFY to 2,400 AFY, whereas the project would use an estimated 133 AFY[1] and up to 11 AFY during the construction and O&M phases, respectively. This represents at least a 70 percent reduction during the construction phase and at least a 98 percent reduction during the O&M phase compared to the estimated former agricultural demand. At least 3 AFY of groundwater that was formerly associated with the site, which may have been for agricultural use, has been obtained by EDFR for project use. The remaining water rights associated with the site were severed by the former landowner, with the intent of selling them to other water users within the adjudicated basin.

Based on this WSA, the water supply of the region is sufficient to meet the construction and O&M demands of the project through 2043. Water supply for construction and O&M demand can be readily met through use of the groundwater production rights of the former landowner. EDFR has secured water rights to support the construction and operation water needs of project with another party; however, water supply sufficiency of the region during drought conditions will require the implementation of regional measures. Such measures likely to be implemented by the water suppliers include water conservation and the implementation of projects to increase supply (Appendix B).

[1] The project would utilize a total of up to 200 AF over its 18-month construction period.

Contents

Tables and Figures

Acronyms and Abbreviations

°F	degrees Fahrenheit
AF	acre-feet
AFY	acre-feet per year
AVEK	Antelope Valley–East Kern Water Agency
CEQA	California Environmental Quality Act
CWC	California Water Code
DWR	Department of Water Resources
EDFR	EDF Renewables
gen-tie	generation-tie
gpm	gallons per minute
IRWMP	Integrated Regional Water Management Plan
LACSD	Los Angeles County Sanitation District
LACWD	Los Angeles County Waterworks District
project	Bullhead Solar Project
PV	photovoltaic
RCSD	Rosamond Community Services District
SB	Senate Bill
SWP	State Water Project
UWMP	urban water management plan
WRP	water reclamation plant
WSA	water supply assessment
WSWB	Willow Springs Water Bank

Chapter 1
Introduction

1.1 Purpose of Document

Senate Bill (SB) 610 became effective on January 1, 2002, amending the California Water Code (CWC) by requiring detailed analysis of water supply availability for certain types of development projects. The primary purpose of SB 610 is to improve the linkage between water and land use planning by ensuring greater communication between water providers and local planning agencies so that land use decisions for certain large development projects are fully informed as to whether sufficient water supplies are available to meet project demands. SB 610 requires the preparation of a water supply assessment (WSA) for any project subject to the California Environmental Quality Act (CEQA) that meets certain requirements. A WSA associated with a project must include a discussion of the availability of an identified water supply under normal year, single dry year, and multiple dry year conditions over a 20-year forecast, accounting for the projected water demand of the project in addition to other existing and planned future uses of the identified water supply.

1.2 Water Supply Assessment Applicability

A project that is subject to CEQA requires preparation of a WSA if it is a proposed industrial facility occupying more than 40 acres of land (CWC § 10912(a)). The Bullhead Solar Project (project) encompasses approximately 1,359.5 acres. SB 610 amended CWC Sections 10910 and 10912 to create a direct relationship between water supply and land use. Based on this amendment to the CWC, the project is subject to SB 610 and therefore requires the preparation of a WSA.

The CWC, as amended by SB 610, requires that a WSA address the following questions:

- Is there a public water system that would service the project?
- Is there a current urban water management plan (UWMP) that accounts for the project demand?
- Is groundwater a component of the supplies for the project?
- Are there sufficient supplies to serve the project over the next 20 years?

Regarding sufficient supplies, the primary question to be answered in a WSA per the requirements of SB 610 is:

- Will the total projected water supply available during normal, single dry, and multiple dry water years during a 20-year projection meet the forecasted water demand of the proposed project, in addition to existing and planned future uses of the identified water supplies, including agricultural and manufacturing uses?

Chapter 4, *Water Supply Assessment,* addresses the SB 610 WSA questions as they relate to the project.

In addition, according to CWC Section 10910, Section 4.5, if a water supply for a proposed project includes groundwater, the following additional information shall be included in the water assessment:

> A description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

Kern County, acting as lead agency, will determine whether the project is subject to CEQA. This WSA will be included in the CEQA documentation and reviewed by the lead agency, who will make an independent determination as to whether there is adequate water supply for the project. This report provides information about the project's potential water supplies and analyzes the sufficiency of said supply.

Chapter 2
Project Description and Location

The project would be located on approximately 1,359.5 acres in southern Kern County, California. The project site is south of the Tehachapi Mountains on lands that gradually slope downward from the northwest to the southeast. It is approximately 52 miles southeast of the City of Bakersfield, 19 miles south of the City of Tehachapi, 8 miles northwest of the community of Rosamond, and 2 miles north of the community of Willow Springs. Other communities in the vicinity of the project site include Mojave in Kern County and the cities of Lancaster, Palmdale, and Neenach in Los Angeles County, which are roughly 12 miles northeast, 17 miles southeast, 24 miles southeast, and 18 miles southwest of the project, respectively. The regional location of the project site is depicted in Figure 1; Figure 2 provides an aerial view of the proposed solar site and surrounding land use characteristics.

The parcels of the project are currently either undeveloped or were formerly in agricultural use. Many of the lands surrounding the site have either been approved for, or are in the planning stages of development for, solar or wind energy.

The project consists of developing up to 270 megawatts (alternating current) of solar photovoltaic (PV) capacity derived from tracker technology and up to 270 megawatts of battery storage. The project includes solar development with associated PV panels, inverters, converters, generators, foundations, transformers, and preferred and optional generation-tie (gen-tie) routes to the Rosamond or Whirlwind Substations, only one of which would be constructed. The project also includes laydown yards, a meteorological station, a microwave/communication tower, and a substation.

2.1 Climate

Climate in the Antelope Valley is typical of semiarid regions, with hot summer days, cool summer nights, and cool winters. Summer temperatures observed from the closest weather station to the project at the General William J. Fox Airfield in Lancaster range from 61 degrees Fahrenheit (°F) to 97°F, and daily winter temperatures range from 29°F to 60°F (WRCC n.d.). The growing season is primarily from April to October. Precipitation ranges from 5 inches per year along the northern boundary of the Antelope Valley to 10 inches per year along the valley's southern boundary. Precipitation ranges from less than 4 inches on the valley floor to 20 inches in the mountains, running off the surrounding mountains through several canyons and watersheds. Most rainfall occurs between December and March, with average annual precipitation of 7.38 inches observed from the General William J. Fox Airfield weather station (WRCC n.d.; Los Angeles County Department of Public Works 2017; Antelope Valley Regional Water Management Group 2019).

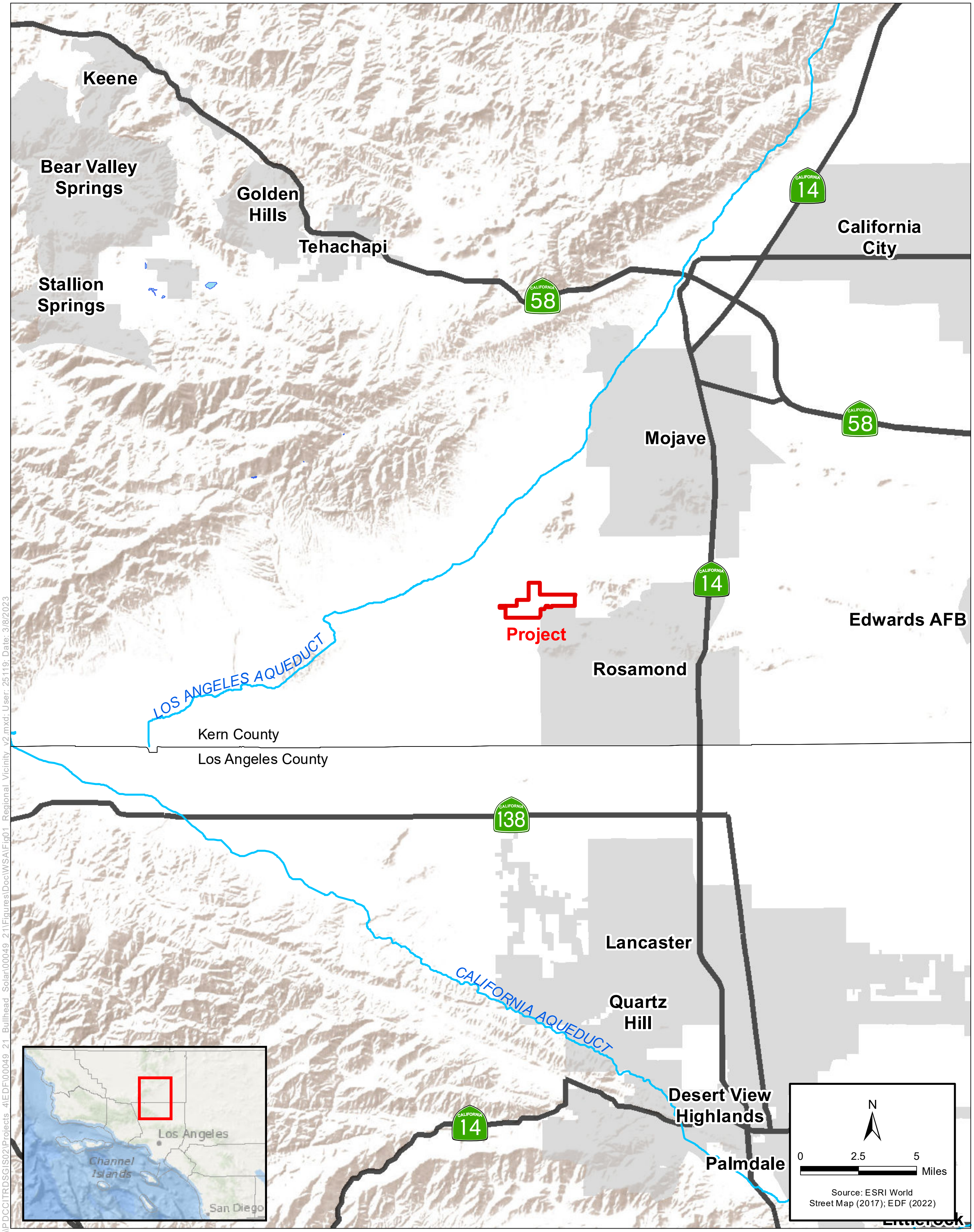

Figure 1
Regional Vicinity Map
Bullhead Solar

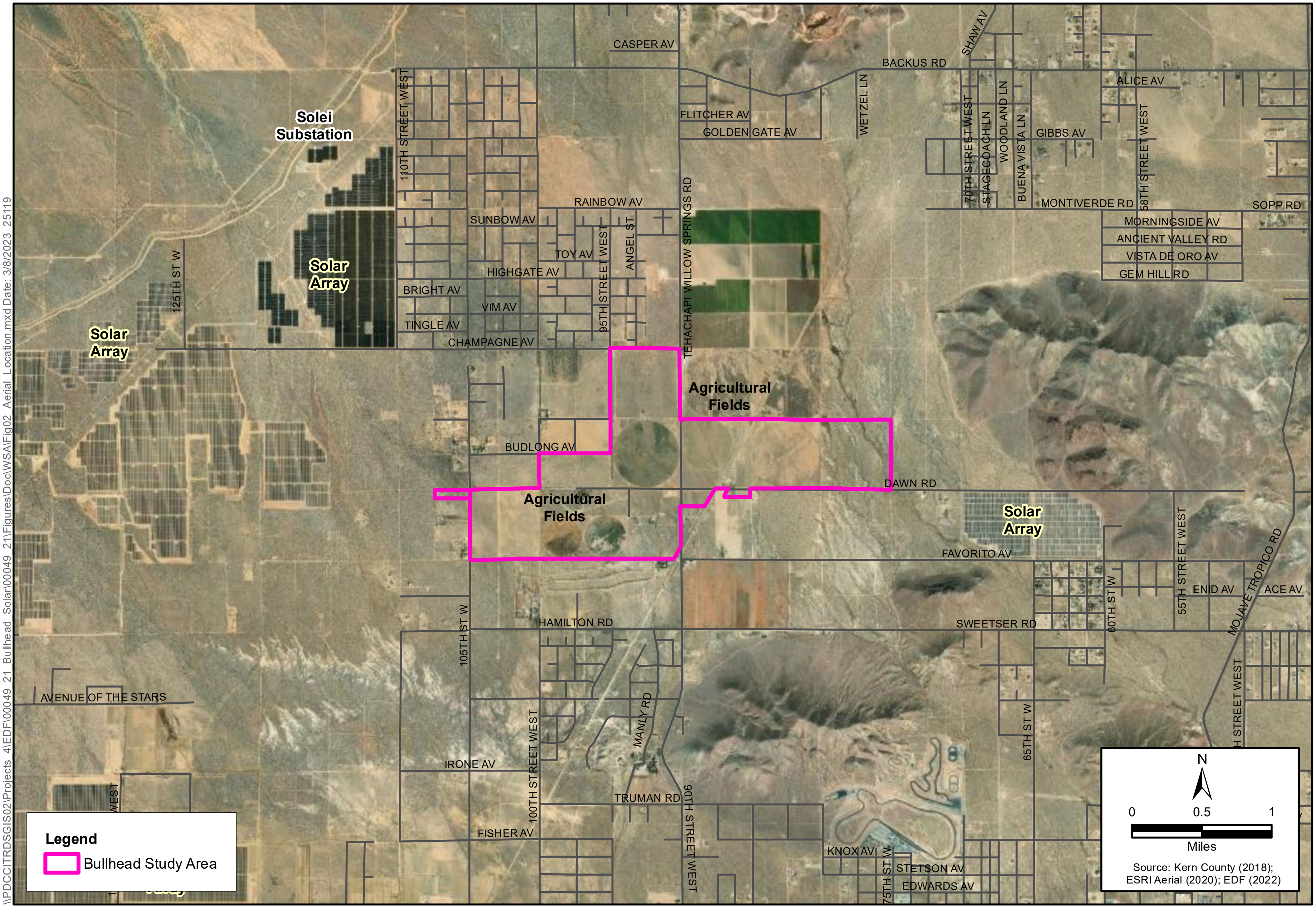

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Figure 2
Aerial Location Map
Bullhead Solar

2.2 Former Water Demand

The former water demand of the project site was estimated based on its prior agricultural use. As recently as April 2017, approximately 340 acres of the 1,359.5-acre project site were being used for agricultural purposes (Google Earth 2021). The water supply for prior agricultural uses on the site was sourced from the onsite wells. Typical crops in the area include pistachios and alfalfa. Total gross crop water requirements for pistachios and alfalfa in the Antelope Valley are 1.33 acre-feet (AF) per acre and 7.10 AF per acre during average years (Antelope Valley Regional Water Management Group 2019). If 340 acres of the 1,359.5 -acre site were planted with pistachios or alfalfa, they would have required about 450 and 2,400 acre-feet per year (AFY) of water, respectively.

2.3 Project Water Demand

A maximum of 200 AF of water would be required during the construction phase, which is assumed to be over an 18-month period (Table 2-1), with actual consumption strongly dependent on climatic conditions. Construction water needs would be limited to soil conditioning, dust suppression, fire water support, and other miscellaneous purposes. Water truck refilling stations (as required) would be established for dust control and other construction purposes.

Daily water use would vary, depending on the weather conditions and time of year, both of which affect the need for dust control: hot, dry, windy conditions would require greater amounts of water. Tanker trucks would apply water to construction areas to aid in road compaction and reduce construction-generated dust where needed.

Construction worker needs—including water for drinking and for sanitation facilities—would require a minimal amount of water. This water would be trucked in or delivered as bottled drinking water. A local sanitation company would provide and maintain appropriate construction sanitation facilities, including portable toilets and sinks, which would be placed at each staging area; additional facilities would be placed at specific construction locations, as necessary.

During the operations and maintenance (O&M) phase, solar PV plants would require minimal water use, including panel washing to increase average optical transmittance, water to aid in as-needed dust control, and water for fire suppression. Panel washing is expected once per year using the water from multiple loads carried by 5,000-gallon water trucks. The annual water consumption for facility operations, including periodic PV module washing, dust control, and fire suppression, is expected to be up to 11 AFY, which equates to approximately 204 AF over an 18.5-year O&M period.

Although there are any number of solar projects in the region (e.g., Antelope Valley Solar Project, Camino Solar Project, Rosamond Solar Modification Project), project water demands for both the construction and O&M phases were prorated, based on the adjacent BigBeau Solar Project, which had a similar construction period and built project area. In addition, Bullhead Solar is being developed by the same developer as BigBeau Solar, allowing for confirmation of water demand, based on their implementation of that project. The construction periods for Bullhead Solar and BigBeau Solar are 18 months and up to 14 months, respectively. However, in the event of a dry year, 6 AF of water was added for additional construction water demand for Bullhead Solar. Although the generating power of the Bullhead Solar project is larger than BigBeau (270 MW compared to 128 MW), no O&M building is proposed on the Bullhead Solar site, and panel washing would occur

Table 2-1. Proposed Water Demand for the Bullhead Solar Project

Project (MW)	Project Size (acres)	Project Construction Water Demand (gallons)	Project Construction Water Demand (AF)	Project Annual O&M Water Demand (gallons/ year)	Project Annual O&M Water Demand (AFY)
Generating: 270	1,359.5	65,170,200	**200**	3,584,361	**11**

AF = acre-feet; AFY = acre-feet per year; MW = megawatts; O&M = operations and maintenance

only once per year for Bullhead compared to panel washing twice a year under the assumptions for BigBeau. Therefore, the estimated operational water demand, including dust control, panel washing, and other miscellaneous tasks, was based on project generating power and divided in half because the Bullhead Solar Project would utilize less water during operation. Over the 20-year evaluation period, including an 18-month construction period and 18.5-year O&M period, the project would require an estimated 404 AF of water.[2]

[2] The project has an estimated 35-year life span. The estimated water demand for the project is calculated for the 20-year evaluation period only under SB 610.

Chapter 3
Water Resources

3.1 Surface Water

The project area is within the Tropico Hill-Oak Creek (hydrologic unit code 1809020618) watershed (Figure 3), which is within the larger Antelope-Fremont Valleys watershed (Figure 4). Streams originate in mountains and foothills and flow across the valley floor, ultimately draining to dry lakes, including Rosamond, Buckhorn, and Rogers lakes on Edwards Air Force Base. The closest playa, Rosamond Lake, is approximately 11 miles southeast of the project site. The Antelope Valley lacks defined natural and improved channels outside of the foothills and is subject to erratic sheet flow patterns.

Major human-made surface water features in the vicinity of the project site include the Los Angeles and California Aqueducts, approximately 2.5 miles northwest and approximately 14 miles southwest of the project, respectively (Figure 1). The Los Angeles Aqueduct was built and is operated by the Los Angeles Department of Water and Power. The system delivers water from the Owens River in the Eastern Sierra Nevada Mountains to Los Angeles and is not available for water users in the Antelope Valley. The California Aqueduct was built and maintained by the Department of Water Resources (DWR) and delivers water from the Sacramento-San Joaquin Delta to Southern California. All water currently used in the Antelope Valley region comes from three sources: (1) naturally occurring water within the Antelope Valley region (precipitation conveyed to surface waters or groundwater); (2) the State Water Project (SWP), via the California Aqueduct; and (3) reclaimed water for groundwater recharge (Antelope Valley Regional Water Management Group 2019). The Antelope Valley–East Kern Water Agency (AVEK) is a wholesale supplier of SWP water to the Antelope Valley region. SWP water supplies for the water wholesaler is discussed further in Section 4.2.3, *AVEK Sufficiency Analysis*.

3.2 Groundwater

The project is in the Antelope Valley Groundwater Basin (DWR Basin No. 6-44), which covers approximately 1,010,000 acres (1,580 square miles) in Los Angeles, Kern, and San Bernardino counties (Figure 5). The basin is bounded to the northwest by the Garlock fault zone at the base of the Tehachapi Mountains and to the southwest by the San Andreas fault zone at the base of the San Gabriel Mountains. Ridges, buttes, and low hills that form a surface and groundwater drainage divide bound the basin to the east, and to the north the basin is bound by the Fremont Valley Groundwater Basin at a groundwater divide based on geological features. The Antelope Valley Groundwater Basin underlies an extensive alluvial valley in the western Mojave Desert (DWR 2004).

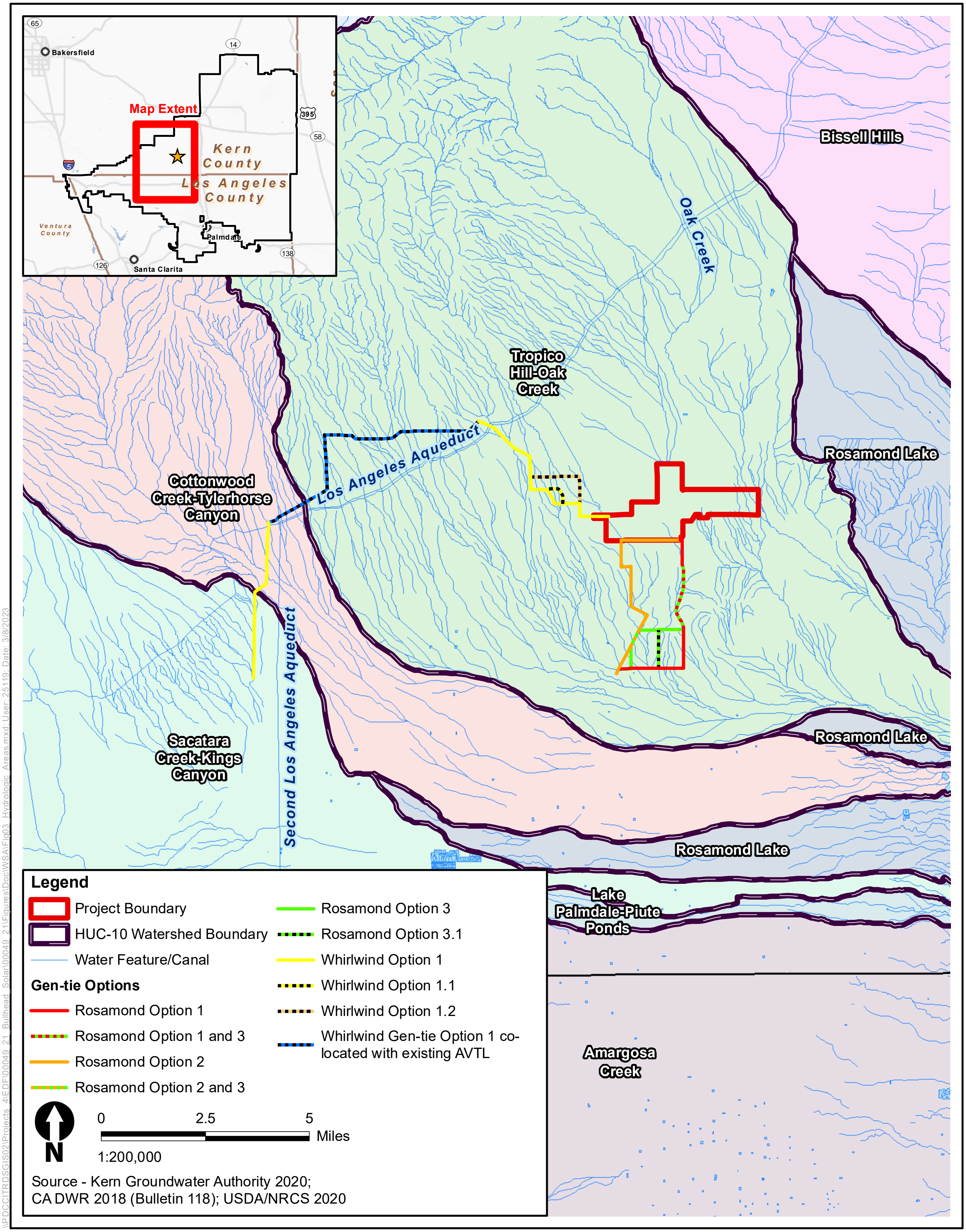

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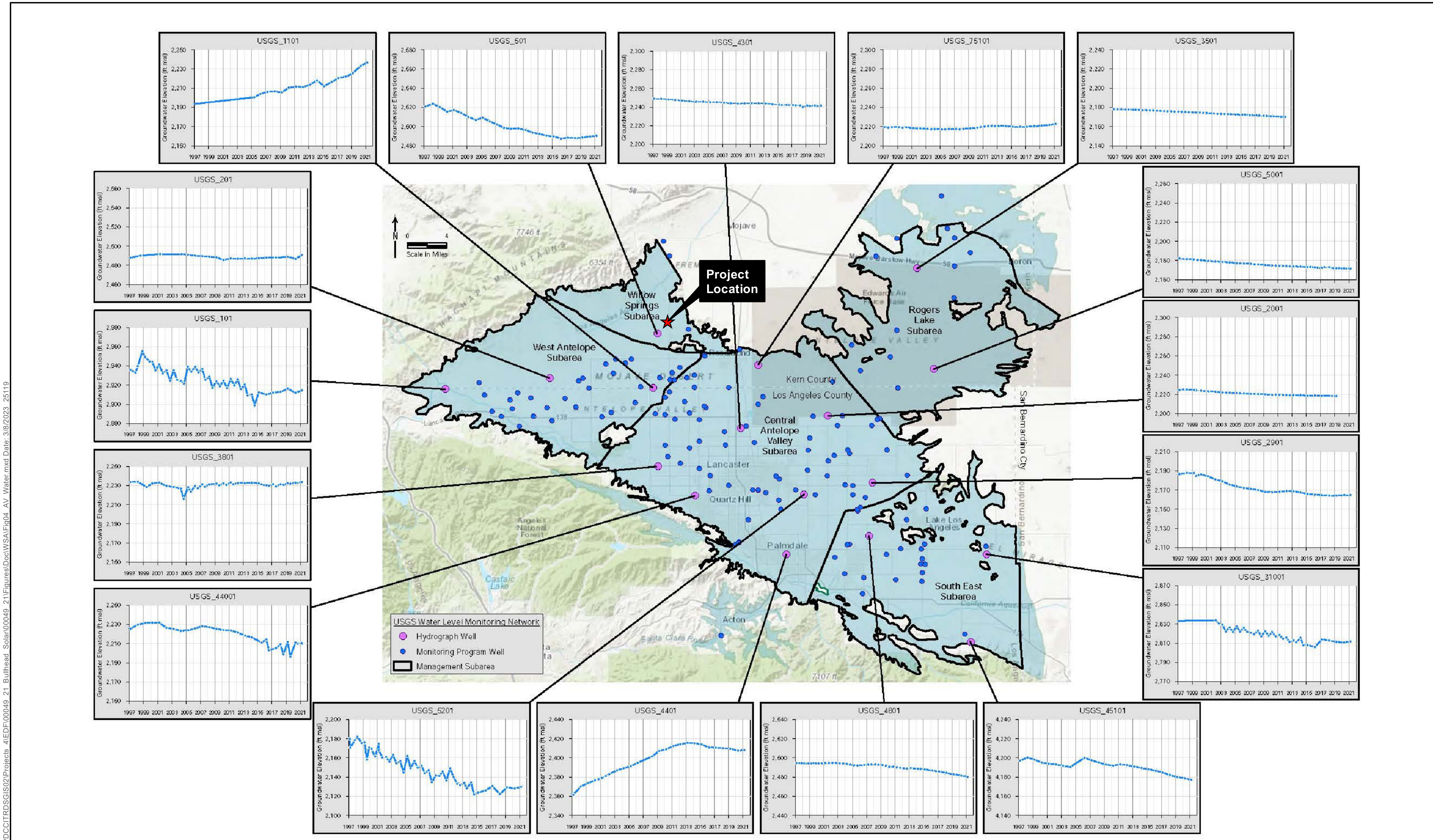
Figure 3
Hydrologic Areas
Bullhead Solar



Source: Todd Groundwater. 2021. *Antelope Valley Watermaster Final 2020 Annual Report.*

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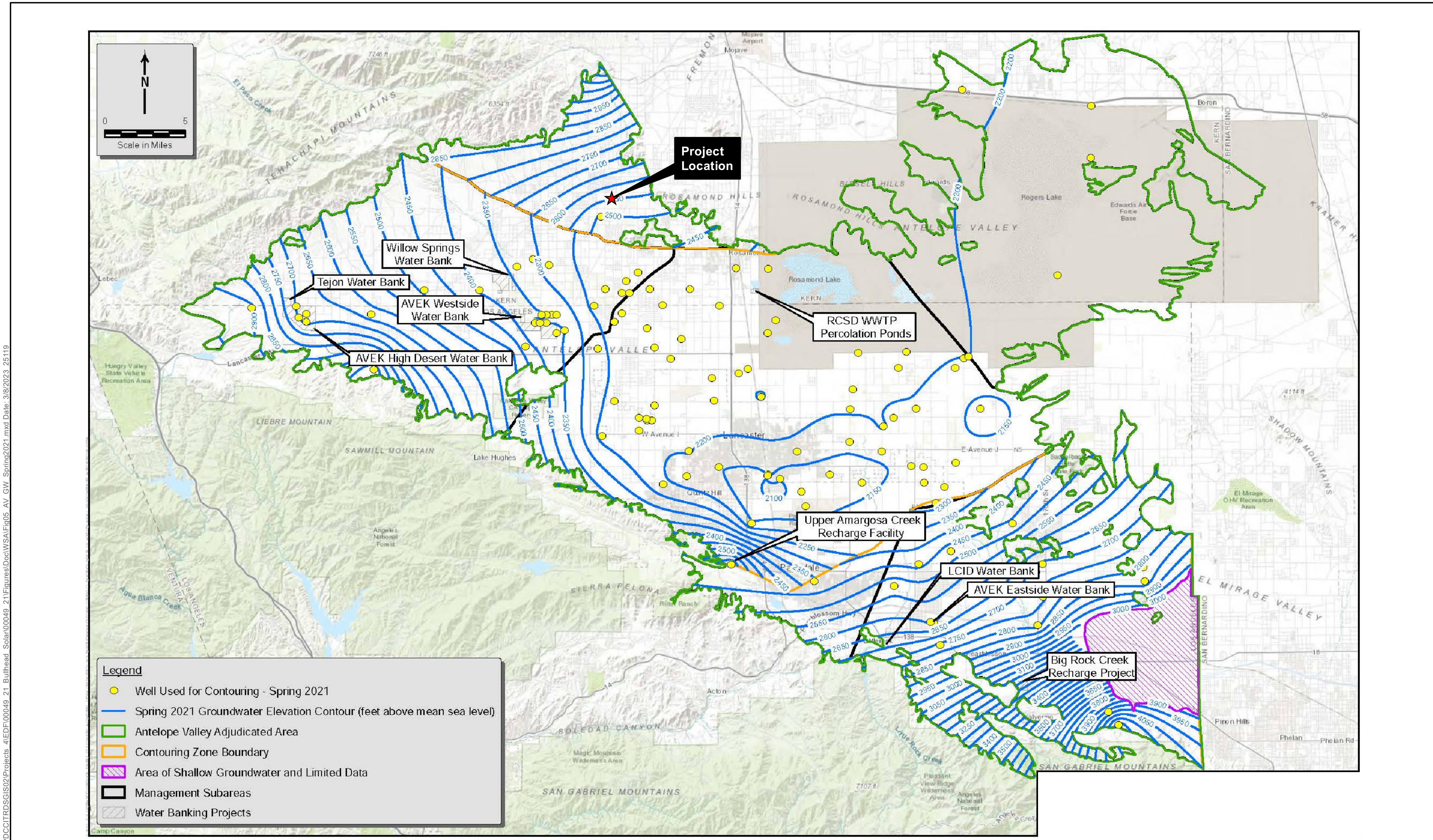
Figure 4
Antelope Valley Water Level Hydrographs
Bullhead Solar



Source: Todd Groundwater. 2021. *Antelope Valley Watermaster Final 2020 Annual Report.*

Figure 5
Antelope Valley Groundwater Elevations Spring 2021
Bullhead Solar

The primary water-bearing materials in the basin are Pleistocene and Holocene-age unconsolidated alluvial and lacustrine deposits that consist of compact gravels, sand, silt, and clay. Coarse alluvial deposits form the two main aquifers of the basin—a lower aquifer and an upper aquifer. Clays are interbedded with lenses of coarser water-bearing material as thick as 20 feet; in contrast, the clay beds are as thick as 400 feet. Lake deposits form a zone of low permeability between the permeable alluvium of the upper aquifer and that of the lower aquifer, although leakage between the two aquifers may occur. The upper aquifer is the primary source of groundwater for the valley and is generally unconfined, whereas the lower aquifer is generally confined. Wells typically have a moderate to high ability for water well production (DWR 2004). Regional water level hydrographs and groundwater elevations are shown on Figure 4 and Figure 5, respectively (Todd Groundwater 2021).

Recharge to the basin is primarily through perennial runoff, as well as precipitation and snowmelt from the Antelope Valley and surrounding mountains and hills. Most recharge occurs at the foot of the mountains and hills. Other minor recharge is from return of irrigation water and septic system effluent (DWR 2004). Another source of artificial recharge is water banking through spreading basins that allow water to infiltrate into the ground (Figure 5). Several water banking projects for the region are discussed in Section 4.2.3, *AVEK Sufficiency Analysis*. Groundwater pumping in the Antelope Valley region peaked in the 1950s, decreasing in the 1960s and 1970s, when agricultural pumping declined due to cost restrictions (Antelope Valley Regional Water Management Group 2019). Estimates of pumping in 2005 are between 110,000 to 120,000 AF, with 90,000 AF in 2012 (Groundwater Exchange 2018).

The Antelope Valley Groundwater Basin was adjudicated in December 2015 after 15 years of complex proceedings among more than 4,000 parties. The adjudication defined the Antelope Valley Groundwater Basin boundaries (Figure 5), considered hydraulic connection through the basin, established a safe yield, and quantified groundwater production. The basin was determined to be in a state of overdraft as a result of these considerations. Although the basin covers 1,580 square miles, subsurface flows between adjacent alluvial areas to the northeast and south of the Adjudication Area are generally considered nominal. As a result, the Adjudication Area only covers approximately 1,390 square miles and does not include the adjacent alluvial northern portions of the groundwater basin. The adjudication provides a framework to manage the basin sustainably and reduce groundwater-level declines and subsidence. The Final Judgment was entered on December 23, 2015. To administer the judgment, the court directed appointment of the Watermaster, a five-member board of directors. In 2016, the Watermaster board and an Advisory Committee (both entities were required under the Judgment) were formed (Todd Groundwater 2021).

In 2014, the Sustainable Groundwater Management Act was passed, which created a basin prioritization system that ranks groundwater basins as high, medium, low, or very low priority. Because the basin is adjudicated, DWR has designated the Antelope Valley Groundwater Basin as a very low priority basin (DWR n.d.). The act does not apply to adjudicated basins, so a groundwater sustainability plan is not required. However, the Antelope Valley Integrated Regional Water Management Plan (IRWMP) was designed to serve as the Groundwater Management Plan for the Antelope Valley Basin and includes all the relevant components related to Groundwater Management Plans in the CWC (Part 2.75 § 10753).

3.2.1 Groundwater Quality

Generally, groundwater in the basin contains calcium bicarbonate near the surrounding mountains and sodium bicarbonate or sodium sulfate in the central part of the basin (DWR 2004). Trace elements are present at low concentrations in 51 percent of the aquifer. However, high concentrations of trace elements were found in 32 percent of the aquifer, with aluminum, arsenic, vanadium, boron, and fluoride detected at high concentrations. Nutrients, such as nitrate and nitrite, are naturally present at low concentrations in groundwater. In the basin, nutrients were detected at low concentrations in 72 percent of the primary aquifers. Other inorganic constituents, such as total dissolved solids and iron, were present at high and moderate concentrations in 18 percent and 10 percent of the primary aquifers, respectively. Perchlorate is an inorganic constituent regulated in California drinking water and occurs naturally at low concentrations in groundwater. In the Antelope Valley Groundwater Basin, perchlorate was found at moderate concentrations in 29 percent of the primary aquifers. Of 56 volatile organic compounds with health-based benchmarks analyzed, only trichloromethane (chloroform) was detected at moderate concentrations in 2 percent of the primary aquifers, and no volatile organic compounds were detected at high concentrations. Pesticides were not detected or were only detected at low concentrations (Dawson and Belitz 2012).

3.2.2 Groundwater as a Projected Component of Project Water Supplies

As discussed in Section 3.3, *Water Suppliers* project water could come from Rosamond Community Services District (RCSD) and onsite groundwater wells. This agency and wells have overlying production rights to groundwater in the Antelope Valley Groundwater Basin per the adjudication (Todd Groundwater 2021). As noted previously, the Antelope Valley Area of Adjudication covers approximately 1,390 square miles of the Antelope Valley Groundwater Basin. The Adjudication Area does not include the adjacent alluvial portions of the groundwater basin to the northeast and south and is truncated at the Los Angeles-San Bernardino County Line in the southeast. To achieve sustainable groundwater elevations within the adjudicated area, groundwater production will be reduced in accordance with the adjudication over a 7-year period (2016–2022) to the native safe yield of 82,300 AFY (Todd Groundwater 2021). The judgment recognizes that the native safe yield is based on certain assumptions for land use and return flows and, as a result, the native safe yield will be reevaluated in 2033 to ensure sustainability by 2040. Reported production yields (in AF) from 2016 through 2020 are presented in Table 3-1.

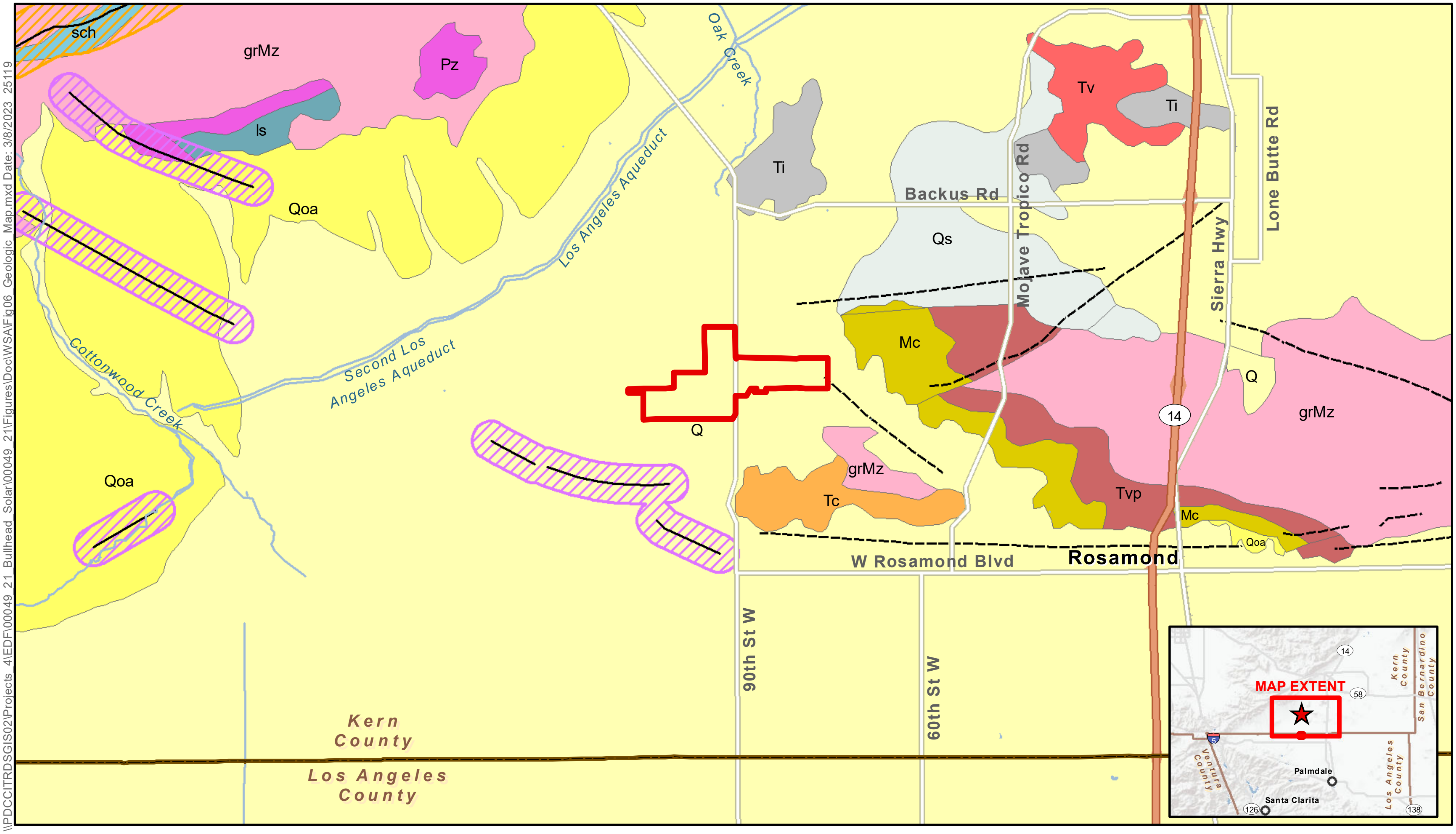
Table 3-1. Reported Production for the Antelope Valley Adjudicated Groundwater Area from 2016 through 2020

	2016 Reported Production (AF)[a]	2017 Reported Production (AF)[a]	2018 Reported Production (AF)[a]	2019 Reported Production (AF)[a]	2020 Reported Production (AF)[a]
Totals	109,458	89,874	82,753	78,875	83,527

Source: Todd Groundwater 2021.
[a] Not all parties reported their production.
AF = acre-feet

The underlying geology consists of two primary aquifers: the upper unconfined aquifer, which is the main source of groundwater for the area, and a lower aquifer, which is generally confined. The primary water-bearing materials are Pleistocene and Holocene-age unconsolidated alluvial and lacustrine deposits. Restrictive structures in the basin are composed of three large sediment-filled structural basins separated by extensively faulted, elevated bedrock (Figure 6) (DWR 2004).

The U.S. Geological Survey National Water Information System and California State Elevation Monitoring databases were reviewed to identify existing groundwater well and groundwater elevation data for the proposed project site. Groundwater well depths in the area range from 185 to 977 feet (DWR 2020). The hydrologic gradient is to the south–southeast, as shown on potentiometric surface maps created with groundwater elevation data collected in the spring of 2021 (Figure 5) (Todd Groundwater 2021). The review of DWR data identified a privately owned well (DW245) on the project site (Figure 7). DW245 is an approximately 960-foot-deep irrigation well. U.S. Geological Survey groundwater monitoring in March 2021 indicated a groundwater depth of 198.56 feet below ground surface in DW245. It is unknown if the privately owned irrigation well could be utilized as a source of project water and historical production data for this well were not available, but a constant-rate pumping test following the completion of the well in April 2008 indicated an estimated yield of 170 gallons per minute (gpm). The constant-rate pumping test was 5 hours long and resulted in drawdown of 492 feet within the 960-foot well. A water resource investigation would determine if DW245 is an optimal water source for project construction or could supplement or supply project O&M water.



Project Boundary
Quaternary Faults
Pre-Quaternary Faults

Fault Classification

Holocene
Quaternary

Generalized Rock Types

ls = Paleozoic or Mesozoic marine sedimentary and metasedimentary rocks
Mc = Miocene nonmarine (continental) sedimentary rocks
Pz = Paleozonic marine sedimentary and metasedimentary rocks
Q = Pleistocene-Holocene marine and nonmarine (continental) sedimentary rocks
Qoa = Pleistocene marine and nonmarine (continental) sedimentary rocks
Qs = Pleistocene-Holocene marine and nonmarine (continental) sedimentary rocks
Tc = Tertiary nonmarine (continental) sedimentary rocks
Ti = Tertiary volcanic rocks
Tv = Tertiary volcanic rocks
Tvp = Tertiary volcanic rocks
grMz = Mesozoic plutonic rocks
sch = Paleozoic or Mesozoic marine sedimentary and metasedimentary rocks

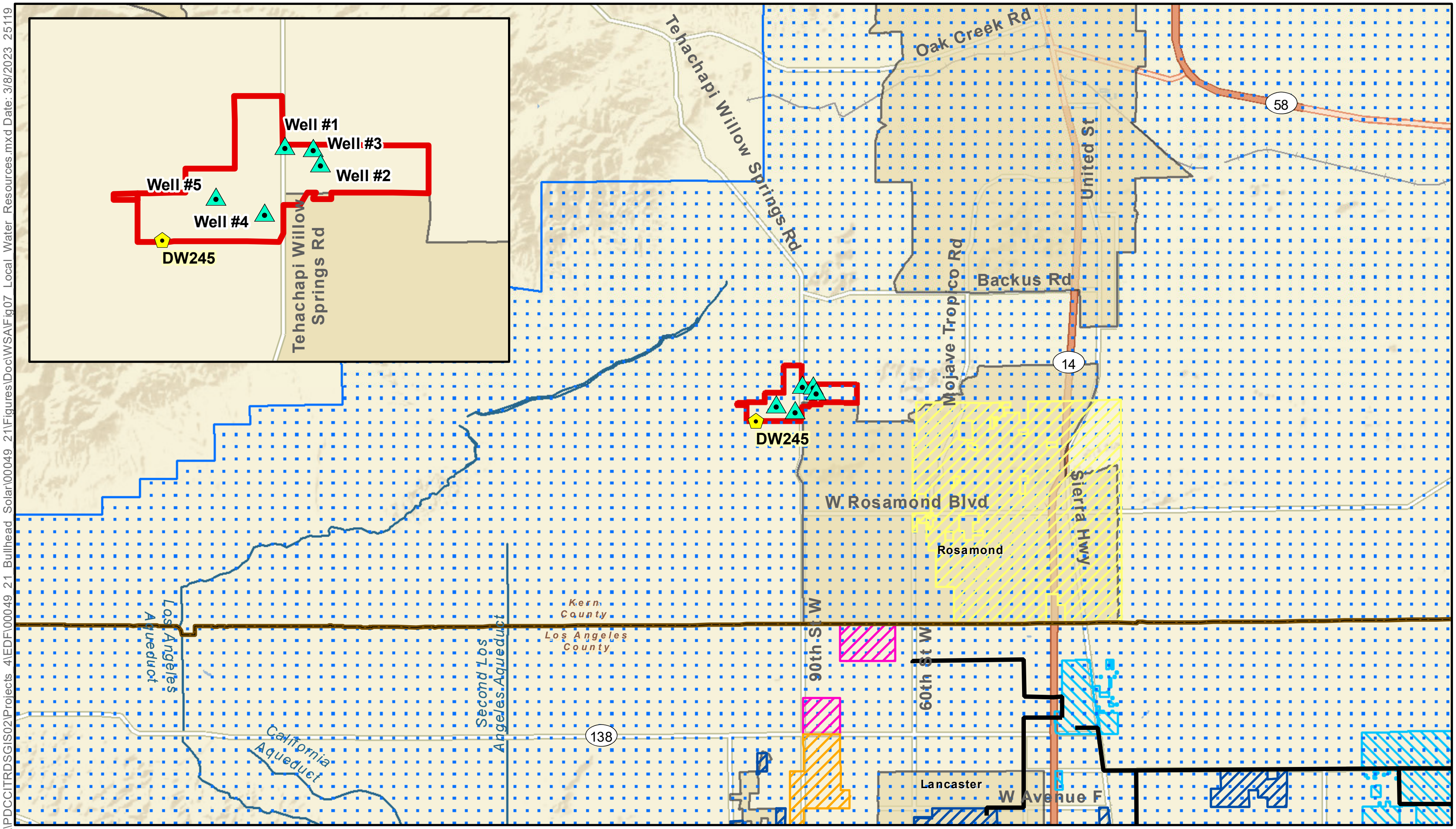
N

0 1 2 4

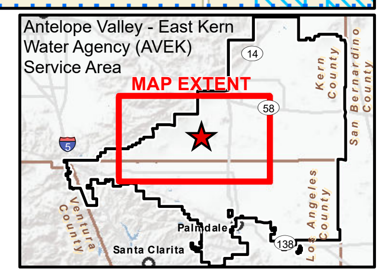
Miles

Source: DOC; ESRI

Figure 6
Geologic Map
Bullhead Solar



Project Boundary
Irrigation Well
Miner Wells
Aqueduct
Existing Recycled Water Pipeline
Los Angeles County Sanitation District (LACSD) 14
Sundale Mutual Water Company
Land Projects Mutual Water Company
Los Angeles County Waterworks District (LACWD) 40
Rosamond Community Service District (RCSD)
AVEK Service Area Boundary



N
0 1 2 4
Miles
Source: LACSD; CNRA; ESRI Street Map

ICF

Figure 7
Local Water Resources
Bullhead Solar

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Five additional groundwater wells are also on the project site (Figure 7), on the former Miner residence property, known collectively for this analysis as the “Miner Groundwater Wells.” They were previously associated with adjudicated water rights held by the former landowner for production from the underlying Antelope Valley Groundwater Basin. Historical production and pump test data could not be obtained for these wells. Discussions between EDF Renewables (EDFR) and the former landowner provided an anecdotal summary of the wells’ pumping capacities. These data are provided in Table 3-2.

Table 3-2. Reported Pumping Capacities of Five Onsite Miner Groundwater Wells

Well ID	Well Type	Estimated Pumping Rate (gpm)
Well #1	Irrigation	200
Well #2	Irrigation	1,000
Well #3	Irrigation	800
Well #4	Irrigation	200
Well #5[a]	Residential	Unknown[a]

Source: Hawtin pers. comm.
[a] Per the adjudication, Well #5 utilized a small pumper parcel production right of 3 AFY.
AF = acre-feet; gpm = gallons per minute

Construction water demands are estimated to be approximately 200 AF (or approximately 65,170,200 gallons). With project construction occurring over 18 continuous months, this is equivalent to approximately 133 AFY, requiring a pumping rate of approximately 165 gpm, assuming the irrigation well is pumped 12 hours per day, 7 days per week. This pumping rate is approximately equal to or less than the yields estimated for the onsite irrigation wells. The estimated O&M water demand for the project is up to 11 AFY. Assuming an onsite irrigation well pumped 12 hours per day, 7 days per week, the required pumping rate to produce 11 AFY converts to approximately 14 gpm, which is approximately 8 percent of the lowest estimated yield (170 gpm) of the onsite irrigation wells (well DW245).

3.3 Water Suppliers

Water supply sources for the Antelope Valley region consist principally of SWP surface water imports delivered to the area via the California Aqueduct and local groundwater supplies from the Antelope Valley Groundwater Basin. SWP water originates in the Sacramento River watershed and is exported from the Sacramento–San Joaquin Delta. The California Aqueduct, which conveys SWP water to southern California, passes approximately 8 miles southwest of the project site. The local water resources for the project are presented in Figure 7.

3.3.1 Public Water Systems and/or Local Water Agencies and Service Areas

The project lies within the AVEK service area (Figure 7). AVEK, the primary SWP contracting agency in the area, is also the largest wholesale water supplier in the Antelope Valley region for local water retail agencies and provides water for local agricultural use. AVEK serves an area of approximately 2,400 square miles in northern Los Angeles and eastern Kern Counties, as well as a small portion of

Ventura County. AVEK also provides a small amount of SWP water to areas outside of the Antelope Valley. It provides water to a population of approximately 307,000 people through 25 retail water agencies and water companies (Antelope Valley Regional Water Management Group 2019).

The closest water agencies to the project site are RCSD and Los Angeles County Waterworks District (LACWD) 40. RCSD and LACWD 40 are approximately 2 miles east–southeast and 9 miles south of the project site, respectively. The locations of these water agencies relative to the project site are shown on Figure 7. LACWD 40 and RCSD purchase surface water from AVEK and obtain groundwater from the Antelope Valley Groundwater Basin based on their adjudicated production rights. LACWD 40 was not evaluated as a potential source of project water because it is not currently supplying construction projects outside of its district (District Engineer pers. comm.).

In addition, Mutual Water Companies, including the Sundale Mutual Water Company and the Land Projects Mutual Water Company (Figure 7), are less than 5 miles and 6 miles south from the project site, respectively. Mutual water companies provide water service in rural areas that have no alternative supplies. Much, but not all, of the water provided by these agencies is purchased from AVEK.

3.3.2 Wastewater and Reclaimed Water

Wastewater and reclaimed water in the southern portion of Antelope Valley is managed primarily by the Los Angeles County Sanitation District (LACSD), whereas in the northern portion of the valley, various local agencies, including RCSD, manage wastewater and reclaimed water systems. Wastewater service is primarily limited to urban areas, whereas rural areas of the valley rely on septic systems.

LACSD owns and operates the Lancaster water reclamation plant (WRP) and Palmdale WRP, which collect wastewater from the cities of Palmdale and Lancaster, treating it to tertiary levels that are suitable for nonpotable uses and groundwater recharge. RCSD treats wastewater at its Rosamond Wastewater Treatment Plant and produces secondary-treated water. In 2008, RCSD developed a plan to build a tertiary treatment plant with a potential for future expansion; however, future expansion has been put on hold indefinitely due to lack of funding and other economic considerations (Antelope Valley Regional Water Management Group 2019). Use of reclaimed water is also permitted through LACSD under its Master Recycling Permit. The Lancaster WRP is approximately 12 miles southeast of the site. Reclaimed water from LACSD is used for irrigation or municipal and industrial uses.

Chapter 4
Water Supply Assessment

A WSA is required to identify and describe the water supply sources of the public water supplier that would serve the project. CWC Section 10910(d) requires a WSA to include identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the project, and a description of the quantities of water received by the public water supplier. A WSA must include a discussion of the availability of an identified water supply under normal year, single dry year, and multiple dry year conditions over a 20-year projection, accounting for the projected water demand of the project and other existing and planned future uses of the identified water supply. This WSA analyzes two primary water sources, including RCSD and the onsite irrigation wells, which may be available to meet the project's anticipated construction and annual O&M water demand.

4.1 Water Management Plans

California's urban water suppliers prepare UWMPs to support long-term resource planning and ensure adequate water supplies. Every urban water supplier that either delivers more than 3,000 AFY of water annually or serves more than 3,000 connections is required to assess the reliability of its water sources over a 20-year period under normal, dry, and multiple dry year scenarios; these are the same requirements of a WSA, as specified by SB 610. UWMPs must be updated and submitted to the California DWR every 5 years for review and approval. IRWMPs also provide similar information.

No current urban water management plans incorporate water supply for the project, but several water management plans provided valuable information for this WSA, including the following:

- The **2020 UWMP for AVEK** (AVEK 2021) evaluates the reliability of the total AVEK water supply that is sold to approximately 30 agencies, including RCSD.
- The **2020 UWMP for RCSD** (RCSD 2022) evaluates the reliability of the total RCSD water supply. RCSD provides imported surface water purchased from AVEK and groundwater extracted from the Antelope Valley Groundwater Basin to residential and commercial customers for domestic, commercial, irrigation, and fire protection uses.
- The **2019 Antelope Valley IRWMP Update** (Antelope Valley Regional Water Management Group 2019) evaluates the reliability of the total water supply for the Antelope Valley. It includes consideration of SWP imports (most, but not all of which are delivered to AVEK), adjudicated groundwater, banked groundwater, reclaimed water, and local surface water.

The 2020 UWMPs for AVEK and RCSD extend projections through 2045 and were used to evaluate 20-year projections for AVEK and RCSD, respectively, as part of this WSA.

The 2019 Antelope Valley IRWMP for the region extends projections through 2040. In order to evaluate 20-year projections as part of this WSA, the reasonable assumption is made that the Antelope Valley IRWMP would continue to maintain similar water supply and availability from 2041 through 2043, capturing the last few years of the 20-year assessment period.

4.2 Water Supply Availability

4.2.1 Potential Water Sources

As indicated, the construction and O&M phases would require an estimated 200 AF and up to 11 AFY, respectively. Over the 20-year evaluation period, an estimated 404 AF of water would be required. There are no known sources of piped reclaimed or potable water at or near the project. The following potential water sources for the project have been identified:

- EDFR has completed a Watermaster-approved purchase of 1 AF of permanent production right(s) within the Antelope Valley Groundwater Basin and 200-acre-feet of carry over water rights from Pam, Richard, and Denise Godde.
- Water supply could be obtained from RCSD and trucked to the project site. RCSD obtains its water from AVEK and groundwater pumped from the Antelope Valley Groundwater Basin. Water for the project could be obtained from a hydrant at the southwest corner of Rosamond Boulevard and 55th Street West and/or another hydrant adjacent to 5335 Rosamond Boulevard. Both hydrants are approximately 7 miles from the project site (Smith pers. comm.).
- As previously discussed in Section 3.2.2, *Groundwater as a Projected Component of Project Water Supplies*, parcels that were purchased by EDFR for use on the project were entitled to produce groundwater from the Antelope Valley Groundwater Basin per the terms of the adjudication.[3] Most of these water rights were severed from the purchased parcels by the former landowner with the intent to sell them to other water users within the adjudicated basin (Hawtin pers. comm.). One of the parcels purchased by EDFR was entitled to a small pumper parcel allotment of no more than 3 AFY. This allotment is associated with Miner Well #5 (Figure 7). EDFR has completed the transfer of the small pumper allotment from the former landowner at Miner Well #5 to EDFR for ongoing use on the project. Water can also be drawn by EDFR from other existing wells on the former Miner property, encompassing the project site, to satisfy their purchased allotment of 1 AF of permanent production rights and 200 AF of carry-over water rights within the Antelope Valley Groundwater Basin.

AVEK and RCSD were contacted to determine their capacity to supply the project with its water demand. Because the project site is not within the boundaries of RCSD, it was unable to provide a will serve letter agreeing to provide for the project's water demand. The RCSD engineer indicated that RCSD could possibly provide some or all of the demands of the project but could not guarantee the supply (Smith pers. comm.). AVEK indicated that it could not provide the project's water demand as they have neither the infrastructure near the site to supply the project nor the facilities that would allow for trucking of water supply for its construction or O&M activities (Livesay pers. comm.). Although the project cannot obtain supply directly from AVEK, a sufficiency analysis for AVEK as a sole source of supply is included below because it provides RCSD with a significant portion of its supply through surface water obtained from the SWP.

[3] The post-rampdown production rights (999 AFY) per the terms of the adjudication for the former landowner are presented in Appendix A (Todd Groundwater 2021).

4.2.2 Onsite Groundwater Wells Sufficiency Analysis

The sufficiency analysis for the onsite groundwater wells as a potential source for the project is presented below. It presents the water supply and demand projections for the Antelope Valley Region in the 2019 Antelope Valley IRWMP and compares those projections to the construction and O&M demands of the project. The 2019 Antelope Valley IRWMP water budget considers the groundwater production rights of the onsite groundwater wells.

Groundwater supplies in the Antelope Valley region are obtained from the underlying Antelope Valley Groundwater Basin. The adjudication defined the basin boundaries, considered hydraulic connection throughout the basin, established a native safe yield and total sustainable yield, and quantified groundwater production. The basin’s native safe yield (82,300 AFY) includes both natural recharge and return flows from unused groundwater that is pumped and then percolates back into the groundwater basin. Total sustainable yield is defined in the judgment as the amount of groundwater that may be safely pumped from the basin on a long-term basis and is specified as the sum of the native safe yield plus return flows from imported water. The total sustainable yield (i.e., recharge and return flows) was determined to be 110,000 AFY in the final judgment. The amount of groundwater available to the groundwater users in the basin, including the onsite groundwater wells (999 AFY), is a portion of the 82,300 AFY native safe yield. A 7-year rampdown period is in effect such that all producers can extract no more than the native safe yield from the basin by 2023.

In addition to groundwater, water supplies for the Antelope Valley Region are composed of SWP imports, reclaimed water, and local surface water. SWP imports are used for direct deliveries or for artificial recharge to groundwater storage. The amount of SWP supply that would be available for a given water demand is highly variable and depends on hydrologic conditions in Northern California, the amount of water in SWP storage reservoirs at the beginning of the year, regulatory and operational constraints, and the total amount of water requested by contractors. Reclaimed water in the Antelope Valley is available from two primary sources: the Lancaster WRP and Palmdale WRP. Both plants treat water to a tertiary level. Only existing reclaimed water users are included in the water budget estimates. Surface water supplies in the Antelope Valley region generally consist of runoff from Littlerock and Santiago Canyons in the Angeles National Forest that is intercepted by the Littlerock Dam and Reservoir. Littlerock Reservoir is co-owned by Palmdale Water District and the Littlerock Creek Irrigation District.

The 20-year projections for the regional water supply under normal, dry-year, and multiple dry-year conditions are presented in Table 4-1. As shown by the comparison, demand is estimated to exceed supply under normal conditions beyond 2025 and for all modeled years under drought conditions (indicated by red numbers in the table). These shortfalls are due to increased population growth coupled with reduced groundwater production rights prescribed in the judgment. Water purveyors are currently exploring opportunities to utilize new sources of water to augment the available water supplies in the region (Appendix B). Developers in the region are also required to secure additional imported water supplies to meet increased demands as a result of population growth. They may pay a fee for AVEK to increase their SWP Table A allocation, or they may secure more imported water themselves. SWP water supplies would be conveyed using AVEK’s distribution system. Water conservation measures may also be implemented to reduce regional water demands and bridge the mismatch between water supplies and demands.

Table 4-1. Projected Regional Water Supply and Demand Over a Normal-Year, Single-Dry-Year, and Multiple-Dry-Year Period

	Normal Year					Single Dry Year					Multiple Dry Year				
	2020	2025	2030	2035	2040	2020	2025	2030	2035	2040	2020	2025	2030	2035	2040
Supplies (AF)															
Groundwater[a]	120,100	115,700	115,700	115,700	115,700	144,700	155,700	155,700	155,700	155,700	137,000	141,425	141,425	141,425	141,425
Imported Water	99,500[b]	99,500[b]	99,500[b]	99,500[b]	99,500[b]	12,800[c]	12,800[c]	12,800[c]	12,800[c]	12,800[c]	54,600[d]	54,600[d]	54,600[d]	54,600[d]	54,600[d]
Reclaimed	8,700	11,900	15,100	18,300	18,300	8,700	11,900	15,100	18,300	18,300	8,700	11,900	15,100	18,300	18,300
Surface Water	4,000	4,500	4,500	4,500	4,500	4,000	4,500	4,500	4,500	4,500	4,000	4,500	4,500	4,500	4,500
Total Supply	**232,300**	**231,600**	**234,800**	**238,000**	**238,000**	**170,200**	**184,900**	**188,100**	**191,300**	**191,300**	**204,300**	**212,400**	**215,600**	**218,800**	**218,800**
Total Demand[e]	**210,500**	**226,600**	**240,600**	**254,700**	**257,500**	**221,500**	**237,600**	**251,600**	**265,700**	**268,500**	**221,500**	**237,600**	**251,600**	**265,700**	**268,500**
Difference	**21,800**	**5,000**	**-5,800**	**-16,700**	**-19,500**	**-51,300**	**-52,700**	**-63,500**	**-74,400**	**-77,200**	**-17,200**	**-25,200**	**-36,000**	**-46,900**	**-49,700**

Source: Antelope Valley Regional Water Management Group 2019.
[a] Groundwater supplies include recharge, return flows, and banked water supplies.
[b] Future projections assume that 62% of the maximum Table A Amount for the IRWMP Region (160,452 AF) per year will be available.
[c] Future projections assume that 8% of the maximum Table A Amount for the IRWMP Region (160,452 AF) per year will be available.
[d] Future projections assume that 34% of the maximum Table A Amount for the IRWMP Region (160,452 AF) per year will be available.
[e] Total demand is composed of estimated agricultural and urban demand.

The 2019 Antelope Valley IRWMP estimates water supply and demand through 2040. In order to evaluate a 20-year projection as part of this WSA, the reasonable assumption is made that the region can and would continue to maintain similar water supply and availability from 2041 through 2043. Table 4-2 compares the available supply for construction and O&M for normal, single dry, and multiple dry water years for the project to water demand. Note that the onsite groundwater well water rights were incorporated into the projected available supply for the region. Under normal conditions, use of the groundwater well water rights for the project's construction demand would not contribute to a regional supply deficit except under single- or multiple-dry-year conditions (indicated by red numbers in the table). Under those conditions, the contribution of the project would be less than 1 percent of the regional deficit. Under all water year conditions, the O&M demand of the project would also contribute to a regional deficit, but the contribution would be less than 1 percent across all modeled conditions. As previously discussed, the region is planning to both increase supply by implementing projects (Appendix B) and reduce demand through the implementation of water conservation measures to bridge the mismatch between water supplies and demands.

Table 4-2. Regional Water Supply Compared to the Demand for the Bullhead Solar Project

	Construction (2024–2025)			Operations and Maintenance (2025–2043)*		
Available Sources	Normal Water Year	Single Dry Year	Multiple Dry Year	Normal Water Year	Single Dry Year	Multiple Dry Year
Projected Available Supply (AF)						
Antelope Valley Region	21,800[a]	-51,300[a]	-17,200[a]	-19,500[b]	-77,200[b]	-49,700[b]
Projected Demand (AF)						
Bullhead Solar Project	**133**	**133**	**133**	**11**	**11**	**11**
Projected Demand as a Percentage of Projected Available Supply						
Bullhead Solar Project	**No Deficit**	**<1%**	**<1%**	**<1%**	**<1%**	**<1%**

Source: Antelope Valley Regional Water Management Group 2019.
*The current 2019 Antelope Valley IRWMP projects water supply and demand through 2040. It is reasonable to assume that the region can and would continue to maintain similar water supply and availability from 2041 through 2043, in order to evaluate a 20-year projection as part of this WSA.
[a] For the construction period between 2024 and 2025, projected available supply values are the 2020 projections listed in the 2019 Antelope Valley IRWMP.
[b] For the operations and maintenance period between 2025 and 2043, projected available supply values are the lowest projected surplus in the 2020–2040 period evaluated in the 2019 Antelope Valley IRWMP.
AF = acre-feet

4.2.3 AVEK Sufficiency Analysis

The sufficiency analysis for AVEK as a potential supplier to RCSD is presented below. It presents the water supply and demand projections as presented in the 2015 UWMP for AVEK and compares those projections to the construction and O&M demands of the project.

AVEK's primary water source is imported SWP supplies. AVEK contracts with DWR for SWP water, including Table A and Article 21 water. Article 21 water is only available when there is excess water, and therefore it is not considered a long-term reliable supply for the Antelope Valley region. Article 21 water does not comprise a significant portion of AVEK's overall water supply and is not included in this WSA analysis. Each year, DWR calculates the total amount of water available for delivery in the system, accounting for hydrologic conditions, regulatory restrictions on Bay-Delta exports, existing infrastructure conditions, and uncertainty in hydrologic forecasts, and apportions the estimated available water based on each of the SWP contractors maximum allotment, which is referred to as "Table A" water. AVEK assumes a reduction in long-term average SWP allocation from 58 percent in 2020 (84,010 AFY) to 52 percent in 2040 (75,320 AFY); 2045 is assumed to remain at 52 percent. During the recent drought, Table A allocation from 2012 to 2016 averaged 37 percent (AVEK 2021).

In addition to imported SWP water, local recovery of imported water from AVEK groundwater banks has become an important source of water to supplement annual SWP water allocations. AVEK began recovering imported water from the groundwater banks in 2014, once SWP had been recharged and groundwater production wells were in place. AVEK's groundwater banks include the Westside Water Bank (started operations in 2010), the Eastside Water Bank (started operations in 2016), the Upper Amargosa Creek Recharge Project, a partnership project (started operations in 2019), and the High Desert Water Bank (currently in development). Currently, AVEK has approximately 90,000 AF of SWP water stored within its banks for future recovery and is implementing infrastructure projects to expand its capacity to recharge water, recover water, and distribute recovered water. AVEK's customers have 12,084 AFY of production rights and have received roughly 12,000 AFY of return flow rights since 2016. Imported water return flows are projected to increase as demands increase and imported water must be used to meet those demands. AVEK monitors groundwater levels and collaborates to protect and sustain the groundwater basin (AVEK 2021).

AVEK operates the Westside Water Bank, which includes a 1,500-acre groundwater recharge and extraction field. The Westside Water Bank recharges SWP water delivered to the Antelope Valley region's Westside during wet years, when supplies exceed demands, and recovers it for delivery to customers when supplies are limited by droughts or disruptions. The maximum recharge capacity of the Westside Water Bank is estimated to be 36,000 AFY, and the maximum recovery volume is the same. However, the annual withdrawal capacity is planned to increase to approximately 40,000 AFY during dry years. The Westside Water Bank has a total capacity of 120,000 AF. AVEK also operates the Eastside Water Banking and Blending Project, which includes three 2-acre recharge basins and three groundwater wells. The Eastside Water Banking and Blending Project allows for the recharge of raw water, which is later recovered and blended for delivery to the Eastside Water Treatment Plant. The Eastside Water Bank has a total withdrawal capacity of 5,700 AFY (Antelope Valley Regional Water Management Group 2019).

The Southern California Water Bank Authority is in the process of expanding the Willow Springs Water Bank (WSWB) and Conjunctive Use Project. The WSWB will provide 1 million AFY of storage in the Antelope Valley Groundwater Basins and the ability to recharge 280,000 AFY and recover up to 225,000 AFY during dry periods. A south–north intertie pipeline that connects the WSWB to AVEK is currently available for use by either AVEK or WSWB to convey imported or banked groundwater. Though this connection may allow exchanges to occur among SWP contractors and local AVEK customers in the future, the WSWB currently does not have an agreement with AVEK to provide an average annual supply (Antelope Valley Regional Water Management Group 2019); therefore, banked water from the WSWB would not be a potential source, either directly or indirectly, for the project.

AVEK has entered into various water exchange and transfer programs with other SWP contractors and is also able to purchase additional SWP supplies from DWR (such as Article 21 and turnback pool water[4]), when available (Los Angeles County Department of Public Works 2017). In the past 10 years, AVEK has executed 13 exchange agreements and eight transfer agreements, totaling more than 170,000 AF of water. In 2020, AVEK transferred or exchanged 11,286 AF of water to four agencies. In 2020, 7,000 AF of AVEK's SWP allocation was transferred to Kern County Water Agency. A total of 1,380 AF and 1,500 AF were delivered to Littlerock Creek Irrigation District and Palmdale Water District, respectively, in a 1:1 exchange. A total of 1,406 AF was delivered to the Santa Clarita Valley Water Agency in a 2:1 exchange. AVEK also has an agreement with LACWD 40. Although these exchanges could enhance the water supply, these potential exchange deliveries have not been included in AVEK's projections of future water supplies (AVEK 2021) and therefore not assumed to be available for the project.

The combination of AVEK's SWP Table A allotment, its use of groundwater banking programs, and the use of interagency exchange agreements provide AVEK with a high degree of flexibility in meeting the region's water demands; however, deficiencies exist across water-year types. In its 2021 UWMP, AVEK used the assumption of 5 percent SWP Table A water allotment for the characterization of a single dry year as the worst-case scenario and a 5-year dry-period SWP allocation of 12.3, 32.2, 13.3, 25.6, and 18 percent (corresponding to historical dry years 1988 through 1992) in its assessment of water supply reliability in multiple dry years. The historic dry year of 2014 was used as the basis of the single dry year. In its analysis of water demand and availability, AVEK determined that sufficient supplies would be available to meet demands through 2045 under normal water-year conditions. For the average-year condition from 2025 to 2045, AVEK is projected to have a surplus of between 23,780 AF and 43,450 AF. For the single-dry-year scenario, AVEK's UWMP indicates there would be no projected deficiency (0 AF) (calculated in 5-year increments) (AVEK 2021). Similarly, in the multiple-dry-year scenario, AVEK's UWMP indicates no projected deficiency (0 AF) (calculated for in 5-year increments) (AVEK 2021). AVEK's projected water demand and supply by source, during normal, single dry, and multiple dry years is presented in Table 4-3. However, there are SWP reliability constraints. AVEK is currently unable to use its entire Table A amount of SWP water, even during years when the full Table A amount is available, due to the variability of demand during winter and summer and the limitations on existing infrastructure to receive, store, and deliver water to users. AVEK currently provides most water supply through direct deliveries to meet current demand (i.e., without storage). During summer months, when demand is high, the aqueduct bringing water to AVEK has a conveyance capacity below the demand for water. However, demands are much lower than aqueduct capacity during winter months. AVEK plans to use water banking projects to store water during the winter months for use in the dry summer months and thereby increase its ability to fully use the SWP allotment. As of 2019, AVEK had approximately 73,750 AF of water banked in the Westside Water Bank and approximately 2,000 AF in the Eastside Water Bank. Because no agreement yet exists between the WSWB and AVEK, its water supplies are not included in AVEK's banked water supplies (Antelope Valley Regional Water Management Group 2019).

[4] Turnback pools are a means by which SWP contractors with excess Table A amount water in a given hydrologic year may sell that excess to other contractors. This is included in a provision in the SWP water supply contracts and administered by DWR. The provision is available in all year types, but is most in demand during dry periods when Table A allocations are low and almost all contractors are seeking additional supplies.

Table 4-3. Projected AVEK Water Supply and Demand Over a Normal-Year, Single-Dry-Year, and Multiple-Dry-Year Period

	Normal Year					Single Dry Year					Multiple Dry Year				
	2025	2030	2035	2040	2045	2025	2030	2035	2040	2045	2025	2030	2035	2040	2045
Supplies (AF)															
SWP Table A	81,840	79,660	77,490	75,320	75,320	7,240	7,240	7,240	7,240	7,240	26,050	26,050[e]	26,050[e]	26,050[e]	26,050[e]
Non-SWP Water	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700
Groundwater[a]	4,350	4,350	4,350	4,350	4,350	4,350	4,350	4,350	4,350	4,350	4,350	4,350	4,350	4,350	4,350
Recovered Imported Water	-	-	-	-	-	31,150	37,700	38,590	41,920	44,300	12,340	30,990[f]	31,880[f]	35,210[f]	37,590[f]
Total Supply	**87,890**	**85,710**	**83,540**	**81,370**	**81,370**	**44,440**	**50,990**	**51,880**	**55,210**	**57,590**	**44,440**	**50,990**	**51,880**	**55,210**	**57,590**
Demand (AF)[b]															
Total Demand[c]	**44,440**	**50,990**	**51,880**	**55,210**	**57,590**	**44,440**	**50,990**	**51,880**	**55,210**	**57,590**	**44,440**	**50,990**	**51,880**	**55,210**	**57,590**
Difference[d]	**43,450**	**34,720**	**31,660**	**26,160**	**23,780**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Source: AVEK 2021.
[a] AVEK's annual overlying production right is 4,350 AF.
[b] Demand projections are based on sales to other agencies for municipal and industrial use and use for agricultural irrigation. Demands are derived without groundwater recharge, groundwater banking, and storage losses.
[c] Total demand is composed of the projected potable and raw water to be provided to AVEK's customers.
[d] AVEK provides a supplemental water supply to retail agencies. It is anticipated that the difference would be made up by increased groundwater pumping (recovery of increased banked supplies or return flows), and/or reductions in demand by the retail agencies.
[e] No SWP Table A allotments were provided in the 2020 AVEK UWMP for multiple dry years in 2030 through 2045; 2025 values were extrapolated out to 2045.
[f] No recovered imported water volumes were provided in the 2020 AVEK UWMP for multiple dry years in 2030 through 2045. Values were based on known total supply, non-SWP water, and groundwater volumes provided in the 2020 AVEK UMWP.
AF = acre-feet; AFY = acre-feet per year; SWP = State Water Project

AVEK does not distribute reclaimed water. Additional water supplies would have to be acquired and imported into the Antelope Valley to meet the demands associated with the level of growth projected for the service area. Water purveyors are currently exploring opportunities to utilize new sources of water to augment the available water supplies in the region. Developers may pay a fee for AVEK to increase their SWP Table A allocation or secure more imported water themselves. SWP water supplies would be conveyed using AVEK's distribution system. Alternatively, entities may enter agreements for short-term and long-term water transfers. Potential projects that AVEK is considering implementing to increase its available water supplies include expanding the Westside Water Bank, constructing the Westside Water Bank Interconnecting Pipeline and Pump Station, developing a new groundwater recharge and recovery facility (Enterprise Bank), and constructing an interconnecting pipeline and pump station between AVEK's East Feeder and South Feeder systems and the North Feeder pump station. During dry years, the expected water supply increase for the proposed Westside Water Bank Expansion and the Enterprise Bank is 40,000[5] AF and 83,000[6] AF, respectively (Antelope Valley Regional Water Management Group 2019).

AVEK's 2021 Water Shortage Contingency Plan (WSCP) describes how AVEK intends to respond to foreseeable and unforeseeable water shortages. The WSCP identifies response actions to allow for efficient management of any water shortage with predictability and accountability. Preparation provides the tools to maintain reliable supplies and reduce the impacts of supply interruptions due to extended drought or catastrophic supply interruptions. The 2020 AVEK UWMP summarizes AVEK's WSCP and demand management measures and provides water conservation measures that water suppliers will implement as a means of ensuring water sufficiency under drought conditions.

AVEK's 2020 UWMP estimates water supply and demand through 2045. Table 4-4 compares the available supply for construction and O&M activities for normal, single dry, and multiple dry water years for the project to water demand. Based on the identified water supply and the potential volume of water the project would require, an adequate water supply is available to meet the project's construction and O&M demands under normal year conditions. However, AVEK does not model surpluses or deficits in single or multiple dry years, and the projected available supply is equal to the projected demand for a given 5-year period under varying drought conditions. Although the project would contribute to a deficiency under dry- and multiple-dry-year conditions (indicated by red numbers in the table), the contribution of the project's construction and O&M demand would be minimal (i.e., less than 0.5 percent of the total demand for construction and O&M in dry and multiply dry years). Furthermore, it is expected that increased groundwater pumping (e.g., recovery of increased banked supplies or return flows) would make up the difference (AVEK 2021). In addition, groundwater rights and non-SWP water would not be affected by an extended drought. Recovered imported water from AVEK groundwater banks would used to meet remaining demands in single and multiple dry years. Additional recovery of imported water from AVEK groundwater banks would be available if the 5-year drought continued through 2050. As a result, the target groundwater storage capacity and total use of recovered imported water is greater than proposed demand through 2045 (AVEK 2021). Water provided for the project would be indirectly obtained from AVEK through RCSD. AVEK has indicated that it cannot directly supply the project (Livesay pers. comm.).

[5] Assumes one-third of total banking capacity of 120,000 AF is available for recovery in dry years.

[6] First phase includes a groundwater banking capacity of 250,000 AF. Dry year recovery is estimated to be one-third of bank capacity. Ultimate capacity of the Enterprise Bank is proposed to be up to 1,000,000 AF.

Table 4-4. AVEK Water Supply Compared to the Demand for the Bullhead Solar Project

Available Sources	Construction (2024–2025)			Operations and Maintenance (2025–2043)		
	Normal Water Year*	Single Dry Year	Multiple Dry Year	Normal Water Year	Single Dry Year	Multiple Dry Year
Projected Available Supply (AF)						
AVEK	43,450[a]	44,440[b]	44,440[b]	43,450[a]	44,440[b]	44,440[b]
Projected Demand (AF)						
Bullhead Solar Project	**133**	**133**	**133**	**11**	**11**	**11**
Projected Demand as a Percentage of AVEK Supply (AF)						
Bullhead Solar Project	**No Deficit**	**<0.5%**	**<0.5%**	**No Deficit**	**<0.1%**	**<0.1%**

Source: AVEK 2021.
[a] For the construction period between 2024 and 2025, projected available supply values are the 2025 projected surpluses for normal water years and the lowest supply quantities for single and multiple dry years listed in the AVEK 2020 UWMP.
[b] For the operations and maintenance period between 2025 and 2043, projected available supply values are the 2025 projected surpluses for normal water years and the lowest supply quantities for single and multiple dry years listed in the 2025–2045 period evaluated in the AVEK 2020 UWMP, projected in 2025.
AF = acre-feet; AVEK = Antelope Valley-East Kern Water Agency; UWMP = Urban Water Management Plans

4.2.4 RCSD Sufficiency Analysis

The sufficiency analysis for RCSD as a potential supplier for the project is presented below. It presents the water supply and demand projections as presented in its 2015 UWMP and compares those projections to the construction and O&M demands of the project.

RCSD was formed in 1966 under the Community Services District Law, Division 3, Section 61000 of Title 6 of the Government code of the State of California. RCSD's service area boundary encompasses approximately 31 square miles of unincorporated residential, industrial, and undeveloped land (Figure 7). The majority of the land within the RCSD service area is undeveloped. The developed property focuses around central Rosamond, with the exception of Tropico Hills. RCSD provides water, sewer, and lighting services to residential, commercial, industrial, and agricultural customers, as well as water for environmental and fire protection uses. RCSD is a retailer of imported water from AVEK and produces local groundwater (Antelope Valley Regional Water Management Group 2019).

The only imported or purchased water supply for RCSD is SWP water purchased through AVEK. Water imported to the Antelope Valley through the SWP first became available in 1978. Except for fluctuations in the availability of SWP water caused by drought-related or regulatory supply interruptions within the state, sufficient infrastructure exists to allow RCSD to use SWP water to meet all of the water demands of its customers, including peak summer demand periods.

Groundwater makes up a large portion of the water supply for the entire Antelope Valley region and comes entirely from the Antelope Valley Groundwater Basin. As indicated, the basin has been adjudicated. RCSD uses three wells to pump groundwater into its distribution system, with 2,467 AF of groundwater pumped in 2020. RCSD currently has approximately 1 year of banked groundwater in reserves. This water will be used if AVEK cannot provide RCSD's requested amount. RCSD also aims to maximize water use of its own sources, such as treated wastewater, which will be used to recharge groundwater (RCSD 2022).

Based on projected growth from population, demand hardening following the 2014-2015 drought, and the relatively small amount of landscape irrigation within the RCSD's service area, it is not expected that demand will change drastically during a single-dry or multiple-dry-year event. Changes in temperature and precipitation due to climate change could also affect water demands in RCSD, particularly increased needs for irrigation and landscape water. Historically, dry, warm weather has been accompanied by increases in agricultural and urban water usage. However, RCSD's arid environment and conservation efforts have limited increases in irrigation demand due to higher temperatures and often have resulted in reduced overall demand. No future water supply projects are being pursued by RCSD to increase its water supply. Efforts to improve supply and conservation efforts over the last several years have proved to be successful in offsetting the need for expansive water supply projects in the service area (RCSD 2022).

The 20-year projections for the RCSD water supply under normal, dry-year, and multiple-dry-year conditions are presented in Table 4-5. As shown under all conditions, RCSD projects that it will have an adequate supply to meet the increasing demand through 2045, assuming the availability of groundwater production rights, replenishment water, return flows, and transferred production rights and the ability of AVEK to deliver SWP supplies. In addition, RCSD has historically conserved groundwater use during average years for additional pumping and availability in dry years to make up for decreased deliveries of imported surface water from the SWP. Furthermore, customer demand reduction during drought conditions would ensure reliable supply in the future.

RCSD's WSCP provides guidance in the event supply is reduced, demand increases, or an emergency is declared. The WSCP identifies corresponding actions to be taken during the various stages of a water shortage. The plan includes a description of stages, which are intended to be equitable to all water customers and users while having the least impact on business, employment, and quality of life for residents. RCSD's UWMP includes demand management measures, which include efforts to promote conservation and reduce demand on water supply, and addresses specific demand management measures, including water waste prevention ordinances, metering, conservation pricing, public education and outreach, and programs to assess and manage distribution system real loss and water conservation (RCSD 2022).

RCSD's 2020 UWMP estimates water supply and demand through 2045. Table 4-6 compares the available supply for construction and O&M activities for normal, single dry, and multiple dry water years for the project to water demand. Note that RCSD does not project surpluses or deficits over the 20-year projection under normal, dry-year, and multiple-dry-year conditions because its modeling assumes that both supply increases and demand reductions will be used together to ensure that its customers have a sufficient supply of water. Because RCSD does not model surpluses or deficits, the projected available supply is equal to the projected demand for a given 5-year period under varying drought conditions. Although the project would contribute to a deficiency in all water years (indicated by red numbers in the table), the project's water requirements for construction and O&M activities represent approximately 5 percent and less than 0.5 percent of RCSD's projected available supply, respectively. Discussions with the RCSD engineer indicated that RCSD could possibly supply some water for the project but, because the project is outside of its jurisdiction, RCSD could not guarantee supply (Smith pers. comm.). This temporary water supply would be subject to availability within the RCSD distribution system when it is requested. As previously indicated, water could be obtained from one of two hydrants approximately 7 miles from the project site and trucked in by water tanker. Based on the available supply per RCSD's 2020 UWMP, it appears likely that it could support the O&M demands of the project but may be less able to support the full construction demands of the project.

Table 4-5. Projected RCSD Supply and Demand Over a Normal Year, Single Dry Year, and Multiple Dry Year Period

	Normal Year					Single Dry Year					Multiple Dry Year[e]				
	2025	2030	2035	2040	2045	2025	2030	2035	2040	2045	2025	2030	2035	2040	2045
Supplies (AF)															
Total Supply	**2,699**	**2,922**	**3,163**	**3,424**	**3,707**	**2,699**	**2,922**	**3,163**	**3,424**	**3,707**	**2,699**	**2,922**	**3,163**	**3,424**	**3,424**
Demand (AF)[b]															
Total Demand[c]	**2,699**	**2,922**	**3,163**	**3,424**	**3,707**	**2,699**	**2,922**	**3,163**	**3,424**	**3,707**	**2,699**	**2,922**	**3,163**	**3,424**	**3,424**
Difference[d]	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Source: RCSD 2022.
[b] Demand estimates are based on the land use and population projections for RCSD's service area.
[c] Total demand is composed of the potable and raw water to be provided to RCSD's customers.
[d] Supplies include groundwater pumped by RCSD and surface water purchased from AVEK. Although the volume of water received from AVEK varies from year to year, RCSD has banked water supplies that can be used to make up deficits between supply and demand. Thus, zero deficit is shown between supply and demand.
[e] Supply and demand data shown for the first year of multiple dry years, which represents the year with the lowest projected supply and demand over a 5-year period.
AF = acre-feet; AFY = acre-feet per year

Table 4-6. RCSD Water Supply Compared to the Demand for the Bullhead Solar Project

	Construction (2024–2025)			Operations and Maintenance (2025–2043)		
Available Sources	Normal Water Year	Single Dry Year	Multiple Dry Year	Normal Water Year	Single Dry Year	Multiple Dry Year
Projected Available Supply (AF)						
RCSD	2,699[a]	2,699[a]	2,699[a]	2,699[b]	2,699[b]	2,699[b]
Projected Demand (AF)						
Bullhead Solar Project	**133**	**133**	**133**	**11**	**11**	**11**
Projected Demand as a Percentage of RCSD Supply						
Bullhead Solar Project	**5%**	**5%**	**5%**	**<0.5%**	**<0.5%**	**<0.5%**

Source: RCSD 2020.
[a] For the construction period between 2024 and 2025, projected available supply values are the 2025 projected supply quantities listed in the RCSD 2020 UWMP.
[b] For the operations and maintenance period between 2025 and 2043, projected available supply values are the lowest projected supply quantity in the 2025–2045 period evaluated in the RCSD 2020 UWMP.
AF = acre-feet; RCSD = Rosamond Community Service District; UWMP = Urban Water Management Plans

Chapter 5
Conclusions

This WSA has evaluated the water supply under normal year, single-dry-year, and multiple-dry-year conditions over a 20-year projection, accounting for the projected water demand of the project, in addition to other existing and planned future uses of the identified water supplies.

This WSA has identified several potential sources of water that individually or in combination could supply the project's construction and O&M water demands. Potential sources of project water supply include onsite groundwater using the former landowner's production rights, groundwater through RCSD, and surface water imports from AVEK through RCSD. Water supply for prior agricultural uses on the site were sourced from onsite wells.

Long-term water demands for the project would be relatively minor, with estimated water requirements substantially lower than the agricultural activities that formerly occurred at the site. Estimates of water demand for agricultural use range from 450 AFY to 2,400 AFY, whereas the project would use an estimated 133 AFY and 11 AFY during the construction and O&M phases, respectively. This represents at least a 70-percent reduction during the construction phase and at least a 98-percent reduction during the O&M phase compared to the estimated former agricultural demand. At least 3 AFY of groundwater that was formerly associated with the site, which may have been for agricultural use, has been obtained by EDFR for project use. The remaining water rights associated with the site were severed by the former landowner, with the intent of selling them to other water users within the adjudicated basin.

Based on this WSA, the water supply of the region is sufficient to meet the construction and O&M demands of the project through 2043. Water supply for construction and O&M demand can be readily met through use of the groundwater production rights of the former landowner. EDFR has completed a Watermaster-approved purchase of 1 AF of permanent production rights within the Antelope Valley Groundwater Basin and 200 AF of carry-over water rights. However, water supply sufficiency of the region during drought conditions will require the implementation of regional measures by water suppliers. Such measures include water conservation and the implementation of projects to increase supply.

Chapter 6
References

6.1 References

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Livesay, Justin. Engineering Manager. AVEK. August 5, 2021 (email).

Smith, Brach. Public Works Manager. RCSD. August 3, 2021 (email).

Appendix A

Post-Rampdown Water Rights for Onsite Groundwater Wells

Table A-2 Exhibit 4 Overlying Producers Rampdown Schedule

<table>
<tr><th rowspan="2">Original Exhibit 4 Producers</th><th rowspan="2" colspan="3">Transferees</th><th rowspan="2">Pre-Rampdown Production[1] (AF)</th><th colspan="7">Rampdown Targets (AF)</th><th rowspan="2">Production Right (AF)</th></tr>
<tr><th>2016</th><th>2017</th><th>2018</th><th>2019</th><th>2020</th><th>2021</th><th>2022</th></tr>
<tr><td>Littlerock Aggregate Co., Inc., Holliday Rock Co., Inc.</td><td colspan="3">-</td><td>405.00</td><td>405.00</td><td>405.00</td><td>362.67</td><td>320.33</td><td>278.00</td><td>235.67</td><td>193.33</td><td>**151.00**</td></tr>
<tr><td>Llano Del Rio Water Company</td><td colspan="3">-</td><td>572.65</td><td>572.65</td><td>572.65</td><td>523.71</td><td>474.77</td><td>425.83</td><td>376.88</td><td>327.94</td><td>**279.00**</td></tr>
<tr><td>Llano Mutual Water Company</td><td colspan="3">-</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>**0.00**</td></tr>
<tr><td>Maritorena: Trustees of the Maritorena Living Trust</td><td colspan="3">-</td><td>3,800.55</td><td>3,800.55</td><td>3,800.55</td><td>3,462.96</td><td>3,125.37</td><td>2,787.78</td><td>2,450.18</td><td>2,112.59</td><td>**1,775.00**</td></tr>
<tr><td>McWilliams: Dennis M. and Diane K. McWilliams</td><td colspan="3">-</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>**1.00**</td></tr>
<tr><td>Miner: Richard Miner</td><td colspan="3">-</td><td>1,089.40</td><td>1,089.40</td><td>1,089.40</td><td>1,074.33</td><td>1,059.27</td><td>1,044.20</td><td>1,029.13</td><td>1,014.07</td><td>**999.00**</td></tr>
<tr><td>Miracle Improvement Corporation dba Golden Sands Mobile Home Park/Trailer Park</td><td colspan="3">**New Goldensands** Investment; property sale (2016)</td><td>45.40</td><td>45.40</td><td>45.40</td><td>42.33</td><td>39.27</td><td>36.20</td><td>33.13</td><td>30.07</td><td>**27.00**</td></tr>
<tr><td>Munz: 2014 Revocable Trust, Terry A. & Kathleen M. Munz</td><td colspan="3">-</td><td>5.00</td><td>5.00</td><td>5.00</td><td>5.00</td><td>5.00</td><td>5.00</td><td>5.00</td><td>5.00</td><td>**5.00**</td></tr>
<tr><td>Nebeker: Eugene B. Nebeker</td><td colspan="3">**WDS CA II**; property sale (2021)</td><td>4,016.00</td><td>4,016.00</td><td>4,016.00</td><td>3,642.50</td><td>3,269.00</td><td>2,895.50</td><td>2,522.00</td><td>2,148.50</td><td>**1,775.00**</td></tr>
<tr><td>Northrop Grumman Systems Corporation</td><td colspan="3">-</td><td>2.00</td><td>2.00</td><td>2.00</td><td>2.00</td><td>2.00</td><td>2.00</td><td>2.00</td><td>2.00</td><td>**2.00**</td></tr>
<tr><td>NRG Solar Alpine, LLC</td><td colspan="3">[also called Oasis Solar/Clearway Energy (formerly NRG Solar)]</td><td>64.21</td><td>64.21</td><td>64.21</td><td>59.84</td><td>55.47</td><td>51.11</td><td>46.74</td><td>42.37</td><td>**38.00**</td></tr>
<tr><td>R and M Ranch, Inc.</td><td colspan="3">-</td><td>1,458.00</td><td>1,458.00</td><td>1,458.00</td><td>1,329.33</td><td>1,200.67</td><td>1,072.00</td><td>943.33</td><td>814.67</td><td>**686.00**</td></tr>
<tr><td>Reca: John and Adrienne Reca</td><td colspan="3">-</td><td>501.45</td><td>501.45</td><td>501.45</td><td>459.71</td><td>417.97</td><td>376.23</td><td>334.48</td><td>292.74</td><td>**251.00**</td></tr>
<tr><td>Richter: Suzanne J. Richter</td><td colspan="3">-</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>**1.00**</td></tr>
<tr><td>Rosamond High School</td><td colspan="3">-</td><td>586.40</td><td>586.40</td><td>586.40</td><td>522.37</td><td>458.34</td><td>394.32</td><td>330.29</td><td>266.26</td><td>**202.23**</td></tr>
<tr><td rowspan="2">Rosamond Ranch</td><td rowspan="2">FS Land Holding Company, LLC, property sale (2015)</td><td colspan="2">**US Solar (2020)**</td><td rowspan="2">598.00</td><td rowspan="2">598.00</td><td rowspan="2">598.00</td><td rowspan="2">598.00</td><td rowspan="2">598.00</td><td>588.00</td><td>588.00</td><td>588.00</td><td>**588.00**</td></tr>
<tr><td colspan="2">**Rabbitbrush Solar (2020)**</td><td>10.00</td><td>10.00</td><td>10.00</td><td>**10.00**</td></tr>
<tr><td>Rose Villa Apartments</td><td colspan="3">-</td><td>22.72</td><td>22.72</td><td>22.72</td><td>20.20</td><td>17.69</td><td>15.17</td><td>12.65</td><td>10.14</td><td>**7.62**</td></tr>
<tr><td>Sahara Nursery and Farm</td><td colspan="3">-</td><td>22.18</td><td>22.18</td><td>22.18</td><td>22.15</td><td>22.12</td><td>22.09</td><td>22.06</td><td>22.03</td><td>**22.00**</td></tr>
<tr><td>Saint Andrew's Abbey, Inc.</td><td colspan="3">-</td><td>175.00</td><td>175.00</td><td>175.00</td><td>162.83</td><td>150.67</td><td>138.50</td><td>126.33</td><td>114.17</td><td>**102.00**</td></tr>
<tr><td>Schilling: Lawrence J. and Mary P. Schilling Trustees of the L&M Schilling 1992 Family Trust</td><td colspan="3">-</td><td>4.00</td><td>4.00</td><td>4.00</td><td>4.00</td><td>4.00</td><td>4.00</td><td>4.00</td><td>4.00</td><td>**4.00**</td></tr>
<tr><td rowspan="2">Selak: Lilia Mabel Selak; Barbara Aznarez Decd Trust and Mabel Selak Trust</td><td colspan="3">**Selak, Steven J. Selak Consolidated Trus**t (Richard and Steve Selak successors in interest then split rights (July 2020))</td><td rowspan="2">150.00</td><td rowspan="2">150.00</td><td rowspan="2">150.00</td><td rowspan="2">150.00</td><td rowspan="2">150.00</td><td>75.00</td><td>75.00</td><td>75.00</td><td>**75.00**</td></tr>
<tr><td colspan="3">**Selak, Richard J. Selak Consolidated Trust** (Richard and Steve Selak successors in interest then split rights (July 2020))</td><td>75.00</td><td>75.00</td><td>75.00</td><td>**75.00**</td></tr>
<tr><td>Service Rock Products, L.P.</td><td colspan="3">-</td><td>503.00</td><td>503.00</td><td>503.00</td><td>463.67</td><td>424.33</td><td>385.00</td><td>345.67</td><td>306.33</td><td>**267.00**</td></tr>
<tr><td>SGS Antelope Valley Development, LLC</td><td colspan="3">-</td><td>57.00</td><td>57.00</td><td>57.00</td><td>57.00</td><td>57.00</td><td>57.00</td><td>57.00</td><td>57.00</td><td>**57.00**</td></tr>
<tr><td>Shadow Acres Mutual Water Company</td><td colspan="3">-</td><td>52.60</td><td>52.60</td><td>52.60</td><td>52.46</td><td>52.31</td><td>52.17</td><td>52.03</td><td>51.88</td><td>**51.74**</td></tr>
<tr><td>Sheep Creek Water Company</td><td colspan="3">-</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>**0.00**</td></tr>
<tr><td rowspan="3">Siebert: Jeffrey and Nancee Siebert</td><td rowspan="2">Siebert, Jeffrey and Nancee: 105 AFY (July 2018)</td><td colspan="2">**Siebert, Jeffrey and Nancee: 104 AFY (July 2020)**</td><td rowspan="3">200.00</td><td rowspan="3">200.00</td><td rowspan="3">200.00</td><td rowspan="2">183.33</td><td rowspan="2">167.67</td><td>151.00</td><td>131.33</td><td>114.67</td><td>**100.00**</td></tr>
<tr><td colspan="2">**Herbert, Michael (V Lions): 1 AFY (July 2020)+4 AFY (March 2021)**</td><td>1.00</td><td>5.00</td><td>5.00</td><td>**5.00**</td></tr>
<tr><td colspan="3">**Selak, Steven and Christine Selak Trust: 1 AFY (July 2018)**</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>**1.00**</td></tr>
<tr><td>Sonrise Ranch, LLC</td><td colspan="3">-</td><td>662.00</td><td>662.00</td><td>662.00</td><td>551.67</td><td>441.33</td><td>331.00</td><td>220.67</td><td>110.33</td><td>**0.00**</td></tr>
<tr><td>Southern California Edison Company</td><td colspan="3">-</td><td>17.75</td><td>17.75</td><td>17.75</td><td>16.13</td><td>14.50</td><td>12.88</td><td>11.25</td><td>9.63</td><td>**8.00**</td></tr>
<tr><td>Sundale Mutual Water Company</td><td colspan="3">-</td><td>472.23</td><td>472.23</td><td>472.23</td><td>472.23</td><td>472.23</td><td>472.23</td><td>472.23</td><td>472.23</td><td>**472.23**</td></tr>
<tr><td>Sunnyside Farms Mutual Water Company, Inc.</td><td colspan="3">-</td><td>75.40</td><td>75.40</td><td>75.40</td><td>75.21</td><td>75.02</td><td>74.83</td><td>74.64</td><td>74.45</td><td>**74.26**</td></tr>
<tr><td>Tejon Ranchcorp and Tejon Ranch Co.</td><td colspan="3">-</td><td>3,414.00</td><td>3,414.00</td><td>3,414.00</td><td>3,117.33</td><td>2,820.67</td><td>2,524.00</td><td>2,227.33</td><td>1,930.67</td><td>**1,634.00**</td></tr>
<tr><td>Tierra Bonita Mutual Water Company</td><td colspan="3">-</td><td>40.75</td><td>40.75</td><td>40.75</td><td>40.68</td><td>40.61</td><td>40.54</td><td>40.46</td><td>40.39</td><td>**40.32**</td></tr>
<tr><td>Tierra Bonita Ranch</td><td colspan="3">-</td><td>505.00</td><td>505.00</td><td>505.00</td><td>492.50</td><td>480.00</td><td>467.50</td><td>455.00</td><td>442.50</td><td>**430.00**</td></tr>
<tr><td>Triple M Property Co.</td><td colspan="3">**Golden Gate Fields Solar III LLC** property sale (2019) (Approved June 2021)</td><td>15.00</td><td>15.00</td><td>15.00</td><td>15.00</td><td>15.00</td><td>15.00</td><td>15.00</td><td>15.00</td><td>**15.00**</td></tr>
<tr><td>Turk Trust dated December 16, 1998</td><td colspan="3">-</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>**1.00**</td></tr>
<tr><td rowspan="6">Van Dam: Craig Van Dam, Marta Van Dam, Nick Van Dam, Janet Van Dam</td><td rowspan="5">Van Dam: Craig and Marta: 610 AFY (2018)</td><td colspan="2">**Van Dam: Craig and Marta: 608 AFY (2020), 483 (2021)**</td><td rowspan="6">1,037.00</td><td rowspan="6">1,037.00</td><td rowspan="6">1,037.00</td><td rowspan="5">925.32</td><td rowspan="5">862.26</td><td>796.19</td><td>608.13</td><td>545.06</td><td>**482.00**</td></tr>
<tr><td rowspan="2">Calandri Farms: 1 AFY (2020); 126 AFY (2021); -20 AFY (2021)</td><td>**Calandri Farms: 1 AFY (2020); 126 AFY (2021): -20 AFY (2021)**</td><td rowspan="2">1.00</td><td>106.00</td><td>106.00</td><td>**106.00**</td></tr>
<tr><td>**Antelope Valley Water Trust: 20 AFY (2021)**</td><td>20.00</td><td>20.00</td><td>**20.00**</td></tr>
<tr><td colspan="2">**V Lions: 1 AFY (2020)**</td><td>1.00</td><td>1.00</td><td>1.00</td><td>**1.00**</td></tr>
<tr><td colspan="2">**Gene Wheeler Farms: 1 AFY (Oct 2020)**</td><td>1.00</td><td>1.00</td><td>1.00</td><td>**1.00**</td></tr>
<tr><td colspan="3">**Van Dam, Nick and Janet:** 30 AFY (2018)</td><td>45.51</td><td>42.41</td><td>39.31</td><td>36.20</td><td>33.10</td><td>**30.00**</td></tr>
<tr><td rowspan="4">Van Dam Family Trust - 1996; High Desert Dairy</td><td colspan="3">**High Desert Dairy LLC 1,817 AFY (2020)**</td><td rowspan="4">9,931.50</td><td rowspan="4">9,931.50</td><td rowspan="4">9,931.50</td><td rowspan="4">8,812.08</td><td rowspan="4">7,692.67</td><td>3,714.97</td><td>3,082.31</td><td>2,449.66</td><td>**1,817.00**</td></tr>
<tr><td colspan="3">**Gary Van Dam 466 AFY (2020)**</td><td>952.76</td><td>790.51</td><td>628.25</td><td>**466.00**</td></tr>
<tr><td colspan="3">**Craig & Marta Van Dam 466 AFY (2020)**</td><td>952.76</td><td>790.51</td><td>628.25</td><td>**466.00**</td></tr>
<tr><td colspan="3">**Nick & Janet Van Dam 466 AFY (2020)**</td><td>952.76</td><td>790.51</td><td>628.25</td><td>**466.00**</td></tr>
<tr><td>Vulcan Materials Co., Vulcan Lands Inc., Consolidated Rock Products Co., Calmat Lands, Co., Allied Concrete & Materials</td><td colspan="3">-</td><td>519.10</td><td>519.10</td><td>519.10</td><td>475.92</td><td>432.73</td><td>389.55</td><td>346.37</td><td>303.18</td><td>**260.00**</td></tr>
<tr><td>WAGAS Land Company LLC</td><td colspan="3">-</td><td>984.15</td><td>984.15</td><td>984.15</td><td>916.79</td><td>849.43</td><td>782.08</td><td>714.72</td><td>647.36</td><td>**580.00**</td></tr>
<tr><td>WDS California II, LLC</td><td colspan="3">*[Received 315 AF from Copa de starting Jan 2020]*</td><td>2,397.00</td><td>2,397.00</td><td>2,397.00</td><td>2,190.67</td><td>1,984.33</td><td>1,778.00</td><td>1,571.67</td><td>1,365.33</td><td>**1,159.00**</td></tr>
<tr><td>Weatherbie: Michael and Dolores A. Weatherbie</td><td colspan="3">**Graves: Thomas Graves; property sale (2020)**</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>**1.00**</td></tr>
<tr><td>West Side Park Mutual Water Co.</td><td colspan="3">-</td><td>280.75</td><td>280.75</td><td>280.75</td><td>280.10</td><td>279.45</td><td>278.81</td><td>278.16</td><td>277.51</td><td>**276.86**</td></tr>
<tr><td>White Fence Farms Mutual Water Co.</td><td colspan="3">-</td><td>783.05</td><td>783.05</td><td>783.05</td><td>781.23</td><td>779.41</td><td>777.59</td><td>775.77</td><td>773.95</td><td>**772.13**</td></tr>
<tr><td>William Fisher Memorial Water Company</td><td colspan="3">Production well is outside of Adjudicated Area</td><td>4.53</td><td>4.53</td><td>4.53</td><td>4.53</td><td>4.53</td><td>4.53</td><td>4.53</td><td>4.53</td><td>**4.53**</td></tr>
<tr><td>Willow Springs Company: Richard Nelson</td><td colspan="3">-</td><td>180.65</td><td>180.65</td><td>180.65</td><td>173.04</td><td>165.43</td><td>157.83</td><td>150.22</td><td>142.61</td><td>**135.00**</td></tr>
<tr><td>Wilson: Donna Wilson</td><td colspan="3">-</td><td>10.00</td><td>10.00</td><td>10.00</td><td>9.50</td><td>9.00</td><td>8.50</td><td>8.00</td><td>7.50</td><td>**7.00**</td></tr>
<tr><td>**Total**</td><td colspan="3"></td><td>**105,892.63**</td><td>**105,892.63**</td><td>**105,892.63**</td><td>**97,964.23**</td><td>**90,035.83**</td><td>**82,107.43**</td><td>**74,179.03**</td><td>**66,249.63**</td><td>**58,322.23**</td></tr>
</table>

1. Exhibit 4 of the Judgment shows a Pre-Rampdown Production total of 105,878.08 AF due to the inadvertent omission of the last two entries in the sum on Exhibit 4 (Donna Wilson and William Fisher Memorial Water Company). The corrected sum of 105,892.63 will be used going forward.

Appendix B

Regional Projects with Water Supply Benefits

Table 6-2: Projects with Water Supply Benefits

Project	Supply Created	Status
Recycled Water Production	**Amount Produced**	
Lancaster WRP Stage V	16,000 AFY	Complete
Palmdale WRP Stage V	10,000 AFY	Complete
Recycled Water Conveyance	**Amount Conveyed**	
North Los Angeles/Kern County Regional Recycled Water Project – Division Street Corridor	786 AFY[(a)]	Complete
North Los Angeles/Kern County Regional Recycled Water Project – Phase 1b	2,161 AFY[(a)]	Complete
North Los Angeles/Kern County Regional Recycled Water Project – Phase 2	2,076 AFY[(a)]	Complete
Antelope Valley Recycled Water Master Plan	Not quantified	Implementation
Division Street and Avenue H-8 Recycled Water Tank	3 AF	Implementation
Palmdale Recycled Water Authority – Phase 2 Distribution System	500 AFY	Implementation
Avenue K Transmission Main, Phases I-IV	Not quantified	Conceptual
Avenue M and 62th Street West Tanks	37 AFY	Conceptual
Tertiary Treated Water Conveyance and Incidental Groundwater Recharge of Amargosa Creek Avenue M to Avenue H	100 to 1,000 AFY	Conceptual
KC & LAC Interconnection Pipeline	Not quantified	No Longer Pursued
North Los Angeles/Kern County Regional Recycled Water Project – Phase 3	up to approx. 1,300 AFY[(a)]	No Longer Pursued
North Los Angeles/Kern County Regional Recycled Water Project – Phase 4	up to approx. 7,000 AFY[(a)]	No Longer Pursued
Place Valves and Turnouts on Reclaimed Water Pipeline	Not quantified	No Longer Pursued
RCSD Wastewater Pipeline	Not quantified	No Longer Pursued
Tropico Park Pipeline	Not quantified	No Longer Pursued
Recycled Water Conversions	**Amount Reused**	
McAdam Park Recycled Water Conversion	80 AFY	Complete
Division Street Corridor Recycled Water Conversions (various)	2 AFY	Complete
Whit Carter Park Recycled Water Conversion	50 AFY	Implementation
Pierre Bain Park Recycled Water Conversion	75 AFY	Implementation
Lancaster National Soccer Center Recycled Water Conversion	500 AFY	Implementation
Lancaster Cemetery Recycled Water Conversion	40 AFY	Conceptual
Recycled Water Recharge	**Amount Recharged**	
Palmdale Regional Groundwater Recharge Project	6,500 AFY[(b)] / AF storage not quantified	Implementation
Wastewater Treatment Plant Rehabilitation and Groundwater Protection	1,500 AFY	Implementation
Lower Amargosa Creek Recharge Project	1,000 AFY / AF storage not quantified	Conceptual
Tertiary Treated Water Conveyance and Incidental Groundwater Recharge of Amargosa Creek Avenue M to Avenue H	1 to 100 AFY / AF storage not quantified	Conceptual
Imported Water Conveyance Infrastructure	**Amount Conveyed**	

Project	Supply Created	Status
South Antelope Valley Intertie Project	Not quantified	Implementation
South North Intertie Pipeline (SNIP) Phase II	33,600 AFY	Implementation
AVEK Strategic Plan	Not quantified	Implementation
SWP Turnout Upgrade	Not quantified	Conceptual
Gaskell Road Pipeline	100 – 1,000 AF	No Longer Pursued
Imported Water Recharge	**Amount Recharged**	
Willow Springs Water Bank	43,500 AFY / 500,000 AF of storage(c)	Partially Complete(d)
Aquifer Storage and Recovery Project: Additional Storage Capacity (Westside Water Bank)	Up to 150,000 AF of storage	Complete
Aquifer Storage and Recovery Project: Injection Well Development	12,000 AFY / AF storage not quantified	Complete
Eastside Banking & Blending Project	5,700 AFY / AF storage not quantified	Complete
Water Supply Stabilization Project – Westside Project (Westside Water Bank)	Up to 120,000 AF of storage; currently 36,000 of withdrawal capacity	Complete
Palmdale Regional Groundwater Recharge Project	38,000 AFY(c) / AF storage not quantified	Implementation
Upper Amargosa Creek Recharge and Channelization Project	15,000-54,000 AFY(e) / AF storage not quantified	Implementation
Water Supply Stabilization Project (WSSP) – Westside Expansion	6,000 AFY / 500,000 AF storage	Implementation
Expansion of the Eastside Water Bank	Not quantified	Conceptual
Hunt Canyon Groundwater Recharge and Flood Control Basin	3,000 AF	Conceptual
Big Rock Creek Recharge and Recovery Project	Not quantified	Conceptual
Purchasing Spreading Basin Land	Not quantified	No Longer Pursued
Stormwater Capture	**Amount of Capture**	
Littlerock Dam Sediment Removal	500 AFY	Implementation
Stormwater Harvesting	25 AFY	Conceptual
Stormwater Recharge	**Amount Recharged**	
Upper Amargosa Creek Recharge and Channelization Project	400(c) AFY / AF storage not quantified	Implementation
45th Street East Groundwater Recharge and Flood Control Basin	2,000 AFY / AF storage not quantified	Conceptual
Amargosa Creek Pathways Project	100 AFY	Conceptual
Avenue Q and 20th Street East Groundwater and Flood Control Basin (Q-West Basin)	1,600 AFY / AF storage not quantified	Conceptual
Avenue R and Division Street Groundwater Recharge and Flood Control Basin	Not quantified	Conceptual
Barrel Springs Groundwater Recharge and Flood Control Basin	Not quantified	Conceptual
Big Rock Creek In-River Spreading Grounds	1,000 AFY / 5,500 AF storage	Conceptual
Littlerock Creek In-River Spreading Grounds	1,000 AFY / 7,600 AF storage	Conceptual
Multi-use/Wildlife Habitat Restoration Project	Not quantified	Conceptual

Project	Supply Created	Status
Groundwater	**Amount Pumped**	
Partial Well Abandonment of Groundwater Wells for Arsenic Mitigation	Not quantified	Complete
BCSD Arsenic Management Feasibility Study and Well Design	Not quantified	Complete
QHWD Partial Well Abandonment	Not quantified	Conceptual
Fremont Valley Basin Potable Groundwater Well Treatment Project	1,500 AFY	Conceptual
RCSD Arsenic Consolidation Project	Not quantified	No Longer Pursued
Deep Wells to Recapture Banked Water	Not quantified	No Longer Pursued
Conservation	**Amount Conserved**	
Antelope Valley Regional Conservation Project	12 AFY	Implementation
Antelope-Fremont Valleys Stealth Watershed Rapid Response Program	Not quantified	Conceptual
Implement ET Controller Program	Not quantified	Conceptual
Precision Irrigation Control System	150 AFY	Conceptual
Water Conservation School Education Program	Not quantified	Conceptual
ET Based Controller Program	240 AFY	No Longer Pursued
Ultra-Low Flush Toilet Change-out Program	100 to 1,000 AFY	No Longer Pursued
Waste Water Ordinance	Not quantified	No Longer Pursued

Notes:
(a) Source: *Final Facilities Planning Report, Antelope Valley Recycled Water Project*, August 2006.
(b) Assumes that the Palmdale Regional Groundwater Recharge Project will use approximately 6,500 AFY of recycled water and 38,000 AFY of imported water for recharge.
(c) Not all of the future capacity in the Willow Springs Water Bank will be allocated to entities in the Region.
(d) Expansion of the Willow Springs Water Bank is currently ongoing.
(e) The Upper Amargosa Creek Flood Control, Recharge, and Habitat Restoration Project will use approximately 400 AFY of stormwater and 14,600-53,600 AFY of imported water for recharge.