March 2011

RIVERSIDE TRANSMISSION RELIABILITY PROJECT

Cultural Resources Technical Report

PROJECT NUMBER:
111728 / 111734

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Cultural Resources Technical Report

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Archaeological site information must be kept confidential pursuant to both federal and state law. Additionally, based on federal and state laws as well as California State Historic Preservation Office (SHPO) guidance, access to archaeological reports is only available to archaeological professionals who meet the Secretary of the Interior Standards for an archaeological professional (36 CFR 61).

The following report has been redacted to preserve the confidentiality of archaeological site information. The appendices are not included in this distribution.

The entirety of the Riverside Transmission Reliability Project Cultural Resources Technical Report is on file with the City of Riverside Public Utilities office.

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1.0 INTRODUCTION

This technical report has been prepared by POWER Engineers, Inc. (POWER) to summarize the results of literature reviews, cultural resource surveys and inventories, and meetings with Native American representatives regarding cultural resources that could potentially be impacted by the proposed Riverside Transmission Reliability Project (RTRP). The proposed project is primarily in Riverside County, California within and north of the city of Riverside.

Cultural resources are districts, sites, buildings, structures, or objects considered to be important to a culture, subculture, or community for scientific, traditional, religious or other reasons. For this analysis, cultural resources have been divided into three major categories:

- **Archaeological resources** — locations where human activity has measurably altered the earth or left deposits of physical remains (e.g., stone tools, cans, bottles, milling stations, petroglyphs, pictographs, house foundations, cemeteries).
- **Architectural resources** — standing buildings (e.g., houses, schools, churches) and intact structures (e.g., canals, bridges).
- **Resources of special concern to Native Americans** — locations of former villages, sacred sites, areas of relatively undisturbed natural habitat, and traditional cultural places, or TCPs. TCPs are resources that are important to a community's traditional practices and beliefs and for maintaining the community's cultural identity (Parker and King 1998).

The types of cultural resources most likely to be found within the RTRP area include historic trash scatters, milling stations, houses and other architectural resources, and possibly resources of special concern to Native Americans along the Santa Ana River.

1.1 PURPOSE OF REPORT

The report has two purposes. First, it is a supporting document for a draft Environmental Impact Report (EIR) that analyzes the potential environmental impacts from RTRP. The draft EIR, required under the California Environmental Quality Act (CEQA), is being prepared by Riverside Public Utilities (RPU) for the City of Riverside. Second, this report summarizes the results of archaeological surveys and architectural inventories performed specifically for RTRP. Some of these investigations were of proposed and alternative transmission line corridors no longer under consideration for the project. The results of all RTRP cultural resource surveys are presented in this document, but the impact assessment in Section 8 addresses only cultural resources that could be impacted by project components addressed in the draft EIR.

Several laws and regulations require that information about cultural resources be kept confidential to protect them from vandalism (California Government Code 6254 and 6254.10). For this reason, the EIR, which is available to the public, offers only limited descriptions of the characteristics and locations of cultural resources in the study area. This technical report, which is not available to the public, contains information that supports conclusions about impacts to cultural resources presented in the EIR.

1.2 PROJECT OVERVIEW

RTRP, as currently proposed, includes the following components, all of which would be in Riverside County:

- Construction of approximately 10 miles of new 230 kV transmission line.
- Construction of approximately 11 miles of new 69 kV transmission lines.
- Construction of two new substations.
- Upgrades to four existing RPU substations.

- Upgrade of two 230 kV substations to replace line protection relays
- New fiber optic telecommunications for system control of the new substations.

Construction of the proposed RTRP would require approximately one year for completion.

1.3 ORGANIZATION OF DOCUMENT

Because the report has two purposes, its organization is different from the usual cultural resource survey report. The main difference is that Section 7.0, Inventory Results, will present the results of all inventories performed for the project, including those for components of the current project (described in Section 2.0 and in the draft EIR) and those for components that have been eliminated or modified during the route selection process. The subsequent section of the report, Section 8.0, Impact Assessment, will address only the proposed project and alternatives as described in Section 2.0. None of the other cultural resources discussed in Section 7.0 would be impacted by RTRP.

This cultural resource assessment includes the results of surveys of four 230 kV transmission line routes that are currently or were previously under consideration, including two addressed in the draft EIR (Figure 1):

- Proposed 230 kV Transmission Line (previously called the I-15 Route)
- Van Buren Offset Alternative(previously called the Van Buren [modified] Route)

One modified after being surveyed:

- Original Van Buren Boulevard Route

And one eliminated after being surveyed:

- Bain Street Route

1.4 STUDY PERSONNEL

Katherine Knapp, M.A., Molly Humphreys, M.A., Jim Rudolph, Ph.D., and Rachael Gruis, M.A., of POWER prepared this report. Field work was completed by Katherine Knapp, M.A., Gini Austerman M.A., Trish Webb, Johanna Marty, and April Shand of POWER. Audry Williams and Natasha Tabares of Southern California Edison (SCE) reviewed draft reports and provided suggestions and comments. Data for the report also came from several subcontractors:

- TRC Solutions (David M. Smith and Shelby Manney) performed a literature review, evaluated resource sensitivity, and conducted some of the cultural resource inventories of routes for the 69 kV and 230 kV transmission lines (TRC 2007a-h).
- URS Corporation (Elena Nilsson, Josh Peabody) performed additional background research and completed additional archaeological and architectural inventories (URS 2007, 2009a, 2009b).
- Rebecca S. Toupal and Kathleen Van Vlack of the University of Arizona's Bureau of Applied Research in Anthropology (BARA) conducted meetings and site visits with representatives of the Pechanga, Morongo, and Soboba bands and prepared an American Indian Social Impact Assessment (Toupal et al. 2007).

POWER archaeologists performed further record searches and cultural resource survey in 2009, 2010, and 2011.

2.0 PROJECT DESCRIPTION

2.1 LOCATION

The RTRP area (Figure 1) is in the northwest corner of Riverside County. Most of the project area is within the city of Riverside, although several current and former project alternatives include parts of unincorporated Riverside County. The general project area is bordered on the north by Interstate 10 (I-10) and several existing high voltage electrical transmission lines, on the west by Interstate 15 (I-15), on the east by Interstate 215 (I-215), and on the south by the southern city limits of Riverside. The Santa Ana River bisects the project area.

2.2 PROJECT HISTORY

In June of 2006, RPU completed a 230 kV Transmission Line Siting Study for RTRP that evaluated land use, wildlife and plant species and their habitats, special-status species, previously recorded cultural resources, visual impacts, and construction difficulty to help determine route feasibility and reasonable alternative routes for a proposed 230 kV transmission line. The cultural resource data used for the siting study came primarily from an extensive records search performed by TRC (Smith 2006). Input on the sensitivity of various areas to Native Americans was provided by the Soboba, Pechanga, and Morongo bands (Toupal et al. 2007).

After land use and environmental conditions were mapped, siting constraints were identified. Nearly half the study area was eliminated from consideration because of environmental issues, including cultural resources, biological resources, engineering constraints, dense urban development, and other factors.

Three alternative routes were initially identified:

1) A route roughly following Van Buren Boulevard. This route was surveyed for cultural resources by URS (2009a).
2) A route along Bain Street. The Bain Street Route was surveyed by URS in 2008.
3) A route on the western side of the project area near I-15, known as the I-15 Route.

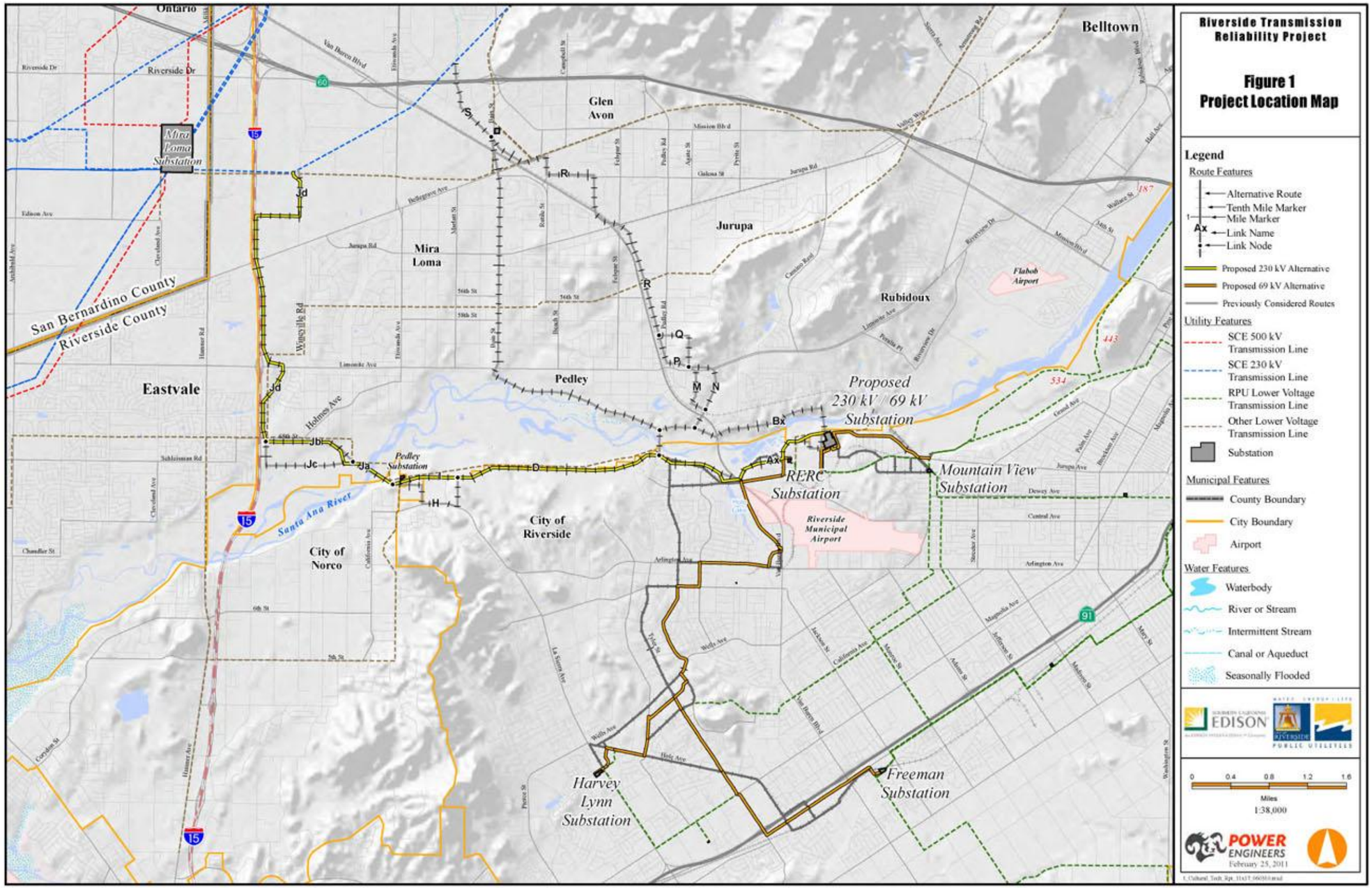
The original Van Buren Boulevard Route was later substantially modified, and city- and county-owned lands on the new alignment were surveyed by POWER in 2010. The modified Van Buren route, now called the Van Buren Offset Alternative, is addressed in the draft EIR.

The Bain Street Route has since been dropped from consideration by RPU and is not addressed in the draft EIR.

The public lands along the I-15 Route, now designated the Proposed 230 kV transmission line, were surveyed by POWER in 2010. Private lands for which rights of entry were obtained were surveyed by POWER in 2011. This route is addressed in the draft EIR.

Also, a number of alternative 69 kV subtransmission lines were originally included as part of RTRP. These routes were primarily in densely urbanized Riverside neighborhoods or in heavily disturbed areas. The 69 kV routes were subject to several records searches (Smith 2006; Manney 2007; URS 2007); and in 2007 URS conducted a windshield reconnaissance for architectural resources in specific neighborhood areas along the 69 kV routes (URS 2009a, 2009b). Archaeological surveys were not conducted at that time.

FIGURE 1. PROJECT LOCATION MAP



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The proposed construction of and modifications to these 69 kV routes were later separated from RTRP and included in RPU's Subtransmission Project (STP). Cultural resources along these 69 kV routes were addressed in an Initial Study/Proposed Mitigated Negative Declaration for STP (RPU 2009) and are not addressed in either the RTRP draft EIR or this document.

One of the original 69 kV subtransmission line routes is still part of RTRP and is addressed in the draft EIR and in this report. Undeveloped areas of the route were surveyed for archaeological resources as part of the RTRP cultural resource investigations, and a record search (Smith 2006; Manney 2007) and architectural reconnaissance were completed, as well (URS 2009a, 2009b).

The Wilderness substation site was surveyed for RPU by SWCA as part of a separate project (SWCA 2008), and the Wildlife substation site was surveyed by POWER in 2011.

The proposed substation upgrades would all be within the footprints of existing substations. These substations had been subject to varying degrees of cultural resource survey in the past, and were not surveyed for RTRP.

2.3 PROJECT COMPONENTS

2.3.1 SCE 230 kV Transmission Line

The proposed 230 kV transmission line would be approximately 10 miles long and would require a 100-foot-wide right-of-way (ROW). The ROW would not be de-vegetated; however, limited cutting of trees and tall brush in the ROW may occur.

The 230 kV transmission line would be constructed using either single-shaft tubular steel poles (TSPs) or galvanized Lattice Steel Towers (LSTs). Typical heights range from 90 to 170 feet for the single poles, and 113 to 180 feet for the lattice towers.

The transmission line would be composed of tangent and dead-end structures. On tangent structures, conductors, the lines carrying an electric current, approach and depart the structures in a straight line or at a relatively small angle of inflection. Most of the proposed structures would fall in this category. Dead-end structures would be used for more substantial changes in line direction. For RTRP, tangent structures would be TSPs, and dead-end structures would be LSTs. A total of 81 transmission structures would be required for the proposed Project, with at least 57 being TSPs and as many as 24 being LSTs.

The new TSP locations would first be graded or cleared. Assembly of TSPs typically would require a laydown area of approximately 200 feet by 100 feet. If the laydown area is already reasonably level, only vegetation removal would occur. Where the surface is not level, both vegetation clearing and grading would be necessary.

Erection of the steel poles may also require a temporary crane pad to allow an erection crane to set up 60 feet from the centerline of each structure. In most cases, this crane pad would be within the laydown area used for structure assembly. If a separate pad is required, it would be 50 feet by 50 feet. The pad would be cleared of vegetation and also graded as necessary.

Each TSP would require a single-drilled, poured-in-place, concrete footing that would form the structure foundation. Actual footing diameters and depths for each structure foundation would depend on soil conditions and topography. The foundation process starts with drilling the holes for each structure. The holes would be drilled using truck- or track-mounted excavators. TSP foundations typically require an excavated hole 7 to 12 feet in diameter. The maximum depth below ground level for the TSPs is expected to be between 20 feet and 40 feet.

The new LST pad locations would first be graded or cleared to provide a reasonably level and vegetation-free surface for footing construction. Sites would be graded and compacted.

Assembly of LSTs typically would require a laydown area of approximately 200 feet by 200 feet. In locations where the terrain in the laydown area is already reasonably level, only vegetation removal would occur to prepare the site for construction. In locations where a level surface is not present, both vegetation clearing and grading would be necessary.

Erection of the LSTs may also require establishment of a temporary crane pad to allow an erection crane to set up 60 feet from the centerline of each structure. In most cases, this crane pad would be within the laydown area used for structure assembly. If a separate pad is required, it would be 50 feet by 50 feet (0.06 acre). The pad would be cleared of vegetation and also graded as necessary.

LST structures would require four concrete foundations with an approximate diameter of four feet each.

The foundation process would start with drilling holes for each type of structure. The holes would be drilled using truck- or track-mounted excavators with various diameter augers. LSTs typically require an excavated hole of three to six feet in diameter and 20 to 45 feet deep.

An area of 0.04 acre would be required to accommodate the four footings necessary for each LST foundation.

Guard structures may be installed at transportation, flood control, and utility crossings. Guard structures are temporary facilities designed to stop the movement of a conductor should it momentarily drop below a conventional stringing height. Typical guard structures are standard wood poles, 60 feet to 80 feet tall, and the number of guard poles installed on either side of a crossing would be between two and four. SCE has estimated that approximately 16 guard structures would be installed.

Pulling and Tensioning Sites

Pulling and tensioning sites are used during the conductor stringing process to pull a pilot line from structure to structure and thread through the stringing pulleys on each pole, and maintain conductor ground clearance and prevent conductor surface damage. Pulling and tensioning sites require an estimated 100 feet by 400 feet (0.9 acre per site).

Marshalling and Staging Yards

Temporary marshalling yards would be needed along or near the proposed transmission line for construction crews to store materials and vehicles. Transmission line construction would begin with establishing one temporary marshalling yard at a strategic point, as yet undetermined, along the route. SCE or its contractors may use additional construction yards. Each yard would be two to twenty acres. Preparing marshalling yards would include applying road base, depending on existing ground conditions, and installing perimeter fencing.

Temporary secondary material staging yards would be established for short-term use near construction sites. Where possible, the secondary staging yards would be in areas of previous disturbance. Typically, an area of one to three acres would be required.

Access and Spur Roads

Transmission line roads are classified as either access roads or spur roads. Access roads run between towers along the ROW and serve as the main transportation route. Spur roads lead from line access roads to one or more tower sites. Access for construction and maintenance would be required at several locations along the corridors. Access work, which would take place primarily within the 100-foot ROW, would consist of making improvements to existing roads, building new roads, and constructing spurs to individual structure sites. Most new permanent access roads would be built on previously disturbed land. Temporary roads would be removed.

The proposed Project would include construction on both existing ROW and new ROW. For existing ROW, most existing access and spur roads would be used. However, rehabilitation of some existing roads may be necessary. This work may include:

- Re-grading and repair of existing access and spur roads. The graded road would have a minimum drivable width of 14 feet (preferably with two feet of shoulder on each side).
- Drainage structures.
- Slides, washouts, and other slope failures would be repaired and stabilized by installing retaining walls or other means necessary.

For new ROW, new access and spur roads would be necessary to access the transmission line structure locations. Similar to rehabilitation of existing roads, new road alignments would first be cleared and grubbed of vegetation. Roads would be blade-graded to remove potholes, ruts, and other surface irregularities, and re-compacted. Grade roads would have a minimum drivable width of 14 feet with less than two feet of shoulder on each side, resulting in a total width of 18 feet. Dead-end spur roads over 500 feet long would include a Y-type or circle-type turnaround.

2.3.2 RPU 69 kV Subtransmission Lines

The proposed 69 kV subtransmission line segments would be constructed using single-shaft galvanized steel structures or wood poles. Typical heights range from 65 feet to 90 feet and the typical span length is 150 feet to 300 feet. The subtransmission line would be composed of tangent poles, angle structures, and dead-end structures similar to the 230 kV transmission line.

All 69 kV pole foundations would be direct-embedded, with the exception of heavy angle and dead-end poles, which would be set on drilled pier concrete foundations. The bottoms of the poles would vary in diameter from 1.5 to 3.0 feet for tangent and angle poles and between four and six feet in diameter for dead-end poles. Installation depths would vary according to local soil and geological conditions and structural requirements.

Up to a 40-foot-wide easement may be required for the 69 kV subtransmission line ROW. To the maximum extent feasible, the new 69 kV subtransmission line would be constructed in existing road ROW.

2.3.3 230 kV Substations

RTRP would require two new substations (to be called Wildlife and Wilderness). Additionally, minor substation modifications and upgrades would be required at the two substations bracketing the Mira Loma to Vista #1 transmission line.

Wildlife Substation

The SCE Wildlife Substation would be built on three acres of land currently owned by RPU and near the northeast corner of Wilderness Avenue and Ed Perkic Street within Riverside.

Wilderness Substation

The new RPU 230/69 kV Wilderness Substation would be on 6.4 acres next to and at the southern end of SCE's Wildlife Substation. The Wilderness Substation would be connected to the Wildlife Substation via two short 230 kV transmission spans where the voltage would be transformed to 69 kV through two transformers located within the Wilderness Substation.

Construction of the new Wildlife and Wilderness substations would include site grading and development, installing electrical conduits for equipment power and control, and installing structures and equipment. To prepare the proposed substation site, cut and fill would be required to create a level surface.

2.3.4 Substation Upgrades

230 kV Substation Upgrades

Line protection relays would be replaced at both Mira Loma and Vista Substations as part of the Proposed Project.

69 kV Substation Upgrades

Upgrades would be required at four existing RPU 69 kV substations. Upgrades would include minor pole re-alignments outside of substations to accommodate modifications of substation layout. All other upgrades would take place within the existing boundaries of each substation. The four existing 69 kV substations within the city requiring upgrades are Harvey Lynn, Mountain View, Freeman, and RERC. Construction work to upgrade the existing substations would occur within the existing boundaries so that no grading or site development work would be needed outside the substation footprint.

3.0 REGULATORY FRAMEWORK

3.1 STATE

For this analysis, the principal laws and regulations relevant to the protection of cultural resources include:

- The California Environmental Quality Act (CEQA), with particular reference to California Public Resources Code 21083.2 to 21084.1, which addresses historical resources, unique archaeological resources, and Native American human remains.
- California Senate Bill 18 of 2005 (SB 18)
- City of Riverside Municipal Code Title 20 – Cultural Resources, which describes the City's Historic Preservation Program and establishes a Cultural Heritage Board.
- Historic Preservation Element of the City of Riverside General Plan of 2007

3.1.1 California Environmental Quality Act

Under CEQA, a project is considered to have a significant effect on the environment if it causes a substantial adverse change in the significance of a historical resource or unique archaeological resource. Substantial adverse change means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource would be materially impaired or diminished. Furthermore, it is recommended by CEQA that cultural resources be preserved in-situ whenever possible through avoidance of the resource. Whenever a historical resource or unique archaeological resource (Public Resources Code [PRC] 21083.2) cannot be avoided by project activities, effects shall be addressed and mitigated as outlined in PRC 15126.4 and 15331 of CEQA.

Historical Resources

According to CEQA, lead agencies are required to identify historical resources that may be affected by any undertaking involving state or county lands, funds, or permitting. Also, the significance of such resources that may be affected by the undertaking must be evaluated using the criteria for listing in the California Register of Historical Resources (CRHR) (PRC §5024.1, Title 14 CCR, Section 4852). Generally, a resource is considered by the lead agency to be historically significant if the resource has integrity and meets the criteria for listing in the CRHR. Resources already listed or determined eligible for the National Register of Historic Places (NRHP) and California Historic Landmarks (CHL) are by definition eligible for the CRHR. Historical resources included in resource inventories prepared according to California State Office of Historic Preservation (OHP) guidelines or designated under county or city historic landmark ordinances may be eligible if the designation occurred during the previous five years.

For a resource to be eligible for the CRHR, it must satisfy each of the following three standards:

- A property must be significant at the local, state or national level, under one or more of the following criteria:
  1. It is associated with events or patterns of events that have made a significant contribution to the broad patterns of the history and cultural heritage of California and the United States.
  2. It is associated with the lives of persons important to the nation or California's past.
  3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
  4. It has yielded, or may be likely to yield, information important to the prehistory or history of the State or the Nation;

- A resource must retain enough of its historic character or appearance to be recognizable as a historic property, and to convey the reasons for its significance; and
- It must be fifty years old or older (except for rare cases of structures of exceptional significance).

Integrity is defined as the authenticity of a historical resource's physical identity, evidenced by the survival of characteristics that existed during the resource's period of significance. CRHR regulations specify that integrity is a quality that applies to historical resources in seven ways: location, design, setting, materials, workmanship, feeling, and association.

Unique Archaeological Resources

Under CEQA the lead agency must also determine whether a proposed project will have a significant effect on unique archaeological resources. PRC 21082.2(g) states:

> "a 'unique archaeological resource' means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:
>
> 1. Contains information needed to answer important scientific research questions and that there is demonstrable public interest in that information.
> 2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
> 3. Is directly associated with a scientifically recognized important prehistoric or historic event or person"

A non-unique archaeological resource does not meet these criteria and does not need to be given further consideration other than simple recording unless it happens to qualify as a historical resource.

Native American Human Remains

CEQA also says [PRC 15064.5(d)] that when an initial study identifies the existence of, or probable likelihood, of Native American human remains within the project, a lead agency shall work with the appropriate Native Americans as identified by the Native American Heritage Commission (NAHC) as provided in Public Resources Code Section 5097.98. The applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by the NAHC.

3.1.2 California Senate Bill 18 of 2005 (SB 18)

This bill requires formal government-to-government consultation with Native American tribes as part of a project that enacts or amends a general plan or specific plan. RTRP does not fit this description, so SB 18 does not apply.

3.2 LOCAL

3.2.1 Riverside Municipal Code Title 20 - Cultural Resources

The purpose of this title is to promote public health, safety, and general welfare by providing for the identification, protection, enhancement, perpetuation and use of improvements, buildings, structures, signs, objects, features, sites, places, areas, districts, neighborhoods, streets, works of art, natural features and significant permanent landscaping having special historical, archaeological, cultural, architectural, community, aesthetic or artistic value in the City. Title 20 sets forth guidelines for safeguarding the heritage of the City; definitions of landmarks, structures of merit, historic districts, neighborhood

conservation areas, and cultural resource overlay zones; mitigation measures; and specific maintenance guidelines. Under this Code, the City has also established a Cultural Heritage Board that assists in managing and overseeing cultural resources within the city limits.

3.2.2 Historic Preservation Element of the City of Riverside General Plan 2007

The purpose of this preservation element is to provide guidance in developing and implementing activities that ensure that the identification, designation and protection of cultural resources are part of the City's community planning, development and permitting processes. The California State Historic Preservation Officer (SHPO) has recognized Riverside's historic preservation program with its designation as a Certified Local Government (CLG). The City Planning Department and Architectural Preservation Planning Services (APPS) have conducted a citywide reconnaissance survey and reviewed documentation relating to Riverside's Historic Preservation Program.

4.0 ENVIRONMENTAL SETTING

The study area is in Riverside County within the Santa Ana River watershed. The natural topography of the study area is valley lowland intersected by rolling hills and surrounded by mountain ranges. Elevations range from 680 to 1,900 feet above mean sea level (MSL). Most of the study area has been developed, and the only remaining large areas of native habitats occur along the Santa Ana River and in the Jurupa Mountains.

4.1 CLIMATE

The climate of the Santa Ana River valley is classified as Mediterranean, with hot, dry summers and cool, wet winters. Average annual precipitation ranges from 12 inches per year in the coastal plain to 40 inches per year in the San Bernardino Mountains to the north (WRCC 2009). Within the inland alluvial valleys in the study area, such as that of the Santa Ana River, precipitation averages 18 inches per year with most of the precipitation occurring between November and March. High surface water flows occur in the spring and low flows occur in the summer. Winter and spring floods commonly result from storms during wet years. Similarly, during the dry season, infrequent summer storms can cause floods in local streams.

4.2 GEOLOGY

The entire study area is within the north central Peninsular Ranges Geomorphic Province of California. This geomorphic province is characterized by a series of mountain ranges separated by northwest trending valleys, subparallel to branching faults from the San Andreas Fault (CGS 2002). The Peninsular Ranges Province extends 900 miles from the Transverse Ranges to the north southward to the tip of Baja California (Norris and Webb 1990).

Major mountain ranges near the study area include the Santa Ana Range southwest of Riverside, the San Gabriel Mountains well to the north, and the San Jacinto Mountains to the east. Smaller ranges closer to the study area include the Jurupa Mountains north of the Santa Ana River and the Box Springs Mountains east of Riverside.

Over the last ten million years, climate in the Riverside region has fluctuated between cold and warm, wet and dry. During the Pleistocene, prehistoric animal species known to have lived in the region include the American lion, saber-toothed cat, prehistoric bison and mammoth. Portions of the project area are underlain by Pleistocene age alluvial soils (Bryant and Hart 2007, Dibblee 2004a). The Holocene marks the transition from the last ice age.

Alluvium, colluvium, and slope-wash deposits of late Pleistocene and Holocene are found within drainage features, including valleys and streams. The alluvial deposits grade indiscernibly with colluvium and slope-wash deposits flanking the lower slopes next to the valleys. Generally, the alluvial deposits within the project area are Pleistocene fluvial or fan deposits and Holocene fluvial deposits in the active Santa Ana River flood plain.

4.3 HYDROLOGY

The dominant natural drainage course crossing the study area is the Santa Ana River. This river is the largest stream system in southern California, extending from its headwaters in the San Bernardino Mountains over 100 miles southwest to the Pacific.

The Santa Ana River basin covers 2,450 square miles in San Bernardino and Riverside counties, with the headwaters beginning in the San Bernardino and San Gabriel Mountains. The Santa Ana River channel

enters the project area in Colton at an elevation of 930 feet above MSL and exits the area near Norco at 630 feet MSL (USGS 1981).

The upper reach of the Santa Ana River receives water from three tributaries, but flows intermittently and often runs dry. The river's lower reach has perennial flow, low gradient, and slow velocity. The floodplain has been significantly modified for flood control and development. Within the study area, the river is channelized with levees and other flood control structures constricting the natural floodplain (Mendez and Belitz 2002).

Before European American settlement, the Santa Ana River was a perennial stream flowing from the San Bernardino and San Gabriel mountains to the Pacific Ocean. Many springs, marshes, swamps, and bogs were interspersed throughout the watershed, which was characterized by sandy streambeds, willows, cottonwoods, and oaks.

The land was quickly altered by early European settlers, who built irrigation systems and began farming and livestock grazing. In the 1940s Prado Dam was built and it now divides the Santa Ana River watershed into upper and lower sub watersheds.

4.4 VEGETATION

A botanical survey for RTRP identified and mapped vegetation communities or cover types. The land is mostly either agricultural, developed and urbanized, disturbed or landscaped, or non-native open woodland and grassland. Natural habitats include alluvial scrub, riparian scrub, riparian forest, Riversidian sage scrub, and southern cottonwood/willow riparian.

Alluvial Scrub occurs on alluvial deposits along the Santa Ana River in the eastern study area and consists largely of scalebroom (*Lepidospartum squamatum*), white sage (*Salvia apiana*), California buckwheat (*Eriogonum* sp.), California croton (*Croton californicus*), tarragon (*Artemisia dracunculus*), yerba santa (*Eriodictyon* spp.), and mule's fat (*Baccharis salicifolia*) (Munz 1974).

Along with Alluvial Scrub, patches of riparian scrub occur along the central portion of the Santa Ana River. This community is dominated by shrubs such as mule's fat (*Baccharis salicifolia*), arrowweed (*Pluchea sericea*), Mexican elderberry, Fremont's cottonwood, narrow-leaved willow (*Salix exigua*), arroyo willow (*Salix lasiolepis*), and tamarisk (*Tamarix* sp.). Other shrub species include tarragon (*Artemisia dracunculus*), Emory's baccharis (*Baccharis emoryi*), and California rose (*Rosa californica*). The riparian scrub within the project area varies from open with an herbaceous understory or bare ground to dense with sparse understory. In some areas, desert wild grape (*Vitis girdiana*) forms thick tangles and has overgrown the shrub and tree species (Munz and Keck 1959).

In the project area, Riparian Forest occurs primarily along the Santa Ana River. It is a fairly restricted community because it is dependent on the presence of or proximity to water courses. Species of this community include cottonwood (*Populus* spp.), willow (*Salix* spp.), and desert hackberry (*Celtis* sp.) (Davis et al. 1998).

Riversidian sage scrub is the dominant sage scrub community type in the study area. This community occurs on lower slopes throughout the area, including the Jurupa Mountains, Pedley Hills, Mount Rubidoux, and the extreme northeast corner of the study area. Riversidian sage scrub is dominated by a suite of short, aromatic, deciduous shrub species, including California sagebrush (*Artemisia californica*), California buckwheat, brittle-bush (*Encelia farinosa*), black sage (*Salvia mellifera*), white sage, California encelia (*Encelia californica*), Mexican elderberry (*Sambucus Mexicana*), boxthorn (*Lycium* sp.) and prickly pear (*Opuntia* sp.). In the study area, Riversidian Sage Scrub intergrades with chaparral and non-native grassland (Munz 1974).

Southern Cottonwood/Willow Riparian occurs along the entire length of the river corridor within the study area. This community is dominated by cottonwood (*Populus* spp.) and willow trees with occasional western sycamore (*Platanus racemosa*). Understory vegetation includes shrubs and herbaceous plants such as arundo, fiddleneck (*Amsinckia* sp.), mule's fat, nettle (*Urtica* sp.), sowthistle (*Sonchus* sp.), and wild radish (*Raphanus raphanistrum)*. Southern Cottonwood/Willow Riparian habitats intergrade with riparian scrub and disturbed alluvial vegetation (Munz and Keck 1959).

5.0 CULTURAL SETTING

5.1 PREHISTORY

Archaeologists have divided the time of Native American occupation in the region into six sub-periods based on changes in the archaeological record: the Paleoindian Period (12,000-9,500 BP); Early Archaic Period (9,500–7,000 BP); Middle Archaic Period (7,000–4,000 BP); Late Archaic Period (4,000–1,500 BP); Saratoga Springs Period (1,500–750 BP); and Protohistoric Period (410–180 BP).

5.1.1 Paleoindian Period (12,000-9,500 BP)

The Paleoindian period experienced profound environmental changes, as the cool, moist conditions of the terminal Wisconsin glacial age gave way to the warmer, drier climate of the Holocene (Spaulding 1990). Paleoclimatic and paleoecological data suggest that until 7,500 years ago the desert interior received moist monsoonal flow from the southeast, which resulted in the deserts having considerably higher levels of effective moisture than today. (Davis and Sellers 1987; Spaulding 2001; Spaulding and Graumlich 1986; Van Devender et al. 1987).

The Paleoindian inhabitants were nomadic large-game hunters whose tool assemblage included percussion-flaked scrapers and knives; large, well-made fluted, leaf-shaped, or stemmed projectile points (e.g., Lake Mojave, Silver Lake); crescent; heavy core/cobble tools; hammerstones; bifacial cores; choppers; and scraper planes. Both Warren (1968, 1980) and Wallace (1955, 1978) argue that the absence of milling tools used for processing seeds during later periods suggests that an emphasis on hunting continued throughout this phase.

No archaeological sites dating to the Paleoindian period have been identified within the Riverside area. Early human population densities were low during the Paleoindian period, and people were dispersed over the landscape primarily in small mobile groups. Within the larger region, Paleoindian sites may be found on stable landforms and in protected caves above floodplains in coastal, lake marsh, and valley/riparian environments and along ridge systems and in mountain passes that may have served as travel routes (Moratto 1998).

5.1.2 Early Archaic Period (9,500–7,000 BP)

The climatic patterns of the Late Paleoindian period continued into the Early Archaic period. The populations exploiting the interior valleys would have been sparse and tethered to the few reliable, drought-resistant water sources that may have been destination points on a scheduled, seasonal round (Goldberg et al. 2001). In western Riverside County, archaeological site CA-RIV-6069 demonstrates a more intensive occupation during this period. Excavations yielded flaked tools, ground stone tools, marine and terrestrial faunal remains, bone and shell tools, and ornaments. Additionally, intact fire hearths and ground stone artifact caches suggest fairly intensive use of CA-RIV-6069 during the Early Archaic.

5.1.3 Middle Archaic Period (7,000–4,000 BP)

The Middle Archaic saw a reversal of the climatic patterns that characterized the Paleoindian and Early Archaic periods. By 6,000 years ago, local environmental conditions improved while conditions in the deserts deteriorated (Antevs 1952; Hall 1985; Haynes 1967; Mehringer and Warren 1976; Spaulding 1991, 1995). Spaulding (2001) proposes that a westerly air flow pattern returned to southern California, and as a result inland areas may have become moister. The number of archaeological sites dating to the Middle Archaic increased, and the increase in human use and occupation was probably related to the more hospitable local environment and the deterioration of the desert interior (Goldberg et al. 2001).

In the inland regions of southern California, this period of cultural development is marked by tools used for grinding seed for flour. Artifacts dating to this period include large leaf-shaped projectile points and knives; manos and milling stones used for hard-seed grinding; and many other artifacts, such as beads, pendants, charmstones, discoidals, spherical stones, and cogged stones (Kowta 1969; True 1958; Warren et al. 1961).

5.1.4 Late Archaic Period (4,000–1,500 BP)

The beginning of the Late Archaic coincides with the Little Pluvial, a period of increased moisture in the region. This climate allowed for more intensive occupation of the RTRP region.

Late Archaic site types include residential bases with large, diverse artifact assemblages, abundant faunal remains, and cultural features, as well as temporary bases, temporary camps, and task-specific activity areas. Diagnostic projectile points of this period also include more refined notched (Elko), concave base (Humboldt), and small stemmed (Gypsum) forms (Warren1984). The mortar and pestle implies the use of acorns, an important storable resource. Haliotis and Olivella shell beads and ornaments and split-twig animal figurines indicate that the interior California occupants were in contact with populations on the California coast and in the southern Great Basin.

5.1.5 Saratoga Springs Period (1,500–750 BP)

A period of even more persistent drought began by 1,600 years ago, and conditions became significantly warmer and drier, although the inland areas of southern California may have been less affected than the desert interior (Jones et al. 1999; Kennett and Kennett 2000). The dry period continued until 550 years ago (Spaulding 2001).

The Saratoga Springs period is marked by strong regional cultural developments, especially in the southern California desert regions, which were heavily influenced by the Hakataya (Patayan) culture of the lower Colorado River area (Warren 1984). At the Diamond Valley Lake site, the area was used on at least a semi-permanent basis during this period. Caches and ground stone tools suggest people returned to the same locations. Ground stone assemblages show that plant processing intensified, and acorns became an important staple (Klink 2001a).Faunal assemblages also show a diversifying diet.

Diagnostic artifacts include Saratoga Springs projectile points, small triangular projectile points, mortars and pestles, steatite ornaments and containers, perforated stones, circular shell fishhooks, numerous and varied bone tools, and bone and shell ornaments. Elaborate mortuary customs and extensive trade networks are also characteristic of this period.

5.1.6 Protohistoric Period (410–180 BP)

At the end of the Saratoga Springs period temperatures cooled and greater precipitation ushered in the Little Ice Age when ecosystem productivity greatly increased along with the availability and predictability of water (Spaulding 2001).

During the Protohistoric period, small, but fully sedentary villages formed. Many archaeological sites contain fire-altered rock and midden, rock ring foundations for brush dwellings, storage facilities, and ceremonial areas with rock art and rock enclosures (Horne 2001). There was a decrease in faunal diversity, that may signify a reduction in diet breadth. (McKim 2001). The most striking change during this period was the local manufacture of ceramic vessels and ceramic smoking pipes. Additionally, abundant amounts of obsidian were being imported into the region from the Obsidian Butte source in the southeastern Salton Sea Basin and exposed by the desiccation of Lake Cahuilla.

5.2 ETHNOGRAPHY

Several different 18th and 19th century Native American groups can be linked to the study area because interior southern California hunter-gatherers often had fluid linguistic and sociopolitical boundaries or no boundaries at all. Furthermore, many 18th century Native American groups no longer exist. After the Spanish began colonizing coastal California in 1769, Native Americans were subject to dramatic social and cultural changes, including the establishment of the Spanish mission system and the introduction of new diseases that decimated native populations. Population declined even further during smallpox epidemics in 1863 and 1870. Modern groups that are known to have inhabited the region surrounding Riverside during the 18th and 19th centuries are the Gabrieliño, Serrano, Luiseño, and Cahuilla.

5.2.1 Gabrieliño

The Gabrieliño (or Tongva) were among the largest, wealthiest and most powerful aboriginal groups in southern California. Their tribal territory was centered in the Los Angeles Basin, but their influence extended as far north as the San Joaquin Valley. The territory included the Los Angeles, San Gabriel, and Santa Ana watersheds; several smaller tributary streams in the Santa Monica and Santa Ana mountains; the Los Angeles Basin; and nearby coastal areas.

Primary villages were occupied year-round and smaller secondary gathering camps were occupied seasonally by small family groups. Throughout Gabrieliño territory, there may have been 50 to 100 villages occupied at any one time, with the villages containing 50 to 200 people each.

Different groups of Gabrieliño adopted different lifestyles depending on local environmental conditions, although all were based on gathering plant foods, hunting, and fishing. Villages were politically autonomous, each with its own leader. It was not until 1769 that the Spanish attempted to colonize Gabrieliño territory. As a result of disease and forced re-settlement, the population had declined dramatically by 1900 (Bean and Smith 1978).

5.2.2 Serrano

This hunting-gathering group lived primarily east of the Mojave River and north of San Bernardino (Bean and Smith 1978b). The Serrano were organized into local groups claiming relatively small territories. There was no larger political organization and there was no formal territory defined for the entire tribe.

Settlement was determined primarily by proximity to permanent water sources. Villages and camp sites were found most often in the foothills and less frequently on the desert floor, depending on the availability of water.

Spanish influence on the Serrano was negligible until around 1819, but by 1834 most Serrano had been forced to relocate to missions and had lost much of their traditional culture. Today, most Serrano live on the Morongo and San Manuel Reservations.

5.2.3 Luiseño

The Luiseño people traditionally occupied 1,500 square miles of southern California both along the coast and in the interior region. Their boundaries extended along the coast from Agua Hedionda Creek to Aliso Creek. Their interior boundaries reached from the Santa Ana River and Santiago Peak to the eastern side of Elsinore Fault Valley, and south to Palomar Mountain and San Jose Valley (Bean and Shipek 1978, White 1963). Luiseño lands included three major river systems: San Luis Rey, Santa Margarita, and Santa Ana. The Santa Ana River formed this group's northern boundary with the Gabrieliños and Serranos.

The Luiseño people lived in sedentary autonomous village groups. Each village had its own specific hunting, collecting, and fishing territories. These areas were found in valley bottoms, along streams, or along coastal strands near the mountain ranges. It was common to find villages in sheltered coves or canyons, on slopes in a warm thermal zone near adequate water supplies, and in defensive locations. Each village area was characterized with place names associated with important natural resources or sacred beings. These places could be owned by an individual, chief, family, or a group. Some areas of activity like trails, hunting areas, rabbit and deer drive areas, quarry sites, ceremonial areas, and gaming areas were held in common by the community (Bean and Shipek 1978).

5.2.4 Cahuilla

The fourth Native American group inhabiting the Santa Ana River area is the Cahuilla. Their traditional territory encompasses diverse topography ranging from 273 feet below sea level at the Salton Sink to 11,000 feet above sea level in the San Bernardino Mountains. The Cahuilla's territory extended from the summit of the San Bernardino Mountains in the north to the Chocolate Mountains and Borrego Springs in the south. Its eastern border included the Colorado Desert west of Orocopia Mountain, and its western border included the San Jacinto Plain near Riverside and the eastern slopes of Palomar Mountain.

Cahuilla villages usually were in canyons or along alluvial fans near adequate sources of water and food plants. The immediate village territory was owned in common by a lineage group or band. The other lands were divided into tracts owned by clans, families, or individuals. Trails used for hunting, trading, and social interaction connected the villages. Each village was near numerous sacred sites that included rock art panels (Bean and Shipek 1978).

5.3 HISTORY

Euro-American occupation began with the establishment of the California missions by the Spanish, continuing with the Spanish and American colonization and settlement, agricultural advances, and urbanization after World War I and World War II.

5.3.1 The California Missions

The colonization of Alta California was tied to the Spanish settlements along the Gulf of California. The Spanish missionization and settlement of California began in 1768 when King Carlos III saw other European empires as threats to Spain's claim on Alta California (Lightfoot 2005). The King ordered Visitador-General José de Gávez to organize soldiers and missionaries from Mexico to colonize the distant territory. On May 13, 1769 Commander Don Gaspar de Portolá, Sergeant José Francisco de Ortega, and Fray Junípero Serra, who was a Franciscan missionary, departed with soldiers and supplies for San Diego from Velicatá, Baja California. Upon arriving in San Diego, Fray Serra founded California's first mission San Diego de Alcalá (Toupal et al. 2007).

The missions were established primarily along the coast of California and in three distinct ranges: the Coastal Range, Transversal Range, and Peninsular Range. The Spanish selected mission sites in valleys, and on alluvial fans and coastal plains away from marshy flats. Most missions were established close to the sea; however, some missions like Mission San Gabriel and San Jose were located strategically in the interior as a way of establishing and maintaining inland routes. Preferred locations were near reliable water sources and had adequate arable lands (Toupal et al. 2007).

The Spanish established three missions in the Peninsular Range: San Diego, San Luis Rey, and San Juan Capistrano. Each mission was three to six miles from the ocean either in valley bottoms or on terraced slopes along streams.

According to Heizer, "Spain's Indian policy at the time of the invasion of California was a mixture of economic, military, political, and religious motives. Indians were regarded by the Spanish government as subjects of the Crown and human beings capable of receiving the sacraments of Christianity (Heizer 1978:100)." Also, "It was essential under 'missionization' that California Indians be 'reduced' into settled and stable communities where they would become good subjects of the King and children of God. . . . It should be clear, then, that the missions of California were not solely religious institutions. They were, on the contrary, instruments designed to bring about a total change in culture in a brief period of time (Forbes 1969)." The priests recruited and forced local Indian populations to work and live at the missions. The Indian people had to give up many of their traditional ways and territories for the new European practices and beliefs. They worked the mission gardens, and served as laborers at the missions and ranches. The Native American groups along the Santa Ana River endured these changes, although, their experiences differed based on their proximity to the missions (Toupal et al. 2007).

5.3.2 Mexican Independence

Early settlement was associated with the establishment of the missions along the Pacific Coast, but began to increase as the missions went through the process of secularization, which was not complete when Mexico won its independence from Spain in 1821. The new government wanted to limit the power of the Catholic Church, so it pursued dual policies of secularization and emancipation of native groups. Between 1822 and 1829, the new government also abolished social status based on racial or national background, and granted citizenship to native people (Haas 1995; Weber 1982). The government's secularization efforts eventually succeeded in breaking the Church's power, but land was not returned to the Native Americans because much of what could be used for livestock and agriculture had been granted to California and Anglo rancheros.

Another change that came with the Mexican government was the removal of restrictions on trade with other countries. This change also affected trade along the Old Spanish Trail, which connected Los Angeles with Santa Fe, New Mexico. Not only did trade along this route increase, but potential settlers found a new option. As a result, immigration to California from New Mexico began in the early 1840s. The first settlers to come from New Mexico arrived in 1842 and were recruited specifically for their fighting skills as the California rancheros needed help protecting their livestock. Initially, they settled at Rancho San Bernardino, also known as Politana, essentially forming an asistencia for the San Gabriel Mission. Within a couple of years, however, due to disagreements with the Rancho San Bernardino rancheros, the settlers relocated a few miles downstream and established Agua Mansa, near the RTRP area. They were successful in their farming endeavors and the community grew (Harley 1999).

5.3.3 United States' Control of California

The United States took control of California with the Treaty of Guadalupe Hidalgo in 1848; however, it was the discovery of gold at the same time that created massive population and economic growth.

With the Americans' arrival, the demand for water and land increased. The large ranchos were broken up, and the new landowners were less tolerant of Indian people. The small ranchos were farmed and grazed more intensively, further reducing the land and resources that provided so much of the Native American food supply. The California natives also found employment less of an option, especially at skilled jobs as these were taken by the newcomers (Dutschke 1988).

Between 1850 and 1875, the population in the Santa Ana River watershed grew, though at not quite the same pace as other parts of the state. The coming of the railroad resulted in the establishment of the community of Colton just upstream from, and on the opposite side of the Santa Ana River, from Jurupa/Riverside. The Agua Mansan families who still resided in the area relocated to Colton presumably

to take jobs with the railroad. The greatest impact from the railroad, however, was a new wave of immigration. The Southern Pacific Railroad (SPR) in particular encouraged immigration to southern California in the late 1800s with a well-organized settlement plan that was in place by 1875 and showing a profit by 1890. The SPR's colonizing program included advertising campaigns and transportation assistance and brought another vast wave of immigrants to the area during the latter 19th century (Parker 1937).

5.3.4 Agriculture

The agricultural economic base established by the early Spanish continued to flourish in the Riverside County area (Horne and McDougall 2007). The city of Riverside itself was founded in 1870 by abolitionist judge, John W. North. Navel oranges were introduced to the region in the 1870s and were found to grow extremely well. By 1895, the citrus-based community had evolved into the richest per-capita city in the United States.

Riverside citizens founded the most successful agricultural cooperative in the world, the California Fruit Growers Exchange, known by its trademark, Sunkist (Horne and McDougall 2007). Immigrants from China, Japan, Italy, Mexico, and later the Dust Bowl of America, flooded into southern California to meet the labor demand. As a result, Riverside developed a substantial Chinatown and other ethnic settlements, including the predominantly Hispanic Casa Blanca and communities of Japanese and Korean immigrants.

5.3.5 Post-World War I and World War II

Riverside experienced a boom in the Post World War I period, undeveloped areas were subdivided, and residential tracts were planned and developed (Horne and McDougall 2007). The buildings from that time are represented by Arts and Crafts period styles: California Bungalow, two-story Craftsman, Prairie, and English cottage/Tudor Revival. By the end of World War I, a surge of patriotism for America and its allies produced houses in styles that referenced the American Colonial period and French, Spanish, Italian Renaissance and English architecture. Beaux Arts Classicism reached its peak in the post World War I period in civic architecture, and Gothic Revival and Spanish Colonial Revival influenced designs for churches. The design trend for commercial buildings in Riverside continued to be based on Spanish and Classical motifs; many buildings were remodeled to reflect the Spanish Colonial Revival and Mission styles.

After World War II, Riverside experienced more growth. Affordable suburban housing tracts were developed with nearby commercial centers to serve the needs of new residents (Horne and McDougall 2007).

6.0 METHODS

The methods used in acquiring data on cultural resources for this report included archival research, cultural resource surveys, an architectural reconnaissance, and coordination with local Native American groups.

6.1 RECORDS SEARCHES

Between April 2006 and February 2011, six separate cultural resource records searches of the project area were conducted by TRC and POWER (TRC 2007a-h). The first record search (Smith 2006) generated preliminary data for a large study area used during the RTRP Siting Study. Subsequent records searches focused initially within a 0.5-mile radius for the project components as they were proposed at the time, but later searches were expanded to include a 1.0-mile radius. The records searches provided locations and other data on previously-recorded archaeological and architectural resources and the locations of prior cultural resource surveys. Records were reviewed at the Eastern Information Center (EIC), housed at the University of California-Riverside, and at the San Bernardino Archaeological Information Center at the San Bernardino County Museum. California Historical Resources Information System (CHRIS) records at both centers were reviewed to determine the location of previously recorded cultural resources in the study area. Also consulted were the NRHP, Archaeological Determinations of Eligibility (ADOE) provided by the EIC, CRHR, CHL lists, California Points of Historic Interest (CHPI), and the Directory of Properties in the Historic Property Data File. Historic U.S. Geological Survey (USGS) topographic maps were also reviewed.

The records searches conducted by TRC in 2006 and the 2008 updated records search by POWER found 345 previously recorded cultural resources within one mile of the project components currently under consideration as well as those eliminated (Appendix A). The record searches also indicated that 314 cultural resource studies have been conducted within a one-mile radius of the 230 kV and 69 kV routes and substations, those currently under consideration and those eliminated (Appendix B). Figure 2 illustrates previous cultural resource surveys in the RTRP area, and Figure 3 illustrates previously recorded cultural resources.

The records search revealed that there is one NRHP listed property [redacted].

6.2 ARCHITECTURAL RESEARCH

The City of Riverside Planning Department and Architectural Preservation Planning Services (APPS) have conducted a citywide reconnaissance survey and reviewed documentation relating to Riverside's Historic Preservation Program (APPS 2003). The online Historic Resource Inventory Database (Riverside 2004) includes eligible and designated City Landmarks, Structures of Merit, historic districts, neighborhood conservation areas, and NRHP properties. This database was reviewed by URS in 2009 to identify architectural resources within the study area.

6.3 ARCHAEOLOGICAL SURVEYS

Since 2007, several archaeological surveys have been performed for RTRP as alternative transmission line routes have been identified, modified, and eliminated.

In August 2007, a pedestrian archaeological survey of the original Van Buren Route, the Bain Street Route, and the substations under consideration was conducted by URS (Figure 4) (URS 2009a, 2009b). In December 2008, URS conducted additional pedestrian archaeological survey for the Bain Street Route

because the width of the proposed ROW had been expanded from 100 feet to 200 feet (URS 2009b). Proposed access roads along this route were also surveyed.

In May 2010, POWER archaeologists conducted a pedestrian archaeological survey of city and county-owned lands within 100-foot corridors along the Proposed 230 kV transmission line and the Van Buren Offset Alternative. Figure 4 illustrates the portions of the ROWs surveyed. In February 2011, POWER conducted additional pedestrian survey of private lands for which rights of entry were received and some additional city and county owned property. Sixty-three percent of the 12-mile Proposed 230 kV transmission line was surveyed between 2010 and 2011. Due to factors such as asphalt parking lots, existing built environments such as shopping centers, massive flood debris along the Santa Ana River, and lack of right of entry, 37 percent of the 230 kV line was not surveyed. In 2008, URS surveyed 100 percent of the original Van Buren Alternative. In 2009, project design was changed and the Van Buren Offset Alternative was established while the majority of the original line was eliminated from consideration. However, 15 percent of the 2008 URS survey of the original line design also covered the new Van Buren Offset Alternative design. In 2010, POWER surveyed land consisting only of city- and county-owned property, which resulted in an additional 21 percent survey of the Van Buren Offset Alternative. With a combination of a portion of the 2008 URS survey and all of the 2010 POWER survey, a total of 36 percent of the Van Buren Offset Alternative was surveyed.

Pedestrian field surveys were conducted within proposed and alternative ROWs. During the surveys, archaeologists walked parallel transects, with 10 to 15 meters (33 to 50 feet) intervals, in order to locate archaeological and architectural resources within or next to the ROW. The ground surface was visually examined for evidence of prehistoric or historic archaeological materials and historical structures. Due to surface disturbance from past and modern use and dense grass in many areas as well as dense flood debris near the Santa Ana River, ground visibility was fair to poor. Visible ground surfaces were examined, including fence lines, drainage channels, and other exposures. Special attention was given to rodent burrow mounds. No subsurface survey (e.g., shovel test pits) was conducted by URS or POWER. A Global Positioning System (GPS) was used to identify the location of each cultural resource.

FIGURE 2. PREVIOUS SURVEYS

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FIGURE 3. PREVIOUSLY RECORDED CULTURAL RESOURCES

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FIGURE 4. URS AND POWER SURVEYS FOR RTRP

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6.4 ARCHITECTURAL RECONNAISSANCE

URS compared the 69 kV and 230 kV routes defined at the time with maps of historic districts and neighborhoods prepared by the City of Riverside Planning Department (URS 2007, 2009a, 2009b). This analysis was designed to identify areas of increased potential for containing structures 50 years old or older, as the corridors did not pass through exclusively historic neighborhoods (see Figure 5).

Photographs were taken of architectural examples older than 50 years. Given the number of buildings and structures within the developed neighborhoods, detailed documentation of individual buildings was not conducted. Rather, URS's study was designed to note the types of structures within neighborhoods, the overall integrity of the neighborhoods, and the potential for impacts to historic districts. An integrity designation of high, moderate, and low was determined based on a subjective assessment of historic neighborhood land use compared to the current architectural and aesthetic character of that neighborhood (URS 2007, 2009a, 2009b).

6.5 NATIVE AMERICAN COORDINATION

7.0 INVENTORY RESULTS

7.1 CURRENT PROJECT COMPONENTS

7.1.1 230 kV Transmission Line Routes

Proposed 230 kV Transmission Line

Along the proposed transmission line corridor, six cultural resources have been previously recorded. Of these, four are historical [redacted] and one is prehistoric [redacted],(Table 1). [redacted].

During the May 2010 pedestrian survey by POWER, no other cultural resources were identified on city or county land within the ROW. During the 2011 pedestrian survey by POWER, it was discovered that [redacted] was no longer within the ROW of the Proposed Project. Although the large linear site is still intact, [redacted]. In addition, [redacted] was re-evaluated and determined to be a feature of [redacted], rather than an independent site. Because of this, the total number of previously recorded sites [redacted] is five.

TABLE 1. PREVIOUSLY RECORDED CULTURAL RESOURCES [redacted]

Resource	Description	NRHP/CRHR Eligibility*
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

*NRHP eligibility designations were provided by the EIC.

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]		[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]		[redacted]	[redacted]	[redacted]
[redacted]		[redacted]	[redacted]	[redacted]
[redacted]		[redacted]	[redacted]	[redacted]
[redacted]		[redacted]	[redacted]	[redacted]
[redacted]		[redacted]	[redacted]	[redacted]

Feature	Archaeological Consulting Services (ACS) 1995	Collet 2000	McKenna 2009	POWER 2011
[redacted]	[redacted]			[redacted]
[redacted]		[redacted]	[redacted]	[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

City-Designated Neighborhoods

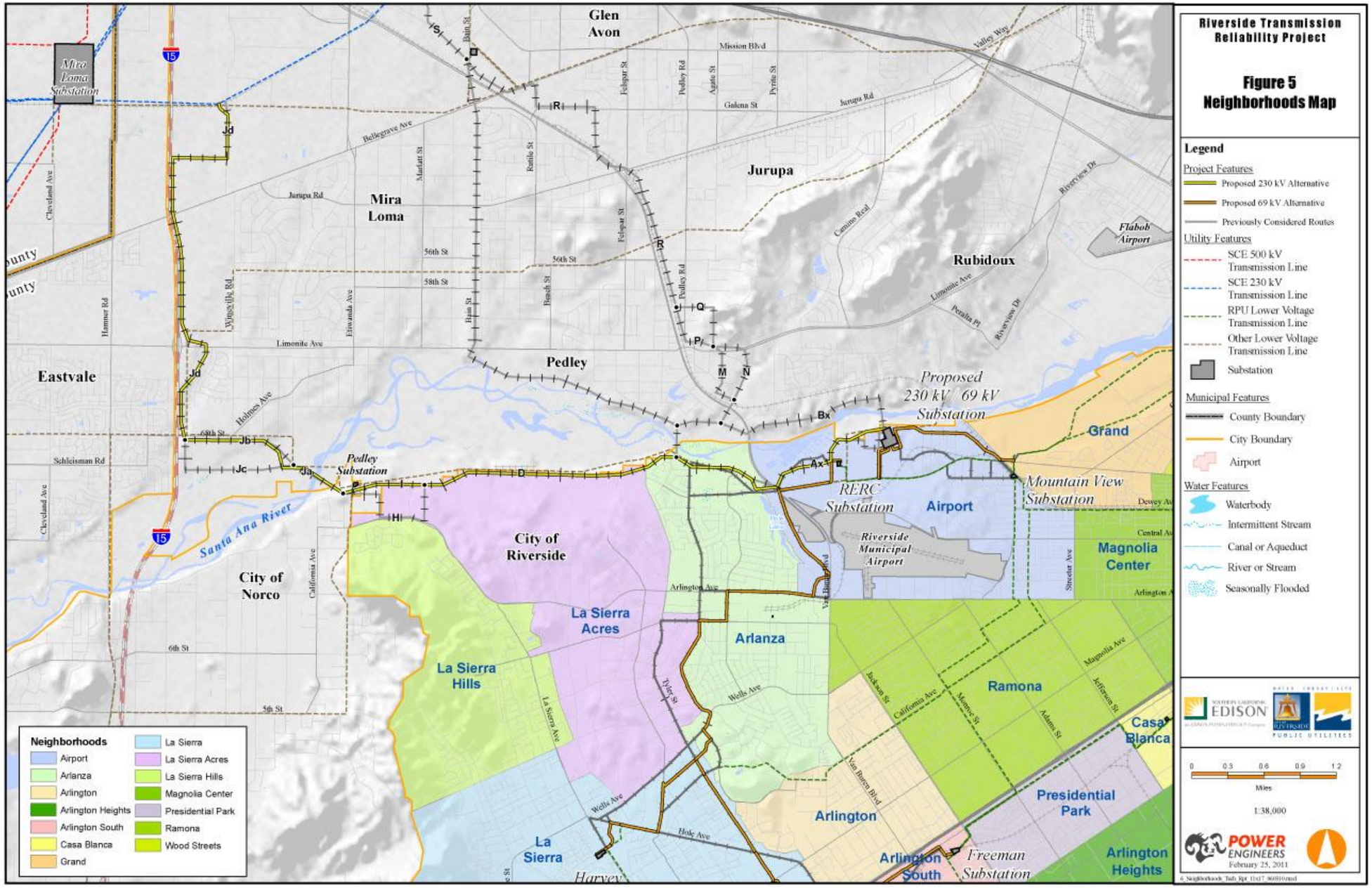
The Proposed 230 kV transmission line passes through three City-designated neighborhoods identified by URS (2009): the Airport neighborhood, the Mira Loma neighborhood, and the La Sierra Acres neighborhood (Table 3, see Figure 5). URS's reconnaissance did not attempt to identify or document individual structures, but rather to assess overall neighborhood integrity. The Airport and La Sierra Acres neighborhood have low integrity overall, while the early 20th century Mira Loma neighborhood has moderate integrity.

TABLE 3. CITY-DESIGNATED NEIGHBORHOODS CROSSED BY THE PROPOSED 230 KV TRANSMISSION LINE.

Neighborhood	General Location	Land use types	Previously Recorded Architectural Properties	Age	Integrity
Airport Neighborhood	West Riverside	Industrial/ Commercial/ Residential	None	Post 1950	Low
Mira Loma Neighborhood	Jurupa Valley, Northwest Riverside	Commercial/ Residential/ Agricultural	Cantu Ranch, NRHP listed.	Early 20th century	Moderate
La Sierra Acres Neighborhood	West Riverside	Residential/ Commercial	None	Early 20th Century	Low

Note: Integrity Determination is based on a subjective assessment of historic neighborhood land-use compared to current architectural and aesthetic character of that neighborhood (URS 2009).

FIGURE 5. CITY-DESIGNATED NEIGHBORHOODS



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Airport Neighborhood
The Airport neighborhood encompasses the Riverside Municipal Airport, which was purchased by the City in 1953 and now operates largely for private flyers. The Airport neighborhood contains a combination of residential, commercial, and industrial areas. Houses range from modest single-family residences to ranch style and tract homes. No structures over 50 years old are within or near the RTRP boundaries in this neighborhood.

Mira Loma Neighborhood
The Mira Loma neighborhood is in Jurupa Valley southwest of Van Buren Boulevard. Once called Wineville, the name was officially changed in 1930 to Mira Loma. In 1927 Dominico and Lucia Galleano, Italian immigrants, purchased the 160-acre Cantu Ranch and began making wine in their basement. After the repeal of prohibition in 1933, the winery opened as a commercial business. It is the only winery in the area still owned by its founding family and operating at its original site. The winery complex is southwest of the project area on Wineville Road, and is listed in the NRHP.

La Sierra Acres Neighborhood
La Sierra Acres takes its name from the Mexican land grant known as Rancho La Sierra de Sepulveda. The 17,500-acre rancho was used for grazing cattle, and encompassed most of the modern La Sierra Acres neighborhood as well as portions of Corona and Norco. In 1872 Abel Stearns purchased the land, which was later acquired by Willits J. Hole. Hole Ranch was established and water was brought to the area. Starting in 1910, the land was subdivided and used for subsistence farming. The area remained under County jurisdiction until 1964, when the land was annexed into the city of Riverside. Today, the rolling hills in the northern part of the neighborhood and panoramic views of the original rancho remain, providing an interesting mix of sheltered areas and open space within the neighborhood. The neighborhood still reflects a more rural lifestyle, with large blocks and large residential lots. It consists almost entirely of low density single-family residential homes built prior to annexation into the city. The existence of large, deep lots makes animal keeping popular in the neighborhood. Many large vacant lots within the neighborhood also provide opportunity for infill residential development.

Van Buren Offset Alternative

Four previously recorded cultural resources [redacted]

During the 2010 survey by POWER, no other cultural resources were found.

TABLE 4. PREVIOUSLY RECORDED CULTURAL RESOURCES [redacted]

Resource	Description	NRHP/CRHR Eligibility
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

*NRHP eligibility designations were provided by the EIC.

[redacted]

City-Designated Neighborhoods

The Van Buren Offset Alternative passes through three City-designated neighborhoods identified by URS (2009): Glen Avon, Pedley and Jurupa (Table 5). URS's reconnaissance did not attempt to identify or document individual structures, but rather to assess the overall integrity of the neighborhoods. There are

no previously recorded architectural resources in these neighborhoods. The Glen Avon and Pedley neighborhoods have low overall integrity and the Jurupa neighborhood as moderate integrity.

TABLE 5. CITY-DESIGNATED NEIGHBORHOODS CROSSED BY THE VAN BUREN OFFSET ALTERNATIVE

Neighborhood	General Location	Land use types	Historic Architectural Properties	Age	Integrity
Glen Avon Neighborhood	Jurupa Valley, Northwest Riverside	Mixed	None	Early 20th century	Low
Pedley Neighborhood	Jurupa Valley, West Riverside	Industrial/ Residential	None	19th and 20th century	Low
Jurupa Neighborhood	Jurupa Valley, West Riverside	Residential/ Commercial/ Agricultural	None	Mid 19th century	Moderate

Note: Integrity Determination is based on a subjective assessment of historic neighborhood land-use compared to current architectural and aesthetic character of that neighborhood.

Glen Avon Neighborhood
The Glen Avon neighborhood is in Jurupa Valley on the northeast side of Van Buren Boulevard. Once called West Riverside, the name was changed in 1909 to Glen Avon. Resource 33-17131, a group of cinder block structures, is at the western edge of the Glen Avon neighborhood. These structures have not been evaluated for eligibility to the NRHP or CRHR.

Pedley Neighborhood
The Pedley neighborhood is in Jurupa Valley, bounded to the north by Mira Loma and to the northeast by Van Buren Boulevard. Once called Jurupa Heights, the name was changed in 1903 when the Union Pacific Railroad Company (UPR) installed a switch and a railroad station near what is now the intersection of Limonite Street and Van Buren Boulevard and called it Pedley. The Pedley railroad station was destroyed by fire around 1920 and it was not replaced.

Jurupa Neighborhood
The Jurupa community is in the Jurupa Valley, bounded to the east and south by the Santa Ana River and to the north by the San Bernardino and Riverside county line. Some of the Jurupa settlement was founded prior to Riverside itself. Jurupa was a more rural area then and it still retains a rural atmosphere.

7.1.2 69 kV Subtransmission Line Route

One cultural resource was documented [redacted] (Table 6).

TABLE 6. PREVIOUSLY RECORDED CULTURAL RESOURCES [redacted].

Resource	Description	NRHP/CRHR Eligibility
[redacted]	[redacted]	[redacted]d

*NRHP/CRHR eligibility designations were provided by the EIC.

[redacted]

City-Designated Neighborhoods

The 69 kV Subtransmission Line route would pass through five City-designated neighborhoods identified by URS (2007, 2009a) (Table 7): Airport, Arlanza, La Sierra Acres, Arlington South, and La Sierra neighborhoods. URS's reconnaissance did not identify or document individual structures, but rather assessed overall neighborhood integrity. There are no previously recorded architectural resources in these neighborhoods. All the neighborhoods have low overall integrity.

TABLE 7. CITY-DESIGNATED NEIGHBORHOODS CROSSED BY THE 69 KV SUBTRANSMISSION LINE

Neighborhood	General Location	Land use types	Historic Architectural Properties	Age	Integrity
Airport Neighborhood	West Riverside	Industrial/Commercial/ Residential	None	Post 1950	Low
Arlanza Neighborhood	West Riverside	Residential/Military	None	Post 1942	Low
La Sierra Acres Neighborhood	West Riverside	Residential	None	1964	Low
Arlington South Neighborhood	South Riverside	Residential/Commercial/ Agricultural	None	Mid 20th Century	Low
La Sierra Neighborhood	South Riverside	Residential/Commercial/ Industrial	Willits J. Hole Mansion	Mid 20th Century	Low

Note: Integrity Determination is based on a subjective assessment of historic neighborhood land-use compared to current architectural and aesthetic character of that neighborhood.

Airport Neighborhood

The Airport neighborhood encompasses the Riverside Municipal Airport, which was purchased by the City in 1953 and now operates largely for private flyers. The Airport neighborhood contains a combination of residential, commercial, and industrial areas. Houses range from modest single-family residences to ranch style and tract homes. No structures over 50 years old are within or near the RTRP boundaries in this neighborhood.

Arlanza Neighborhood

The community of Arlanza began as part of Rancho La Sierra in the early 1880s. In 1942 the Army bought 1,250 acres of the former rancho west of Van Buren Boulevard on both sides of Arlington Avenue. This land was the beginning of Camp Anza, a quickly built wooden temporary staging center used during World War II that housed nearly 600,000 soldiers and workers. In 1961 the old Army barracks were converted to bungalows and other homes on newly subdivided land. Today, the neighborhood's population has grown considerably with apartments and new modern homes. No structures over 50 years old are within or near the RTRP boundaries in this neighborhood.

La Sierra Acres Neighborhood

La Sierra Acres takes its name from the Mexican land grant known as Rancho La Sierra de Sepulveda. The 17,500-acre rancho was used for grazing cattle, and encompassed most of the modern La Sierra Acres neighborhood as well as portions of Corona and Norco. In 1872 Abel Stearns purchased the land, which was later acquired by Willits J. Hole. Hole Ranch was established and water was brought to the

area. Starting in 1910, the land was subdivided and used for subsistence farming. The area remained under County jurisdiction until 1964, when the land was annexed into the city of Riverside. Today, the rolling hills in the northern part of the neighborhood and panoramic views of the original rancho remain, providing an interesting mix of sheltered areas and open space within the neighborhood. The neighborhood still reflects a more rural lifestyle, with large blocks and large residential lots. It consists almost entirely of low density single-family residential homes built prior to annexation into the city. The existence of large, deep lots makes animal keeping popular in the neighborhood. Many large vacant lots within the neighborhood also provide opportunity for infill residential development.

Arlington South Neighborhood
Arlington South has been a part of Riverside since its incorporation. Historic Victoria Avenue forms the southern boundary of this neighborhood and the 91 Freeway forms the northern edge. This neighborhood has a mix of Riverside's citrus heritage and modern industrial economy. The southwestern edge of the neighborhood is within the city's greenbelt. This section of Arlington South is characterized by Victorian and Craftsman homes, with large, deep lots and groves of citrus. The north and eastern edges of the neighborhood have several large-scale industrial uses. The central portion of the Arlington South is developed with medium-density tract housing dating from the 1970s.

La Sierra Neighborhood
La Sierra got its name from the Mexican land grant known as Rancho La Sierra de Supulveda. The Hole Mansion is the oldest known structure in the area and built by wealthy lumber baron Willits J. Hole, beginning in 1913. The Hole Mansion is now a Roman Catholic Seminary. The community of La Sierra developed as an area of small subsistence farms. The Seventh Day Adventist Church purchased property from Hole in 1922 for what is now the La Sierra Campus of Loma Linda University. In 1964 the La Sierra neighborhood became the largest annexation in Riverside's history. The west end of La Sierra is focused around La Sierra University and reflects the needs of students. The neighborhood has been developed in a modern subdivision layout with a high mix of residential, commercial and light industrial sites. La Sierra is a virtual patchwork of land uses, with a ring of commercial and office uses surrounding a medium-density residential area. This region also has many apartment buildings. Only a small percentage of homes here were built prior to 1950 and most development occurred between 1960 and 1980.

7.1.3 New Substations

Wildlife/Wilderness Substation

In 2007, a pedestrian cultural resource survey of the initial design location of the proposed Wilderness substation location (SWCA 2007) was conducted and no sites were located within the proposed substation property. In 2011, the Wildlife addition to the proposed substation location was surveyed by POWER and no archaeological sites or historic structures were located.

City-Designated Neighborhoods

No architectural resources or City-designated neighborhoods are at the new substation location.

7.1.4 Substation Upgrades

Upgrades would occur at the Mira Loma, Vista, Harvey Lynn, Mountain View, Freeman, and RERC substations. Construction would occur within the existing boundaries. None of these substations has been previously surveyed and no cultural resources were ever recorded at these locations.

7.2 PROJECT COMPONENTS NO LONGER UNDER CONSIDERATION

The original route for the Van Buren Boulevard transmission line and the Bain Street Route were surveyed for archaeological and architectural resources early during the RTRP environmental analysis. However, the Bain Street Route has since been eliminated from consideration and the original Van Buren Route has been replaced by the Van Buren Offset Alternative.

7.2.1 230 kV Transmission Lines

Bain Street Route

In 2008 the Bain Street Route was considered the preferred route for the RTRP 230 kV transmission line proposed by SCE. However, it has since been eliminated as a viable route option. Because it was considered the preferred route at the time, the 100-foot corridor and later a 400-foot corridor and access roads were intensively surveyed for cultural resources in December 2008 by URS (URS 2009b).

[redacted]

TABLE 8. CULTURAL RESOURCES [redacted].

Resource	Resource Type	NRHP/CRHR Eligibility*
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

*NRHP/CRHR eligibility designations were provided by the EIC.

[redacted]

[redacted]

City-Designated Neighborhoods

The Bain Street Route would have passed through two City-designated neighborhoods identified by URS (2007, 2009a) (Table 9): Mira Loma and Pedley. URS's reconnaissance did not identify or document individual structures, but rather assessed overall neighborhood integrity. The Mira Loma neighborhood at moderate integrity and the Pedley neighborhood had low integrity.

TABLE 9. CITY-DESIGNATED NEIGHBORHOODS CROSSED BY THE BAIN STREET ROUTE

Neighborhood	General Location	Land use types	Historic Architectural Properties Present?	Age	Integrity
Mira Loma Neighborhood	Jurupa Valley, Northwest Riverside	Commercial/ Residential/ Agricultural	Cantu Ranch, NRHP listed	Early 20th century	Moderate
Pedley Neighborhood	Jurupa Valley, West Riverside	Industrial/ Residential	None	19th and 20th century	Low

Note: Integrity Determination is based on a subjective assessment of historic neighborhood land-use compared to current architectural and aesthetic character of that neighborhood.

Mira Loma Neighborhood
The Mira Loma neighborhood is in Jurupa Valley southwest of Van Buren Boulevard. Once called Wineville, the name was officially changed in 1930 to Mira Loma. In 1927 Dominico and Lucia Galleano, Italian immigrants, purchased the 160-acre Cantu Ranch and began making wine in their basement. After the repeal of prohibition in 1933, the winery opened as a commercial business. It is the only winery in the area still owned by its founding family and operating at its original site. The winery complex is southwest of the project area on Wineville Road, and is listed in the NRHP.

Pedley Neighborhood
The Pedley neighborhood is in Jurupa Valley, bounded to the north by Mira Loma and to the northeast by Van Buren Boulevard. Once called Jurupa Heights, the name was changed in 1903 when the Union Pacific Railroad Company (UPR) installed a switch and a railroad station near what is now the intersection of Limonite Street and Van Buren Boulevard and called it Pedley. The Pedley railroad station was destroyed by fire around 1920 and it was not replaced.

Original Van Buren Boulevard Route

The original Van Buren Boulevard Route ran between Van Buren Boulevard and the Union Pacific Railroad. However, the Van Buren Boulevard route has since been shifted to the east approximately 200 feet and the new location is called the Van Buren Offset Alternative.

[redacted]

URS performed an intensive pedestrian survey along the original Van Buren Boulevard Route in August 2007. No additional cultural resources were recorded during this survey (URS 2009a).

TABLE 10. CULTURAL RESOURCES [redacted]

Resource	Resource Type	Eligibility
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

Resource	Resource Type	Eligibility
[redacted]	[redacted]	[redacted]

**NRHP/CRHR eligibility designations were provided by the EIC.*

[redacted]

[redacted]

City-Designated Neighborhoods

The original Van Buren Boulevard Route would have passed through three City-designated neighborhoods identified by URS (2007, 2009a) (Table 11): Glen Avon, Pedley, and Jurupa. URS's reconnaissance did not identify or document individual structures, but rather assessed overall neighborhood integrity. The Glen Avon and Pedley neighborhoods had low integrity; the Jurupa neighborhood had moderate integrity.

TABLE 11. CITY-DESIGNATED NEIGHBORHOODS CROSSED BY THE ORIGINAL VAN BUREN BOULEVARD ROUTE

Neighborhood	General Location	NRHP Properties	Age	Integrity
Glen Avon Neighborhood	Jurupa Valley, Northwest Riverside	None	Early 20th century	Low
Pedley Neighborhood	Jurupa Valley, West Riverside	None	19th and 20th century	Low
Jurupa Neighborhood	Jurupa Valley, West Riverside	None	Mid 19th century	Moderate

Note: Integrity Determination is based on a subjective assessment of historic neighborhood land-use compared to current architectural and aesthetic character of that neighborhood.

Glen Avon Neighborhood

The Glen Avon neighborhood is in Jurupa Valley on the northeast side of Van Buren Boulevard. Once called West Riverside, the name was changed in 1909 to Glen Avon. Resource 33-17131, a group of cinder block structures, is at the western edge of the Glen Avon neighborhood. These structures have not been evaluated for eligibility to the NRHP or CRHR.

Pedley Neighborhood

The Pedley neighborhood is in Jurupa Valley, bounded to the north by Mira Loma and to the northeast by Van Buren Boulevard. Once called Jurupa Heights, the name was changed in 1903 when the Union Pacific Railroad Company (UPR) installed a switch and a railroad station near what is now the intersection of Limonite Street and Van Buren Boulevard and called it Pedley. The Pedley railroad station was destroyed by fire around 1920 and it was not replaced.

Jurupa Neighborhood

The Jurupa community is in the Jurupa Valley, bounded to the east and south by the Santa Ana River and to the north by the San Bernardino and Riverside county line. Some of the Jurupa settlement was founded prior to Riverside itself. Jurupa was a more rural area then and it still retains a rural atmosphere.

7.3 RESULTS OF NATIVE AMERICAN COORDINATION

[redacted]

- [redacted]
- [redacted]

[redacted]

[redacted]

- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]

[redacted]

8.0 IMPACT ASSESSMENT

8.1 SIGNIFICANCE CRITERIA

A project is considered to have a significant effect on the environment if it causes a substantial adverse change in the significance of a historical resource. Substantial adverse change in the significance of a historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource would be materially impaired or diminished. Furthermore, it is recommended by CEQA that cultural resources be preserved *in situ* whenever possible through avoidance of the resource. Whenever a historical resource or unique archaeological resource (PRC 21083.2) cannot be avoided by project activities, effects must be addressed and mitigated as outlined in PRC 15126.4 and 15331.

The CEQA Checklist provides a common set of guidelines that set forth the significance criteria generally applied to cultural resources within the state. The checklist provides questions to be addressed using the following criteria:

- Potentially significant impact
- Less than significant impact with mitigation
- Less than significant impact
- No impact

Three questions pertaining to cultural resources and Native American concerns are presented below.

A) Would the project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

B) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

C) Would the project disturb any human remains, including those interred outside of formal cemeteries?

8.2 ENVIRONMENTAL PROTECTION ELEMENTS (EPES)

Table 12 lists environmental protection elements (EPEs) that would be incorporated by SCE and RPU into the project design to avoid or minimize impacts to archaeological and architectural resources. For sites of concern to Native Americans, implementation of EPEs listed in Table 12 would also contribute toward eliminating or reducing potential impacts.

TABLE 12. ENVIRONMENTAL PROTECTION ELEMENTS – CULTURAL RESOURCES

Environmental Protection Element	Description
CUL-01	**Avoid impacts to significant cultural resources wherever feasible.** To the extent practicable, ground disturbance or other impacts to each identified cultural resource would be avoided or minimized, unless the resource has been determined to be ineligible for the National Register of Historic Places (NRHP) and/or the California Register of Historical Resources (CRHR). Avoidance measures could include project redesign, flagging of site boundaries during construction, use of buffer zones, and construction monitoring.

Environmental Protection Element	Description
CUL-02	**Establish and maintain a protective buffer zone around each recorded cultural resource within or immediately adjacent to the ROW or access and spur roads.** A protective buffer zone would be established around each recorded archaeological site and treated as an "environmentally sensitive area" within which construction activities and personnel would not be permitted, unless the archaeological site has been determined to be ineligible for the National Register of Historic Places (NRHP) and/or the California Register of Historical Resources (CRHR).
CUL-03	**Evaluate the significance of all cultural resources that cannot be avoided.** Evaluation studies would be conducted and documented as per applicable laws, regulations, and guidelines of the CRHR and NRHP.
CUL-04	**Minimize impacts to significant cultural resources that cannot be avoided.** To the extent practicable, all ground-disturbing activities would be minimized within the bounds of unique archaeological sites, historical resources, or historic properties. Historical resources and unique archaeological resources where impacts cannot be reduced or minimized will be treated through the implementation of CUL-05. Minimization measures will include pre-construction identification of the most sensitive parts of sites and construction monitoring.
CUL-05	**Construction Monitoring and Unanticipated Cultural Resources Discovery Plan.** Prior to construction, a Construction Monitoring and Unanticipated Cultural Resources Discovery Plan would be prepared. Resource identification and assessments for eligibility of the resource for listing in the CRHR will be consistent with the California Office of Historic Preservation standards.

8.3 MITIGATION MEASURES

Specific mitigation measures (see Table 13) would be applied for impacts related to cultural resources.

TABLE 13. MITIGATION MEASURES – CULTURAL RESOURCES

Mitigation Measure	Description
MM CUL-01	**Although no design changes in the Proposed Project's alignment are anticipated, a cultural resource inventory of any unanticipated future design change of the Proposed Project area or of any properties for which right of entry was not granted shall be conducted prior to any disturbance.** All surveys shall be conducted and documented as per applicable laws, regulations, and guidelines.

8.4 IMPACTS

A project results in impacts to a cultural resource eligible for the NRHP/CRHR when it alters the resource's characteristics, including relevant features of its environment or use, that qualify it for eligibility. Potential impacts could include:

- Physical destruction, damage, or alteration of all or part of the property;
- Isolation of the property from, or alteration of, the character of the property's setting when that character contributes to the property's significance;
- Introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting;
- Neglect of a property resulting in its deterioration or destruction

It is anticipated that potential impacts of a transmission line on cultural resources would generally be related to either physical damage (e.g., ground disturbance at an archaeological site caused by an access road or transmission structure) or changes in the visual setting (e.g., a transmission line disrupting the view of an NRHP/CRHR-eligible historic ranch). Physical disturbance could potentially impact all three classes of cultural resources. A change in visual setting would rarely be an issue for archaeological

resources, but could be significant for some architectural resources and some sites of concern to Native Americans.

Cultural resources within the Project area are subject to both direct and indirect impacts. Direct impacts would result from ground disturbing activities associated with the construction of the transmission and subtransmission lines such as clearing vegetation, grading of new access roads, improving existing access roads, installing tower foundations, assembling and erecting structures, stringing and tensioning conductors, and restoration and re-vegetation measures.

Direct visual impacts result when highly visible modern structures such as transmission lines affect the visual setting of cultural resources that are NRHP/CRHR eligible because they retain their visual prehistoric or historic context.

Cultural resources can also be subject to indirect impacts. For example, indirect access-related impacts may occur to cultural resources when public accessibility is increased to a previously remote area because of new or improved roads. Uncontrolled recreational use, overland vehicle travel, and vandalism of cultural resources degrade the integrity of these resources and can affect their eligibility to the NRHP or CRHR. Access-related impacts are not anticipated because the Proposed Project and alternative are located in an urbanized setting.

No buried human remains have been previously recorded or discovered during recent surveys for this project and, as such, no impacts to this type of resource are anticipated; however, should human skeletal remains be discovered at any time during implementation of the project, construction in the vicinity will halt and the Coroner will be contacted immediately (PRC 7050.5). If the Coroner determines that the remains do not require an assessment of cause of death and are probably Native American, then the NAHC will be contacted to identify the most likely descendents. Other steps should be implemented according to the requirements of PRC 5097.98.

8.4.1 Proposed 230 kV Transmission Line

Sixty-three percent of the Proposed 230 kV transmission line has been surveyed, with 37 percent remaining unsurveyed due to factors such as asphalt parking lots, flood debris, and lack of right of entry. As mentioned previously, there are five previously recorded cultural resources along this route and all but one were recorded on updated site forms during the 2011 field survey. One site, [redacted] was not re-recorded because it crossed the ROW on land for which POWER had not received right of entry. Any portion of the project area that is modified or any new additions to the project area will need to be surveyed for cultural resources. Environmental protection elements and MM CUL-01 would be implemented as appropriate. Through implementation of the EPEs and mitigation measures, impacts to all cultural resources would be less than significant (Figure 6).

[redacted] Because the proposed 230 kV line would not affect any physical features other than the ROW, there would be no impact to the elements of this line that contribute to its significance. However, because it is eligible to the CRHR, the CEQA-preferred method is to avoid the resource where feasible by line design, which would be implemented through EPE CUL-01.

[redacted]

[redacted]

Current line design would avoid [redacted], but there is a proposed underground telecommunication line that could potentially impact [redacted]. However, [redacted] where the line could cross has limited integrity due to the effects of natural erosion as well as the continued use of the location [redacted].

The integrity of the visual setting of the [redacted] has already been compromised by several existing transmission poles and structures and transmission lines, which currently span the site. While the transmission line would be visible from [redacted], there would be no impact because there are several existing lines intruding upon the visual setting.

Therefore, because [redacted] has limited integrity and there are visual impacts from multiple existing transmission lines, impacts to the site would not be considered significant from the Proposed Project. However, because of the aforementioned [redacted], its eligibility to be listed in the CRHR would remain the same, regardless of impacts. Planned implementation of EPE CUL-05 could reduce potential impacts to the site.

One of the ineligible sites is [redacted]. Because this site is not eligible for listing to the NRHP or CRHR, it will not be impacted by the Proposed Project, and therefore no mitigation measures will need to be implemented.

As mentioned earlier, one of the ineligible resources is [redacted]. It is [redacted]; however, current line design spans [redacted] in which the site is located. The site is part of [redacted], despite the modern disturbance and recent flooding. Because the site is ineligible, there will be no impacts to this site. No mitigation measures would need to be implemented.

One cultural resource [redacted] within the ROW was unevaluated for NRHP or CRHR eligibility on the original site form. However, during the 2011 survey, the site was visited and it was discovered that during construction of the Santa Ana River Trail, the portion of the site which the proposed 230 kV transmission line crosses was destroyed and replaced with the Trail. Because this portion of the site has been destroyed, there would be no impacts to this site. No mitigation measures would need to be implemented.

Although the [redacted], an NRHP listed property, is located near the Proposed Project area, it is [redacted] of the Proposed Project end point. An existing transmission line [redacted] and as a result, the visual integrity of the resource may already be compromised. The [redacted] property is surrounded by warehouses and distribution centers, as noted in a visit to the property in 2011. Because of existing modern disturbances and the distance of the resource from the terminus of the Proposed Project, there would be no impacts to this property.

Operation and maintenance activities on this line would cause minimal ground disturbance, thereby causing less than significant impacts to the cultural resources.

8.4.2 Van Buren Offset Alternative

POWER surveyed only 21 percent of the land within the ROW along Van Buren Offset Alternative for cultural resources; very little had been previously surveyed. Most of the proposed ROW is privately owned and was not surveyed for that reason.

Four previously recorded cultural resources are [redacted]. The discussion of impacts to [redacted] for the Proposed 230kV transmission line would also apply to the Van Buren Offset Alternative Route as would the EPE implementation.

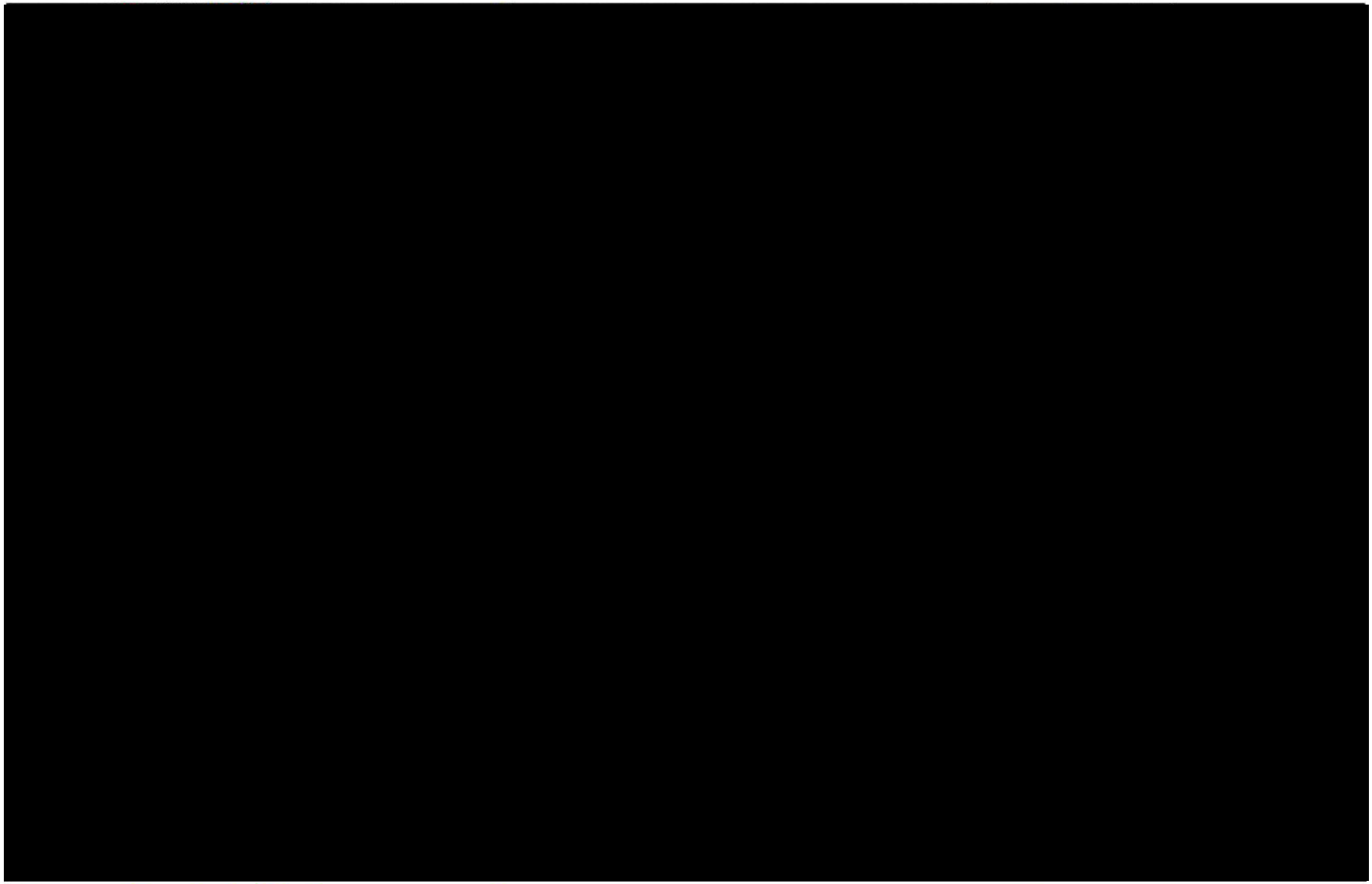
The three other cultural resources have not been evaluated for CRHR or NRHP eligibility. [redacted] If these resources cannot be avoided through redesign (EPE CUL-03), using CEQA guidelines, it would be necessary to evaluate the properties for CRHR eligibility to determine specific impacts or whether any of these sites can be defined as unique archaeological resources or historical resources. There is potential for direct or indirect impacts to these sites, but EPEs would be implemented in order to reduce damage, destruction, or alteration to a less-than-significant level.

Operation and maintenance activities on this line would cause minimal ground disturbance, thereby causing less than significant impacts to cultural resources.

8.4.3 69 kV Proposed Subtransmission Lines

One cultural resource has been documented to be [redacted]. The property was recorded in 2003 as a [redacted] NRHP criteria for evaluation of cultural resources state that properties that have achieved significance within the past 50 years shall not ordinarily be considered eligible, unless they have exceptional importance (e.g., associated with a major event in recent history). CRHR criteria for evaluation of historical resources provide a slightly different guidance on historical resources achieving significance within the past 50 years. CRHR states that, "in order to understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource" [California Code 4852.d(2)]. A resource less than 50 years old may be considered for listing in the CRHR if it can be demonstrated that sufficient time has passed to understand its historical importance. Although [redacted] is probably less than 50 years old, it was recorded because it was considered one of [redacted] (SWCA 2003). Given its age, it is questionable whether sufficient time has passed for this resource to be considered eligible under CRHR criteria. Even if this site were to be found eligible, it is along the existing transmission line and the Proposed Project would not have an impact. No mitigation measures would need to be implemented.

FIGURE 6. POTENTIAL IMPACTS



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8.4.4 New Substations

Results from the pedestrian surveys indicated that there were no cultural resources located within the proposed substation properties. Therefore, there would be no impacts to cultural resources at the Wildlife and Wilderness substations. No mitigation measures for cultural resources would need to be implemented in this location.

8.4.5 Substation Upgrades

RERC Substation

The RERC Substation upgrade will include activities limited to already disturbed acreage which currently houses a substation. The same [redacted]. It is currently unevaluated; however, NRHP criteria for evaluation of cultural resources state that properties that have achieved significance within the past 50 years shall not ordinarily be considered eligible, unless they have exceptional importance (e.g., associated with a major event in recent history). CRHR criteria for evaluation of historical resources provide a slightly different guidance on historical resources achieving significance within the past 50 years. CRHR states that, "in order to understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource" [California Code 4852.d(2)]. A resource less than 50 years old may be considered for listing in the CRHR if it can be demonstrated that sufficient time has passed to understand its historical importance. Although [redacted] probably less that 50 years old, it was recorded because it was considered one of [redacted] (SWCA 2003). Given its age, it is questionable whether sufficient time has passed for this resource to be considered eligible under CRHR criteria. Even if this site were to be found eligible, it is not located within the already disturbed acreage of the substation and the upgrades to the RERC substation should not have an impact. No mitigation measures would need to be implemented.

Mountain View, Harvey Lynn, and Freeman Substations

The Freeman and Mountain View substation locations have never been surveyed for cultural resources. No cultural resources have been identified at any of these locations**.** As with the RERC Substation, Freeman, Mountain View, and Harvey Lynn Substations are upgrade locations, not locations for new substations. Therefore, all activities associated with the upgrade would take place on already disturbed ground. Because the area of impact at each location is already disturbed, any cultural resources that ever existed there, would have been destroyed in the past. Therefore, there would likely be no impacts to cultural resources.

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