

SOUTHERN CALIFORNIA EDISON'S MASCOT SUBSTATION PROJECT

CPUC A.09-11-020

Initial Study / Mitigated Negative Declaration

Lead Agency

August 2010



California Public Utilities
Commission



**PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298**



**To: State Clearinghouse, Responsible and Trustee Agencies, Property Owners
& Interested Parties**

From: Monisha Gangopadhyay, Environmental Project Manager

**Subject: NOTICE OF INTENT TO ADOPT AN INITIAL STUDY/MITIGATED NEGATIVE
DECLARATION (IS/MND) AND NOTICE OF A PUBLIC INFORMATION MEETING:
Mascot Substation Project (A.09-11-020)**

Date: August 30, 2010

Description of the Proposed Project.

Pursuant to the California Environmental Quality Act (CEQA), the State of California Public Utilities Commission (CPUC) has prepared a Draft Initial Study/Mitigated Negative Declaration (Draft IS/MND) for consideration of Southern California Edison's (SCE) application filed on November 25, 2009 (A.09-11-020) for a permit to construct the Mascot Substation Project (Proposed Project). The Proposed Project would include the following major elements:

- Construction of a new 66/12 kV distribution substation on an approximate five-acre site (Mascot Substation);
- Construction of three new 66 kV single-circuit subtransmission line segments to serve the new Mascot Substation. More specifically, the Goshen-Hanford 66 kV subtransmission line would be looped into Mascot Substation and the Hanford-Liberty 66 kV subtransmission line, approximately 2 miles away, would be tapped and connected to the Mascot Substation with a new single-circuit 66 kV subtransmission line segment;
- Construction of four new 12 kV distribution circuits; and
- Construction of facilities to connect the substation to SCE's existing telecommunications system.

Location of the Proposed Project.

The Proposed Project would be located in unincorporated Kings County, California, just east of the City of Hanford, The Mascot Substation would be in the eastern portion of Kings County approximately 6.5 miles west of the jurisdictional boundary of Tulare County. Specifically, the subtransmission line alignment would originate at the Goshen-Hanford 66 kV subtransmission line which runs parallel to Grangeville Road and would be looped into the proposed Mascot Substation at the intersection of Grangeville Boulevard and 7 1/2 Avenue in Kings County. From the proposed substation site, another subtransmission line segment would traverse directly south from the substation along private property to connect with the Hanford-Liberty 66 kV subtransmission line. The line would parallel a dirt road extension of 7^{1/2} Avenue and cross agricultural lands.

Issues Addressed in the Draft IS/MND.

The Draft IS/MND details the Proposed Project; evaluates and describes the potential environmental impacts associated with the construction, operation and maintenance of the Proposed Project; identifies those impacts that could be significant; and presents mitigation measures which would avoid or minimize these impacts.

Public Comment on the Draft IS/MND.

The Draft IS/MND is available for a 30-day public comment period August 30, 2010 through September 30, 2010. The public may present comments and concerns regarding the Proposed Project and the adequacy of the Draft IS/MND.

Written comments on the Draft IS/MND must be postmarked or received by fax or e-mail no later than **September 30, 2010**. Please be sure to include your name, address, and telephone number in your correspondence.

Written comments on the Draft IS/MND should be sent to:

Mr. Michael Rosauer
Mascot Substation Project
c/o Environmental Science Associates
225 Bush Street, Suite 1700
San Francisco, CA 94104-4207
Fax: (415) 896-0332
E-mail: mascot@esassoc.com

The CPUC will also hold a public information meeting to receive oral and written comments from interested parties. Following the end of the public comment period, responses to all comments received on the Draft IS/MND and submitted within the specified 30-day review period will be prepared by the CPUC and included in a response to comments document, which together with the Draft IS/MND, will constitute the Final IS/MND for the Proposed Project. The public meeting will be held:

Thursday September 9, 2010
6:30 pm – 8:30 pm
Kit Carson Elementary School
9895 7th Avenue
Hanford, CA 93230

Availability of Draft IS/MND.

Copies of the Draft IS/MND will be available for public review at the Hanford Main Library and the Tulare County Library in Visalia, and on the project website: <http://www.cpuc.ca.gov/Environment/info/esa/mascot/mascot.html>. This website will be used to post all public documents during the environmental review process and to announce any upcoming public meetings. Hard copies or CD copies of the Draft IS/MND may be requested by telephone at (415) 962-8430 or by e-mail at mascot@esassoc.com.

Project information repositories include the following libraries:

Hanford Main Library 401 N. Douty Street Hanford, CA 93230 Phone : (559) 582-0261	Tulare County Library 200 West Oak Avenue Visalia, CA 93291 Phone : (559) 713-2700
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REMINDER: Draft IS/MND comments will be accepted by fax, e-mail, or postmark through September 30, 2010. Please be sure to include your name, address, and telephone number.

SOUTHERN CALIFORNIA EDISON'S MASCOT SUBSTATION PROJECT

CPUC A.09-11-020

Initial Study / Mitigated Negative Declaration

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August 2010



California Public Utilities
Commission

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EXECUTIVE SUMMARY

Introduction

Southern California Edison (SCE), in its California Public Utilities Commission (CPUC) application (A.09-11-020), filed on November 25, 2009, seeks a Permit to Construct (PTC) a new 66/12 kilovolt (kV) distribution substation (Mascot Substation) and associated 66 kV subtransmission lines, telecommunications connection, and 12 kV distribution circuits in unincorporated Kings County. Power to the Mascot Substation would be supplied by connecting to two existing 66 kV subtransmission lines, the Goshen-Hanford 66kV line and Hanford-Liberty 66kV line. The proposed subtransmission lines would occur within approximately 2.0 miles of new right-of-way (ROW).

Under CPUC General Order (GO) 131-D, approval of the Proposed Project must comply with the California Environmental Quality Act (CEQA).

Document Organization

The Draft Initial Study/Mitigated Negative Declaration (IS/MND) is organized as follows:

- This Executive Summary introduces the Proposed Project, describes the method for reviewing and submitting comments, describes the organization of the document, and provides a summary of the impacts and mitigation measures.
- The Environmental Determination (Section 1) includes a statement by the CPUC as to the type of environmental review that is required.
- The Project Description (Section 2) provides objectives and components of the Proposed Project and details of proposed construction activities.
- The Environmental Checklist and Discussion (Section 3) includes all required California Environmental Quality Act (CEQA) checklist items and a discussion of the impacts and their significance for the Proposed Project.
- The Report Preparers (Section 4) summarizes the names and affiliation of persons involved with development of this IS/MND.
- The Mitigation Monitoring, Reporting, and Compliance Program (MMRCP) (Section 5) summarizes the program for ensuring effective implementation of the mitigation measures for the Proposed Project.

Public Review Period and Comments

CEQA and the CPUC encourage public participation in the planning and environmental review processes. The public may present comments and concerns regarding the Proposed Project and

the adequacy of the Draft IS/MND during a public review and comment period. Written public comments may be submitted to the CPUC at any time during the 30-day public review and comment period, **August 30, 2010 through September 30, 2010**. Information regarding the IS/MND availability and the process for submitting comments is as follows:

How to Get a Copy of the IS/MND Study

Review online or download from the website:

<http://www.cpuc.ca.gov/Environment/info/esa/mascot/mascot.html>

Request by telephone at (415) 962-8430 or email at mascotsubstation@esassoc.com

Review at the following library branches:

Hanford Main Library

401 N. Douty Street
Hanford, CA 93230
(559) 582-0261

Tulare County Library

200 West Oak Avenue
Visalia, CA 93291-4931
(559) 713-2700

How to Submit Comments

Mail to:

Mr. Michael Manka
Mascot Substation Project
c/o Environmental Science Associates
225 Bush Street, Suite 1700
San Francisco, CA 94104

E-mail: mascotsubstation@esassoc.com

Fax: (415) 896-0332

Phone: (415) 962-8430

Project Description

The Proposed Project consists of the following activities:

- Construction of a new 66/12 kV distribution substation on an approximate five-acre site (Mascot Substation);
- Construction of two new 66 kV single-circuit subtransmission line segments to serve the new Mascot Substation. More specifically, the Goshen-Hanford 66 kV subtransmission line would be looped into Mascot Substation and the Hanford-Liberty 66 kV subtransmission line, approximately 2 miles away, would be tapped and connected to the Mascot Substation with a new single-circuit 66 kV subtransmission line segment;
- Construction of four new 12 kV distribution circuits; and
- Construction of facilities to connect the substation to SCE's existing telecommunications system.

Potential Environmental Impacts

The attached Draft IS/MND presents and analyzes potential environmental impacts that would result from construction, maintenance and operation of the Proposed Project, and proposes mitigation measures, as appropriate. Based on the IS/MND, approval of the application would have no impact or less than significant impacts in the following resource areas:

- Air Quality
- Geology, Soils, and Seismicity
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Population and Housing
- Public Services
- Recreation
- Utilities and Service Systems

The Draft IS/MND indicates that approval of the application would result in less than significant impacts with mitigation incorporated in the resource areas of:

- Aesthetics
- Agriculture and Forestry Resources
- Biological Resources
- Cultural Resources
- Hazards and Hazardous Materials
- Noise
- Transportation and Traffic

Mitigation and Monitoring

Each of the identified impacts can be mitigated to avoid the impact or reduce it to a less than significant level. The mitigation measures presented in the Draft IS/MND have been agreed to by SCE. Table ES-1 provides a summary of the environmental impacts that require mitigation, as well as the mitigation measure language for the proposed Mascot Substation Project. Full descriptions of how all mitigation measures would be implemented are included in Section 5 of this Draft IS/MND, the Mitigation Monitoring, Reporting, and Compliance Plan..

**TABLE ES-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE SCE MASCOT SUBSTATION PROJECT**

Environmental Impact	Mitigation Measures Proposed in this IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Aesthetics				
Light and Glare	<p>Mitigation Measure 3.1-1: Reduce construction night lighting impacts. SCE shall design and install all lighting at construction and storage yards and staging areas such that light bulbs and reflectors are not visible from public viewing areas; lighting does not cause reflected glare; and illumination of the project facilities, vicinity, and nighttime sky is minimized. SCE shall submit a Construction Lighting Mitigation Plan to the CPUC for review and approval at least 90 days prior to the start of construction of any exterior lighting fixtures or components. SCE shall not install or operate any exterior lighting fixtures or lighting components for the Proposed Project until the Construction Lighting Mitigation Plan is approved by the CPUC. The Plan shall include but not be limited to the following measures:</p> <ul style="list-style-type: none"> Lighting shall be designed so exterior lighting is hooded, with lights directed downward or toward the area to be illuminated and so that backscatter to the nighttime sky is minimized. The design of the lighting shall be such that the luminescence or light sources are shielded to prevent light trespass outside the project boundary. All lighting shall be of minimum necessary brightness consistent with OSHA requirements. 	<p>SCE and its contractors to implement measure as defined.</p>	<p>SCE to submit Construction Lighting Mitigation Plan to CPUC for review. CPUC mitigation monitor to inspect compliance.</p>	<p>Submit plan to CPUC at least 90 days prior to commencement of construction activities. During all phases of construction activities.</p>
Agricultural and Forestry Resources				
Conversion of Farmland of Statewide Importance	<p>Mitigation Measure 3.2-1: Compensate for conversion of Farmland. SCE will pay a mitigation fee for agricultural land converted to permanent non-agricultural use in accordance with the Kings County General Plan, Table RC-4: Estimated Mitigation Fee, or as modified by the County.</p>	<p>SCE to implement measure as defined.</p>	<p>SCE to pay mitigation fee.</p>	<p>Payment in accordance with Kings County fee schedule.</p>
Loss of Agricultural Use	<p>Mitigation Measure 3.2-2: SCE and/or its contractors shall incorporate the following measures into project construction plans and specifications specific to lands designated as Farmland:</p> <ul style="list-style-type: none"> Ensure that existing drainage systems at Proposed Project sites that are needed for farming activities function as necessary so that agricultural uses are not disrupted. Coordinate with landowners to ensure that construction does not impact irrigation and/or other ancillary farming systems to a degree that farming practices cannot be maintained. Maintain existing levels of water available to landowners via the current irrigation system including but not be limited to implementing re-routing and/or temporary irrigation systems. <p>In lieu of implementing the above requirements, SCE shall have the option of negotiating agreements with any affected landowner(s) that shall enable the landowner(s) to effect their own irrigation and/or drainage system changes in a manner consistent with the landowner's farming practices and plans.</p>	<p>SCE and its contractors to implement measure as defined.</p>	<p>CPUC mitigation monitor to inspect compliance.</p>	<p>During project construction planning and all phases of construction.</p>

**TABLE ES-1 (CONTINUED)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE SCE MASCOT SUBSTATION PROJECT**

Environmental Impact	Mitigation Measures Proposed in this IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Air Quality	No mitigation required.			
Biological Resources				
Special-Status Species: Western pond turtle	<p>Mitigation Measure 3.4-1: SCE and/or its contractors shall implement the following measures for construction and maintenance areas located in suitable habitat within 0.3 mile of aquatic features:</p> <ul style="list-style-type: none"> • Establish a Worker Environmental Awareness Program (WEAP) for construction personnel. This program shall include a description of western pond turtle, its legal status, suitable habitat in the project area, and mitigation measures being implemented for its protection. • Construction personnel shall observe a 15 mph speed limit on unpaved roads in the Project area. Before operating equipment, workers shall check underneath equipment that has remained in one location for 15 minutes. Any pond turtles located within the construction area shall be relocated, by a biologist, to the nearest safe location. 	<p>SCE and its contractors to implement measure as defined.</p> <p>SCE to establish a Worker Environmental Awareness Program (WEAP) for construction personnel and restrict speed limits.</p> <p>CPUC mitigation monitor to inspect compliance.</p>	<p>Submit documentation to CPUC prior to commencement of construction activities.</p> <p>During all phases of construction activities.</p>	
Special-Status Species: Swainson's hawk	<p>Mitigation Measure 3.4-2: SCE and/or its contractors shall implement the following measures for construction and maintenance areas:</p> <ul style="list-style-type: none"> • Project design, construction, and maintenance shall conform to SCE's corporate Avian Protection Plan and Avian Power Line Interaction Committee (APLIC) Guidelines. • If active nests are not identified during the preconstruction survey, no further action shall be required for breeding birds. • Raptor surveys will comply with survey protocols for Swainson's Hawk in the Central Valley, as outlined in CDFG's May 31, 2000 Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley. • If active nests are identified during the preconstruction survey, the following measures shall be implemented to avoid and minimize impacts: <ul style="list-style-type: none"> - The Worker Environmental Awareness Program (WEAP) for construction personnel shall cover the topic of nesting birds, including their legal status, suitable habitat in the project area, and mitigation measures being implemented for their protection. - Buffer zones and avoidance guidelines shall be established in coordination with CDFG. - Construction contractors shall observe CDFG avoidance guidelines and buffer zones shall remain in effect until young have fledged. - Monitoring of the nest by a qualified biologist shall be required if project-related activity has the potential to adversely impact the nest. 	<p>SCE and its contractors to implement measure as defined.</p>	<p>SCE to submit documentation demonstrating conformance with APLIC Guidelines to CPUC for review.</p> <p>CPUC mitigation monitor to inspect compliance.</p>	<p>Submit documentation to CPUC prior to commencement of construction activities.</p>

**TABLE ES-1 (CONTINUED)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE SCE MASCOT SUBSTATION PROJECT**

Environmental Impact	Mitigation Measures Proposed in this IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Special-Status Species: Burrowing owl	<p>Mitigation Measure 3.4-3: SCE and/or its contractors shall implement the following measures for construction and maintenance areas:</p> <ul style="list-style-type: none"> • Within 30 days prior ground disturbance, a qualified biologist shall survey the Project area and all areas within 500 feet according to the survey protocol identified in CDFG's 1995 Guidelines for Burrowing Owl Mitigation. • The Worker Environmental Awareness Program (WEAP) for construction personnel shall cover burrowing owls, their legal status, suitable habitat in the Project area, and mitigation measures being implemented for their protection. • If no active burrows are confirmed or newly-identified, then no further mitigation shall be required for burrowing owls. • If identified, active burrows will be mapped and a qualified biologist shall monitor them for the duration of construction activities. • If active burrowing owl nests are found in project impact areas, CDFG shall be consulted to determine whether such activities can occur without adversely affecting the active nest. Buffer zones and avoidance guidelines shall be established in coordination with CDFG if determined further action is required. • Outside the nesting season, a 160-foot buffer shall be established around all occupied burrows. • If the Proposed Project cannot continue while observing the 160-foot buffer, further Project activities shall be coordinated with CDFG to determine whether a reduced buffer could be accommodated without adversely impacting occupied burrows. 	<p>SCE and its contractors to implement measure as defined.</p>	<p>SCE to submit survey results and, if applicable, documentation showing CDFG consultation to CPUC for review.</p> <p>CPUC mitigation monitor to monitor compliance.</p>	<p>Submit documentation to CPUC prior to commencement of construction activities.</p>
Special-Status Species: San Joaquin kit fox	<p>Mitigation Measure 3.4-4: SCE and/or its contractors shall implement the following measures for construction areas:</p> <ul style="list-style-type: none"> • Preconstruction surveys shall be conducted within 200 feet of work areas to identify potential San Joaquin kit fox dens or other refugia in and surrounding work areas. A qualified biologist shall conduct the survey 14 to 30 days before construction begins. All potential dens shall be monitored for evidence of kit fox use by placing an inert tracking medium at den entrances and monitoring for at least three consecutive nights. If no activity is detected at these sites, they may be closed following guidance established in the 1999 USFWS Standardized Recommendations for Protection of the San Joaquin Kit Fox. • If kit fox occupancy is determined at a given site during preconstruction surveys, as discussed in the bullet above, closure activities shall be halted immediately and the USFWS contacted. Depending on the den type, reasonable and prudent measures to avoid effects to kit fox could 	<p>SCE and its contractors to implement measure as defined.</p>	<p>SCE to submit survey results and, if applicable, documentation showing USFWS consultation to CPUC for review.</p> <p>CPUC mitigation monitor to monitor compliance.</p>	<p>Submit documentation to CPUC prior to commencement of construction activities.</p>

**TABLE ES-1 (CONTINUED)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE SCE MASCOT SUBSTATION PROJECT**

Environmental Impact	Mitigation Measures Proposed in this IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
	<p>include seasonal limitations on project construction at the site (i.e., restricting the construction period to avoid spring-summer pupping season), and/or establishing a construction exclusion zone around the identified site, or resurveying the den a week later to determine species presence or absence.</p>			
<ul style="list-style-type: none"> • 	<p>The Worker Environmental Awareness Program (WEAP) for construction personnel shall cover kit fox, their legal status, suitable habitat in the Project area, and mitigation measures being implemented for their protection.</p>			
<ul style="list-style-type: none"> • 	<p>To minimize the possibility of inadvertent kit fox mortality, Project-related vehicles shall observe a maximum 20 miles per hour speed limit on private roads in occupied kit fox habitat. Nighttime vehicle traffic shall be kept to a minimum on nonmaintained roads. Off-road SCE construction traffic outside the designated Project area shall be prohibited in areas of occupied kit fox habitat.</p>			
<ul style="list-style-type: none"> • 	<p>To prevent accidental entrapment of kit fox or other animals during construction, all excavated holes or trenches greater than two feet deep shall be covered at the end of each work day by suitable materials, or escape routes constructed of earthen materials or wooden planks shall be provided. Before filling, such holes shall be thoroughly inspected for trapped animals.</p>			
<ul style="list-style-type: none"> • 	<p>All food-related trash items (such as wrappers, cans, bottles, and food scraps) shall be disposed of in closed containers and removed daily from the Project area.</p>			
<ul style="list-style-type: none"> • 	<p>To prevent harassment and mortality of kit foxes or destruction of their dens, no pets shall be allowed in the project area.</p>			
Cultural Resources				
Archaeological Resources	<p>Mitigation Measure 3.5-1: Additional Archaeological Survey. Prior to any ground disturbing activity, those portions of the Project area not previously subject to archaeological survey shall be surveyed by a qualified archaeologist, including a ½-mile segment of the proposed subtransmission line and any newly-proposed staging areas. For those areas that were not surveyed because of low visibility, the additional survey shall occur concurrent with or after vegetation clearance, but before any other ground-disturbing activity. After additional archaeological survey is carried out, the archaeologists shall prepare a report that summarizes the survey efforts, preliminarily evaluates cultural resources for their eligibility for listing in the National Register or California Register, and makes recommendations for treatment of resources if found to be significant.</p>	<p>SCE and its contractors to implement measure as defined.</p>	<p>SCE to submit archaeological surveys to the CPUC and report recommending treatments, if applicable. CPUC mitigation monitor to monitor compliance.</p>	<p>Submit plan to CPUC prior to commencement of ground disturbing activities.</p>

**TABLE ES-1 (CONTINUED)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE SCE MASCOT SUBSTATION PROJECT**

Environmental Impact	Mitigation Measures Proposed in this IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Human Remains	<p>Mitigation Measure 3.5-2: Cease Work if Subsurface Archaeological Resources are Discovered During Ground-Disturbing Activities. If archaeological resources are encountered during Project-related activity, SCE and/or its contractors shall cease all activity within 100 feet of the find until the find can be evaluated by a qualified archaeologist. If the archaeologist determines that the resources may be significant, the archaeologist shall notify the CPUC and shall develop an appropriate Treatment Plan for the resources in consultation with CPUC and with appropriate Native American representatives (if the resources are prehistoric or Native American in nature).</p> <p>In considering any suggested mitigation proposed by the archaeologist in order to mitigate impacts to cultural resources, CPUC shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, Project design, costs, and other considerations. If avoidance is infeasible, other appropriate measures (e.g., data recovery) shall be instituted in accordance with the Treatment Plan. Work may proceed on other parts of the Project area while mitigation measures for cultural resources are being carried out.</p>	SCE and its contractors to implement measure as defined.	SCE to suspend all work and contact CPUC if archaeological resources are discovered. If resource is significant, submit site Treatment Plan and records of consultation with Native American representatives to CPUC. CPUC mitigation monitor to monitor compliance.	During all phases of construction activities.
Human Remains	<p>Mitigation Measure 3.5-3: Halt Work if Human Skeletal Remains are Identified During Construction. If human skeletal remains are uncovered during Project construction, SCE and/or its contractors shall immediately halt all work in the immediate area, contact the County Coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.5 (e)(1) of the CEQA Guidelines. Per Health and Safety Code 7050.5, upon the discovery of human remains there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains, if the County Coroner determines that the remains are Native American, the coroner shall contact the NAHC, in accordance with Health and Safety Code Section 7050.5(c), and Public Resources Code 5097.98 (as amended by AB 2641), Per Public Resources Code 5097.98, SCE shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the SCE has discussed and conferred, as prescribed in PRC 5097.98, with the most likely descendants regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.</p>	SCE and its contractors to implement measure as defined.	If human remains are discovered, SCE is to notify the CPUC and Kings County Coroner. CPUC mitigation monitor to monitor compliance.	During all phases of construction activities.
Geology, Soils, and Seismicity				
No mitigation required.				

**TABLE ES-1 (CONTINUED)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE SCE MASCOT SUBSTATION PROJECT**

Environmental Impact	Mitigation Measures Proposed in this IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Hazards and Hazardous Materials	<p>Mitigation Measure 3.7-1: SCE and/or its contractors shall implement construction best management practices, including but not limited to, the following:</p> <ul style="list-style-type: none"> • Follow manufacturer's recommendations on use, storage, and disposal of chemical products used in construction; • Avoid overtopping construction equipment fuel gas tanks; • Use tarps and adsorbent pads under vehicles when refueling to contain and capture any spilled fuel; • During routine maintenance of construction equipment, properly contain and remove grease and oils; • Properly dispose of discarded containers of fuels and other chemicals; and • If wood poles removed from the Hanford-Liberty subtransmission line are not recycled or reused, they shall be disposed of at a landfill facility that is authorized to accept treated wood pole waste in accordance with HSC 25143.1.4(b). 	<p>SCE and its contractors to implement measure as defined.</p>	<p>CPUC mitigation monitor to monitor compliance.</p>	<p>During all phases of construction activities.</p>
	<p>Mitigation Measure 3.7-2: SCE shall prepare a Hazardous Substance Control and Emergency Response Plan (Plan) and implement it during construction to ensure compliance with all applicable federal, State, and local laws and guidelines regarding the handling of hazardous materials. The Plan shall prescribe hazardous material handling procedures to reduce the potential for a spill during construction, or exposure of the workers or public to hazardous materials. The Plan also shall include a discussion of appropriate response actions in the event that hazardous materials are released or encountered during excavation activities. The Plan shall be submitted to the CPUC for review and approval at least 30 days prior to the commencement of construction activities.</p>	<p>SCE and its contractors to implement measure as defined.</p>	<p>SCE to submit Hazardous Substance Control and Emergency Response Plan to CPUC for review and approval. CPUC mitigation monitor to monitor compliance.</p>	<p>Submit plan to CPUC at least 30 days prior to commencement of construction activities. During all phases of construction activities.</p>
	<p>Mitigation Measure 3.7-3: SCE shall prepare and implement a Health and Safety Plan to ensure the health and safety of construction workers and the public during construction. The plan shall include information on the appropriate personal protective equipment to be used during construction.</p>	<p>SCE and its contractors to implement measure as defined.</p>	<p>SCE to submit Health and Safety Plan to CPUC for review and approval. CPUC mitigation monitor to monitor compliance.</p>	<p>Submit plan to CPUC prior to commencement of construction activities. During all phases of construction activities.</p>
	<p>Mitigation Measure 3.7-4: SCE shall ensure that a Workers Environmental Awareness Program is established and implemented to communicate environmental concerns and appropriate work practices to all construction field personnel. The training program shall emphasize site-specific physical conditions to improve hazard prevention, and shall include a review of the Health and Safety Plan and the Hazardous Substance Control and</p>	<p>SCE and its contractors to implement measure as defined.</p>	<p>CPUC mitigation monitor to attend the first program. SCE to submit copies of sign in sheets from training sessions.</p>	<p>Training to be completed prior to commencement of construction activities. Submit sign-in sheets to CPUC prior to</p>

**TABLE ES-1 (CONTINUED)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE SCE MASCOT SUBSTATION PROJECT**

Environmental Impact	Mitigation Measures Proposed in this IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
	<p>Emergency Response Plan. SCE shall provide the CPUC mitigation monitor with a one-week advanced notice of the first training session so that the CPUC mitigation monitor has adequate time to plan attendance at the first training. SCE shall submit documentation to the CPUC prior to the commencement of construction activities that each worker on the project has undergone this training program.</p>	<p>SCE and its contractors to implement measure as defined.</p>	<p>CPUC mitigation monitor to monitor compliance.</p>	<p>commencement of construction activities.</p>
	<p>Mitigation Measure 3.7-5: SCE shall ensure that oil-absorbent material, tarps, and storage drums shall be used to contain and control any minor releases. Emergency spill supplies and equipment shall be kept at the project staging area and adjacent to all areas of work, and shall be clearly marked. Detailed information for responding to accidental spills and for handling any resulting hazardous materials shall be provided in the project's Hazardous Substance Control and Emergency Response Plan (see Mitigation Measure 3.7-2), which shall be implemented during construction.</p>	<p>SCE and its contractors to implement measure as defined.</p>	<p>CPUC mitigation monitor to monitor compliance.</p>	<p>During all phases of construction activities.</p>
Accidental Release	<p>Mitigation Measure 3.7-6: SCE's Hazardous Substance Control and Emergency Response Plan (Mitigation Measure 3.7-2) shall include provisions that would be implemented if any subsurface hazardous materials are encountered during construction. Provisions outlined in the plan shall include immediately stopping work in the contaminated area and contacting appropriate resource agencies, including the CPUC designated monitor, upon discovery of subsurface hazardous materials. The plan shall include the phone numbers of County and State agencies and primary, secondary, and final cleanup procedures. The Hazardous Substance Control and Emergency Response Plan shall be submitted to the CPUC for review and approval at least 30 days prior to the commencement of construction activities.</p>	<p>SCE and its contractors to implement measure as defined.</p>	<p>CPUC mitigation monitor to monitor compliance.</p>	<p>Submit plan to CPUC at least 30 days prior to commencement of construction activities. During all phases of construction activities.</p>
	<p>Mitigation Measure 3.7-7: SCE shall develop and implement a Soil Sampling and Analysis Plan to determine the presence and extent of any residual herbicides, pesticides, and fumigants on currently or historically farmed land in agricultural areas that would be disturbed during construction of the Proposed Project. The Plan shall be prepared and executed under the direction of an appropriate California-licensed professional. At a minimum, the Plan shall document the areas proposed for sampling, the procedures for sample collection, the laboratory analytical methods to be used, and the pertinent regulatory threshold levels for determining proper excavation, handling, and, if necessary, treatment or disposal of any contaminated soils. The Plan shall be submitted to the CPUC for review and approval at least 30 days before the commencement of construction. Results of the laboratory testing and recommended resolutions for excavation, handling, dust control, and treatment/disposal of material found to exceed regulatory requirements shall be submitted to the CPUC at least one week prior to construction activities in the area to be disturbed.</p>	<p>SCE and its contractors to implement measure as defined.</p>	<p>SCE to submit Soil Sampling and Analysis Plan to CPUC for review and approval. SCE to submit results of soil sampling and recommended resolutions to CPUC. CPUC mitigation monitor to monitor compliance.</p>	<p>Submit plan to CPUC for review at least 30 days prior to commencement of construction activities. Submit results of soil sampling and recommended resolutions to CPUC for review at least one week prior to commencement of construction activities in the area to be disturbed. During excavation and</p>

**TABLE ES-1 (CONTINUED)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE SCE MASCOT SUBSTATION PROJECT**

Environmental Impact	Mitigation Measures Proposed in this IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
	<p>The analytical results of the soil sampling investigation shall be evaluated with regard to California/USEPA's California Human Health Screening Levels (CHHSLs) for industrial/commercial land use. If soil contaminants exceed these preliminary screening levels, further site characterization, risk assessment, or remediation would be necessary, as described in the Department of Toxic Substances Control Preliminary Endangerment Assessment Guidance Manual. SCE shall implement appropriate handling and disposal procedures for any excavated materials containing elevated levels of contaminants. Prior to disturbing additional contaminated soil, SCE shall prepare and submit a health and safety plan that is approved by a certified industrial hygienist to address handling, treatment, and/or disposal options. Personnel working around, handling, and disposing of contaminated soil shall meet the federal Occupational Health and Safety Administration (OSHA) requirement for the 40-hour Hazardous Waste Operations and Emergency Response Standards as specified in Title 29, Section 1910.120, of the Code of Federal Regulations. The investigation results, and health and safety plan if needed, shall be submitted for review and approval by the appropriate regulatory agencies i.e., Department of Toxic Substances Control and/or Regional Water Quality Control Board). SCE shall submit to the CPUC copies of correspondence with regulatory agencies including the health and safety plan and any approvals.</p>			<p>treatment/disposal of contaminated soil/material.</p>
Hydrology and Water Quality	No mitigation required.			
Land Use and Planning	No mitigation required.			
Mineral Resources	No mitigation required.			
Noise				
Construction Noise	<p>Mitigation Measure 3.11-1: Construction activity shall be limited to between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday and limited to between the hours of 8:00 a.m. and 7:00 p.m., on Saturdays, with some exceptions (as approved by the CPUC and Kings County) as required for safety considerations or certain construction procedures that cannot be interrupted.</p> <p>Mitigation Measure 3.11-2: In the event that nighttime (i.e., between 7:00 p.m. and 7:00 a.m. on weekdays and between 8:00 p.m. and 7:00 a.m. on Saturdays) construction activity is determined to be necessary within 500 feet of an occupied residential dwelling unit, a nighttime noise reduction plan shall be developed by SCE and submitted to the CPUC and the County for review</p>	<p>SCE and its contractors to implement measure as defined.</p>	<p>CPUC mitigation monitor to monitor compliance.</p>	<p>During all phases of construction activities.</p>
		<p>SCE and its contractors to implement measure as defined.</p>	<p>SCE to submit nighttime noise reduction plan to CPUC and Kings County for review and approval.</p>	<p>Submit plan to CPUC and Kings County prior to commencing any nighttime construction</p>

**TABLE ES-1 (CONTINUED)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE SCE MASCOT SUBSTATION PROJECT**

Environmental Impact	Mitigation Measures Proposed in this IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
	<p>and approval. The noise reduction plan shall include a set of site-specific noise attenuation measures that apply state of the art noise reduction technology to ensure that nighttime construction noise levels and associated nuisance are reduced to the most extent feasible. The attenuation measures may include, but not be limited to, the control strategies and methods for implementation that are listed below. If any of the following strategies are found by SCE to not be feasible or warranted, an explanation as to why the specific strategy is not feasible or warranted shall be included in the nighttime noise reduction plan.</p> <ul style="list-style-type: none"> • Plan construction activities to minimize the amount of nighttime construction. • Offer temporary relocation of residents within 200 feet of nighttime construction areas. • Temporary noise barriers, such as shields and/or blankets, shall be installed immediately adjacent to all nighttime stationary noise sources (e.g., auger rigs, generators, pumps, etc.) that block the line of sight between nighttime activities and the closest residences. 		<p>CPUC mitigation monitor to monitor compliance.</p>	<p>activities. During all phases of construction that include nighttime construction activities.</p>
Population and Housing	No mitigation required.			
Public Services	No mitigation required.			
Recreation	No mitigation required			
Transportation and Traffic	Construction Traffic	<p>SCE and its contractors to implement measure as defined.</p>	<p>SCE to submit Traffic Management Plan and documentation showing agency approval to CPUC. CPUC mitigation monitor to monitor compliance.</p>	<p>Prior to commencement of construction activities. During all phases of construction.</p>

**TABLE ES-1 (CONTINUED)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE SCE MASCOT SUBSTATION PROJECT**

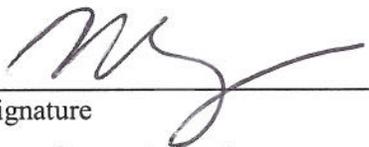
Environmental Impact	Mitigation Measures Proposed in this IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
	<ul style="list-style-type: none"> Lay out plans for notifications of all lane and road closures and a process for communication with affected road users, including truckers, residents, and landowners prior to the start of construction. Advance public notification shall be provided at least one to two weeks in advance of each lane and road closure and shall include posting of notices and appropriate signage of construction activities. The written notification shall include the construction schedule, the exact location and duration of activities within each street (i.e., which road/lanes and access point/driveways/parking areas would be blocked on which days and for how long), and a toll-free telephone number for receiving questions or complaints; Include plans to coordinate all construction activities with emergency service providers in the area. Emergency service providers would be notified of the timing, location, and duration of construction activities at least one week in advance of each lane and road closure. All roads would remain passable to emergency service vehicles at all times; and 	<p>Identify all roadway locations where special construction techniques (e.g., night construction) would be used to minimize impacts to traffic flow.</p>	<p>SCE to submit documentation to CPUC showing compliance with San Joaquin Valley Railroad Company safety and engineering guidelines. CPUC mitigation monitor to monitor compliance.</p>	<p>During all phases of construction involving wire installation within or over the railroad ROW.</p>
Utilities and Service Systems				
No mitigation required.				

CHAPTER 1

Environmental Determination

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



Signature
Monisha Gangopadhyay

Printed Name

8/23/10

Date

CHAPTER 2

Project Description

2.1 Introduction

Southern California Edison (SCE), in its California Public Utilities Commission (CPUC) application (A.0911020), filed on November 25, 2009, requests to construct a new 66/12 kilovolt (kV) distribution substation (Mascot Substation) and associated 66 kV subtransmission lines, telecommunications connection, and 12 kV distribution circuits in unincorporated Kings County. Power to the Mascot Substation would be supplied by connecting to two existing 66 kV subtransmission lines, the Goshen-Hanford 66kV line and Hanford-Liberty 66kV line. The proposed subtransmission lines would occur within approximately 2.0 miles of new right-of-way (ROW). The application includes the Proponent's Environmental Assessment (PEA), which SCE prepared pursuant to Rule 2.4 of the CPUC's Rules of Practice and Procedure. Under CPUC General Order 131-D, approval of this project (Proposed Project) must comply with the California Environmental Quality Act (CEQA)¹.

As part of its CEQA process, the CPUC prepares an Initial Study for discretionary projects such as the Proposed Project to determine whether it may have a potentially significant effect on the environment. If an Initial Study prepared for a project indicates that such an impact could occur, the CPUC shall prepare an Environmental Impact Report (EIR). Alternatively, if there is no substantial evidence of such an effect, or if the potential effect can be reduced to a point where clearly no significant effect on the environment would occur, a Negative Declaration shall be prepared (Pub. Res. Code §21080(c)(1)).

A Mitigated Negative Declaration (MND) may be prepared when “the initial study has identified potentially significant effects on the environment, but (1) revisions in the project plans or proposals made by, or agreed to by, the applicant before the proposed negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur, and (2) there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment” (Pub. Res. Code § 21064.5). On April 2, 2010 the CPUC determined, based on the results of an initial study, that the appropriate level of CEQA documentation for this project is an MND.

This Initial Study/Mitigated Negative Declaration (IS/MND) considers the potential environmental impacts of the Proposed Project. The information presented in this Section 2 of the IS/MND was

¹ CEQA is codified at California Public Resources Code Section 21000 et seq.; see also the implementing regulations (CEQA Guidelines) found in Title 14 of the California Code of Regulations Section 15000 et seq.

extracted from SCE's Application for a Permit to Construct (PTC) (SCE, 2009a), PEA (SCE, 2009b) and responses to data requests by the IS/MND team (SCE, 2010a through 2010c). This information is intended to provide a detailed description of project construction, operation and maintenance, serving to provide a common understanding of the project parameters and, thereby, to inform the CPUC's environmental analysis of the Proposed Project.

2.2 Project Location

The Proposed Project is located in unincorporated Kings County, California, just east of the City of Hanford (**Figure 2-1**). The Mascot Substation would be in the eastern portion of Kings County approximately 6.5 miles west of the jurisdictional boundary of Tulare County. The Proposed Project subtransmission line alignment originates at the Goshen-Hanford 66 kV subtransmission line which runs parallel to Grangeville Road and would be looped into the proposed Mascot Substation at the intersection of Grangeville Boulevard and 7 ½ Avenue in Kings County. From the proposed substation site, another subtransmission line segment would traverse directly south from the substation along private property to connect with the Hanford-Liberty 66kV subtransmission line. The line would parallel a dirt road extension of 7 ½ Avenue and cross agricultural lands.

2.3 Existing System

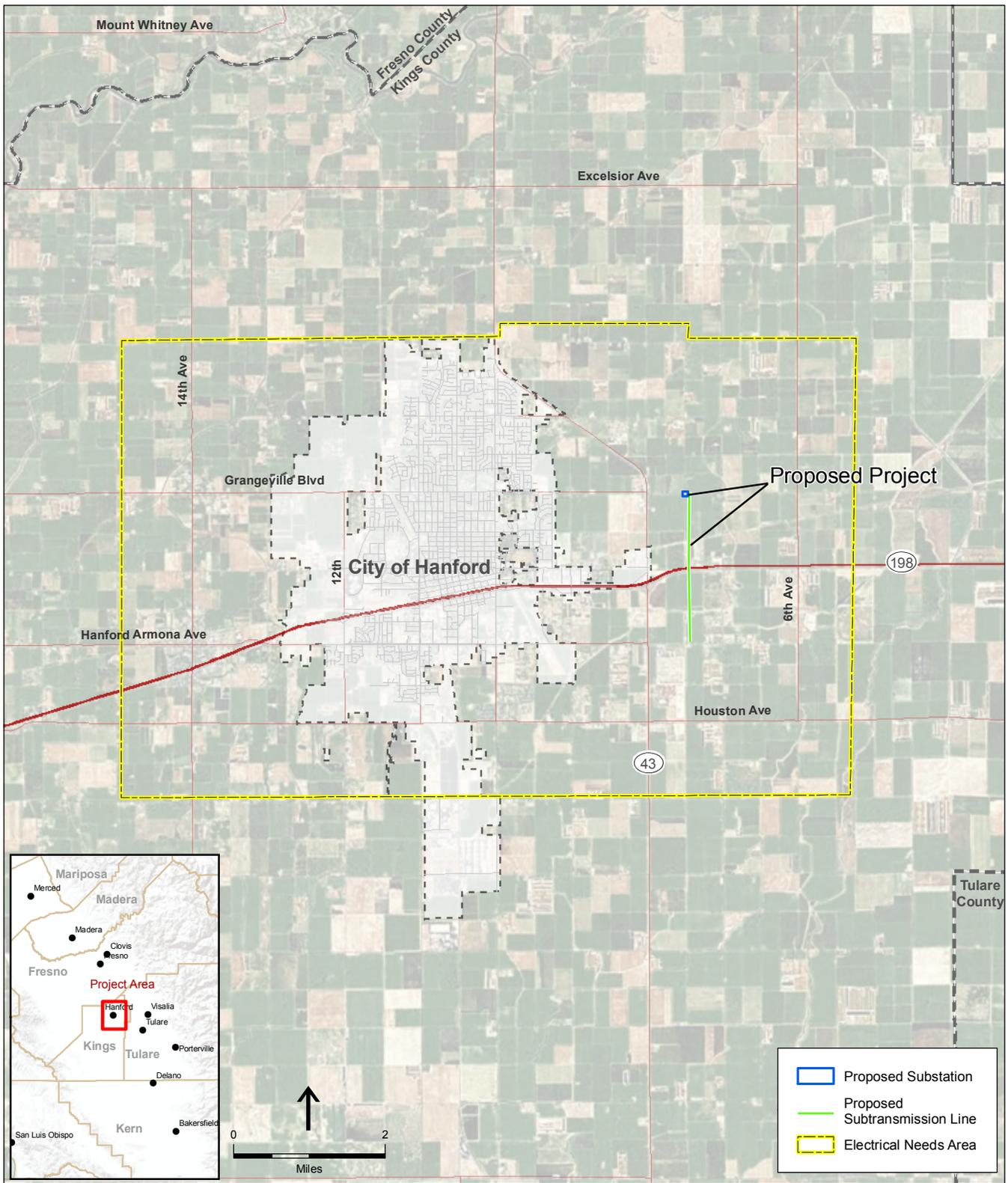
The Electrical Needs Area (ENA) is presently served by Hanford Substation, one of 23 66 kV substations served by the Rector 220/66 kV System (**Figure 2-1**). Hanford Substation provides electrical service to approximately 23,600 metered customers, and was placed in service in 1926. The Hanford Substation also operates six 66/4 kV transformers that serve approximately 750 metered customers. However, these transformers have limited capacity, and new customer service requests are typically not connected to circuits served from these transformers. After construction of the Proposed Project the ENA would be served by Hanford Substation and the proposed Mascot Substation.

2.4 Overview of the Proposed Project

The Proposed Project consists of the following activities. A more detailed description of the individual project components is included in Section 2.5.

- Construction of a new 66/12 kV distribution substation on an approximate five-acre site (Mascot Substation);
- Construction of three new 66 kV single-circuit subtransmission line segments to serve the new Mascot Substation. More specifically, the Goshen-Hanford 66 kV subtransmission line would be looped into Mascot Substation and the Hanford-Liberty 66 kV subtransmission line, approximately 2 miles away, would be tapped and connected to the Mascot Substation with a new single-circuit 66 kV subtransmission line segment²;

² The Hanford-Mascot 66kv subtransmission line and Mascot-Goshen subtransmission line would be looped in at the Mascot Substation and would result in approximately 400 feet of the line being double-circuit.



SOURCE: Microsoft Virtual Earth, 2009; SCE, 2010

Mascot Substation Project . 207584.07

Figure 2-1
Project Location and Electrical Needs Area

- Construction of four new 12 kV distribution circuits; and
- Construction of facilities to connect the substation to SCE's existing telecommunications system.

Figure 2-2 displays the general footprint of the substation and alignment of subtransmission lines for the Proposed Project. The Proposed Project alignment would be constructed entirely within new SCE ROW, adjacent to existing Pacific Gas and Electric (PG&E) ROW. **Figure 2-3** shows the electrical system with and without the Proposed Project.

2.5 Project Components

The Proposed Project consists of a number of distinct components that together make up the Proposed Project. This section presents a detailed discussion of each of these components. Section 2.6 presents ROW information while Sections 2.7 and 2.8 include details on pre-construction and construction activities, schedule and anticipated start of operations. A list of the key components associated with the Proposed Project is provided **Table 2-1**, followed by a more detailed discussion.

**TABLE 2-1
SUMMARY OF PROJECT COMPONENTS**

Construction of a new 66/12 kV low-profile distribution substation on an approximate five acre site

- Install one 66 kV switchrack
- Install 66 kV circuit breakers and disconnect switches
- Install two 28 MVA, 66/12 kV transformers
- Install one 12 kV low-profile switchrack
- Install one 66 kV, 14.4 megavolts ampere reactive MVAR capacitor bank, and two 12 kV, 4.8 MVAR capacitor banks
- Construct one Mechanical and Electrical Equipment Room (MEER)
- Construct one restroom facility
- Install site drainage
- Install lighting
- Construct perimeter walls and gates
- Install four new 12 kV distribution circuits
- Construct substation access driveway from Grangeville Boulevard

Install 66kV subtransmission conductor to Mascot Substation

- Install approximately 29 wood poles with polymer insulators within new ROW
- Install approximately 13 steel poles with polymer insulators within new ROW
- Remove approximately two existing wood poles
- Install conductor (i.e., 954 Stranded Aluminum) on new subtransmission poles from Mascot Substation to subtransmission supply lines
 - Single-circuit 66 kV subtransmission line from substation south to the Hanford-Liberty 66 kV Line at E. Hanford-Armona Road. (2.0 miles), within new ROW
 - Double-circuit 66 kV subtransmission line from Goshen-Hanford 66 kV Line at Grangeville Boulevard to the adjacent proposed substation³

Construction of facilities to connect the substation to SCE's existing telecommunications system

- Install approximately 15 miles of overhead telecommunication line (i.e. fiber optic cable) on existing subtransmission and/or distribution poles in the vicinity of Goshen and Liberty Substations
- Install new underground duct banks at Mascot Substation (approximately 720 feet), Goshen Substation (approximately 600 feet), and at Liberty Substation (approximately 30 feet)

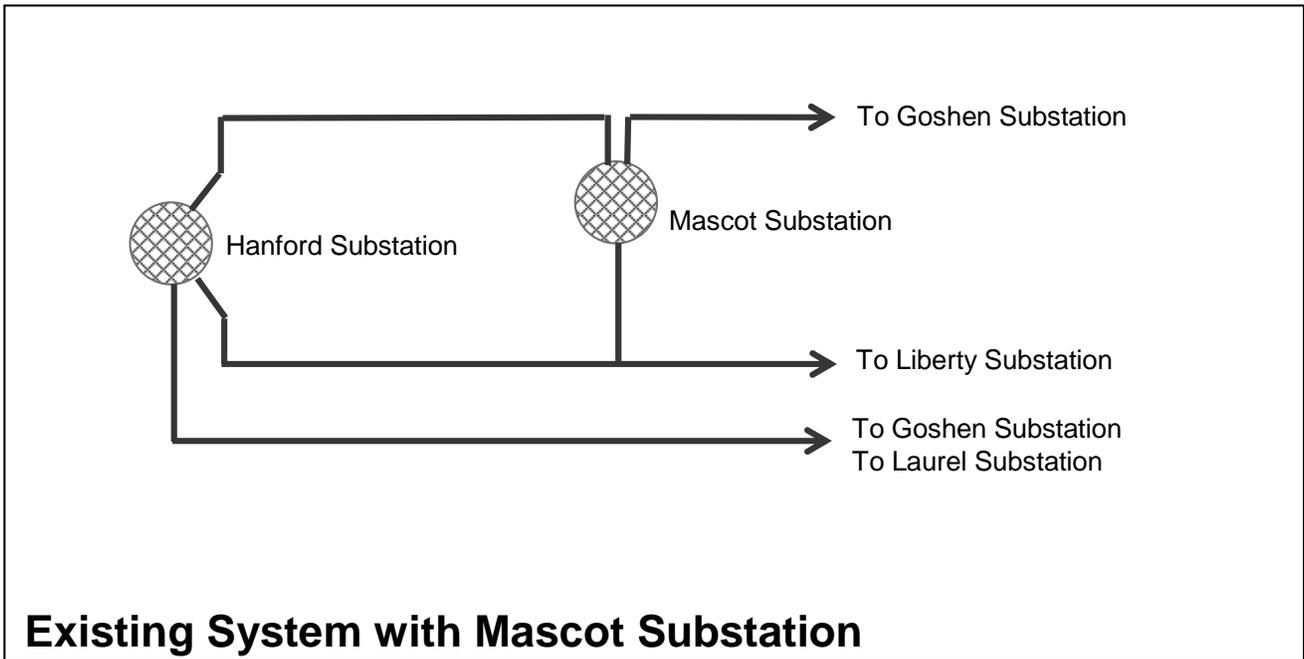
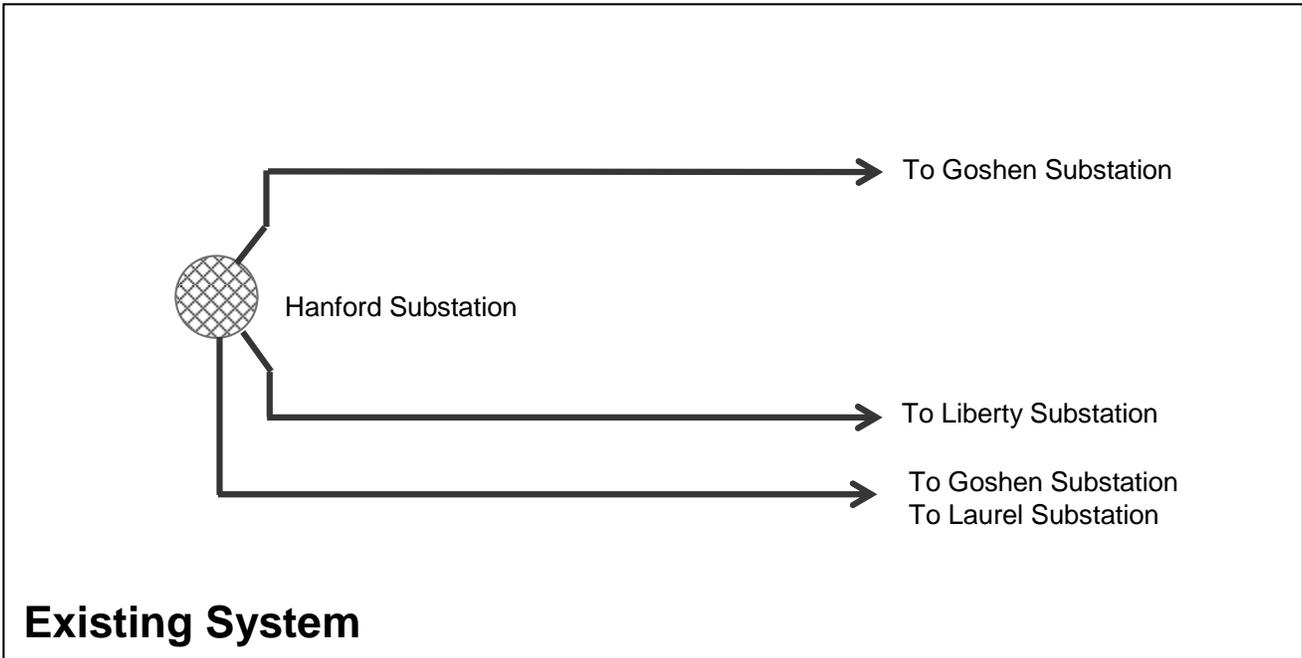
SOURCE: SCE, 2009b

³ See Footnote 2.



SOURCE: SCE, 2010; Microsoft Virtual Earth, 2010

Mascot Substation Project . 207584.07
Figure 2-2
 Proposed Project Overview



As described in this IS/MND the proposed substation would be constructed as an automated 56 MVA 66/12 kV substation. However, the proposed substation would be built to accommodate an ultimate build-out of 112 MVA. Since ultimate build-out is not identified in the foreseeable future (within the next five years) (SCE 2010a), the potential alignments of the additional subtransmission line and distribution circuits is highly speculative. Therefore, the potential ultimate build out is not included as part of the Proposed Project analyzed within this IS/MND. SCE may be permitted to proceed with installing additional 12 kV distribution getaways without requiring additional CEQA analysis.

2.5.1 Substations

2.5.1.1 New Mascot Substation

The Mascot Substation, an unstaffed and automated 56 MVA 66/12 kV low-profile distribution substation, would be constructed on a five-acre site in unincorporated Kings County near the eastern boundary of the City of Hanford (Figure 2-2). The Mascot Substation would include, among other facilities, an asphalt concrete access road, perimeter walls, a restroom facility, and gates. **Figure 2-4** depicts the preliminary plan and profile views of the Mascot Substation. The following components would be installed at or in proximity to the Mascot Substation site.

Substation Equipment and Associated Facilities

66 kV Switchrack

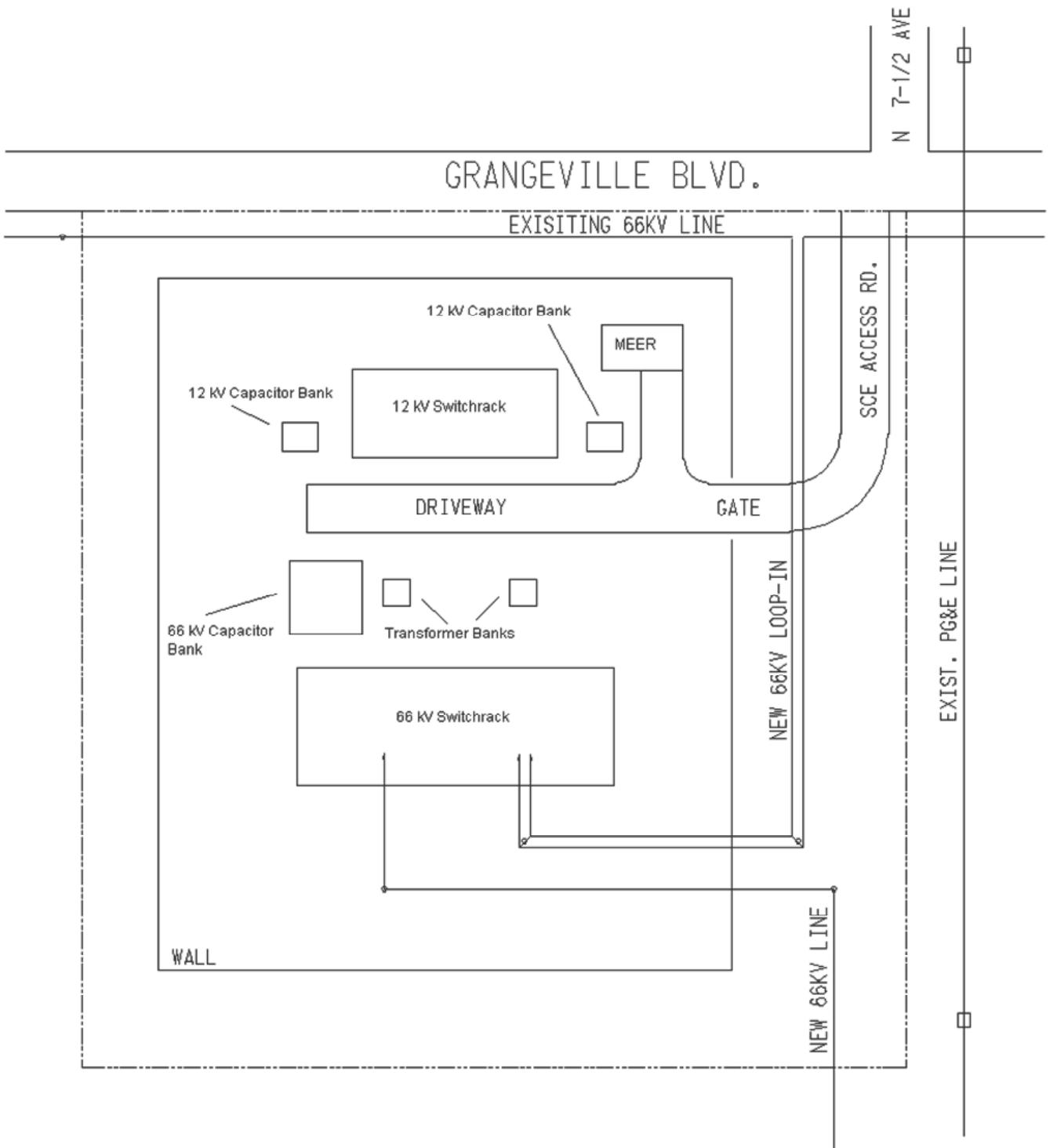
One steel 66 kV switchrack, approximately 120 feet long, 65 feet wide and up to 20 feet high would be installed. The switchrack would be installed on a concrete foundation approximately 120 feet long and 65 feet wide. It would consist of both an operating bus and a transfer bus and would contain seven positions:

- Three for 66 kV source subtransmission lines;
- Two for transformer banks;
- One bus-tie; and
- One for a capacitor bank.

Each bus would be approximately 120 feet long and consist of a single 1,590 thousand circular mils (kcmil) Aluminum Conductor Steel Reinforced (ACSR) per phase

66 kV Circuit Breakers and Disconnect Switches

The three line positions and two transformer bank positions described above would each be equipped with a circuit breaker and three group-operated disconnect switches. The bus-tie position would be equipped with a circuit breaker and two group operated disconnect switches, and the capacitor position would be equipped with a circuit breaker, one group-operated disconnect switch, and one group-operated ground switch.



SOURCE: SCE, 2010

Mascot Substation Project . 207584.07

Figure 2-4
Proposed Substation Layout

Two 28 MVA, 66/12 kV Transformers

Two 28 MVA, 66/12 kV transformers, each equipped with a group operated isolating disconnect switch on the high and low voltage side, surge arresters and neutral current transformers, would be installed. The transformer area dimensions would be approximately 80 feet long, 42 feet wide and 20 feet high.

One 12 kV Switchrack

The 12 kV low-profile switchrack would consist of 12 nine-foot wide bays accounting for seven equipped positions. The 12 kV switchrack dimensions would be approximately 108 feet long, 44 feet wide and 17 feet high.

Capacitor Banks

One 66 kV, 14.4 MVAR capacitor bank would be installed. Its dimensions would be approximately 60 feet long, 40 feet wide, and 18 feet high. In addition, two 12 kV, 4.8 MVAR capacitor banks would be installed. Each 12 kV capacitor bank enclosure would be approximately 16 feet long, 13 feet wide, and 17 feet high.

Mechanical and Electrical Equipment Room (MEER)

A MEER is a prefabricated structure that is typically made of steel with light tan or beige walls and roof. Dark brown may trim the roofline, wall joints, and doorway. The MEER would be equipped with air conditioning, control and relay panels, a battery and battery charger, AC and DC distribution, a human-machine interface rack, telecommunication equipment, a telephone and an alarm system that would alert SCE personnel when an unauthorized entry into the MEER is detected. Control cable trenches would connect the MEER to the 66 kV switchrack, and to the 12 kV switchrack. The MEER dimensions would be approximately 36 feet long, 20 feet wide and 12 feet high.

Restroom Facility

The Mascot Substation would be equipped with a restroom facility. Because municipal water is not anticipated to be available in the foreseeable future, the restroom facility will consist of a portable chemical unit would be placed within the substation perimeter wall, and maintained by an outside service company (SCE 2010b).

Substation Access

The substation entrance would consist of a 24 foot wide, 120 foot long asphalt concrete driveway leading from Grangeville Boulevard to a locked metal gate for two-way traffic access into the substation (**Figure 2-4**). The metal gate would be a minimum of eight feet high by 24 feet wide. SCE would also install a walk-in gate within the perimeter wall for additional access.

Four 12 kV Distribution Circuits

The Proposed Project would construct four 12 kV distribution circuits from the 12 kV switchrack to distribute electricity outside the substation. All 12 kV distribution circuits would exit the switchrack via underground duct banks to be constructed within the substation perimeter. The exact routing and terminal locations of the four 12 kV distribution circuits with the associated structure (e.g. vaults)

locations have yet to be determined (SCE 2010b). The approximate location of new underground vaults is the termination of the 12 kV distribution circuits as described below:

One vault will be constructed outside the perimeter wall to the north between the wall and approximately 100 feet outside of the property line (SCE 2010b). This vault will contain two 12 kV distributions circuits which would enter the vault from a duct bank coming from under the perimeter wall. It is anticipated that, ultimately, one of the distribution circuits will continue north along 7 ½ Avenue and the other will proceed east along Grangeville Boulevard. Because the specific route, termination points and design are not yet available, this analysis does not consider the potential effects of constructing 12 kV distribution circuits beyond the vault.

A second vault will be constructed outside the northwest corner of the substation perimeter wall. The vault will be located between the perimeter wall and approximately 100 feet outside of the substation property line (SCE 2010b). This vault will contain two 12 kV distributions circuits which would enter the vault from a duct bank coming from under the perimeter wall. It is anticipated that, ultimately, two 12 kV distribution circuits will proceed west along Grangeville Boulevard. Because the specific route, termination points and design are not yet available, this analysis does not consider the potential effects of constructing 12 kV distribution circuits beyond the vault.

Lighting

Lighting at Mascot Substation would consist of access and maintenance lighting. The access light would be low-intensity and controlled by a manual switch, although a final lighting plan has not been completed this will be similar to a 110 volt double flash strobe light used at similar substations. Maintenance lights would be controlled by a manual switch and consist of high-pressure sodium lights located in the switchracks, around the transformer banks, and in areas of the substation where maintenance activity may take place. Based on similar substation projects, the maintenance lights would consist of approximately 32 120V, 120 Watt lights. Maintenance lights would be used only when required for maintenance outages or emergency repairs occurring at night. The lights would be directed downward and shielded to reduce glare outside the facility.

Perimeter Wall

The proposed substation site would include an eight-foot-high perimeter wall that would surround Mascot Substation. Based on preliminary design, the wall would be masonry block (SCE 2010b). A band of at least three strands of barbed wire would be affixed near the top of the inside of the perimeter wall and would not be visible from the outside. Municipal water is not currently available at the site. Consequently, no landscaping would be installed along the perimeter (SCE 2010a).

Substation Drainage

Currently, the watershed area including the proposed substation site is used to grow alfalfa, and stormwater runoff does not appear to leave the property. To construct the Mascot Substation, the site, which is currently below the grade of Grangeville Boulevard, would be filled to above-grade. The site would then be graded to direct surface drainage towards the south, where it would be controlled by either an earthen detention basin or other means as defined by the grading and drainage

plans. The portion of the substation site north of the perimeter wall would drain towards Grangeville Boulevard. Prior to substation construction, SCE would be required to obtain a grading permit from Kings County, during which time the final site drainage design would be determined.

The substation grading design would incorporate Spill Prevention Control and Countermeasure (SPCC) Plan requirements due to the planned operation of oil-filled transformers at the substation (in accordance with 40 CFR Part 112.1 through Part 112.7). Typical SPCC features include curbs and berms designed and installed to contain spills, should they occur. These features would be part of SCE's final engineering design for the Proposed Project.

2.5.1.2 Goshen, Liberty, and Hanford Substations

As further described in Section 2.5.2, in addition to new underground duct banks to be installed at Mascot Substation, the Proposed Project would include installation of new underground duct banks for telecommunications lines at Goshen and Liberty Substations. The duct bank would include:

- Goshen Substation – SCE would install approximately 600 feet of underground duct banks.
 - 200 feet south along substation boundary, between the substation and an existing pole;
 - 200 feet east along Highway 198, between the substation and an existing pole; and
 - 200 feet within the substation fenceline.
- Liberty Substation – SCE would install approximately 30 feet of underground duct bank.
 - 30 feet along Avenue 272, between the substation and an existing pole.

Hanford Substation would no longer require the contingency transformer installed in 2009 to address peak load needs. As a result, the contingency transformer would be removed from Hanford Substation and installed at Mascot Substation. All modifications to Hanford Substation would occur within the existing substation footprint. Proposed modifications include:

- Hanford Substation
 - Remove the existing contingency transformer (installed in 2009).
 - Remove or leave in place existing 66kV circuit breaker.

2.5.2 Subtransmission, Distribution and Telecommunication Lines

The Proposed Project would install new 66 kV subtransmission lines and replace two existing wood subtransmission poles. The Proposed Project would connect Mascot Substation to the Hanford-Liberty and Goshen-Hanford 66 kV subtransmission lines.

The existing Goshen-Hanford 66 kV subtransmission line that parallels Grangeville Boulevard would be looped into Mascot Substation. Approximately three tubular steel poles (TSPs) and one lightweight steel (LWS) pole would be installed to connect the existing Goshen-Hanford 66 kV subtransmission line to Mascot Substation (SCE 2009b)

Another single-circuit 66 kV subtransmission line would be installed from Mascot Substation due-south to East Hanford-Armona Road (approximately 2 miles long). This subtransmission line would be constructed in new ROW parallel to an existing PG&E line. The new subtransmission line would be located west of the PG&E line.

Telecommunications facilities installed for the Proposed Project would consist of fiber optic cable and relay protection in the MEER. In addition to the telecommunications facilities installed at Goshen Substation and Liberty Substation (described in Section 2.5.1.2) two telecommunications duct banks would be installed at Mascot Substation. The duct banks would be installed:

- 310 feet west along Grangeville Boulevard between the substation and an existing pole;
- 410 feet east along Grangeville Boulevard between the substation and an existing pole.

Additionally, approximately 15 miles of telecommunications lines would be installed overhead on existing poles (SCE 2009b).

2.5.3 Poles

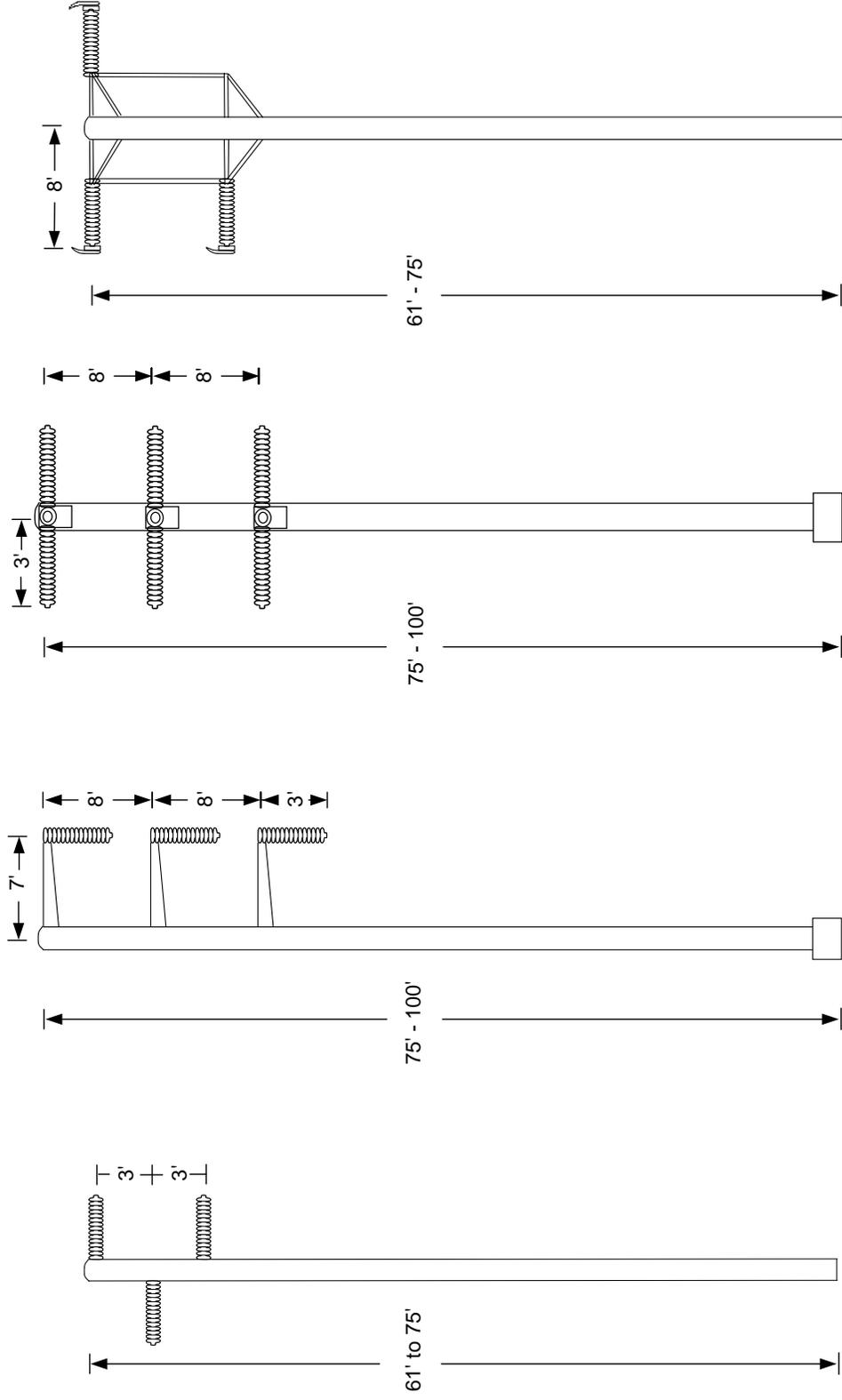
The Proposed Project would require the installation of approximately 45 new subtransmission poles, consisting of wood poles, Light Weight Steel (LWS) poles, and Tubular Steel Poles (TSPs) with polymer insulators. Wood and LWS poles would extend approximately 61 to 75 feet above ground surface (ags) and TSPs approximately 65 to 100 feet ags. The majority of the poles would be installed within a new ROW easement, up to 30 feet in width, to be acquired. Each pole would support 954 Stranded Aluminum Conductor (SAC), and some of the structures would support a fault return conductor.

Because the Proposed Project would be located in a raptor concentration area, all 66 kV structures would be designed to be consistent with the Suggested Practices for Raptor Protection on Power Lines: the State of the Art in 2006 (Edison Electric Institute and the Avian Power Line Interaction Committee, 2006) (SCE 2009b). These design features could include one or more of the following: conductor and insulator covers, increased conductor spacing, suspending phase conductors, insulated jumper wires, horizontal jumper supports, and perch deterrents on crossarms.

Figure 2-5 depicts typical subtransmission pole configurations while **Table 2-2** provides a summary of pole information. A more detailed discussion is provided below.

2.5.3.1 Wood Poles

The Proposed Project would install 31 wood poles. Wood poles typically range in above-ground height from 61 to 75 feet with a base diameter of one to three feet. Wood poles would be direct-buried to a depth of approximately eight to 10 feet below ground surface, with an approximate auger diameter of two to four feet (See Figure 2-2 for locations).



Typical Switch Pole

Typical Tubular Steel Tap Pole

Typical Tubular Steel Pole

Typical Wood Pole
Typical Lightweight Steel Pole

**TABLE 2-2
SUMMARY OF POLE INFORMATION**

Pole Type	Approximate Location	Typical Pole Height Above Ground Surface (ags)	Approximate Number of Poles Installed/Removed
Wood	From Grangeville Boulevard to SR 198	61 to 75 feet	20/0
	From Lakeside Ditch to E. Hanford-Armona Road		9/0
	Two wood poles on E. Hanford-Armona Road would be replaced with two wood poles and one TSP		2/2
LWS	Loop-in of Goshen-Hanford 66 kV Subtransmission Line	61 to 75 feet	1/0
	From Lakeside Ditch to E. Hanford-Armona Road		1/0
TSP	Loop-in of Goshen-Hanford 66 kV Subtransmission Line	65 to 100 feet	3/0
	At the connection to Hanford-Liberty 66 kV subtransmission line		2/0
	From SR 198 to Lakeside Ditch		6/0
	E. Hanford-Armona Road		1/0
Totals		61 to 100 feet	45/2

SOURCE: SCE, 2009b

2.5.3.2 Light Weight Steel Poles

The Proposed Project would install two LWS poles consisting of tapered gray poles with dull galvanized finish. LWS poles typically range in above ground height from 61 to 75 feet with a base diameter of 1.5 to three feet tapering to approximately one-foot diameter at the top of the pole. LWS poles would be direct-buried to a depth of approximately eight to 10 feet below ground surface, with an approximate auger diameter of two to four feet. Locations of new LWS poles are shown in Figure 2-2.

2.5.3.3 Tubular Steel Poles

TSPs are used in areas of uneven terrain, turning points, long conductor spans, and other locations where extra structure strength is needed. The Proposed Project would install 12 TSPs; each pole would have a dulled galvanized finish (gray). TSPs would range from 65 to 100 feet above ground surface with an approximate diameter of two to four feet. TSPs are installed on a concrete base five to eight feet in diameter that may extend up to two feet above ground surface, and approximately 20 to 40 feet below ground. Locations of new TSPs are shown in Figure 2-2.

2.6 Rights-of-Way Requirements

The Mascot Substation would be constructed on approximately five acres of property to be acquired by SCE. The subtransmission line alignments and access roads would be located within approximately six acres of new ROW to be acquired (approximately 30 feet wide and two miles long), adjacent to existing PG&E ROW (2010c). In most cases, SCE would use the existing road parallel to the PG&E line. Where the landowner will not permit construction of a permanent road, access is granted in the easement for ingress and egress to the ROW and any SCE facilities. SCE typically purchases

easements from property owners for subtransmission line ROWs and access road ROWs. For routine maintenance, SCE would coordinate with the property owner for preferred access routes, or would use existing roads or paths.

2.7 Preconstruction Activities

The following activities would occur prior to the start of construction.

2.7.1 Geotechnical Studies

SCE would conduct a geotechnical study of the substation site and the subtransmission line that would include an evaluation of the soil type, depth to the water table, soil resistivity, and the presence of anthropogenic chemicals, including pesticides.

2.7.3 Worker Environmental Awareness Training

A Worker Environmental Awareness Plan would be developed based on the final engineering design, the results of preconstruction surveys, and a list of mitigation measures developed in this IS/MND to mitigate potentially significant environmental effects from construction and operation of the Proposed Project. SCE would prepare a presentation to be shown to all site workers prior to their start of work. The construction foreman would keep a record of all trained personnel.

In addition to the instruction for compliance with any additional site-specific biological or cultural resource protective measures and project mitigation measures that are developed after the preconstruction surveys, all construction personnel would also receive the following:

- A list of phone numbers of SCE personnel associated with the Proposed Project (archeologist, biologist, environmental compliance coordinator, and regional spill response coordinator);
- Instruction on the San Joaquin Valley Air Pollution Control District's Regulation VIII Control Measures for Construction Emissions of PM10 in the San Joaquin Valley Air Basin;
- Instruction on what typical cultural resources look like, and if discovered during construction, to suspend work in the vicinity of any find and contact the site foreman and archeologist or environmental compliance coordinator;
- Instruction on individual responsibilities under the Clean Water Act, the project storm water pollution prevention plan (SWPPP), site-specific best management practices (BMPs), and the location of Material Safety Data Sheets (MSDSs) for the Proposed Project;
- Instructions to notify the foreman and regional spill response coordinator in case of hazardous materials spills and leaks from equipment, or upon the discovery of soil or groundwater contamination;
- A copy of the truck routes to be used for material delivery; and
- Instruction that noncompliance with any laws, rules, regulations, or mitigation measures could result in being barred from participating in any remaining construction activities associated with the Proposed Project.

2.8 Construction

This section describes construction methods that would be used to complete the various components of the Proposed Project including subtransmission line construction, distribution line relocation, and the construction of the Mascot Substation as well as modifications to the Goshen, Liberty, and Hanford Substations. The Proposed Project would require the establishment of a staging area, work areas, pull and tension sites, and access to poles along the subtransmission line alignment. During construction, workers would park their personal vehicles at the Mascot Substation site, at the material staging yard, San Joaquin Service Center, and/or the Rector Substation. Workers would then carpool to the jobsite daily in company vehicles.

Project construction would generally occur in the following manner:

- Mascot Substation Construction and Upgrades to Existing Substations
 - Site Preparation and Grading
 - Below-Grade Construction
 - Above-Grade Construction
- Install Subtransmission and Telecommunication Lines
 - Access Road and Site Preparation
 - LWS and TSP Installation
 - Guard Structure Installation
 - Telecommunication Duct bank Construction
 - Conductor and Telecommunication Line Stringing
 - Existing Wood Pole Removal
- Energize Subtransmission Lines
- Post Construction Cleanup and Landscaping

2.8.1 Staging Area

Construction staging for the Proposed Project would require a temporary material staging yard. SCE anticipates using the proposed Mascot Substation site as a material staging yard for parking and the storage of materials and equipment during construction.

If the proposed Mascot Substation cannot be used as a material staging yard, SCE would attempt to lease a facility within approximately five miles of the Proposed Project. If SCE leases an existing commercial facility near the Proposed Project, it would be approximately five-acres in size. The yard would be surfaced with crushed rock if the existing surfacing is not compatible with storage and equipment requirements, and would be surrounded with temporary chain-link fencing to the extent that the perimeter of the site is not already secured. Land disturbed at the staging areas, if any, would be restored to preconstruction conditions or to the conditions agreed upon between the landowner and SCE following the completion of construction of the Proposed Project.

Materials and equipment typically staged at the material staging yard could include, but would not be limited to, conductor and cable reels, construction trailers, electrical equipment, foundation cages, insulators, rebar, steel beams, below and above-grade conduit and grounding, wire stringing equipment, poles, line trucks, crossarms, Storm Water Pollution Prevention Plan materials (such as straw wattles, gravel, silt fences), waste materials from construction of the Proposed Project (for salvaging, recycling, or disposal), and portable sanitation facilities. Temporary power would also be placed at the material staging yard.

All materials associated with construction efforts would be delivered by truck to the established material staging yard. The transformers would be delivered by heavy transport vehicles and off-loaded on-site by large cranes and/or forklifts with support trucks. Delivery activities requiring major street use would be scheduled to occur during off-peak traffic hours to the extent feasible, in accordance with applicable local ordinances. Off-peak hours are generally considered times outside the peak morning (7:00am to 9:00am) and afternoon (4:00pm to 6:00pm) commutes (SCE 2010a).

2.8.2 Access Roads

SCE would acquire the rights to use approximately 1.5 miles of existing paved and dirt roads located adjacent to the Proposed Project for constructing and maintaining the new line. In addition, SCE would construct approximately 0.5 mile of new access roads to access the proposed subtransmission line structure locations. Existing access roads would be improved between Grangeville Boulevard and SR 198, and between Lakeside Ditch and East Hanford-Armona Road. A new access road would be installed between SR 198 and Lakeside Ditch (**Figure 2-2**).

If needed, areas used for new and existing access roads would be cleared of vegetation; blade-graded to remove potholes, ruts, and other surface irregularities; and re-compacted to provide a smooth and dense riding surface capable of supporting heavy construction equipment. The graded access road would have a minimum drivable width of 14 feet, preferably with an additional two-foot shoulder on each side of the road. Where the landowner will permit, access roads constructed to accommodate new construction would be left in place to facilitate future operations and maintenance purposes. For the purpose of this analysis, all access roads are assumed permanent. Gates would be installed where required at fenced property lines to restrict general and recreational vehicular access to ROWs.

For any construction activities within public rights-of-way, the use of a traffic control service and any lane closures would be conducted in accordance with local ordinances and permit conditions. Such traffic control measures are typically consistent with those published in the California Joint Utility Traffic Control Manual (California Joint Utility Traffic Control Committee, 2010).

2.8.3 Mascot Substation Construction and Existing Substation Upgrades

Sections 2.8.3.1 through 2.8.3.3 describe the construction of the proposed Mascot Substation. Section 2.8.3.4 describes proposed upgrades to Goshen, Liberty and Hanford Substations.

2.8.3.1 Site Preparation and Grading

The proposed substation site would need to be prepared for construction and installation of substation equipment and other ancillary facilities. Preparation would include vegetation and soil removal, fill, and grading at the approximately five-acre site. The site would be graded in accordance with the grading plan approved by Kings County. The area to be enclosed by the substation perimeter wall would be graded to a minimum slope of one percent and compacted to 90 percent of the maximum dry density. The finished grade would be approximately four feet higher than the surface elevation of Grangeville Boulevard. The areas outside the substation wall that would be used as a buffer would be graded in a manner consistent with the overall site drainage design. Final site drainage would be subject to the conditions of the grading permit obtained from Kings County.

The proposed substation site is presently used to grow alfalfa. During site grading, approximately 12,000 cubic yards of existing soil would be removed from the site, and disposed of off-site at an appropriately licensed waste facility. The substation site is presently below the grade of Grangeville Boulevard. As such, approximately 14,000 cubic yards of new clean fill would be required to replace the waste soil removal, and an additional 18,000 cubic yards of clean fill would be required to raise the site to the proposed design elevation. In addition, approximately 450 cubic yards of soil would be excavated for foundation and building footings. This soil would be stockpiled during excavation and ultimately would be graded and compacted on site.

At this time the closest fill source has been identified is located in Hanford approximately six miles from the Mascot Substation location. A second potential fill source is located in Lemoore approximately 12 miles from the Mascot Substation location. Approximately 51 truckloads of fill per day for 15 weeks would be required to bring the site up to grade. Fill soil would be provided by a contractor obligated to provide clean fill that has not been recycled (SCE 2010a).

2.8.3.2 Below-grade Construction

After grading of the substation site, proposed below-grade facilities would be installed. Below-grade facilities include a ground grid, cable trenches, power cable trench, equipment foundations, conduits, duct banks, utilities, and the footing of the substation wall. The design of the ground grid would be based on soil resistivity measurements collected during a geotechnical investigation conducted prior to construction. The trenches are used to house duct banks containing the 12 kV distribution circuits and could extend beyond the substation perimeter as described in Section 2.5.1.1.

Within the Substation Perimeter

The substation ground surface would be composed entirely of fill. Below-grade construction would include trenching and installing the ground grid (which connects to power cable trenches), and utilities. Additional grading and excavation would be necessary to install equipment foundations.

Ground Grid

The ground grid consists of a series of trenches within the substation perimeter to connect the various components of the substation. A backhoe would be used to dig the trenches. At locations

where the ground grid would connect to the power cable trenches, the trench would be lined with concrete. Where below-grade construction would occur (not in fill soil) the design of the ground grid would be based on soil resistivity measurements collected during a geotechnical investigation that would be conducted prior to construction.

Equipment Foundations

Approximately 450 cubic yards of soil would be excavated as a result of excavation for foundation and MEER footings. The soil would be stockpiled during excavation and ultimately would be graded and compacted on site.

Outside the Substation Perimeter

Below-grade construction outside the perimeter at Mascot, Goshen and Liberty Substations would consist of duct bank and vault construction, in the vicinity of each substation as described in Section 2.5.1.

Vault Installation

Two vaults, approximately 19 feet long, eight feet wide and 9.5 feet deep vault would be installed outside the proposed perimeter wall, either within the proposed substation site or within 100 feet of the substation site.

For each vault, a backhoe, with a 36-inch bucket, would be used to excavate a hole approximately 20 feet long, nine feet wide and 11.5 feet deep. Assuming the soil is uncontaminated, approximately 80 tons of soil would be extracted, requiring approximately eight loads with a 10-ton dump truck.

Shields or trench shoring would temporarily be installed to brace the walls of the trench. Once shored, 6 inches of $\frac{3}{4}$ -inch crushed rock would be dumped into the hole, compacted, and leveled. Then the shields or trench shoring would be removed. Using the boom on the delivery truck from the vault manufacturer, the bottom half of the vault would be lowered into place, followed by the top half. The seam would be sealed with mastic, which is a sealant to prevent vault seam leaks. Following seam sealing, access to the vault (e.g., manhole), which includes necking and the vault cover and frame, would be installed and sealed with mastic and grout.

Next, approximately 18 tons of a cement/sand slurry, which would be delivered by two 10-ton cement trucks, would be poured around the vault and on top of the vault (i.e., approximately six inches).

Vent pipes would then be installed for the purposes of providing ventilation to cool any distribution transformers that may ultimately be installed inside the vault. The contractor would then excavate and install the vent pipes running to the designed location with a backhoe creating approximately another six yards of haul-off dirt. The vent pipe conduits would then be encased in concrete and, after the encasement hardens, the trench would be backfilled with a cement/sand slurry. If the vault is located within a street the contractor would then repave the street in accordance with the county's requirements.

Duct bank Construction

Duct bank installation would require excavation of trenches approximately 24 inches wide and 60 inches deep. SCE would place six five-inch polyvinyl chloride (PVC) conduits in each trench, fully-encased, covered with a layer of slurry. The trench surface would be finished to match the surrounding ground surface.

2.8.3.3 Above-Grade Construction

After the below-grade structures are installed, above-grade equipment and ancillary facilities (i.e., buses, capacitors, circuit breakers, transformers, steel support structures, and the MEER) would be installed. As discussed in Section 2.8.3.1, the proposed substation site is currently used to grow alfalfa. An irrigation system and groundwater well are present on the site. As part of the purchase agreement for the parcel, SCE may be required to relocate the irrigation facilities. If so, the irrigation system and well would be reinstalled on the adjacent parcel and related existing infrastructure would be either abandoned in place or removed and discarded in accordance with all applicable laws.

In preparation for above-grade construction, the ground surface of the substation site would be finished with materials imported to the site and materials excavated and used on the site. These materials, and their approximate surface area and volumes are listed below in **Table 2-3**.

The transformers would be delivered by heavy-transport vehicles and off-loaded on site by large cranes with support trucks.

**TABLE 2-3
SUBSTATION GROUND SURFACE IMPROVEMENT MATERIALS, AREAS, AND VOLUMES**

Element	Material	Approximate Surface Area (ft ²)	Approximate Volume (yd ³)
Site Fill (import)	Soil	200,000	18,000
Waste Removal (export)	Soil/Vegetation	200,000	12,000
Replacement fill (import)	Soil	200,000	14,000
Substation Equipment Foundations	Concrete	2,000	140
Equipment, wall foundation and cable trench excavations ^a	Soil	85,000	450
Cable Trenches ^a	Concrete	1,900	15
66 kV Bus Enclosures	Asphalt concrete	4,100	75
Internal Driveway	Asphalt concrete	4,500	55
	Class II aggregate base	4,500	99
External Driveway	Asphalt concrete	3,000	40
	Class II aggregate base	3,000	60
Substation Rock Surfacing	Rock, nominal 1 to 1-1/2 inch per SCE Standard	85,000	1,050
Block Wall Foundation	Concrete	3,000	250

a. Standard cable trench elements are factory-fabricated, delivered to the site, and installed by crane.

SOURCE: SCE, 2009b

2.8.3.4 Goshen, Liberty and Hanford Substations

Upgrade activities at the existing substations would occur within and outside of existing substation fencelines. Construction activities at each substation would include:

- Goshen Substation – digging approximately 600 feet of trench and installing telecommunication duct banks.
- Liberty Substation – digging approximately 30 feet of trench and installing telecommunication duct banks.
- Hanford Substation – use of heavy equipment to remove and transport contingency transformer from Hanford Substation to Mascot Substation. Remove or leave in place existing 66kv circuit breaker.

Duct bank construction methodologies are described in Section 2.8.3.2.

2.8.4 Subtransmission, Distribution and Telecommunication Line Installation

The following section describes the construction methodology for installing the new subtransmission and telecommunication lines. This would include the following activities: survey, access road preparation, pole installation, conductor and telecommunication line stringing, transfer of existing distribution and telecommunication lines to new poles, and removal of existing wood poles.

2.8.4.1 Access Roads

Access roads necessary for the installation of new poles, removal of existing wood poles, and conductor stringing are described in Section 2.8.2.

2.8.4.2 Pole Installation

All new pole sites would first be graded and/or cleared to remove vegetation and provide a reasonably level surface for footing construction. Sites would be graded so that water would run toward the direction of the natural drainage. Furthermore, drainage would be designed to prevent ponding and erosive water flows that could damage the structure base. The graded area would be compacted to at least 90 percent relative density, and would be capable of supporting heavy vehicles.

Wood and Light Weight Steel Poles

Assembly of wood and LWS poles typically require a temporary laydown area of approximately 150 feet by 75 feet. This area would be cleared of vegetation and graded, if necessary, to provide a flat working surface. A tool truck would transport the hand crews and equipment to each LWS pole location.

Once the site is prepared, a hole would be bored approximately two to four feet in diameter and eight to 10-foot deep, resulting in the removal of approximately one cubic yard of soil. The wood poles and LWS poles would be direct buried in the boreholes, and are normally installed using a line truck. The poles would be placed in the hole and excavated material would then be used to

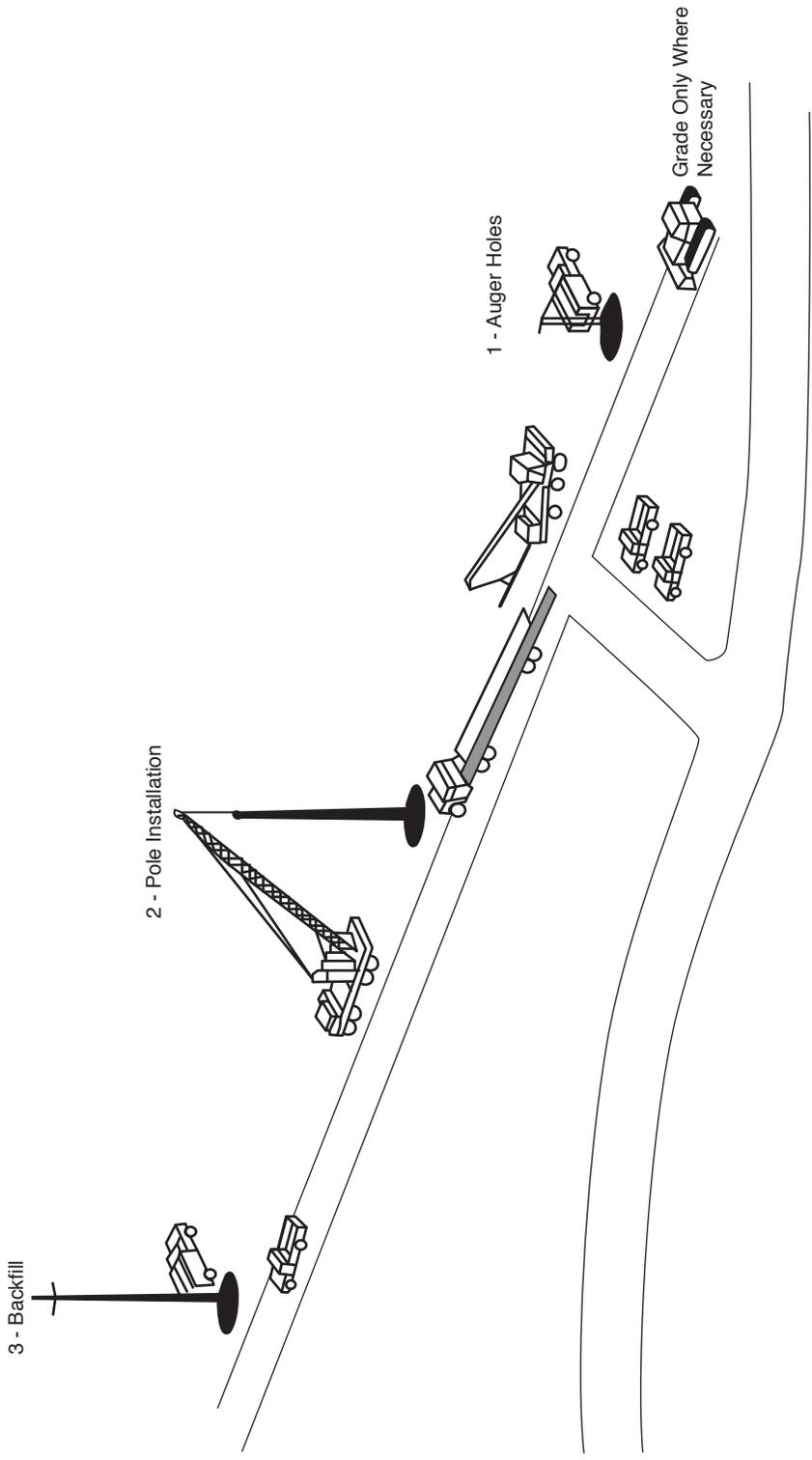
backfill the hole, reach required compaction, and set soil height to reach final grade. Any excess excavated material would either be offered to the property owner or properly disposed of off site. If the excavated material is not suitable for use as backfill, imported clean fill material, such as clean dirt and/or pea gravel, would be used. **Figure 2-6** shows the typical pole installation construction sequence.

LWS pole segments, consisting of separate base and top sections, would be transported by flatbed trucks from the staging area and placed on the ground at each new pole location. The top section would be pre-configured with the necessary crossarms, insulators, and wire-stringing hardware while on the ground in the laydown area. A line truck with a boom on it would be used to position each pole base section into previously augured holes. When the base section is secured, the top section would be placed above the base section. The two sections may be spot-welded together for additional stability.

Tubular Steel Poles

Assembly of TSPs would require a temporary laydown area of approximately 200 feet by 100 feet. This area would be cleared of vegetation and graded, if necessary, to provide a flat working surface. Erection of the TSPs may also require establishment of a temporary crane pad. The crane pad would be located adjacent to each applicable structure location, and would allow an erection crane to set up approximately 60 feet from the centerline of each structure. In most cases, this crane pad would be located within the laydown area used for structure assembly. If a separate pad is required, it would occupy an area of approximately 50 feet by 50 feet. The pad would be cleared of vegetation and also graded as necessary to provide a level surface for crane operation. The decision to use a separate crane pad would be determined after final engineering of the Proposed Project and the selection of the appropriate construction methods to be used by SCE or its contractor. A tool truck would transport the hand crews and equipment to each TSP location.

TSP poles would require a concrete foundation. Once the site is prepared, a truck or track-mounted excavator would be used to bore a hole to install a concrete foundation (i.e., footing) approximately five to eight feet in diameter and 20 to 40 feet below ground, resulting in the removal of approximately 22 cubic yards of soil. Then a steel reinforced cage would be set in the boring, survey positioning verified, and concrete poured into the hole. Each foundation would require approximately 20 to 80 cubic yards of concrete, and the finished foundation would extend up to approximately two feet above the ground. Concrete samples would be drawn at the time of pour and tested to ensure engineered strengths were achieved. After the concrete has cured (approximately 28 working days), and the strength has been verified by controlled testing of sampled concrete, crews would commence erection of the structure.



NOT TO SCALE

Foundations in soft or loose soil that extend below the groundwater level may require stabilization with drilling mud slurry. After drilling to prevent the sidewalls from sloughing, mud slurry would be replaced in the hole. Then, concrete for the foundation would be pumped to the bottom of the hole, displacing the mud slurry. Mud slurry brought to the surface would be reused or discarded at an off-site disposal facility in accordance with all applicable laws.

TSP segments, consisting of separate base and top sections, would be transported by flatbed trucks from the staging area and placed on the ground at each new pole location. The top section would be pre-configured with the necessary crossarms, insulators, and wire-stringing hardware while on the ground in the laydown area. A crane would be used to position each pole base section on top of previously prepared foundations. When the base section is secured, the top section would be placed above the base section. The two sections may be spot welded together for additional stability.

Figure 2-6 shows the typical pole installation construction sequence. **Table 2-4** provides a summary of the typical metrics for wood poles, LWS poles, TSPs, and TSP concrete foundations.

**TABLE 2-4
TYPICAL SUBTRANSMISSION POLE METRICS**

Pole Type	Approximate Diameter at Base (Feet)	Approximate Height Above Ground (Feet)	Approximate Auger hole Depth (Feet)	Approximate Auger Diameter (Feet)
Wood	1 to 3	61 to 75	8 to 10	2 to 4
LWS	1 to 3	61 to 75	8 to 10	2 to 4
TSP	2 to 4	65 to 100	N/A	N/A
TSP Concrete Foundation	5 to 8	Up to 2	20 to 40	5 to 8

SOURCE: SCE, 2009b

Excavated material from installation of LWS and TSPs would be spread at each pole site, used to backfill excavations from removal of two wood poles, or disposed of off-site in accordance with all applicable laws.

2.8.4.3 Guard Structures

SCE estimates that approximately four temporary guard structures would be required to facilitate construction of the Proposed Project. Guard structures would be installed at transportation, flood control, and utility crossings, after pole installation and before wire stringing begins. The guard structures may consist of temporary netting, wood poles, and/or specifically equipped boom-type trucks with heavy outriggers staged to prevent the conductor from dropping. Typical guard structures are wood poles, approximately 60 to 80 feet tall, and depending on the width of the conductor being constructed, the number of guard poles installed on either side of a crossing would be between two and four. For major roadway crossings, SCE typically employs one or more of the following methods to protect the public:

- Erection of a highway net guard structure system;
- Detour of all traffic off a highway at the crossing point;

- Implementation of a controlled continuous traffic break while stringing operations are performed; or
- Strategic placement of special line trucks with extension booms on the highway deck.

All guard structures would be removed after the conductor is clipped into place.

2.8.4.4 Conductor and Telecommunication Installation

Conductor installation activities include the installation of primary conductors, a fault return conductor, vibration dampeners, weights, and suspension and dead-end hardware assembly for the entire length of the subtransmission line segment. Insulators and string sheaves (rollers or travelers) are also attached as part of installation efforts.

All wire stringing activities would be in accordance with SCE specifications and similar to process methods detailed in the IEEE Standard 524-2003 (Guide to the Installation of Overhead Transmission Line Conductors). Safety devices such as traveling grounds, guard structures, and radio-equipment public safety roving vehicles and linemen would be in place prior to the initiation of conductor installation activities, to ensure the safety of workers and the public.

Though the dimensions of the area needed for conductor installation are variable and depend upon the terrain, pulling and stringing set-up locations would generally be a minimum of approximately 200 feet by 100 feet in size, and conductor splicing locations would be a minimum of approximately 150 feet by 100 feet. Typically, conductor pulling sites occur every 6,000 feet on flat terrain or less in rugged terrain, and at all turning points. Pulling locations and equipment set-ups would be in direct line with the direction of the overhead conductors and would be established a distance approximately three times the pole height away from the adjacent structure. Splicing sites would be located to support the stringing operations and would include specialized support equipment such as skidders and wire crimping equipment. Although the final number and locations of the puller, tensioner, and splicing sites would be determined during final engineering, **Figure 2-2** shows the approximate locations of proposed pull/tension sites.

Once the locations of wire pulls and wire pull equipment set-up positions has been determined, conductor stringing operations begin with the installation of travelers, or rollers, on the bottom of each of the insulators using bucket trucks. The rollers allow the conductor to be pulled through each structure until the entire line is ready to be pulled to the final tension position. Following installation of the rollers, a lightweight sock line (a small cable used to pull the conductor) would be pulled onto the rollers from structure to structure using bucket trucks. Once the sock line is in place, it would be attached to the conductor and used to pull, or string, the conductor into place on the rollers using conventional pulling equipment at pull and tension sites along the line. The conductor would be pulled through each structure under a controlled tension to keep it elevated and away from obstacles, thereby preventing third-party damage to the line and protecting the public. After the conductor is pulled in, all mid-span splicing would be performed, after which the conductor would be sagged to proper tension and dead-ended to structures. After this step, the conductors would be clipped in (i.e. attached to all tangent structures). Conductor wire installation may include the use of guard structures at roadway crossings (as discussed in Section 2.8.4.4).

Telecommunication lines (i.e., fiber optic cable) would be installed by attaching the cable to the subtransmission poles in a manner similar to that described above for conductor. A truck with a cable reel would be set up at one end of the section to be pulled, and a truck with a winch would be set up at the other end. The cable would be pulled onto the pole and permanently secured. Fiber strands in the cable from one reel would be spliced to fiber strands in the cable from the next reel to form one continuous path. One reel typically holds 20,000 feet of cable. All telecommunication cable construction would be along existing roadways, and land closures are not anticipated during the installation.

Telecommunication duct bank installation would require excavation of trenches approximately 18 inches wide and 60 inches deep. SCE would place three five-inch polyvinyl chloride (PVC) conduits in each trench, semi-encased, covered with a layer of slurry. The trench surface would be finished to match the surrounding ground surface. Finally, the fiber optic cable would be pulled through the duct bank.

2.8.4.5 Removal of Existing Poles

After construction of the new subtransmission poles and transfer of any existing underbuilt facilities such as telephone lines to the new poles, two existing wood poles on East Hanford-Armona Road no longer supporting facilities would be removed (including the below-ground portion). After removal, the hole would be backfilled using imported fill in combination with soil that may be available as a result of excavation for the installation of other structures. The standard work practice for removing a pole is to attach a sling at the upper end of the pole, using boom or crane equipment, while using a hydraulic jack at the base to vertically lift the pole until it can be lifted out of the ground. Excavation around the base of the pole would only be required if the base of a pole had been encased in hardened soil or man-made materials (e.g., asphalt or concrete), or where there is evidence that the pole has deteriorated to the point that it would splinter or break apart by the jacking and pulling operation described above. The backfill material would be thoroughly tamped and the filled hole would be leveled to grade.

2.8.4.6 Energizing 66 kV Subtransmission Lines

Lastly, the 66 kV subtransmission lines would be energized. The existing Hanford-Liberty and Goshen-Hanford 66 kV subtransmission lines would be de-energized in order to connect the new Mascot Substation 66 kV subtransmission lines. De-energizing and reconnecting the subtransmission lines to the new poles may occur at night when electrical demand is low to reduce the need for electric service outages. Once the connections are made, the subtransmission lines would be returned to service (i.e., re-energized).

2.8.5 Dust Control and Site Cleanup

During construction, water trucks would be used to minimize the quantity of airborne dust created by construction activities, per San Joaquin Valley Air Pollution Control District Regulation VIII control Measures for Construction Emissions of PM₁₀ in the San Joaquin Valley Air Basin. Any

damage to existing roads as a result of construction would be repaired once construction is complete in accordance with local agency requirements.

SCE would restore all areas that were temporarily disturbed by construction of the Proposed Project (including the materials staging yard, splicing sites, and pull and tension sites) to as close to preconstruction conditions as possible, or to the conditions agreed upon between the landowner and SCE, following the completion of construction of the Proposed Project. In addition, all construction materials and debris would be removed from the area and recycled or properly disposed of off site (see Section 2.8.5.3). SCE would be required to conduct a final inspection to ensure that all cleanup activities were successfully completed.

2.8.5.1 Storm Water Pollution Prevention Plan

Construction of the Proposed Project would disturb a surface area greater than one acre. As a result, SCE would be required to obtain a National Pollutant Discharge Elimination System (NPDES) permit from the Central Valley Regional Water Quality Control Board (CVRWQCB). To acquire this permit, SCE would prepare a SWPPP that includes project information; monitoring and reporting procedures; and BMPs such as storm water runoff quality control measures (boundary protection), spill reporting, and concrete waste management, as applicable to the project. The SWPPP would be based on final engineering design and would include all components of the Proposed Project.

2.8.5.2 Hazards and Hazardous Materials

Construction and operation of the Proposed Project would require the limited use of hazardous materials, such as fuels, lubricants, and cleaning solvents. All hazardous materials would be stored, handled, and used in accordance with the applicable regulations. For all hazardous materials in use at the construction site, Material Safety Data Sheets would be made available to all site workers upon request.

The SWPPP prepared for the Proposed Project would provide details regarding locations at which hazardous materials may be stored during construction, as well as the protective measures, notifications, and cleanup requirements for any accidental spills or other releases of hazardous materials that could occur.

2.8.5.3 Waste Management

Construction of the Proposed Project would result in the generation of various waste materials, including wood, soil, vegetation, and sanitation waste (portable toilets). Depending on the condition and original chemical treatment, the two existing wood poles removed for the Proposed Project would be returned to the staging yard and: 1) reused by SCE, 2) returned to the manufacturer, 3) disposed of in a Class I hazardous waste landfill, or 4) disposed of in the lined portion of a CVRWQCB-certified municipal landfill. Soil excavated for the Proposed Project would either be used as fill or disposed of off-site at an appropriately licensed waste facility. Sanitation waste (i.e., human-generated waste) would be disposed of according to sanitation waste management practices.

2.8.6 Construction Workforce and Equipment

The estimated elements, materials, number of personnel and equipment required for construction of the Proposed Project are summarized in **Table 2-5**. Construction would be performed by either SCE construction crews or contractors, depending on the availability of SCE construction personnel at the time of construction. If SCE transmission and telecommunications construction crews are used, they would likely be based at one of SCE's local facilities such as the Rector Substation or the San Joaquin Service Center. If contractor construction personnel are used, they would likely be commuting from within the region and would be managed by SCE construction management personnel. SCE anticipates a total of approximately 40 construction personnel working on any given day. SCE anticipates that crews would work concurrently whenever possible; however, the estimated deployment and number of crew members would be dependent upon final county permitting, material availability, and construction scheduling.

**TABLE 2-5
CONSTRUCTION EQUIPMENT USE**

Activity and Number of Personnel	Number of Work Days	Equipment and Quantity	Duration of Use (Hours/Day)
Substation Construction			
Survey (2 people)	10	2-Survey Trucks	8
		1 Dozer	4
		2 Loader	4
		1 Scraper	3
		1 Grader	3
Grading (15 people)	90	1 Water Truck	2
		2 4X4 Backhoe	2
		1 4X4 Tamper	2
		1 Tool Truck	2
		1 Pickup 4X4	2
		1 Excavator	4
		1 Foundation Auger	5
		2 Backhoe	3
		1 Dump truck	2
		1 Skip Loader	3
Civil Work (10 people)	60	1 Water Truck	3
		2 Bobcat Skid Steer	3
		1 Forklift	4
		1 17 ton Crane	2 hours/day for 45 days
		1 Tool Truck	3
		1 Carry-all Truck	4
		1 Stake Truck	3
MEER (4 people)	20	2 Scissor Lifts	3
		2 Manlifts	3
		1 Reach Manlift	4
Electrical (10 people)	70	1 15-ton Crane	3
		1 Tool Trailer	3
		2 Crew Trucks	2

**TABLE 2-5 (CONTINUED)
CONSTRUCTION EQUIPMENT USE**

Activity and Number of Personnel	Number of Work Days	Equipment and Quantity	Duration of Use (Hours/Day)
Substation Construction (Continued)			
Wiring (5 people)	25	1 Manlift	4
		1 Tool Trailer	3
Transformers (6 people)	30	1 Crane	6
		1 Forklift	6
		2 Crew Trucks	2
		1 Low Bed Truck	4
		2 Maintenance Trucks	4
Maintenance Crew Equipment Check (2 people)	30		
Testing (4 people)	80	1 Crew Truck	3
Fencing (6 people)	10	1 Bobcat	8
		1 Flatbed Truck	2
		1 Crewcab Truck	4
Asphalting (6 people)	15	2 Paving Roller	4
		1 Asphalt Paver	4
		1 Stake Truck	4
		1 Tractor	3
		1 Dump Truck	3
Asphalting (6 people) (cont.)		2 Crew Trucks	2
		1 Asphalt Curb Machine	3
66 kV Subtransmission Line Construction			
TSP Foundation (7 people)	6	3 1-ton Crew Cab Flat Bed, 4x4	2
		1 30-ton Crane Truck	5
		1 Backhoe/Front Loader	8
		1 Auger Truck	8
		1 4,000-gallon Water Truck	8
		2 10-cubic yard Dump Truck	8
		3 10-cubic yard Concrete Mixer Truck	5
		2 3/4-ton Pick-up Truck, 4x4	5
Pole Haul (4 people)	12	1 80-ton Rough terrain Crane	6
		2 40-foot Flat Bed Truck/Trailer	8
		2 3/4-ton Pick-up Truck, 4x4	5
Steel Pole Assembly (8 people)	7	2 1-ton Crew Cab Flat Bed, 4x4	5
		1 Compressor Trailer	5
		1 80-ton Rough Terrain Crane	6
Steel Pole Erection (8 people)	7	2 3/4-ton Pick-up Truck, 4x4	5
		2 1-ton Crew Cab Flat Bed, 4x4	5
		1 Compressor Trailer	5
Wood Pole (8 people)	6	1 80-ton Rough Terrain Crane	6
		2 3/4-ton Pick-up Truck, 4x4	5
		2 1-ton Crew Cab Flat Bed, 4x4	5
		1 Compressor Trailer	5
		1 80-ton Rough Terrain Crane	6

**TABLE 2-5 (CONTINUED)
CONSTRUCTION EQUIPMENT USE**

Activity and Number of Personnel	Number of Work Days	Equipment and Quantity	Duration of Use (Hours/Day)
66 kV Subtransmission Line Construction (Continued)			
Installation of Conductor (16 people)	6	2 3/4-ton Pick-up Truck, 4x4	8
		4 1-ton Crew Cab Flat Bed, 4x4	8
		2 Wire Truck/Trailer	2
		1 Dump Truck	2
		2 Bucket Truck	8
		2 22-ton Manitex	8
		1 Splicing Rig	2
		1 Splicing Lab	2
		1 3-drum Straw line Puller	6
		1 Static Truck/Tensioner	6
Guard Structure Installation/Removal (6 people)	2	2 3/4-ton Pick-up Truck, 4x4	6
		2 1-ton Crew Cab Flat Bed, 4x4	6
		2 Compressor Trailer	6
		2 Extendable Flat Bed Truck	6
		1 30-ton Crane Truck	8
		1 80-foot Hydraulic Man-lift/Bucket Truck	4
Restoration (7 people)	2	2 1-ton Crew Cab Flat Bed, 4x4	2
		1 Road Grader	6
		1 Water Truck	8
		1 Backhoe/Front Loader	6
		1 Drum Type Compacter	6
		1 Track Type Dozer	6
		1 Lowboy Truck/Trailer	3
Telecommunications Construction			
Substation Telecom Installation (2 people)	24	2 Vans	Commute only
Overhead Fiber Optic Installation (8 people)	30	2 Bucket Truck	8
		2 Reel Trucks	8
Duct Bank Installation (3 people)	10	1 Flatbed Truck	1
		1 Backhoe	8
		1 Stakebed Truck	2
Underground Cable Pulling (4 people)	6	1 Crew Truck	2
		1 Bucket Truck	8
		1 Reel Truck	8
SOURCE: SCE, 2009b			

2.8.6.1 Construction Schedule

Construction of the Proposed Project is anticipated to take approximately 11 months. **Table 2-6** summarizes the length of time anticipated to construct each component of the Proposed Project. Crews would typically be scheduled to work during daylight hours (7:00 a.m. to 7:00 p.m.), Monday through Saturday. If different hours or days are necessary, SCE would obtain variances from local noise ordinances, as necessary, from the jurisdiction within which the work would take place. If

nighttime work were required, temporary artificial illumination would be required to protect the safety of the construction workers, but would be oriented to minimize effect on any nearby receptors. Construction would commence following CPUC approval, final engineering and procurement activities. The Proposed Project is anticipated to be operational in 2012.

**TABLE 2-6
PROPOSED CONSTRUCTION TIMETABLE**

Proposed Project Component	Duration (months)	Estimated Schedule
Construction Begins (preparation of marshalling yard, delivery of materials, surveying, staking, vegetation clearing and grading)		July 2011
Project Construction	11	July 2011-May 2012
Project Operational		June 2012
Clean Up		Occurs throughout construction, to be completed by August 2012

SOURCE: SCE, 2009a

2.9 Project Operation and Maintenance

Components of the Proposed Project would require routine maintenance, and may require emergency repair for service continuity. Mascot Substation would be unstaffed, and electrical equipment within the substation would be remotely monitored and controlled by an automated system from SCE's Rector Regional Control Center. SCE personnel would visit the substation site for electrical switching and routine maintenance purposes. Routine maintenance would include equipment testing, equipment monitoring, and repair. SCE personnel would generally visit the substation three to four times per month.

The new 66 kV subtransmission source lines would be maintained in a manner consistent with CPUC General Order 165. Normal operation of the 66 kV subtransmission lines would be controlled remotely through SCE control systems. SCE inspects 66 kV subtransmission lines at least once per year by flying and/or driving the alignments. Maintenance would occur as needed and would include activities such as access road maintenance, replacing insulators, replacing poles, and repairing conductors.

The minimum vegetation clearing requirement around the base of a pole is a 25 foot radius for TSPs, and a 10-foot radius for LWS poles and wood poles. Standard vegetation management (e.g., tree trimming) guidelines for an energized 66 kV conductor is 12 feet plus one year's growth. SCE's standards provide that adequate clearance between vegetation and energized conductors is maintained at all times, during all conditions, for a minimum of one year for the fastest known growing species in the electrical system.

2.10 Electric and Magnetic Fields Summary

2.10.1 Electric and Magnetic Fields

This IS/MND does not consider electric and magnetic fields (EMF) in the context of the CEQA analysis of potential environmental impacts because [1] there is no agreement among scientists that EMF creates a potential health risk, and [2] there are no defined or adopted CEQA standards for defining health risk from EMF. However, recognizing that there is a great deal of public interest and concern regarding potential health effects from human exposure to EMF from transmission lines, this document does provide information regarding EMF associated with electric utility facilities and human health and safety. Thus, the EMF information in this IS/MND is presented for the benefit of the public and decision makers.

Potential health effects from exposure to *electric fields* from transmission lines (i.e., the effect produced by the existence of an electric charge, such as an electron, ion, or proton, in the volume of space or medium that surrounds it) typically do not present a human health risk since electric fields are effectively shielded by materials such as trees, walls, etc. Therefore, the majority of the following information related to EMF focuses primarily on exposure to *magnetic fields* (i.e., the invisible fields created by moving charges) from transmission lines. Additional information on electric and magnetic fields generated by transmission lines is presented in Appendix A.

After several decades of study regarding potential public health risks from exposure to power line EMF, research results remain inconclusive. Several national and international panels have conducted reviews of data from multiple studies and state that there is not sufficient evidence to conclude that EMF causes cancer. Most recently the International Agency for Research on Cancer (IARC) and the California Department of Health Services (DHS) both classified EMF as a possible carcinogen.

Presently, there are no applicable federal, State or local regulations related to EMF levels from power lines or related facilities, such as substations. However, the CPUC has implemented a decision (D.06-01-042) requiring utilities to incorporate “low-cost” or “no-cost” measures for managing EMF from power lines up to approximately four percent of total project cost. Using the four percent benchmark, SCE has incorporated low-cost and no-cost measures to reduce magnetic field levels along the transmission corridor.

2.10.2 EMF and the Proposed Project

In 2004, SCE established preferred overhead 66 kV subtransmission line designs that incorporate the most effective no-cost and low-cost magnetic field reduction design options into these preferred designs. For the Proposed Project, SCE has calculated magnetic field levels for the proposed 66 kV subtransmission lines, which were divided into two sections. Section 1, the two-mile alignment from Hanford-Liberty 66 kV subtransmission line to the proposed Mascot Substation, was calculated using poles that are of typical preferred design height. Section 2, from the existing Goshen-Hanford 66 kV subtransmission line to the proposed Mascot Substation, was also calculated using poles that are of typical preferred design height. **Table 2-7** and **Figures 2-7 and 2-8** show the calculated magnetic field levels for the Proposed Project and existing subtransmission lines, by section.

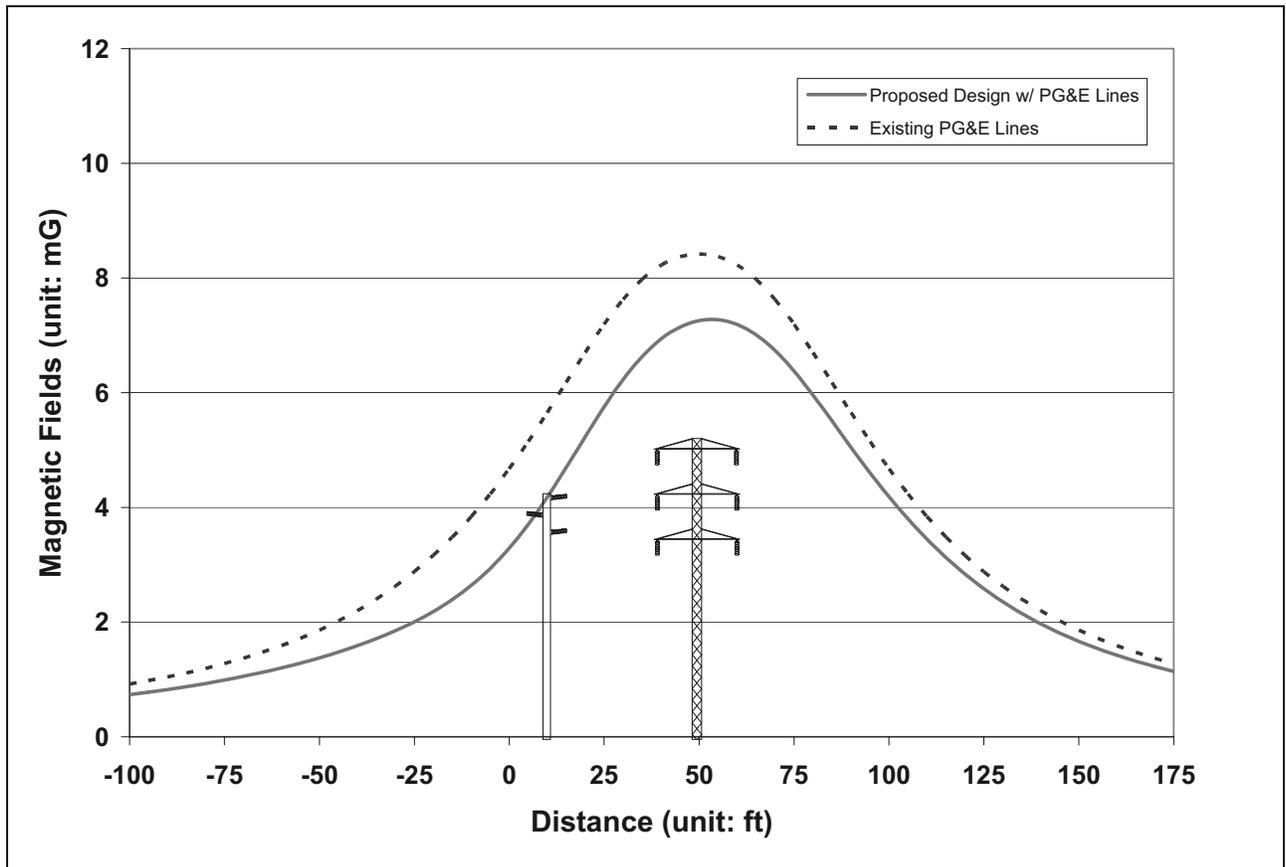


Figure 2-7
 Calculated Magnetic Field Levels for Section 1
 (From Hanford-Liberty Subtransmission Line
 to proposed Mascot Substation)

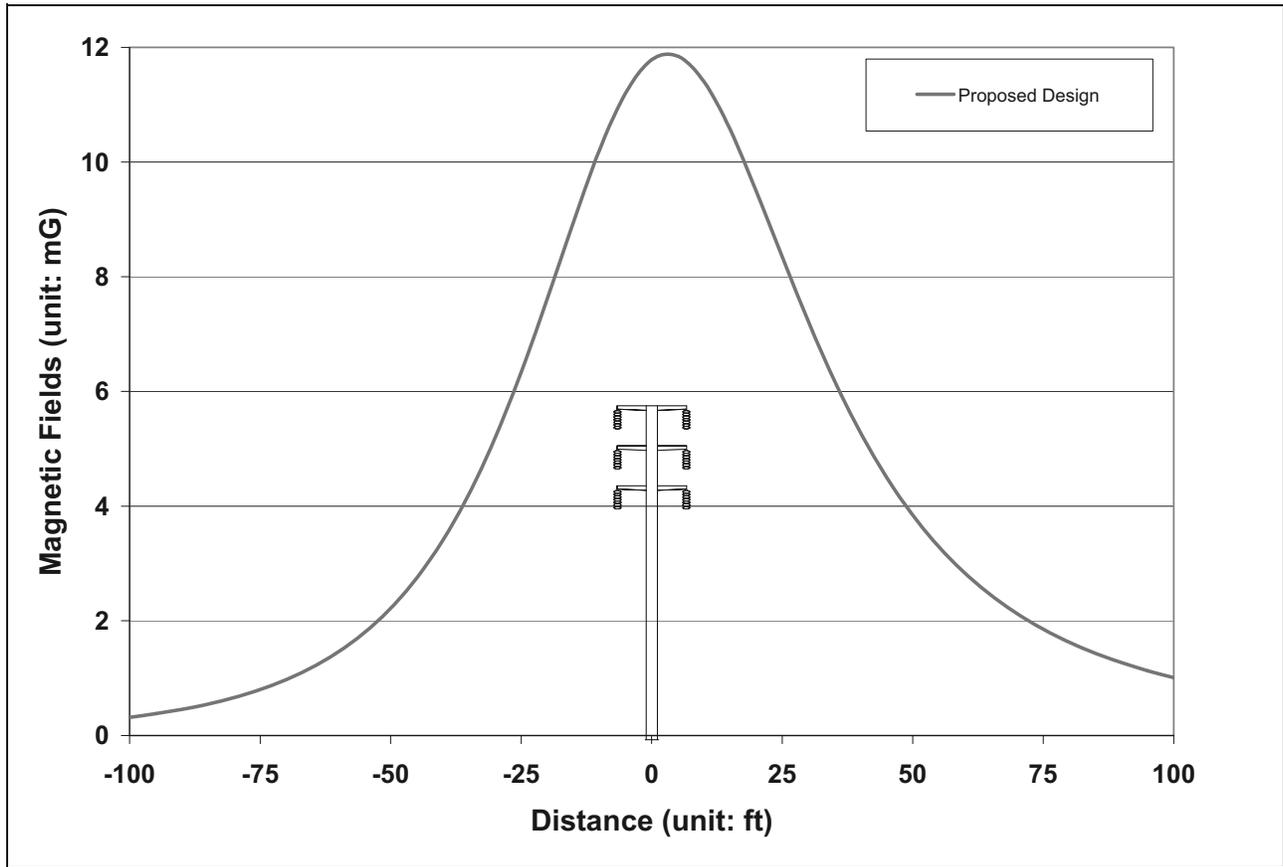


Figure 2-8
 Calculated Magnetic Field Levels for Section 2
 (From Goshen-Hanford Subtransmission Line
 to proposed Mascot Substation)

**TABLE 2-7
CALCULATED MAGNETIC FIELDS AT EDGES OF RIGHT OF WAY**

Design Options	10 ft. Left of Center Line (mG)	% Reduction	10 ft. Right of Center Line (mG)	% Reduction
Section 1 (From Hanford-Liberty subtransmission line to proposed Mascot Substation)				
Existing PG&E Double Circuit 115 kV Lines	4.7	N/A	7.2	N/A
Proposed Single-Circuit 66 kV Design	3.3	30%	5.2	28%
Section 2 (From Goshen-Hanford subtransmission line to proposed Mascot Substation)				
Proposed Double-Circuit 66 kV Design	10.2	N/A	11.4	N/A

This table depicts calculated magnetic field levels for design comparison only and is not meant to predict actual magnetic field levels.

SOURCE: SCE, 2009a.

In accordance with the EMF Design Guidelines, filed with the CPUC in compliance with CPUC Decisions 93-11-013 and 06-01-042, the Proposed Project would implement the following “no-cost and low-cost” magnetic field reduction measures (SCE, 2009a):

Mascot Substation

- Place major substation electric equipment (such as transformers, switchracks, buses and underground duct banks) away from the substation property lines; and
- Configure the transfer and operating buses with the transfer bus closest to the nearest property line.

Subtransmission line segment between Mascot Substation and Hanford-Liberty 66kV subtransmission line

- Utilize subtransmission structure heights that meet or exceed SCE’s preferred EMF design criteria;
- Arrange conductors of proposed subtransmission line for magnetic field reduction; and
- Utilize subtransmission line construction that reduces the space between conductors compared with other designs.

Subtransmission line segment between Mascot Substation and Goshen-Hanford 66kV subtransmission line

- Utilize subtransmission structure heights that meet or exceed SCE’s preferred EMF design criteria;
- Arrange conductors of proposed subtransmission line for magnetic field reduction; and
- Utilize double-circuit construction that reduces spacing between circuits as compared with single-circuit construction.

2.11 Required Permits and Approvals

The CPUC is the CEQA Lead Agency for the Proposed Project. SCE would obtain permits, approval or licenses as need from, and would participate in reviews and consultation as needed with, federal, State and local agencies, including those shown in **Table 2-8**.

**TABLE 2-8
SUMMARY OF PERMITS REQUIREMENTS**

Permit/Approval/Consultation	Agency	Jurisdiction/Purpose
Federal		
No Federal Permits Required		
State		
Permit to Construct	California Public Utilities Commission	Overall project approval and California Environmental Quality Act review
National Pollutant Discharge Elimination System Construction Stormwater Permit	California Regional Water Quality Control Board (RWQCB)	Storm water discharges associated with construction activities disturbing more than 1 acre of land
Section 401 Water Quality Certification (or waiver)	RWQCB	Certifies that project is consistent with state water quality standards
Encroachment Permit	California Department of Transportation	Construction, operation, and maintenance within, under, or over state highway (State Highway 23) ROW
Endangered Species Consultation	California Department of Fish and Game	Construction, operation, and maintenance that may affect a state-listed species or its habitat; incidental take authorization (if required)
Local		
Encroachment Permit (ministerial)	Kings County	Construction, operation, and maintenance within, under, or over county road ROW
Grading Permit	Kings County	Construction grading

SOURCE: SCE 2010 d – personal communication

References – Project Description

- California Joint Utility Traffic Control Committee, 2010. *California Joint Utility Traffic Control Manual*. April 2010.
- Edison Electric Institute and the Avian Power Line Interaction Committee. 2006. *Suggested Practices for Raptor Protection on Power Lines: the State of the Art in 2006*. Published by the Edison Electric Institute and the Avian Power Line Interaction Committee in collaboration with the Raptor Research Foundation.
- SCE, 2009a. Application of Southern California Edison Company (U 338-E) for a Permit to Construct Electrical Facilities with Voltages Between 50 kV and 200 kV: Mascot Substation Project. November 25, 2009.
- SCE. 2009b. Proponents Environmental Assessment. Mascot Substation Project. November 25, 2009.
- SCE. 2010a. Southern California Edison, Data Request Response #1. Responses received on January 14, 2010, January 21, 2010, and February 24, 2010.
- SCE. 2010b. Southern California Edison, Data Request Response #2. Responses received on April 21, 2010 and June 3, 2010
- SCE. 2010c. Southern California Edison, Data Request Response #3. Responses received on May 14, 2010.
- SCE 2010d. Southern California Edison, email communication between Ryan Stevenson (SCE), Monisha Gangopadhyay (CPUC) and Michael Manka (ESA) on June 21, 2010.

CHAPTER 3

Environmental Checklist and Discussion

3.1 Aesthetics

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
1. AESTHETICS—Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway corridor?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.1.1 Environmental Setting

Visual or aesthetic resources are generally defined as both the natural and built features of the landscape that contribute to the public’s experience and appreciation of the environment. Depending on the extent to which a project’s presence would alter the perceived visual character and quality of the environment, visual or aesthetic impact may occur.

This analysis of potential visual effects is based on review of a variety of data, including project maps and drawings, aerial and ground level photographs of the project area, a site visit to the project area, and other data in the record, including local planning documents. The study area for visual resources encompasses the landscapes directly affected by facilities planned under the Proposed Project and the surrounding areas that would be within view of the Project components. The visual analysis focuses on travel route views, and views from parks and recreational areas. Visual resources consist of the landforms, vegetation, rock and water features, and cultural modifications that create the visual character and sensitivity of a landscape.

The visual sensitivity of the environmental setting is reflected according to high, moderate and low visual sensitivity ranges, and is a composite measurement of the overall susceptibility of an area or viewer group to adverse visual or aesthetic impacts, given the combined factors of:

- **Landscape visual quality:** the overall visual impression or attractiveness of an area as determined by the particular landscape characteristics, including landforms, rock forms, water features, and vegetation patterns.
- **Viewer types:** the types of use that various land uses receive. Land uses that derive value from the quality of their settings are considered potentially sensitive to changes in visual setting conditions. Land uses within the study area that may be sensitive to change in visual conditions include major transportation systems such as designated scenic highways, designated scenic roads, and designated park, recreation and natural areas.
- **Viewer volumes:** traffic volumes are classified as low (less than 10,000 vehicle trips per day), moderate (10,000 to 20,000) and high (over 20,000 vehicle trips per day).
- **Exposure conditions:** landscape visibility, viewing distance, viewing angle, extent of visibility, and duration of view.

CEQA distinguishes between public and private views by focusing on whether a project will affect the environment of persons in general, not whether a project will affect particular persons. Private views, such as from individual homes, generally are not analyzed under CEQA and potential impacts on such views would not be considered to be environmentally significant. Accordingly, views from private residences are not discussed in the impact analysis. Nevertheless, for informational purposes, viewers in the area would include several residences off of Edna Way in unincorporated Kings County.

Existing Visual Quality of the Region

The Proposed Project is located in unincorporated Kings County, California, just east of the City of Hanford. The study area consists primarily of flat, agricultural fields with scattered rural residences, commercial and agricultural buildings, and existing infrastructure such as roadways, State Route (SR) 198, fences, and utility lines.

The proposed Mascot Substation currently is planted with alfalfa. The proposed substation site would be bordered to the north by Grangeville Boulevard, a two-lane rural roadway, and by a 115 kV double circuit PG&E transmission line to the east consisting of 40-foot to 100-foot high towers with lattice steel poles. Croplands border the site to the south and west. Orchards lie across Grangeville Boulevard to the north. An existing SCE 66kV subtransmission line runs along Grangeville Road adjacent to the proposed substation site, as well as another SCE distribution line.

The 2.0 miles of ROW for the proposed subtransmission line would be parallel to and west of the existing PG&E transmission line. The landscape along the route is characterized primarily by flat, open croplands. A small residential neighborhood is located east of the proposed ROW approximately one-half mile south of the proposed Mascot Substation, just north of SR 198. The PG&E transmission line is visible from the neighborhood, although some views may be obscured by existing mature vegetation. The proposed ROW would continue south until it ends at East Hanford-Armona Road where the proposed subtransmission line would connect with another existing SCE 66kV subtransmission line.

Motorists traveling in the area would be traveling on Grangeville Boulevard, SR 198, Lacey Boulevard, East Hanford-Armona Road, and smaller residential streets such as Edna Way and Ponderosa

Drive. Traffic volumes along Grangeville Boulevard are considered low; volumes are moderate along SR 198 in the vicinity of the Proposed Project (Kings County, 2010). No recreational facilities or parks are visible from the Proposed Project.

3.1.2 Regulatory Setting

State

California Scenic Highway Program

In 1963, the California legislature created the Scenic Highway Program to protect scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to the highways. The State regulations and guidelines governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq. A highway may be designated as “scenic” depending on how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the travelers’ enjoyment of the view. No portion of the Proposed Project would be visible from State Route 41 in the southwestern corner of Kings County, a portion of which is eligible for designation as a State Scenic Highway.

California Public Utilities Commission

California Public Utilities Code Section 320 requires that all new or relocated electric and communication distribution facilities within 1,000 feet of an officially-designated scenic highway and visible from that highway be buried underground where feasible and not inconsistent with sound environmental planning. General Order 131-D defines distribution as “...a line designed to operate under 50kV”.¹ The Proposed Project would not be within 1,000 feet of State Route 41; however, Public Utilities Code Section 320 is not applicable because the proposed subtransmission line would be 66 kV, which is over the 50 kV threshold.

California Public Utilities Code Section 21658 prohibits structural hazards associated with utility poles and lines near airports. Should any pole, pole line, distribution or transmission tower, or tower line, or substation structure be located in the vicinity of an airport or exceed 200 feet in height, a Notice of Proposed Construction or Alteration (Form 7460-1) is required by the Federal Aviation Administration (FAA) in accordance with Federal Aviation Regulation, Part 77 “Objects Affecting Navigable Airspace.” The FAA process could include stipulations, such as obstruction marking and lighting, for projects where aviation safety could be affected (see Section 2.7, *Hazards and Hazardous Materials*).

¹ The CPUC has implemented Public Utilities Code §320 via Tariff Rule 20. While Tariff Rule 20 does not disallow the funding of undergrounding transmission lines, the specific mandate of Public Utilities Code §320 is limited to distribution lines. (CPUC, D.85497.)

Local

Kings County General Plan

There are no County-designated scenic roads or highways listed in the Kings County General Plan. Scenic resources such as the Kings River, Cross Creek, and the Coast Ranges are not visible from the Proposed Project.

The following goal and policies from the General Plan would be applicable to the Proposed Project (Kings County, 2010):

Open Space Element

GOAL B1: Maintain and protect the scenic beauty of Kings County.

Objective B1.3: Protect the scenic qualities of human-made and natural landscapes and prominent view sheds.

Policy B1.3.1: Require new development to be designed so that it does not significantly impact or block view of Kings County's natural landscape or other important scenic features. Discretionary permit applications will be evaluated against this requirement as part of the development review process. New developments may be required, as appropriate to:

- Minimize obstruction of views from public lands and rights-of-way.
- Reduce visual prominence by keeping development and structures below ridgelines.
- Limit the impact of new roadways and grading on natural settings. Such limits shall be within design safety guidelines.

3.1.3 Applicant Proposed Measures

No applicant proposed measures have been identified by SCE to reduce aesthetic impacts associated with the Proposed Project.

3.1.4 Environmental Impacts and Mitigation Measures

Visual analysis focuses on two components. The first is visual sensitivity, which is a composite measurement of the overall susceptibility of an area or viewer group to adverse visual or aesthetic impacts, given the combined factors of landscape visual quality, viewer types, and exposure conditions. The second is the degree of visual change that construction, operation and maintenance of the Proposed Project would have on the site.

a) Have a substantial adverse effect on a scenic vista: *NO IMPACT.*

There are no designated scenic vistas in the vicinity of the Proposed Project, and none of the scenic resources identified in the Kings County General Plan Open Space Element would be considered scenic vistas in the Project area (Kings County, 2010). Therefore there would be no impacts to scenic vistas from construction, operation, and maintenance of the Proposed Project.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway corridor: *NO IMPACT.*

There are no designated State scenic highways in Kings County, nor are there any designated or eligible federal, State, County, or City scenic highways or roads within the vicinity of the Proposed Project (Caltrans, 2010; Kings County, 2010). Therefore, the Proposed Project would have no impact on scenic resources within a State scenic highway corridor.

c) Substantially degrade the existing visual character or quality of the site and its surroundings: *LESS THAN SIGNIFICANT IMPACT.*

The Proposed Project would generally represent an incremental to moderate change to the visual character or quality of views currently experienced by the public in the vicinity of the Proposed Project. As discussed in the Setting, viewers in the Project area would include several residences off of Edna Way and Ponderosa Road in unincorporated Kings County; private agricultural fields; a rendering plant; and motorists on SR 198 and several local roads including Grangeville Boulevard and East Hanford-Armona Road. There are no recreational areas in the vicinity of the Proposed Project with views of Project components.

Construction of the proposed Mascot Substation would include vehicles, heavy equipment, and workers that would be visible during construction activities. Substation equipment and associated facilities to be constructed include: one 66 kV switchrack; 66 kV circuit breakers and disconnect switches; two 28 MVA, 66/12 kV transformers; one 12 kV low-profile switchrack; one 66 kV, 14.4 MVAR capacitor bank, and two 12 kV, 4.8 MVAR capacitor banks; one Mechanical and Electrical Equipment Room (MEER); one restroom facility; site drainage; lighting; perimeter walls and gates; and a substation access driveway from Grangeville Boulevard. Construction would also include four new 12 kV distribution circuits and associated vaults: one routed north along 7½ Road, one going east on Grangeville Boulevard, and two going west on Grangeville Boulevard. Each circuit would run a maximum distance of 100 feet.

The proposed substation site would be located on an approximately 5-acre flat site that is currently below the grade of Grangeville Boulevard. The site is representative of the agricultural quality of the Project area. Site preparation would include vegetation and soil removal, fill, and grading of the site, as well as trenching along adjacent roads associated with the distribution circuits. A temporary chainlink fence would be installed around the perimeter during construction. Given the low number of motorists along Grangeville Boulevard, the short duration of views, the representative nature of the substation site, and the temporary nature of construction, visual impacts associated with construction of this site would be adverse but less than significant.

Construction-related impacts to visual quality also would result from the presence of construction equipment, materials, and work crews on local access roads along the proposed subtransmission alignment, at the Project staging area, and at pull/tension sites. SCE anticipates using the proposed Mascot Substation site as a material staging area for parking and the storage of materials and equipment during construction. If the proposed Mascot Substation cannot be used as a material staging yard, SCE would attempt to lease a facility within approximately 5 miles of the Proposed

Project. Pull/tension sites would be located on Grangeville Boulevard, at the SR 198 crossing point, and on East Hanford-Armona Road. However, construction-related impacts to visual quality would be relatively short-term (approximately 11 months) spread out along different portions of the Proposed Project alignment. Given the relatively short duration of construction, as well as the presence of existing agricultural and construction equipment in the Project area (including equipment from the road widening of SR 198), construction would not substantially degrade the existing visual character or quality of the site and its surroundings. Therefore visual impacts along the alignment and from the Proposed Project's temporary staging area and pulling/splicing sites would be less than significant.

Impacts associated with the proposed upgrades at Goshen and Liberty Substations would be viewed in the context of the existing substation equipment. The proposed upgrades would consist of new underground duct banks. Construction would be temporary, and substation work would occur on previously disturbed, un-vegetated areas within the existing fence line of the substations, or for short distances (30 to 200 feet) along existing roads between the substations and existing poles. Impacts from construction would be temporary, and would occur within an area that is currently occupied by existing facilities and where maintenance and repair equipment routinely occur. Therefore impacts from construction would be less than significant. Upon completion of construction, the new duct banks would blend in with the existing view which includes not only the substation facilities, but also existing electricity infrastructure not related to the Project (i.e., existing power line alignments). Therefore, this incremental change to the existing visual quality from the proposed substation modifications would be inconsequential, and impacts from operation and maintenance would be less than significant.

Operational impacts associated with the proposed Mascot Substation would be viewed in the context of new structures at the substation site. As discussed above, the Proposed Project would be constructed on an approximate 5-acre site on Grangeville Boulevard currently used to grow alfalfa. This site is representative of the agricultural uses common to the Project area, and also contains several sources of existing electrical infrastructure. SCE's Goshen-Hanford 66 kV subtransmission line currently runs along the south side of Grangeville Boulevard, and an SCE distribution line runs along the north side. A 115 kV double circuit PG&E transmission line runs north/south along the eastern border of the proposed substation site, consisting of 40-foot to 100-foot high towers. The site is designated as *Limited Agriculture* by the Kings County General Plan, and is not a designated scenic area. Traffic volumes on Grangeville Boulevard, a two-lane county road, are low (Kings County, 2010). Views of the proposed Mascot Substation would be panoramic and open but of short duration, as motorists travel past the substation (see Figure 3.1-1).

The proposed Mascot Substation would be visible for approximately 40 seconds assuming a visible distance of 0.5 miles and a traffic speed of 45 miles-per-hour. Given the representative visual quality, the low number of viewers and short view duration, the visual sensitivity of views from Grangeville Boulevard would be considered low.



Existing View from Grangeville Boulevard looking east



Visual Simulation of Proposed Project

Construction of the Mascot Substation components (outlined above) would constitute a visual change to the substation site. From the perspective of a passing motorist, the Proposed Project would replace an agricultural field with an industrial substation partially screened by an eight-foot high tan block wall, and new 61 to 100-foot high tubular steel poles (TSPs), lightweight steel (LWS) poles and subtransmission lines. Because municipal water is not currently available at the site and is not anticipated to be brought to the site as part of the Proposed Project, this analysis assumes that landscaping would not be used to screen any part of the proposed substation. However, the perimeter wall would screen the majority of substation equipment from passing motorists. Furthermore, the poles associated with the Proposed Project would generally be shorter than the existing PG&E towers and more streamlined in appearance. Considering the presence of existing electrical infrastructure and the screening provided by the proposed perimeter wall, the visual change associated with construction of the substation would be moderate. In conjunction with the low visual sensitivity of the site, impacts from operation and maintenance would be adverse but less than significant.

The proposed subtransmission alignment would be located in approximately 2.0 miles of new ROW, and would consist of the installation of approximately 31 wood and two LWS poles 61 to 75 feet high, and 12 TSP 65 to 100 feet high. The Proposed Project also would remove two existing wood poles on East Hanford-Armona Road. Portions of the alignment would be visible to residences off of Edna Way and Ponderosa Road in unincorporated Kings County (see Figure 3.1-2), private agricultural fields, a rendering plant, motorists on SR 198 (see Figure 3.1-3) and on several local roads including Grangeville Boulevard and East Hanford-Armona Road. Like the proposed Mascot Substation, the visual quality of the proposed subtransmission alignment is representative of the rural, agricultural character of the area, which also includes existing electrical infrastructure. The 2.0 miles of new ROW would be parallel to and west of an existing PG&E 115 kV transmission line, and would be located between an SCE-maintained 66 kV subtransmission line and distribution line along Grangeville Boulevard and an SCE-maintained 66 kV subtransmission line along East Hanford-Armona Road. Although the new poles would represent an increase in the perception of industrial features in an otherwise agricultural area, given the presence of the existing transmission and subtransmission lines, the new poles would represent an incremental change to the visual character of the Project area. In addition, the poles associated with the Proposed Project would generally be shorter than the existing PG&E towers and more streamlined in appearance.

The proposed subtransmission line would be visible from motorists on SR 198 for approximately 30 seconds assuming a visible distance of 0.5 miles and a traffic speed of 60 miles-per-hour. Although there would be a moderate number of viewers along SR 198 (Kings County, 2010), the short view duration of the proposed subtransmission line in conjunction with its location parallel to the existing PG&E transmission line, would result in an adverse but less than significant impact.

As the proposed subtransmission alignment would not substantially degrade the existing visual character or quality of the site and its surroundings, the overall visual change resulting from the new poles would be low to moderate. Therefore, impacts from operation and maintenance would be less than significant.



Existing View from Ponderosa Road looking northwest



Visual Simulation of Proposed Project



Existing View from Highway 198 eastbound looking southeast



Visual Simulation of Proposed Project

In sum, construction and operation of the Proposed Project could affect the existing visual character or quality of the site and its surroundings, but would not substantially degrade them. Accordingly, the Proposed Project would have a less than significant impact on these resource values.

d) Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area: *LESS THAN SIGNIFICANT WITH MITIGATION.*

Construction activities would generally be scheduled during daylight hours (7:00 am to 7:00 pm), minimizing the need for lighting and the potential for lighting-related impacts on daytime and nighttime views in the area. Because there would be little to no lighting required during daylight hours, potential impacts of daytime lighting on views would be less than significant.

If nighttime work were necessary, temporary artificial illumination would be required to protect the safety of the construction workers, but would be oriented to minimize effects on any nearby receptors. Night lighting could result in impacts to visual resources by increasing ambient light to surrounding areas, creating distracting glare, and reducing sky or star visibility. Nearby land uses, including residences and roadways, provide some lighting of their own. However, the majority of the Proposed Project would be located in a relatively undeveloped area with features that would result in increased lighting contrast when compared to the lighted areas of the developed areas. Therefore, nighttime lighting could have a potentially significant impact to nighttime views in the Project area. However, this impact would be temporary due to the relatively short duration of Project construction (approximately 11 months), the fact that work in any one location would be of much shorter duration (i.e., on order of several days to two weeks), and that nighttime work would not be a routine occurrence. Furthermore, implementation of Mitigation Measure 3.1-1 would reduce impacts of new sources of light on nighttime views to a less than significant level.

Mitigation Measure 3.1-1: Reduce construction night lighting impacts. SCE shall design and install all lighting at construction and storage yards and staging areas such that light bulbs and reflectors are not visible from public viewing areas; lighting does not cause reflected glare; and illumination of the project facilities, vicinity, and nighttime sky is minimized. SCE shall submit a *Construction Lighting Mitigation Plan* to the CPUC for review and approval at least 90 days prior to the start of construction of any exterior lighting fixtures or components. SCE shall not install or operate any exterior lighting fixtures or lighting components for the Proposed Project until the *Construction Lighting Mitigation Plan* is approved by the CPUC. The Plan shall include but not be limited to the following measures:

- Lighting shall be designed so exterior lighting is hooded, with lights directed downward or toward the area to be illuminated and so that backscatter to the nighttime sky is minimized. The design of the lighting shall be such that the luminescence or light sources are shielded to prevent light trespass outside the project boundary.
- All lighting shall be of minimum necessary brightness consistent with OSHA requirements.

Significance after Mitigation: Less than Significant.

Lighting at the proposed Mascot Substation for access and maintenance purposes would consist of approximately 32 120v incandescent lamps rated at 120 watts or similar lighting. The access light would be low-intensity and controlled by a manual switch. Maintenance lights would be controlled by a manual switch and consist of high-pressure sodium lights located in the switchracks,

around the transformer banks, and in areas of the substation where maintenance activity may take place. Maintenance lights would be used only when required for maintenance outages or emergency repairs occurring at night. The lights would be directed downward and shielded to reduce glare outside the facility. The substation also may be equipped with a beacon light on the substation gate that activates when the gate is open. The beacon light would be illuminated only while the gate is open or in motion. The beacon would be a 110 volt double flash strobe light made by Federal Signal (Model #131DST-120A), or similar lighting (SCE, 2009).

The potential for operation of the Mascot Substation to result in impacts to visual resources by increasing ambient light to surrounding areas, creating distracting glare, and reducing sky or star visibility is minimal. The closest residence would be approximately 0.12 miles west of the substation. Also, cars on the roadways provide some lighting of their own. The Proposed Project substation site would be in an undeveloped area, and any light and glare generated from the Mascot Substation would consequently represent an increase from baseline conditions. However, the perimeter wall planned as part of the Proposed Project would provide some screening from potential glare created by the new equipment and lighting. Also, as discussed above, maintenance lights and the beacon light would be used only when required for maintenance outages or emergency repairs, and would be directed downward and shielded to reduce glare outside the facility. As such, the proposed Mascot Substation would not create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area. Impacts would be less than significant.

As discussed in Section 2.5.1.2, the Proposed Project would require upgrades at Goshen and Liberty Substations. The proposed modifications at the Liberty and Goshen Substations would consist of new underground duct banks, and would not require installation of additional lighting. Because the new duct banks to be installed would be of the same nature as the existing substation, they would blend in with the existing facilities and not result in a new source of glare. Therefore, upgrades at Goshen and Liberty Substations would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

The Proposed Project does not propose new lighting along the proposed subtransmission line corridor. Therefore, no new sources of light would occur. However, the introduction of new poles and overhead conductors where none currently exist could be a noticeable visual change as seen from some viewing locations during the daytime. The new tubular steel poles would have a dull, galvanized finish, and as such would not be a significant source of glare. Conductors and insulators, however, would be potentially reflective surfaces which could cause glare. This effect could result in the new facilities appearing visible or prominent.

The magnitude of such an increase in glare is not anticipated to be substantial, however, given the size of the conductor cable, the angle from which viewers would be exposed to the conductor, and the short duration of exposure. Viewers would be below the line, and would view the conductor from an inferior line of site. View duration for motorists would be relatively short. Finally, the conductor is expected to oxidize to a dull finish in approximately 9 to 24 months, which would minimize glare. Therefore, temporary and permanent impacts to daytime or nighttime views in the area would be less than significant.

References

California Department of Transportation (Caltrans), 2010. Officially Designated State Scenic Highways and Historic Parks, Kings County. Available at: http://www.dot.ca.gov/hq/LandArch/scenic_highways/kings.htm. Accessed May 27, 2010.

Kings County, 2010. Kings County General Plan, Circulation and Open Space Elements. Adopted January 26, 2010.

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3.2 Agriculture and Forestry Resources

<u>Issues (and Supporting Information Sources):</u>	<u>Potentially Significant Impact</u>	<u>Less Than Significant with Mitigation Incorporated</u>	<u>Less Than Significant Impact</u>	<u>No Impact</u>
2. AGRICULTURE AND FORESTRY RESOURCES				
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and the forest carbon measurement methodology provided in the Forest Protocols adopted by the California Air Resources Board.				
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined in Public Resources Code section 4526) or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.2.1 Environmental Setting

Important Farmland

To characterize the environmental baseline for agricultural resources, Important Farmland Maps produced by the California Department of Conservation's Farmland Mapping and Monitoring Program (FMMP) were reviewed. Important Farmland maps show categories of *Prime Farmland*, *Farmland of Statewide Importance*, *Unique Farmland*, *Farmland of Local Importance* (if adopted by the county), *Grazing Land*, *Urban and Built-up Land*, *Other Land*, and *Water*. *Prime Farmland* and *Farmland of Statewide Importance* map categories are based on qualifying soil types, as determined by the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), as well as current land use. These map categories are defined by the Department of Conservation's FMMP as follows (Department of Conservation, 2010a):

Prime Farmland: Land which has the best combination of physical and chemical characteristics for the production of crops. It has the soil quality, growing season, and moisture supply

needed to produce sustained high yields of crops when treated and managed, including water management, according to current farming methods.

Farmland of Statewide Importance: Land that is similar to *Prime Farmland* but with minor shortcomings, such as greater slopes or less ability to hold and store moisture.

Unique Farmland: Land of lesser quality soils used for the production of specific high economic value crops. It has the special combination of soil quality, location, growing season, and moisture supply needed to produce sustained high quality or high yields of a specific crop when treated and managed according to current farming methods. It is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Examples of crops include oranges, olives, avocados, rice, grapes, and cut flowers.

Farmland of Local Importance: Land of importance to the local agricultural economy, as determined by each county's board of supervisors and local advisory committees. Examples include dairies, dryland farming, aquaculture, and uncultivated areas with soils qualifying for *Prime Farmland* and *Farmland of Statewide Importance*.

Grazing Land: Land on which the existing vegetation, whether grown naturally or through management, is suitable for grazing or browsing of livestock.

Urban and Built-up Land: Land used for residential, industrial, commercial, construction, institutional, public administrative purpose, railroad yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment plants, water control structures, and other development purposes. Highways, railroads, and other transportation facilities are also included in this category.

Other Land: Land which is not included in any of the other mapping categories. Common examples include low-density rural developments, brush, timber, wetland, and riparian areas not suitable for livestock grazing, confined livestock, poultry or aquaculture facilities, strip mines, borrow pits, and water bodies smaller than 40 acres.

Water: Water areas with an extent of at least 40 acres.

Existing Agriculture Resources

Table 3.2-1 shows the acres of Farmland in Kings County in 2004 and 2006, as well as the amount of recent Farmland conversions.

Current crops grown on the Proposed Mascot Substation site and within the Proposed Project ROW include alfalfa and cotton. The Proposed Project would temporarily impact 30 acres of Farmland (*Farmland of Statewide Importance*). Permanently, the Proposed Project would disturb eight acres of *Farmland of Statewide Importance* (Department of Conservation, 2010c). Approximately 0.6 miles of the proposed subtransmission line immediately south of the Mascot Substation would traverse through or be adjacent to parcels under Williamson Act Contract. The Proposed Project would not traverse any land used for forestry or timber production, nor are there any plans for forestry projects in the vicinity of the Proposed Project.

**TABLE 3.2-1
 FARMLAND CONVERSION FROM 2004–2006 IN KINGS COUNTY**

Land Use Category	Total Acres Inventoried		2004–2006 Acreage Changes		
	2004	2006	Acres Lost	Acres Gained	Net Change
Prime Farmland	140,582	139,212	2,507	1,137	-1,370
Farmland of Statewide Importance	429,773	420,422	11,125	1,774	-9,351
Unique Farmland	28,523	25,982	4,276	1,735	-2,541
Farmland of Local Importance	8,283	8,868	269	854	585
Important Farmland Total	607,161	594,484	18,177	5,500	-12,677

SOURCE: Department of Conservation, 2010b.

3.2.2 Regulatory Setting

State

California Farmland Mapping and Monitoring Program

The California Department of Conservation, under the Division of Land Resource Protection, has set up the FMMP. The FMMP monitors the conversion of the State’s farmland to and from agricultural use. The map series identifies eight classifications and uses a minimum mapping unit size of 10 acres. The FMMP also produces a biennial report on the amount of land converted from agricultural to non-agricultural use. The FMMP is an informational service only and does not have regulatory jurisdiction over local land use decisions. For the purpose of this environmental analysis and consistency with the Farmland Policy Act of 1981, the term “Farmland” includes *Prime Farmland*, *Unique Farmland*, and *Farmland of Statewide Importance*, and any conversion of land within these categories typically is considered to be an adverse impact.

California Land Conservation Act of 1965 (Williamson Act)

The California Land Conservation Act of 1965 (commonly referred to as the Williamson Act) serves to preserve open spaces and agricultural land. It discourages urban sprawl and prevents landowners from developing their property for the greater land value of commercial and/or residential uses. The Williamson Act is a State program that allows agricultural landowners to pay reduced property taxes in return for their contractual agreement to retain the land in agricultural and open space uses for a period of 10 years. The term of the contract automatically renews each year, so that the contract always has a 10-year period left to function. The Williamson Act Program was revised by the enactment of Farmland Security Zone (FSZ) legislation during the 1998 legislative session, offering landowners greater property tax reduction in exchange for a longer contract term than under the Williamson Act Program.

Local

Kings County General Plan

The following goal and policies identified in the Kings County General Plan would be applicable to the Proposed Project (Kings County, 2010):

Resource Conservation Element

GOAL B1: Maintain viable and productive agricultural land within the County, and ensure the long term preservation of the County's agricultural resources continue to provide a sustainable food supply and support a vibrant local agricultural economy.

Objective B1.2: Establish feasible mitigation for the loss of agricultural land conversion that is not over burdensome to landowner and development interests, yet enhances long term preservation efforts of the County's highest priority agricultural lands.

Policy B1.2.1: Require new development that results in the loss of agricultural lands to provide mitigation to offset the loss. The County's Farmland Preservation Mitigation Strategy shall require comparable acreage enrollment in the County's Farmland Security Zone.

Policy B1.2.2: Conversion of agricultural land to urban uses shall require payment of mitigation fees that are based on average per acre fee for the establishment of a new Farmland Security Zone creation. All mitigation costs shall be borne by project proponent(s).

Policy B1.2.3: Under the County's existing program, mitigation fees shall be used for the creation of new Farmland Security Zone contracts only and applied on willing landowner property that is greater than 10 acres and located within the "Medium," "Medium-High" and "Highest" Priority Agricultural Land as defined under the County's Priority Agricultural Land Model, and within the eligible Department of Conservation farmland classifications as required by the *California Land Conservation Act of 1965*.

Kings County Zoning Ordinance

The proposed Mascot Substation would be located on a site zoned as Limited Agriculture (AL-10) by the Kings County Zoning Ordinance. The Proposed Project subtransmission line alignment would traverse land zoned as AL-10, General Agriculture-20 (AG-20), and Light Industrial (IL) (Kings County, 2008a and b).

3.2.3 Applicant Proposed Measures

No applicant proposed measures have been identified by SCE to reduce agriculture and forestry impacts associated with the Proposed Project.

3.2.4 Environmental Impacts and Mitigation Measures

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use: *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.*

The Proposed Project would result in temporary disturbance to agricultural lands in areas that would be used for staging, pull and/or tension sites, and new access roads. The Proposed Project substation, subtransmission structures and new permanent access roads would result in permanent disturbance to agricultural lands. Approximately 30 acres of land designated as *Farmland of Statewide Importance* would be temporarily disturbed during construction activities. Of this land, approximately 22 acres would be restored, leaving eight acres of permanently disturbed *Farmland of Statewide Importance* (Department of Conservation, 2010c).

According to data published by the California Department of Conservation's FMMP, there were approximately 585,616 acres of Farmland (*Prime Farmland, Farmland of Statewide Importance, and Unique Farmland*) inventoried in Kings County in 2006 (Department of Conservation, 2010b). Permanent removal of eight acres would be considered negligible in the context of total agricultural lands in Kings County. However, under CEQA there is no minimum standard to determine such an impact as less than significant and the standard is therefore at the discretion of the lead agency subject to applicable policies and guidelines. Implementation of Mitigation Measure 3.2-1 would reduce impacts regarding the permanent conversion of *Farmland of Statewide Importance* to less than significant.

Mitigation Measure 3.2-1: Compensate for conversion of Farmland. SCE will pay a mitigation fee for agricultural land converted to permanent non-agricultural use in accordance with the Kings County General Plan, Table RC-4: Estimated Mitigation Fee, or as modified by the County.

Significant after Mitigation: Less than Significant.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract: *LESS THAN SIGNIFICANT IMPACT.*

As discussed in the Setting, the proposed Mascot Substation would be located on a site zoned as *Limited Agriculture (AL-10)* by the Kings County Zoning Ordinance. The Proposed Project subtransmission line alignment would traverse land zoned as *AL-10, General Agriculture-20 (AG-20), and Light Industrial (IL)*. In *AL-10* and *AG-20* zoning districts, public utility structures are permitted uses, and in *IL* zoning districts public utility structures are permitted uses with site plan review. Therefore, the Proposed Project would not conflict with existing zoning for an agricultural use and impacts would be less than significant.

Approximately 0.6 miles of the Proposed Project subtransmission line immediately south of the Mascot Substation would traverse through or be adjacent to parcels under a Williamson Act contract. However, Government Code Section 51238 states that electrical facilities are a compatible Williamson Act use. Therefore, the Proposed Project would not affect the land's Williamson Act contract status, and impacts would be less than significant.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)) or timberland (as defined in Public Resources Code section 4526): *LESS THAN SIGNIFICANT IMPACT.*

The Proposed Project would not be located on land zoned specifically as either forest land or timberland. As discussed above, the Proposed Project would be located primarily on land zoned for agricultural production. In addition, the subtransmission line would traverse an *IL* zone. Although timber production is an allowable activity within an agricultural zone, no portion of land in the vicinity of the Project is used for timber production, or is forested. Furthermore, crops grown in the Project area are irrigated, because of the arid climate. It is unlikely that the land could support 10-percent native tree cover, under natural (i.e. non-irrigated) conditions. Therefore, this analysis assumes that Proposed Project lands do not meet the definition of ‘forest land.’ The same land is not considered timberland because the land is not zoned *Timberland Production Zone (TPZ)*, and, because the land in question currently is used to grow cash crops including alfalfa and cotton, it therefore is not available for growing a crop of trees.

Consequently, the Proposed Project would not cause rezoning of forest land, nor would it conflict with any of these types of zoning as discussed above under criterion (b). Accordingly, there would be no impact from the Proposed Project on forest land or timberland zoning.

d) Result in the loss of forest land or conversion of forest land to non-forest use: *LESS THAN SIGNIFICANT IMPACT.*

As discussed above under criterion c), the Proposed Project would not result in any loss or conversion of forest land. Although the County’s definition of agricultural land would allow use of the Project area for the production of agricultural commodities including timber, the Proposed Mascot Substation and subtransmission line would be located on land that is irrigated agriculture that is currently farmed with high value cash crops, including alfalfa and cotton. The Proposed Project would not traverse any land used for forestry or timber production, nor are there any plans for forestry projects in the vicinity of the Proposed Project. Any conversion of land by the Proposed Project could represent a loss of agricultural land, as discussed under criterion (a), but not of existing forest land. Accordingly, the Proposed Project would not result in the loss of existing forest land or conversion of forest land to non-forest use, and there would be no impact.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to nonforest use: *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.*

Beyond the permanent conversion discussed under criterion a), other changes in the existing environment could, due to their location or nature, result in conversion of Farmland to non-agricultural use. Specifically, impacts to existing water pumps and irrigation pipelines could remove a landowner’s ability to irrigate crops, which could effectively render previously productive agricultural land unusable. Implementation of Mitigation Measure 3.2-2 would ensure that construction does not impact irrigation and/or other ancillary farming systems in a manner that would result in conversion of Farmland to non-agricultural use.

In addition, SCE maintains standard vegetation management guidelines, limiting the growth of vegetation (typically trees) under subtransmission lines in order to ensure adequate tree to conductor clearances. However, current agricultural uses within the Proposed Project ROW include crops that are generally low-growing such as alfalfa and cotton. Therefore, construction, operation and maintenance of the Proposed Project would not restrict the growth of crops currently grown in the ROW due to height restrictions, and therefore would not permanently remove land within the ROW from agricultural production. Impacts would be less than significant.

As noted above, the Proposed Project would not involve changes in the existing environment that could result in conversion forest land to non-forest use. Accordingly, potential impacts of the Proposed Project on forest land conversion caused by other changes in the existing environment would be less than significant.

Mitigation Measure 3.2-2: SCE and/or its contractors shall incorporate the following measures into project construction plans and specifications specific to lands designated as Farmland:

- Ensure that existing drainage systems at Proposed Project sites that are needed for farming activities function as necessary so that agricultural uses are not disrupted.
- Coordinate with landowners to ensure that construction does not impact irrigation and/or other ancillary farming systems to a degree that farming practices cannot be maintained.
- Maintain existing levels of water available to farmers via the current irrigation system including, but not be limited to, implementing re-routing and/or temporary irrigation systems.

In lieu of implementing the above requirements, SCE shall have the option of negotiating agreements with any affected landowner(s) that shall enable the landowner(s) to effect their own irrigation and/or drainage system changes in a manner consistent with the landowner's farming practices and plans.

Significant after Mitigation: Less than Significant.

References

California Energy Commission (CEC), 2004. *Baseline Greenhouse Gas Emissions for Forest, Range and Agricultural Lands in California* Table 2-10. Published March 2004.

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Department of Conservation, 2010b. FMMP, Table A-11: Kings County 2004-2006 Land Use Conversion. Available at: http://redirect.conservation.ca.gov/DLRP/fmmp/pubs/2004-2006/conversion_tables/kincon06.xls, accessed May 26, 2010.

Department of Conservation, 2010c. FMMP, Important Farmland, GIS Data. Available at: <ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/2006>, accessed on March 4, 2010.

Kings County, 2008a. Kings County Zoning Ordinance, Article 4. A Agricultural Districts. Last amended by Ordinance Number 296.65, effective November 27, 2008.

Kings County, 2008b. Kings County Zoning Ordinance, Article 14. M Industrial Districts. Last amended by Ordinance Number 296.65, effective November 27, 2008.

Kings County, 2010. Kings County General Plan, Land Use and Resource Conservation Elements. Adopted January 26, 2010.

3.3 Air Quality and Greenhouse Gas Emissions

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
3. AIR QUALITY				
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

This section evaluates the potential impacts on regional and local air quality that would result from sources of air emissions during construction and operation of the Proposed Project. This section is based on a review of existing documentation of air quality conditions in the region, air quality regulations from the U.S. Environmental Protection Agency (USEPA), the California Air Resources Board (CARB), and the San Joaquin Valley Air Pollution Control District (SJVAPCD).

3.3.1 Environmental Setting

Air quality is a function of both the rate and location of pollutant emissions under the influence of meteorological conditions and topographic features that influence pollutant movement and dispersal. Atmospheric conditions such as wind speed, wind direction, atmospheric stability, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants, which affects air quality. The Proposed Project is located within the San Joaquin Valley Air Basin (SJVAB), which falls under the jurisdiction of the SJVAPCD.

Regional Topography, Meteorology, and Climate

Topography and meteorology greatly influence air quality. Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and/or dispersion of pollutants.

The SJVAB has a Mediterranean climate and is characterized by long, hot, dry summers and short, foggy winters. Meteorological data collected in Hanford generally are representative of the study area. Average maximum and minimum winter (i.e., January) temperatures in Hanford are of 55 °F and 35 °F, respectively, while average summer (i.e., July) maximum and minimum temperatures in Hanford are 98 °F and 62 °F, respectively (WRCC, 2010).

The presence and intensity of sunlight exacerbate air pollution impacts. Typically, ozone (O₃) is formed at higher temperatures. In the presence of ultraviolet sunlight and warm temperatures, air pollutants such as reactive organic gases (ROGs) and nitrogen oxides (NO_x) react to form secondary photochemical pollutants, including ozone. The potential for ozone formation in the study area is high due in part to an average of over 260 sunny days per year in the SJVAB.

The wind in the study area blows predominantly from the north and west. There are two main strong wind patterns. One of the patterns is wind blowing into the study area from the north. This wind blows into the SJVAB through the Sacramento River delta. The other wind pattern is wind coming over the Coast Range from the Pacific Ocean (Kings County, 2009). Precipitation in the study area averages approximately eight inches per year (WRCC, 2010).

Existing Air Quality

SJVAPCD operates a regional monitoring network that measures the ambient concentrations of criteria pollutants. Existing levels of air quality in the study area can generally be inferred from ambient air quality measurements conducted by SJVAPCD at its closest stations, the Hanford – South Irwin Street station and the Visalia - North Church Street station. The Hanford monitoring station is approximately five miles west of the study area and the Visalia monitoring station is approximately 15 miles east of the study area. The Hanford station monitored ozone up to year 2007 and monitors particulate matter equal to or less than 10 microns in diameter (PM₁₀) and nitrogen dioxide (NO₂). The Visalia station monitors ozone and particulate matter, including particulate matter less than 2.5 microns in diameter (PM_{2.5}).

Background ambient concentrations of pollutants are determined by pollutant emissions in a given area as well as wind patterns and meteorological conditions for that area. As a result, background concentrations can vary among different locations within an area. However, areas located close together and exposed to similar wind conditions can be expected to have similar background pollutant concentrations. Table 3.3-1 shows a five-year (2005 through 2009) summary of monitoring data collected at the Hanford and Visalia monitoring station. The ozone data presented below for years 2005 through 2007 are from the Hanford station and the ozone data for years 2008 and 2009 are from the Visalia station. The PM₁₀ and NO₂ data are from the Hanford station and the PM_{2.5} data are from the Visalia station. The data are compared with the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS). As indicated in

Table 3.3-1, the State one-hour ozone standard was exceeded each year between two and 44 times and the national and State eight-hour ozone standards were exceeded between eight and 60 and between 20 and 94 times, respectively, during the five-year study period. The State 24-hour PM10 standard was exceeded each year between 18 and 23 times and the State annual average standard was exceeded each year with available data. There were no exceedances of the PM10 24-hour national standard during the five-year study period. The national 24-hour PM2.5 standard was exceeded each year between 24 and 60 times and the State annual average standard was exceeded each year during the study period. There were no violations of NO₂ during the years with available data. Following the table are summary descriptions of the criteria pollutants.

**TABLE 3.3-1
 AIR QUALITY DATA SUMMARY (2005–2009) FOR THE STUDY AREA**

Pollutant	Standard	Monitoring Data by Year				
		2005	2006	2007	2008	2009
Ozone						
Highest 1 Hour Average (ppm)		0.120	0.127	0.102	0.130	0.120
Days over 1 Hour State Standard	0.09	6	7	2	44	23
Highest 8 Hour Average (ppm)		0.098	0.102	0.091	0.122	0.093
Days over 8 Hour National Standard	0.075	24	37	8	60	48
Days over 8 Hour State Standard	0.070	38	57	20	94	68
Particulate Matter (PM10):						
Highest 24 Hour Average (µg/m ³)		118.0	150.0	106.0	230.6	105.2
Days over State Standard ^a	50	18	20	23	23	18
Days over National Standard ^a	150	0	0	0	0	0
Annual Average (µg/m ³)		41.0	46.8	44.3	ND	42.3
Exceed State Standard?	20	Yes	Yes	Yes	ND	Yes
Particulate Matter (PM2.5)						
Highest 24 Hour Average (µg/m ³)		84.0	65.0	71.0	68.2	63.5
Days over National Standard ^a	35	35	30	60	52	24
Annual Average (µg/m ³)		19.9	19.7	22.5	19.8	16.6
Exceed State Standard?	12	Yes	Yes	Yes	Yes	Yes
Nitrogen Dioxide (NO₂)						
Highest 1 Hour Average (ppm)		0.072	0.073	0.058	ND	ND
Days over 1 Hour State Standard	0.18	0	0	0	ND	ND

ppm = parts per million; µg/m³ = micrograms per cubic meter; ND = No data available

a. Measurements are usually collected every six days. Days over the standard represent the estimated number of days that the standard would have been exceeded if sampling was conducted every day.

SOURCE: CARB 2010a.

Ozone

Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and that can cause substantial damage to vegetation and other materials. Ozone is not emitted directly into the atmosphere, but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving ROG and NO_x. ROG and NO_x are known as precursor

compounds for ozone. Significant ozone production generally requires ozone precursors to be present in a stable atmosphere with strong sunlight for approximately three hours.

Ozone is a regional air pollutant because it is not emitted directly by sources, but is formed downwind of sources of ROG and NO_x under the influence of wind and sunlight. Ozone concentrations tend to be higher in the late spring, summer, and fall, when the long sunny days combine with regional subsidence inversions to create conditions conducive to the formation and accumulation of secondary photochemical compounds like ozone.

Particulate Matter

PM₁₀ and PM_{2.5} represent fractions of particulate matter that can be inhaled into air passages and the lungs and can cause adverse health effects. Particulate matter in the atmosphere results from many kinds of dust- and fume-producing industrial and agricultural operations, fuel combustion, and atmospheric photochemical reactions. Some sources of particulate matter, such as demolition and construction activities, are more local in nature, while others, such as vehicular traffic, have a more regional effect. Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain absorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Particulates can also damage materials and reduce visibility.

Other Criteria Pollutants

Carbon monoxide (CO) is a non-reactive pollutant that is a product of incomplete combustion and is mostly associated with motor vehicle traffic. High CO concentrations develop primarily during winter when periods of light winds combine with the formation of ground level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia.

Sulfur dioxide (SO₂) is produced through combustion of sulfur or sulfur-containing fuels such as coal. SO₂ is also a precursor to the formation of atmospheric sulfate and particulate matter (PM₁₀ and PM_{2.5}) and contributes to potential atmospheric sulfuric acid formation that could precipitate downwind as acid rain.

Lead has a range of adverse neurotoxin health effects, and formerly was released into the atmosphere primarily via leaded gasoline. The phase-out of leaded gasoline has resulted in decreasing levels of atmospheric lead.

Attainment Status

The SJVAPCD is a nonattainment area for State and federal ozone, PM₁₀, and PM_{2.5} standards. Refer to **Table 3.3-2** for the current attainment status of the SJVAB.

**TABLE 3.3-2
 NORTH CENTRAL COAST AIR BASIN ATTAINMENT STATUS**

Pollutant	Federal	State
Ozone (one-hour standard)	--- ^a	Nonattainment
Ozone (eight-hour standard)	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Unclassified/Attainment	Unclassified
Nitrogen Dioxides (NO ₂)	Unclassified/Attainment	Attainment
Inhalable Particulates (PM ₁₀)	Nonattainment	Nonattainment
Fine Particulates (PM _{2.5})	Nonattainment	Nonattainment

a. The Federal one-hour standard was revoked on June 15, 2005.

SOURCE: CARB 2010b.

Greenhouse Gas Emissions and Climate Change

Some gases in the atmosphere affect the Earth’s heat balance by absorbing infrared radiation. These gases can prevent the escape of heat in much the same way as glass in a greenhouse. This is often referred to as the “greenhouse effect,” and it is responsible for maintaining a habitable climate. On Earth, the gases believed to be most responsible for the greenhouse effect are water vapor, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (SF₆). The acceleration of the greenhouse effect leading to global warming can occur when concentrations of these gases exceed the natural concentrations in the atmosphere. Of these gases, CO₂ and methane are emitted in the greatest quantities from human activities. Emissions of CO₂ are largely by-products of fossil fuel combustion, whereas methane primarily results from off-gassing associated with agricultural practices and landfills. SF₆ is a greenhouse gas (GHG) commonly used in the utility industry as an insulating gas in transformers and other electronic equipment. SF₆, while comprising a small fraction of the total GHGs emitted annually worldwide, is a much more potent GHG with 23,900 times the global warming potential as CO₂.¹ To account for the warming potential of GHG, GHG emissions are often quantified and reported as CO₂ equivalents (CO₂e). Large emission sources are reported in million metric tons of CO₂e.

There is widespread international scientific agreement that human-caused increases in GHGs have contributed and will continue to contribute to global warming, although there is much uncertainty concerning the magnitude and rate of the warming. Some of the potential resulting effects in California of global warming may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years. Globally, climate change has the potential to impact numerous environmental resources through potential, though uncertain, impacts related to future air temperatures and precipitation patterns. The projected effects of global warming on weather and climate are likely to vary regionally, but are expected to include the following direct effects (IPCC, 2001):

- Higher maximum temperatures and more hot days over nearly all land areas;
- Higher minimum temperatures, fewer cold days and frost days over nearly all land areas;

¹ Global warming potential is the potential of a gas or aerosol to trap heat in the atmosphere. CO₂ is assigned a global warming potential of 1.

- Reduced diurnal (i.e., daily) temperature range over most land areas;
- Increase of heat index over land areas; and
- More intense precipitation events.

Also, there are many secondary effects that are projected to result from global warming, including global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity. While the possible outcomes and the feedback mechanisms involved are not fully understood, and much research remains to be done, the potential for substantial environmental, social, and economic consequences over the long term may be great.

CARB estimated that in 2006, California produced 484 million gross metric tons of CO₂e GHG emissions (CARB, 2009). CARB found that transportation is the source of 38 percent of the State's GHG emissions; followed by electricity generation at 22 percent, and industrial sources at 21 percent.

Sensitive Receptors

For the purposes of air quality and public health and safety, sensitive receptors generally are defined as land uses with population concentrations that would be particularly susceptible to disturbance from dust and air pollutant concentrations, or other disruptions associated with project construction and/or operation. Sensitive receptor land uses generally include schools, day care centers, hospitals, residential areas, and parks. Some sensitive receptors are considered to be more sensitive than others to air pollutants. The reasons for greater-than-average sensitivity include pre-existing health problems, proximity to emission sources, or duration of exposure to air pollutants. Schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because children, elderly people, and the infirm are more susceptible to respiratory distress and other air quality-related health problems than the general public. Residential areas are considered sensitive to poor air quality because people usually stay home for extended periods of time, with associated greater exposure to ambient air quality. Recreational uses also are considered sensitive because vigorous exercise associated with recreation places a high demand on the human respiratory system.

Sensitive receptors in the study area are rural residences. The closest residence to the proposed substation site is approximately 600 feet to the west-northwest along Grangeville Boulevard. Over a dozen residences are also located in the vicinity of the proposed subtransmission line alignments, including: several residences along 7 ½ Avenue, north of the San Joaquin Valley Railroad, that are approximately 2,000 feet to the east; at least eight residences along Ponderosa Road, north of Lacy Boulevard, between 50 and 100 feet to the east; and several residences along the north and south sides of Hanford Armona Road, approximately 100 feet to the east.

3.3.2 Regulatory Setting

Air quality within the SJVAB is addressed through the efforts of various federal, State, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The air pollutants of concern and agencies primarily responsible for improving the air quality within the air basin and the pertinent regulations are discussed below.

Criteria Air Pollutants

Regulation of air pollution is achieved through both national and State ambient air quality standards and emission limits for individual sources of air pollutants. As required by the federal Clean Air Act, the USEPA has identified criteria pollutants and has established NAAQS to protect public health and welfare. NAAQS have been established for ozone, CO, NO₂, SO₂, PM₁₀, PM_{2.5}, and lead. These pollutants are called “criteria” air pollutants because standards have been established for each of them to meet specific public health and welfare criteria. To protect human health and the environment, the USEPA has set “primary” and “secondary” maximum ambient thresholds for all seven criteria pollutants. Primary thresholds were set to protect human health, particularly for sensitive receptors such as children, the elderly, and individuals suffering from chronic lung conditions such as asthma and emphysema. Secondary standards were set to protect the natural environment and prevent further deterioration of animals, crops, vegetation, and buildings.

The NAAQS are defined as the maximum acceptable concentration that may be reached, but not exceeded, more than once per year. California has adopted more stringent ambient air quality standards for most of the criteria air pollutants. **Table 3.3-3** presents both sets of ambient air quality standards (i.e., national and State). California has also established State ambient air quality standards for sulfates, hydrogen sulfide, and vinyl chloride; however, air emissions of these pollutants would not be expected under the Proposed Project and thus, there is no further mention of these pollutants in this IS/MND.

**TABLE 3.3-3
 STATE AND NATIONAL CRITERIA AIR POLLUTANT STANDARDS**

Pollutant	Averaging Time	State Standard	National Standard
Ozone	1 Hour	0.09 ppm	–
	8 Hour	0.070 ppm	0.075 ppm
Carbon Monoxide	1 Hour	20 ppm	35 ppm
	8 Hour	9.0 ppm	9 ppm
Nitrogen Dioxide	1 Hour	0.18 ppm	0.100 ppm ^a
	Annual	0.030 ppm	0.053 ppm
Sulfur Dioxide	1 Hour	0.25 ppm	–
	3 Hour	–	0.5 ppm
	24 Hour	0.04 ppm	0.14 ppm
	Annual	–	0.030 ppm
Respirable Particulate Matter (PM ₁₀)	24 Hour	50 µg/m ³	150 µg/m ³
	Annual	20 µg/m ³	–
Fine Particulate Matter (PM _{2.5})	24 Hour	–	35 µg/m ³
	Annual	12 µg/m ³	15.0 µg/m ³
Lead	Monthly	1.5 µg/m ³	–
	Quarterly	–	1.5 µg/m ³

ppm = parts per million
 µg/m³ = micrograms per cubic meter

a. To attain this standard, the three year average of the 98th percentile of the daily maximum one-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010).

SOURCE: CARB, 2010c.

Federal and State Regulations

USEPA is responsible for implementing programs established under the federal Clean Air Act, such as establishing and reviewing the NAAQS and judging the adequacy of State Implementation Plans (SIPs), and has delegated the authority to implement many of the federal programs to the states while retaining an oversight role to ensure that the programs continue to be implemented.

CARB is responsible for establishing and reviewing the State standards, compiling the California SIP and securing approval of that plan from USEPA, conducting research and planning, and identifying toxic air contaminants (TACs). CARB also regulates mobile sources of emissions in California, such as construction equipment, trucks, and automobiles, and oversees the activities of California's air quality management districts, which are organized at the county or regional level.

Regulations for Mobile Sources of Air Pollutants

The following air quality regulations apply to mobile sources and are directly relevant to the Proposed Project. On-road vehicles with a gross vehicular weight rating of 10,000 pounds or greater shall not idle for longer than five minutes at any location as required by Section 2485 of Title 13, Division 3, Chapter 10, Article 1 of the California Code of Regulations. This restriction does not apply when vehicles remain motionless during traffic or when vehicles are queuing. Off road equipment engines shall not idle for longer than five minutes per Section 2449(d)(3) of Title 13, Division 3, Chapter 9, Article 4.8 of the California Code of Regulations. Exceptions to this rule include the following: idling when queuing; idling to verify that the vehicle is in safe operating condition; idling for testing, servicing, repairing or diagnostic purposes; idling necessary to accomplish work for which the vehicle was designed (such as operating a crane); idling required to bring the machine to operating temperature as specified by the manufacturer; and idling necessary to ensure safe operation of the vehicle.

Executive Order S-3-05

In 2005, in recognition of California's vulnerability to the effects of climate change, Governor Schwarzenegger established Executive Order S-3-05, which set forth a series of target dates by which statewide emissions of GHGs would be progressively reduced, as follows:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

Assembly Bill 32 – California Global Warming Solutions Act

California Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006, was enacted in 2006 and requires CARB to establish a statewide GHG emission cap for 2020 based on 1990 emission levels. AB 32 required CARB to adopt regulations by January 1, 2008, that identified and required selected sectors or categories of emitters of GHGs to report and verify their statewide GHG emissions, and CARB is authorized to enforce compliance with the program. Under AB 32, CARB also was required to adopt, by January 1, 2008, a statewide GHG emissions limit equivalent to the statewide GHG emissions levels in 1990, which must be achieved by 2020. By January 1, 2011, CARB is

required to adopt rules and regulations (which shall become operative January 1, 2012), to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 permits the use of market-based compliance mechanisms to achieve those reductions. AB 32 also requires CARB to monitor compliance with and enforce any rule, regulation, order, emission limitation, emissions reduction measure, or market-based compliance mechanism that it adopts.

In June 2007, CARB directed staff to pursue 37 early actions for reducing GHG emissions under AB 32. The broad spectrum of strategies to be developed – including a Low Carbon Fuel Standard, regulations for refrigerants with high global warming potentials, guidance and protocols for local governments to facilitate GHG reductions, and green ports – reflects that the serious threat of climate change requires action as soon as possible (CARB, 2007a).

In addition to approving the 37 GHG reduction strategies, CARB directed staff to further evaluate early action recommendations made at the June 2007 meeting, and to report back to CARB within six months. The general sentiment of CARB suggested a desire to try to pursue greater GHG emissions reductions in California in the near-term. Following the June 2007 CARB hearing, CARB staff evaluated all 48 recommendations submitted by stakeholders and several internally-generated staff ideas and published the *Expanded List of Early Action Measures To Reduce Greenhouse Gas Emissions In California Recommended For Board Consideration* in October 2007 (CARB, 2007b).

Climate Change Scoping Plan

In December of 2008, CARB adopted a Scoping Plan outlining the State's strategy to achieve the 2020 GHG emissions limit (CARB, 2008a). This Scoping Plan, developed by CARB in coordination with the Climate Action Team (CAT), proposes a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health. The measures in the Scoping Plan will be developed over the next two years and be in place by 2012.

The Scoping Plan expands the list of nine Early Action Measures into a list of 39 Recommended Actions contained in Appendices C and E of the Plan. These measures are presented in **Table 3.3-4**.

CARB Preliminary Draft Staff Proposal, October 2008

In its Staff Proposal, CARB took the first step toward developing recommended statewide interim thresholds of significance for GHGs that may be adopted by local agencies for their own use. The proposal does not attempt to address every type of project that may be subject to CEQA, but instead focuses on common project types that, collectively, are responsible for substantial GHG emissions – specifically, industrial, residential, and commercial projects. CARB is developing these thresholds in these sectors to advance climate objectives, streamline project review, and encourage consistency and uniformity in the CEQA analysis of GHG emissions throughout the State.

**TABLE 3.3-4
 RECOMMENDED ACTIONS OF CLIMATE CHANGE SCOPING PLAN**

ID #	Sector	Strategy Name
T-1	Transportation	Pavley I and II – Light-Duty Vehicle GHG Standards
T-2	Transportation	Low Carbon Fuel Standard (Discrete Early Action)
T-3	Transportation	Regional Transportation-Related GHG Targets
T-4	Transportation	Vehicle Efficiency Measures
T-5	Transportation	Ship Electrification at Ports (Discrete Early Action)
T-6	Transportation	Goods-movement Efficiency Measures
T-7	Transportation	Heavy Duty Vehicle Greenhouse Gas Emission Reduction Measure – Aerodynamic Efficiency (Discrete Early Action)
T-8	Transportation	Medium and Heavy-Duty Vehicle Hybridization
T-9	Transportation	High Speed Rail
E-1	Electricity and Natural Gas	Increased Utility Energy efficiency programs ; More stringent Building and Appliance Standards
E-2	Electricity and Natural Gas	Increase Combined Heat and Power Use by 30,000 GWh
E-3	Electricity and Natural Gas	Renewables Portfolio Standard
E-4	Electricity and Natural Gas	Million Solar Roofs
CR-1	Electricity and Natural Gas	Energy Efficiency
CR-2	Electricity and Natural Gas	Solar Water Heating
GB-1	Green Buildings	Green Buildings
W-1	Water	Water Use Efficiency
W-2	Water	Water Recycling
W-3	Water	Water System Energy Efficiency
W-4	Water	Reuse Urban Runoff
W-5	Water	Increase Renewable Energy Production
W-6	Water	Public Goods Charge (Water)
I-1	Industry	Energy Efficiency and Co-benefits Audits for Large Industrial Sources
I-2	Industry	Oil and Gas Extraction GHG Emission Reduction
I-3	Industry	GHG Leak Reduction from Oil and Gas Transmission
I-4	Industry	Refinery Flare Recovery Process Improvements
I-5	Industry	Removal of Methane Exemption from Existing Refinery Regulations
RW-1	Recycling and Waste Management	Landfill Methane Control (Discrete Early Action)
RW-2	Recycling and Waste Management	Additional Reductions in Landfill Methane – Capture Improvements
RW-3	Recycling and Waste Management	High Recycling/Zero Waste
F-1	Forestry	Sustainable Forest Target
H-1	High Global Warming Potential Gases	Motor Vehicle Air Conditioning Systems (Discrete Early Action)
H-2	High Global Warming Potential Gases	SF ₆ Limits in Non-Utility and Non-Semiconductor Applications (Discrete Early Action)
H-3	High Global Warming Potential Gases	Reduction in Perfluorocarbons in Semiconductor Manufacturing (Discrete Early Action)
H-4	High Global Warming Potential Gases	Limit High GWP Use in Consumer Products (Discrete Early Action, Adopted June 2008)
H-5	High Global Warming Potential Gases	High GWP Reductions from Mobile Sources
H-6	High Global Warming Potential Gases	High GWP Reductions from Stationary Sources
H-7	High Global Warming Potential Gases	Mitigation Fee on High GWP Gases
A-1	Agriculture	Methane Capture at Large Dairies

SOURCE: CARB, 2008a.

CARB's staff has developed a preliminary interim threshold concept for industrial projects (CARB, 2008b). CARB staff's objective in this proposal is to develop a threshold of significance that will result in the vast majority (~90 percent statewide) of the GHG emissions from new industrial projects that are subject to CEQA's requirement to impose feasible mitigation. CARB believes this can be accomplished with a threshold that allows small projects to be considered less than significant. CARB's staff used existing data for the industrial sector to derive a proposed hybrid threshold. The threshold is 7,000 metric tons of CO_{2e} per year for operational emissions (excluding transportation), and performance standards for construction and transportation emissions. These performance standards have not yet been developed.

Local Regulations and Plans

San Joaquin Valley Air Pollution Control District

The Proposed Project would be located within the jurisdiction of the SJVAPCD. The SJVAPCD regulates air pollutant emissions for all sources throughout the SJVAB other than motor vehicles. The SJVAPCD enforces regulations and administers permits governing stationary sources. The following rules and regulations would apply to the Proposed Project.

Regulation VIII (Fugitive PM₁₀ Prohibitions): Regulation VIII contains rules developed pursuant to USEPA guidance for Serious PM₁₀ Nonattainment Areas. Rules included under this regulation limit fugitive PM₁₀ emissions from the following sources: construction, demolition, excavation, extraction and other earth moving activities, bulk materials handling, carryout and track-out, open areas, paved and unpaved roads, unpaved vehicle/equipment traffic areas, and agricultural sources. **Table 3.3-5** contains control measures that SCE would be required to implement during Proposed Project construction activities pursuant to Rule 8021, *Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities*.

Rule 4102 (Nuisance): Rule 4102 prohibits the discharge of air contaminants or other materials in quantities that may cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health, or safety of any such person or the public.

Rule 9510 (Indirect Source Review): Rule 9510 requires certain development projects to mitigate exhaust emissions from construction equipment greater than 50 horsepower to 20 percent below statewide average NO_x emissions and 45 percent below statewide average PM₁₀ exhaust emissions. This rule also requires applicants to reduce baseline emissions of NO_x and PM₁₀ emissions associated with operations by 33.3 percent and 50 percent respectively over a period of 10 years.

**TABLE 3.3-5
 SJVAPCD RULE 8021 MEASURES APPLICABLE TO THE PROPOSED PROJECT**

No.	Measure
A1	Pre-water site sufficient to limit visible dust emissions (VDE) to 20% opacity
A2	Phase work to reduce the amount of disturbed surface area at any one time
B1	Apply water or chemical/organic stabilizers/suppressants sufficient to limit VDE to 20% opacity; or
B2	Construct and maintain wind barriers sufficient to limit VDE to 20% opacity. If utilizing wind barriers, control measure B1 above shall also be implemented.
B3	Apply water or chemical/organic stabilizers/suppressants to unpaved haul/access roads and unpaved vehicle/equipment traffic areas sufficient to limit VDE to 20% opacity and meet the conditions of a stabilized unpaved road surface.
C.1	Restrict vehicular access to the area; and
C.2	Apply water or chemical/organic stabilizers/suppressants, sufficient to comply with the conditions of a stabilized surface. If an area having 0.5 acres or more of disturbed surface area remains unused for seven or more days, the area must comply with the conditions for a stabilized surface area as defined in section 3.58 of Rule 8011.
5.3.1	An owner/operator shall limit the speed of vehicles traveling on uncontrolled unpaved access/haul roads within construction sites to a maximum of 15 miles per hour.
5.3.2	An owner/operator shall post speed limit signs that meet State and Federal Department of Transportation standards at each construction site's uncontrolled unpaved access/haul road entrance. At a minimum, speed limit signs shall also be posted at least every 500 feet and shall be readable in both directions of travel along uncontrolled unpaved access/haul roads.
5.4.1	Cease outdoor construction, excavation, extraction, and other earthmoving activities that disturb the soil whenever VDE exceeds 20% opacity. Indoor activities such as electrical, plumbing, dry wall installation, painting, and any other activity that does not cause any disturbances to the soil are not subject to this requirement.
5.4.2	Continue operation of water trucks/devices when outdoor construction excavation, extraction, and other earthmoving activities cease, unless unsafe to do so.
6.3.1	An owner/operator shall submit a Dust Control Plan to the Air Pollution Control Officer (APCO) prior to the start of any construction activity on any site that will include 10 acres or more of disturbed surface area for residential developments, or 5 acres or more of disturbed surface area for non-residential development, or will include moving, depositing, or relocating more than 2,500 cubic yards per day of bulk materials on at least three days. Construction activities shall not commence until the APCO has approved or conditionally approved the Dust Control Plan. An owner/operator shall provide written notification to the APCO within 10 days prior to the commencement of earthmoving activities via fax or mail. The requirement to submit a dust control plan shall apply to all such activities conducted for residential and non-residential (e.g., commercial, industrial, or institutional) purposes or conducted by any governmental entity.
6.3.3	The Dust Control Plan shall describe all fugitive dust control measures to be implemented before, during, and after any dust generating activity.
6.3.4	A Dust Control Plan shall contain all the [administrative] information described in Section 6.3.6 of this rule. The APCO shall approve, disapprove, or conditionally approve the Dust Control Plan within 30 days of plan submittal. A Dust Control Plan is deemed automatically approved if, after 30 days following receipt by the District, the District does not provide any comments to the owner/operator regarding the Dust Control Plan.

SOURCE: SJVAPCD, 2010.

As required by the federal Clean Air Act and the California Clean Air Act, air basins or portions thereof have been classified as either “attainment” or “nonattainment” for each criteria air pollutant, based on whether or not the standards have been achieved. Jurisdictions of nonattainment areas also are required to prepare an air quality management plan (AQMP) that includes strategies for achieving attainment. The SJVAPCD’s most recent AQMP for ozone attainment is the *1-hour Extreme Ozone Attainment Demonstration Plan* which was adopted in October 2004 and amended in October 2005. The purpose of this plan is to set forth emission reduction goals and a timeline for attaining the federal one-hour ozone ambient air quality standards in the SJVAB by November 15, 2010. On March 8, 2010, the USEPA approved the 2004 Extreme Ozone Attainment Plan for 1-hour ozone.

In June 2007, the SJVAPCD published the *2007 PM10 Maintenance Plan and Request for Redesignation*. This plan demonstrates how PM10 attainment in the SJVAB will be maintained in the future.

In April 2008, The SJVAPCD Board adopted the *2008 PM2.5 Plan*. This plan was designed to attain the federal and State PM2.5 standards in the SJVAB as soon as possible.

Kings County General Plan

Air quality and climate change issues are addressed in the Air Quality Element of the 2035 Kings County General Plan. The Air Quality Element, Section C (Air Quality Management) contains Policies C1.1.1 and C1.1.2 that require the assessment and mitigation, if necessary, of project air quality and greenhouse gas/climate change impacts during CEQA review using analysis methods and significance thresholds recommended by the SJVAPCD and require that projects do not exceed established SJVAPCD thresholds. In addition, Policy F2.1.1 requires coordination with the SJVAPCD to ensure that construction, grading, excavation, and demolition activities within the County's jurisdiction are regulated and controlled to reduce particulate emissions to the maximum extent feasible. Policy F2.1.2 requires all access roads, driveways, and parking areas that would serve new commercial and industrial development to be constructed with materials that minimize particulate emissions and are appropriate to the scale and intensity of use (Kings County, 2010).

3.3.3 Applicant Proposed Measures

SCE has not proposed any applicant proposed measures (APMs) to minimize impacts to air quality from the Proposed Project.

3.3.4 Environmental Impacts and Mitigation Measures

a) Conflict with or obstruct implementation of the applicable air quality plan: *NO IMPACT.*

The SJVAPCD's *1-hour Extreme Ozone Attainment Demonstration Plan, 2007 PM10 Maintenance Plan and Request for Redesignation*, and the *2008 PM2.5 Plan* outline a number of control strategies to help the SJVAPCD reach attainment for the federal one-hour ozone standard, the 24-hour PM10 standard, and the federal and State PM2.5 standards, respectively. The SJVAB is in attainment for CO, SO₂, and lead, so there are no attainment plans for those pollutants.

Control measures outlined in the ozone plan focus on control of stationary sources and indirect sources such as housing and commercial developments that may generate substantial vehicle trips during operations. Operation of the Proposed Project would generate a very small number of vehicle trips (i.e., three to four trips per month) required to inspect and maintain the proposed substation and subtransmission lines. Therefore, the Proposed Project would not create a permanent substantial source of ozone precursor emissions, and would not obstruct implementation of the SJVAPCD's ozone attainment plan (No Impact).

The PM10 maintenance plan focuses on how the SJVAPCD will maintain attainment of the federal 24-hour PM10 standard, which includes continued implementation of the Amended 2003 PM10

Plan. The 2003 plan focuses on implementing rules that limit PM10 emissions from various industrial sources as well as fugitive dust emissions. Construction of the Proposed Project would generate emissions of fugitive dust. However, proposed construction activities would be required to be conducted in compliance with SJVAPCD’s Regulation VIII, Fugitive PM10 Prohibitions; therefore, the Proposed Project would not obstruct implementation of the PM10 maintenance plan. Inspection and maintenance activities associated with operation would generate PM10 emissions from travel on unpaved roads; however, these activities also would be subject to rules set forth in Regulation VIII. Therefore, the Proposed Project would be regulated by applicable SJVAPCD rules and would not obstruct implementation of the PM10 maintenance plan (No Impact).

The 2008 PM2.5 Plan is the SJVAPCD’s first plan to focus specifically on PM2.5, although the control strategies from previous PM10 plans (particularly those related to fugitive dust control) already have improved the SJVAB’s ambient PM2.5 levels. Therefore, because fugitive dust controls continue to be addressed in the PM10 plan, the 2008 PM2.5 Plan contains a comprehensive list of strict regulatory and incentive-based measures to reduce directly-emitted PM2.5 and precursor emissions. However, the Proposed Project would result in negligible PM2.5 emissions relative to those types of sources (see **Table 3.3-6**, below), with the vast majority of PM2.5 emissions associated with the Proposed Project arising from the PM2.5 component of fugitive dust. Nevertheless, the Proposed Project would be regulated by applicable SJVAPCD rules, which would ensure compliance with the 2008 PM2.5 Plan, and therefore would not obstruct implementation of the PM2.5 plan (No Impact).

**TABLE 3.3-6
 ESTIMATED PROPOSED PROJECT CONSTRUCTION EMISSIONS**

Phase	Emissions (tons per year)					
	ROG	NOx	CO	SOx	PM10	PM2.5
Substation Construction						
Exhaust Emissions	0.35	3.03	1.91	0.00	0.15	0.14
Fugitive Dust Emissions	--	--	--	--	2.07	0.43
<i>Subtotal</i>	<i>0.35</i>	<i>3.03</i>	<i>1.91</i>	<i>0.00</i>	<i>2.22</i>	<i>0.58</i>
Subtransmission Construction						
Exhaust Emissions	0.03	0.28	0.17	0.00	0.01	0.01
Fugitive Dust Emissions	--	--	--	--	0.10	0.02
<i>Subtotal</i>	<i>0.03</i>	<i>0.28</i>	<i>0.17</i>	<i>0.00</i>	<i>0.11</i>	<i>0.03</i>
Telecommunication Construction						
Exhaust Emissions	0.03	0.26	0.24	0.00	0.01	0.01
Fugitive Dust Emissions	--	--	--	--	0.00	0.00
<i>Subtotal</i>	<i>0.03</i>	<i>0.26</i>	<i>0.24</i>	<i>0.00</i>	<i>0.02</i>	<i>0.01</i>
Distribution Construction						
Exhaust Emissions	0.01	0.05	0.06	0.00	0.00	0.00
Fugitive Dust Emissions	--	--	--	--	0.00	0.00
<i>Subtotal</i>	<i>0.01</i>	<i>0.05</i>	<i>0.06</i>	<i>0.00</i>	<i>0.01</i>	<i>0.00</i>
Proposed Project (All Phases Combined)						
Exhaust Emissions	0.43	3.63	2.38	0.00	0.19	0.17
Fugitive Dust Emissions	--	--	--	--	2.17	0.45
Total Project Emissions	0.43	3.63	2.38	0.00	2.36	0.63

Subtotals and totals may appear to not add up due to rounding in the URBEMIS2007 model.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation: *LESS THAN SIGNIFICANT IMPACT.*

Construction, operation, and maintenance of the Proposed Project would result in emissions of criteria air pollutants. The potential for such emissions to result in a violation of an air quality standard or to contribute substantially to an existing or projected violation are discussed below.

Construction

The SJVAPCD has identified PM10 as the pollutant of greatest concern for construction-related emissions. In the *Guide for Assessing and Mitigating Air Quality Impacts*, the SJVAPCD recommends that construction PM10 impacts be evaluated based on implementation of effective and comprehensive dust control measures rather than detailed quantification (SJVAPCD, 2002). SJVAPCD has not established a CEQA significance threshold for PM10 or PM2.5 emissions associated with construction activities. The SJVAPCD also has not established quantitative CEQA thresholds for ozone precursors associated with construction activities. In lieu of CEQA significance thresholds for construction emissions of ozone precursors, projected emissions of the Proposed Project are compared to the SJVAPCD's operational CEQA threshold of 10 tons per year for both types of ozone precursors (i.e., NOx and reactive organic gases (ROG)).

Construction of the Proposed Project would take approximately 11 months to complete; therefore, total estimated emissions for all construction activities were used to represent annual emissions. Construction emissions were estimated using the California Air Resources Board's (CARB) URBEMIS2007 program. The total estimated emissions associated with construction of each component of the Proposed Project are presented in Table 3.3-6. Exhaust emissions include off-road heavy duty equipment exhaust, on-road truck exhaust, and worker vehicle exhaust emissions. Fugitive dust emissions include emissions associated with grading and earth disturbing activities. Refer to Appendix B for detailed calculation sheets.

Estimated construction emissions of NOx and ROG would not exceed the annual SJVAPCD CEQA threshold of 10 tons per year. Therefore, construction emissions of ozone precursors would have a less than significant impact on air quality.

As discussed previously, the SJVAPCD has not developed quantitative thresholds for evaluating impacts of PM10 or PM2.5 emissions, but instead emphasizes the implementation of effective dust control measures to mitigate PM10 impacts. Because most of the PM2.5 emissions that would be associated with the Proposed Project would be from fugitive dust, effective dust control measures also would control PM2.5 emissions. Implementation of SJVAPCD's Regulation VIII, Fugitive PM10 Prohibitions, would ensure that impacts from PM10 and PM2.5 emissions associated with Proposed Project construction would be less than significant.

Regarding construction emissions of CO and SO₂, the SJVAPCD has not developed quantitative thresholds for CEQA review. In any event, the ambient levels for these pollutants in the study area are well below State and federal ambient air quality standards, and the emission of CO and SO₂ from construction of the Proposed Project would be negligible and of short duration.

Operation and Maintenance

Emissions of criteria pollutants associated with operation of the Proposed Project would be generated as a result of maintenance and inspection activities. Normal maintenance and inspection activities would include annual aerial and/or ground inspections of the proposed subtransmission line facilities and inspection of the Mascot Substation three to four times per month. Furthermore, access and spur roads would be inspected on an annual basis and maintained and repaired in a manner consistent with SCE's road maintenance and repair practices. Exhaust emissions from these activities would not be expected to exceed a rate of one ton per year of ROG and NO_x, and therefore would be well below the SJVAPCD CEQA significance threshold of 10 tons per year. Exhaust emissions of PM_{2.5}, CO, and SO₂ would be negligible associated with ongoing operations of the Proposed Project. Therefore, impacts would be less than significant.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors): *LESS THAN SIGNIFICANT IMPACT.*

The SJVAB is non-attainment of ozone standards because of cumulative emissions from numerous sources throughout the SJVAB as well as transport of pollutants from regions outside of the SJVAB. Most sources emit ROG and NO_x in quantities that are too small to have a measurable effect on ambient ozone concentrations by themselves; however, when they are considered cumulatively, such emissions result in severe problems to the ambient air quality throughout the SJVAB. In response to this issue, the SJVAPCD has developed an annual emissions threshold of 10 tons for both ROG and NO_x to limit the individual contribution of discrete projects, thereby reducing the cumulative impacts of many smaller-scale projects. As discussed previously, neither construction nor operation and maintenance of the Proposed Project would result in annual emissions greater than 10 tons of NO_x or ROG. Therefore, the Proposed Project would not have a cumulatively considerable impact, and cumulative impacts would be less than significant.

PM₁₀ and PM_{2.5} have a similar cumulative regional emphasis because particles can be entrained into the atmosphere and contribute to unhealthful levels over time. At a local scale, PM₁₀ and PM_{2.5} also have the potential to cause significant impacts if several grading or earth moving projects are underway simultaneously at nearby sites. However, implementation of Regulation VIII requirements, including development and implementation of a SJVAPCD-approved dust control plan, would ensure that cumulative PM₁₀ and PM_{2.5} impacts would be less than significant.

d) Expose sensitive receptors to substantial pollutant concentrations: *LESS THAN SIGNIFICANT IMPACT.*

The Proposed Project would traverse agricultural areas. There are a few residential sensitive receptors in the vicinity of the proposed substation site and subtransmission line alignments along Grangeville Boulevard, 7 ½ Avenue, Ponderosa Road, and Hanford Armona Road. As discussed previously, construction activities would generate emissions of criteria pollutants, including suspended and inhalable particulate matter as well as equipment exhaust emissions. However, due to the linear nature of the proposed subtransmission lines, construction activities would not remain in the same place for longer than a few days at a time, thereby reducing the amount of time that any one receptor

along the alignments would be exposed to elevated concentrations of air pollutants. Construction of the Mascot Substation would involve construction activities in a single location for a period of a few months. However, given that the nearest sensitive receptor to the substation site would be located over 500 feet from such activities, it is unlikely that receptors would be exposed to substantial pollutant concentrations. Furthermore, implementation of SJVAPCD fugitive dust control measure requirements would reduce impacts from construction-related dust. With implementation of such measures, impacts to sensitive receptors would be less than significant.

e) Create objectionable odors affecting a substantial number of people: *LESS THAN SIGNIFICANT IMPACT.*

Diesel exhaust from construction activities may generate odors. However, these odors would be temporary in nature and would be unlikely to affect a substantial number of people. The Proposed Project would not generate other odors. Odor-related impacts would be less than significant.

f) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment: *LESS THAN SIGNIFICANT IMPACT.*

To assist in the assessment of GHG-related impacts, the SJVAPCD has adopted Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA and the policy called District Policy – Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency. The guidance and policy rely on the use of performance based standards, otherwise known as Best Performance Standards (BPS), to assess significance of GHG emissions for CEQA projects. Use of BPS is a method of streamlining the CEQA process of determining significance and is not a required emission reduction measure. Projects implementing BPS would be determined to have a less than cumulatively significant impact. Otherwise, demonstration of a 29 percent reduction in GHG emissions, from business-as-usual, is required to determine that a project would have a less than cumulatively significant impact.

However, the SJVAPCD also has approved a policy that establishes a level of GHG emissions below which project-specific increases in GHG emissions would be considered equivalent to zero for CEQA purposes. The established zero equivalency level is 230 metric tons CO₂e per year. Projects with increases in GHG emissions that are non-zero would require further environmental review for GHG impacts and projects that would be considered to result in the equivalent of zero GHG emissions would be exempt from further review of GHG impacts and would be considered to result in less than significant impacts (SJVAPCD, 2010). This analysis uses the SJVAPCD's screening level of 230 metric tons CO₂e per year for a conservative significance threshold.

None of the adopted GHG guidance or policies described above address GHG construction emissions. Therefore, as the lead agency for this project, the CPUC has elected to use an approach to the determination of significance of GHG construction emissions based on the interim GHG significance thresholds developed by the South Coast Air Quality Management District (SCAQMD). For construction related GHGs, SCAQMD recommends that total emissions from construction be amortized over 30 years and added to operational emissions and then compared to the applicable significance threshold. Similar to the SCAQMD's recommended approach for construction emissions,

this analysis amortizes the construction emissions over a 30-year project lifetime and adds those emissions to the annual GHG emissions from operation of the Proposed Project.

Operation of the Proposed Project may cause a small increase in GHG emissions from vehicle travel during inspection and maintenance of the new subtransmission and transmission lines. In addition to vehicle emissions, SF₆ could leak from circuit breakers within Mascot Substation during operations of the Proposed Project. SCE plans to install seven circuit breakers for the 66 kV system at Mascot Substation and these breakers would contain SF₆ gas. The seven circuit breakers would use a maximum of 64 lbs of SF₆ gas per breaker. The SF₆ leakage rate per breaker would not exceed 0.5 percent per year (SCE, 2010b). Given these assumptions, the anticipated emission rate from each new circuit breaker during operation would be approximately 0.32 pounds per year, and combined emissions from all new circuit breakers would be 2.24 pounds per year. Given that SF₆ has a global warming potential of 23,900, operations of Mascot Substation would result in an increase of approximately 24 metric tons of CO₂e per year.

The primary source of GHG emissions during project construction would be exhaust emissions from construction equipment and haul trucks. URBEMIS2007 was used to estimate GHG emissions from construction activities. Based on the model output, approximately 431 metric tons of CO₂ would be emitted during the 11-month Proposed Project construction period, which is equal to a 30-year amortized value of approximately 14 metric tons.

Therefore, the combined operations and amortized construction emissions are estimated to approximately 38 metric tons of CO₂e per year, which would be well below the SJVAPCD's established zero equivalency level is 230 metric tons CO₂e per year. Therefore, impacts from Proposed Project operations and construction would be less than significant.

g) Conflict with an applicable plan, policy, or regulation for the purpose of reducing the emissions of greenhouse gases: *LESS THAN SIGNIFICANT IMPACT.*

Kings County has adopted climate change policies in its 2030 General Plan Air Quality Element as described above under *Local Regulations and Plans*. The Proposed Project would not conflict with County's policies related to GHG/climate change. Furthermore, it is assumed that the Proposed Project would not interfere with implementation of AB 32 because it would not conflict with the 39 Recommended Actions designed to achieve the 2020 GHG emissions limit required by AB 32 identified in CARB's Climate Scoping Plan. Impacts would be less than significant.

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3.4 Biological Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
4. BIOLOGICAL RESOURCES— Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.4.1 Environmental Setting

The Proposed Project is located in northern Kings County within San Joaquin Valley, part of the Great Valley region of the California Floristic Province (Hickman, 1993). Now extensively converted to agriculture, this area once supported marshes, riparian woodlands, oak savannahs, and California prairies (native grasslands). The San Joaquin Valley is demarcated by oak/pine woodlands and mixed hardwood forests to the west, east, and south; to the north lies its subregional counterpart: the Sacramento Valley. The California Floristic Province experiences a Mediterranean climate, with the San Joaquin valley experiencing hotter, drier summers than coastal areas to the west, and shorter, milder winters than the Sierra Nevada Range to the east. The project region is approximately 250 feet in elevation, reflecting its flat topography both conducive to, and resulting from, intense cultivation. The project region is comprised of agricultural lands and low-density rural residential development surrounding the city of Hanford, with traces of natural vegetation communities found along field fringes and in remnant vacant land parcels.

Vegetation Communities

Vegetation communities within the project area are identified as agricultural fields, irrigation channels, ornamental plantings, developed areas, and disturbed areas (BonTerra, 2009).

Agricultural Fields

In an area dominated by agriculture, the Project is sited primarily within row and field crops. Cultivated crops include corn, cotton, alfalfa, pistachio, watermelon, and other fruit and nut orchards. Other cultivated land parcels are temporarily fallow. Agricultural areas comprised of row crops, field crops, and fallow fields occur at the proposed five-acre 66/12 kV substation site and along the approximately one-mile length of the proposed single-circuit 66 kV subtransmission line segment.

Cultivated fields offer reduced habitat value due to their frequent soil disturbance, but usually are populated with field rodents during growing seasons. Such rodents include western harvest mice (*Reithrodontomys megalotis*), Botta's pocket gopher (*Thomomys bottae*), and California vole (*Microtus californicus*). The western cottontail (*Sylvilagus bachmani*) also is a frequent visitor to agricultural fields. These prey animals may support foraging raptors in very low densities. In the Central Valley, cultivated field margins can support populations, usually in very low densities, of burrowing owl (*Athene cunicularia*) and San Joaquin kit fox (*Vulpes macrotis mutica*).

Irrigation Channels

Irrigation channels, such as the Melga Canal, were constructed decades ago to support agricultural activities (see **Section 3.5, Cultural Resources**). Varying in width from 10 to 25 feet, they occur within upland areas and are dry except when actively irrigated or when conveying storm runoff. Channel floors are unvegetated, and channel sides, when moist, are sparsely vegetated with nonnative grasses, African umbrella sedge (*Cyperus involucratus*), water smartweed (*Polygonum amphibium*), and common horseweed (*Conyza canadensis*) (BonTerra, 2009). Irrigation channels pass under, or travel parallel to, the southern third of the proposed single-circuit 66 kV subtransmission line segment.

Irrigation channels in the Project area provide little habitat value due to their manmade and widely variable hydroperiod, lack of emergent vegetation, and lack of vegetative cover. However, when flowing, they may provide refugia habitat for amphibians such as the Sierran treefrog (*Pseudacris sierra*) and western toad (*Bufo boreas*), and reptiles such as the western pond turtle (*Actinemys marmorata*).

Ornamental Plantings

Ornamental vegetation usually is associated with developed areas, such as residences and commercial buildings. In the Project area, ornamental plantings include oleander (*Nerium oleander*) and blue-gum eucalyptus (*Eucalyptus globulus*). Such plantings occur near a residence located at the southern tip of the proposed single-circuit 66 kV subtransmission line segment.

Oleanders and eucalyptus trees offer little habitat value compared to native trees, but may provide perching locations for foraging raptors and nesting habitat for breeding birds.

Developed Areas

Developed portions of the Project area include a railroad track, paved roads, residences and agricultural buildings. The Southern Pacific Railroad right-of-way crosses perpendicular to the project area, in the northern third of the proposed single-circuit 66 kV subtransmission line segment. Paved roads in the project area include Grangeville Boulevard, where an underground duct bank would be installed at both Goshen Substation and the proposed Mascot Substation; Highway 198, which is crossed by the proposed subtransmission line segment; and Hanford Armona Road where the proposed line ties into the existing Hanford-Liberty 66kV subtransmission line. Ponderosa Road is a brief, paved loop serving low-density rural residences along the northern third of the proposed subtransmission line segment; a single residence also occurs near the southernmost tip of the proposed segment. Several agricultural buildings are clustered along the bottom third of the proposed segment.

Disturbed Areas

Disturbed portions of the Project area include unpaved access roads used for farm equipment and vehicle movement around cultivated fields, and railroad track banks. As previously mentioned, the proposed subtransmission line segment is traversed by a railroad corridor in the northern portion of the project area. An unpaved road parallels the Project area from the proposed Mascot substation site south to Highway 198, and picks up again at a large irrigation canal approximately 2,000 feet south, where it continues south to Hanford Armona Road.

Disturbed areas are usually bare or vegetated with non-native, weedy species and generally offer little habitat value. However, unpaved roads and road shoulders, and railroad track banks, sometimes are inhabited by California ground squirrels (*Spermophilus beecheyi*), western burrowing owl, and San Joaquin kit fox.

Waters of the United States/Waters of the State

The proposed five-acre Mascot substation is sited on a cultivated field that contains several irrigation “bubblers”, through which water is gently and periodically flushed into the fields. Non-native grass has grown around these bubblers, and water sometimes is pooled to a depth of approximately one inch throughout a radial area measuring about three feet from the bubbler. The proposed single-circuit 66 kV subtransmission line segment crosses one irrigation channel, and parallels another for approximately 1,200 feet. These irrigation channels were constructed in upland areas to support agricultural activities. They are more than 90 percent unvegetated, and vegetated areas contain mostly weedy upland species. The combination of manmade irrigation channels, upland soils, lack of emergent vegetation, and growth of primarily upland vegetation on channel banks indicates the soil is unlikely to be hydric.

Special-Status Species

To identify special-status species with potential to occur in the Project area, the California Natural Diversity Database (CNDDDB) (CDFG, 2010) and California Native Plant Society (CNPS) (CNPS, 2009) online databases were consulted, along with technical reports prepared in support of the Proposed Project (BonTerra, 2009; SCE, 2009) and the results of focused wildlife surveys (McCormick Biological, Inc., 2009). A total of five special-status wildlife species are identified as potentially

occurring in the Project area. Due to a lack of suitable soils and habitat in the Project area, resulting from intense cultivation and area-wide disturbance, no special-status plants were identified as having the potential to occur and no focused surveys were performed. A focused list of special-status species considered for the Project is provided below in **Table 3.4-1**. Species were determined to have a High Potential to occur on the site if they were historically present, have been recently documented in the area, the site provides suitable habitat for denning, nesting, rearing, foraging, dispersing, and/or routine movement, and the distance to the nearest documented occurrence makes it feasible for the species to be on site, relative to its mobility.

**TABLE 3.4-1
 FOCUSED LIST OF SPECIAL-STATUS SPECIES CONSIDERED FOR THE MASCOT SUBSTATION PROJECT**

Common Name Scientific Name	Listing Status USFWS/ CDFG/CNPS	General Habitat Requirements	Potential for Species Occurrence Within the Project Area
FEDERAL AND STATE LISTED SPECIES OR PROPOSED FOR LISTING			
Birds			
Swainson's hawk <i>Buteo swainsonii</i>	--/CT	Primarily a migratory species, but does nest in the Central Valley. Forages over grasslands and agricultural fields. Nests in large trees, often near water, open grasslands, or agricultural areas.	Moderate potential. CNDDDB reports 27 nesting occurrences within 25 miles of the project area; 1 nesting occurrence reported in 2000 occurs 3.8 miles SE (CDFG, 2010). Agricultural areas provide low-quality foraging habitat. The transmission line segment provides limited nesting habitat.
Mammals			
San Joaquin kit fox <i>Vulpes macrotis mutica</i>	FE/CT	Arid grasslands and open scrubland.	High potential. Nearest recently documented occurrence (2006) is 4 miles west of the project area; one less recent (2000) occurrence and four older occurrences (1970s) are documented within 5 miles of the project area (CDFG, 2010). Suitable habitat is present for denning and foraging.
FEDERAL OR STATE SPECIES OF SPECIAL CONCERN			
Amphibians			
Western spadefoot <i>Spea hammondi</i>	--/CSC	Found in dry grasslands, often near extensive areas of friable soil. Reproduce in seasonal wetlands, and aestivate in mammal burrows.	Low potential. The nearest documented breeding location is 5 miles east of the project area (CDFG, 2010). The project area also lacks appropriate breeding habitat.
Reptiles			
Western pond turtle <i>Actinemys marmorata</i>	--/CSC	Lakes, ponds, reservoirs, and slow-moving streams and rivers, primarily in foothills and lowlands.	Presumed present in irrigation canals. Though locally sporadic, this species is persistent and widespread, and may be found in any body of water. Three occurrences are reported within 5 miles of the project area (CDFG, 2010).
Birds			
Burrowing owl <i>Athene cucularia</i>	--/CSC	Nests and forages in low-growing grasslands that support burrowing mammals.	Present. Two burrowing owls were observed at a burrow entrance approximately 500 feet east of the project area; a single owl was observed on a nearby fence line at a separate time (McCormick Biological, Inc., 2009; BonTerra, 2009).
Status codes:			
FEDERAL: (U.S. Fish and Wildlife Service)		STATE: (California Department of Fish and Game)	
FE = Listed as Endangered (in danger of extinction) by the Federal Government.		CE = Listed as Endangered by the State of California	
FT = Listed as Threatened (likely to become Endangered within the foreseeable future) by the Federal Government.		CT = Listed as Threatened by the State of California	
FC = Candidate to become a <i>proposed</i> species.		CC= Candidate to become a <i>proposed</i> species	
FSC = Federal Species of Concern. May be Endangered or Threatened, but not enough biological information has been gathered to support listing at this time.		CSC = California Species of Special Concern	
SOURCE: CDFG, 2010; USFWS, 2009; BonTerra, 2009; PGE, 2009.			

3.4.2 Regulatory Setting

Federal Regulations

Endangered Species Act

The United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) have jurisdiction over species listed as threatened or endangered under Section 9 of the federal Endangered Species Act (16 USC § 1531 et seq., ESA). In the project area, NMFS would be responsible for protection of anadromous fish and USFWS would be responsible for the protection of other listed species. The ESA protects listed species from “take,” which is defined broadly as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.”

If a listed species or its habitat would be affected by a project, and the project involves a federal agency, that agency must consult with USFWS in accordance with ESA Section 7. More specifically, if another federal approval is required, ESA Section 7 consultation and issuance of a Biological Opinion (BO), and potentially also an Incidental Take Statement, would be necessary. The ESA requires federal agencies to consult with USFWS or NMFS, as appropriate, to ensure that any undertaking or action they take, including permit issuance, is not likely to jeopardize the continued existence of a listed species (plant or animal) or result in the destruction or modification of critical habitat (50 CFR § 402.01(a)).

Clean Water Act

The Clean Water Act (CWA) regulates discharges to waters of the U.S. and is the principal federal law protecting the nation’s surface waters, including Project area rivers, streams, wetlands, and natural ponds. If a project requires a federal approval and could affect state water quality, the federal agency must obtain state certification through CWA Section 401. CWA Section 402 regulates construction-related stormwater discharges through the National Pollutant

Discharge Elimination Systems (NPDES) program. Administered by the U.S. Environmental Protection Agency (EPA), the State Water Resources Control Board is authorized to oversee the NPDES program in California. The U.S. Army Corps of Engineers (Corps) administers CWA Section 404, and coordinates with the EPA to regulate the discharge of dredged and fill materials into waters of the U.S. via a permitting process.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds, bird parts, eggs and nests. If a project could have a negative impact on migratory birds, then Executive Order 13186 instructs federal agencies to coordinate with the USFWS in developing a Memorandum of Understanding to conserve migratory bird populations. A Migratory Bird Permit Memorandum (MBPM-2), dated April 15, 2003, clarifies that destruction of most unoccupied bird nests is permissible under the MBTA, except for the nests of federally threatened or endangered migratory birds, bald eagles, and golden eagles. Most Project-area bird species and their occupied nests are protected under the MBTA.

Bald and Golden Eagle Protection Act

Under the Bald and Golden Eagle Protection Act, it is illegal to import, export, molest, disturb, sell, purchase or barter any bald eagle or golden eagle or part thereof. The USFWS oversees enforcement of this act. The 1978 amendment authorizes the U.S. Secretary of the Interior to permit the taking of golden eagle nests that interfere with resource development or recovery operations.

Eagle Permits under Code of Federal Regulations (50 CFR Sections 22.26 and 22.27)

New regulations effective November 10, 2009, provide for issuance of permits to take bald and golden eagles. Section 22.26 provides permit issuance where the take is incidental to the activity and cannot practicably be avoided; most take authorized under this section is in the form of disturbance, but permits may authorize non-purposeful take that is likely to result in mortality. Section 22.27 (3) establishes permits for removing eagle nests when the nest prevents use of a human-engineered structure; only inactive nests may be taken, except in the case of safety emergencies.

State Regulations

California Environmental Quality Act

The California Environmental Quality Act is the regulatory framework by which California public agencies identify and mitigate significant environmental impacts. In addition to threatened and endangered species, a species not listed under the federal or State endangered species act may be considered rare if the species exists in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens. A species also may be considered rare if it is likely to become “threatened” as that term is used in the Federal Endangered Species Act (CEQA Guidelines Section 15380).

California Endangered Species Act

The California Endangered Species Act regulates the listing and “take” of state-listed threatened and endangered species, as well as candidate species that have been petitioned for listing. California Fish and Game Code Section 86 defines “take” as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” The California Department of Fish and Game (CDFG) may allow take of a listed species through special permit issuance, except for fully protected species.

California Fish and Game Code

Fully Protected Species

Fish and Game Code Sections 3511, 4700, 5050, and 5515 designate fully protected species and protection measures. Fully protected species may not be taken or possessed at any time, and no licenses or permits may be issued for their take except when collecting these species is necessary for scientific research or relocation of birds is necessary for livestock protection.

Protection of Nesting Birds

Nesting birds are protected under Fish and Game Code Sections 3503 and 3503.5, which make it (1) unlawful to take, possess, or destroy the nests or eggs or any such bird of prey except as otherwise provided by the code; and (2) protect the active nests of all other birds (except house sparrow (*Passer domesticus*) and European starling (*Sturnus vulgaris*)). Disturbance that causes nest abandonment and/or reproductive failure is considered a take. No take permits are issued under these statutes.

Streambed Alterations

Activities that would interfere with the natural flow of, or substantially alter the channel, bed, or bank of a lake, river, or stream are regulated by Fish and Game Code Sections 1600 through 1616 and require a Streambed Alteration Agreement.

Local Regulations

The CPUC has exclusive jurisdiction over the siting, design, and construction of the Proposed Project, and is therefore not subject to local regulations governing discretionary land use. However, the CPUC strives for the projects it approves to be in compliance with local regulations wherever possible, and a review of applicable local regulations assists with CEQA review.

Kings County General Plan

Kings County identifies multiple goals, objectives, and policies for the protection of natural resources such as plant and animal habitats, wetlands, riparian areas, and threatened and endangered species. Goals include balancing the protection of plant and animal communities with economic development, protecting and managing riparian environments as valuable resources, preserving wetlands, and preserving important plant and animal habitats. Objectives include minimizing development near important plant and animal communities, maintaining compatible land uses in natural wetland areas, conserving fish and wildlife habitat, and protecting plants and wildlife through mitigation. Policies include implementing procedures outlined in the Biological Resources Survey (Appendix C of the General Plan), requiring mitigation when necessary, requiring appropriate consultation with CDFG and USFWS, following federal and State guidelines for protection of wetlands, evaluating riparian impacts over a broad geographic area (i.e., upstream and downstream, outside the flood zone), restricting development in riparian areas, accommodating wildlife corridor plans where possible, preserving oaks and native trees, and preserving habitat for threatened and endangered species.

City of Hanford General Plan

The Open Space, Conservation and Recreation Element of the City of Hanford's General Plan identifies biological resources reported by the CNDDDB as occurring, or historically occurring, in the Hanford area, but emphasizes that the city is substantially surrounded by improved farmland and few undisturbed areas remain; undisturbed areas are not specified. Objectives for the conservation of biological resources include preserving and enhancing natural features, and are supported by policies such as identifying and protecting vernal pools, creating recreational trails along utility easements, maintaining remnant sloughs and watercourses, and promoting the preservation of

mature trees. Programs include developing and implementing standards to guide new tree plantings in residential and commercial developments, protecting endangered wildlife and their habitats through environmental review processes, and preserving natural watercourses, wetlands, and riparian corridors by using land development processes to fund open space conservation.

City of Hanford Tree Ordinance/Protection

The City of Hanford Parks Division monitors the health and safety of the community street tree population, and the vegetation in undeveloped lots, city rights-of-way, and ponding basins. A City of Hanford Tree Commission provides recommendations to the City regarding the planting, care, and/or removal of trees and shrubbery on city-owned property, streets and alleys.

3.4.3 Applicant Proposed Measures

No measures were proposed by the applicant to minimize impacts on biological resources resulting from the Proposed Project. Environmental surveys were proposed, however, as part of the applicant's Project Description. The impact analysis in this MND assumes that these environmental surveys will be implemented to reduce impacts on biological resources:

Unsurveyed Areas. For areas disturbed by the Project that have not been surveyed, a desktop review of resources occurring in the area would be conducted to identify potential biological resources that may occur, and a qualified wildlife biologist would conduct a field survey of the areas directly impacted by construction.

Thirty days prior to the start of ground-disturbing activity, the following surveys will be conducted:

Clearance Surveys. A clearance survey would be conducted to identify potential plant and animal species that may be impacted by construction activities. Clearance surveys include a field survey by a qualified botanist and wildlife biologist and would be limited to areas directly impacted by construction activities.

Active nests. Work near nests would be scheduled to take place outside the nesting season when feasible. As of the clearance surveys that take place during nesting season (generally February 1 to August 31), a nesting survey would be conducted. If a nest must be moved during the nesting season, SCE would coordinate with CDFG and the USFWS to obtain approval prior to moving the nest.

3.4.4 Environmental Impacts and Mitigation Measures

- a) **Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service: *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.***

Prior to the implementation of mitigation measures, construction and maintenance activities could result in adverse effects on sensitive and special-status species including western pond turtle, Swainson's hawk, western burrowing owl, nesting birds, and San Joaquin kit fox. No impacts on candidate species are expected. Ground disturbance and use of construction equipment could

result in direct mortality or injury. Noise and movement associated with construction and maintenance activities could result in indirect effects such as temporary avoidance of the area. Habitat would be permanently affected by construction of the proposed substation. All potential effects can be mitigated to a less than significant level.

Western Pond Turtle

Despite declining populations, western pond turtles are widespread habitat generalists known to occur in nearly all aquatic habitats, albeit infrequently. The CNDDDB describes several pond turtle occurrences within five miles of the Project (CDFG, 2010). For this reason, western pond turtle is presumed present in all aquatic habitats in the Project area, and may be present in upland habitats up to 500 meters (0.3 mile) from aquatic habitat. Machines and equipment have the potential to directly injure or kill western pond turtles by accidentally crushing them during project construction activities. Impacts are not anticipated during site maintenance activities.

No APMs or pre-construction surveys were identified for the protection of western pond turtle. The following mitigation measure shall be implemented to provide additional protection during active construction and thereby reduce potential impacts on western pond turtle to a less than significant level:

Mitigation Measure 3.4-1: SCE and/or its contractors shall implement the following measures for construction and maintenance areas located in suitable habitat within 0.3 mile of aquatic features:

- Establish a Worker Environmental Awareness Program (WEAP) for construction personnel. This program shall include a description of western pond turtle, its legal status, suitable habitat in the project area, and mitigation measures being implemented for its protection.
- Construction personnel shall observe a 15 mph speed limit on unpaved roads in the Project area. Before operating equipment, workers shall check underneath equipment that has remained in one location for 15 minutes. Any pond turtles located within the construction area shall be relocated, by a biologist, to the nearest safe location.

Swainson's Hawk and other Nesting Birds

The Swainson's hawk nesting range is mostly restricted to suitable habitat areas within the Central Valley, with the highest densities occurring between Sacramento and Modesto (Woodbridge, 1998). Nests typically are constructed in sturdy trees within or near agricultural lands, riparian corridors, and roadside trees, and breeding occurs from late March to mid-August. Project area agricultural lands offer low-quality foraging habitat, and the transmission line segment provides limited breeding habitat (BonTerra, 2009).

If foraging hawks were present at the time of construction, noise and other construction-related disturbances could cause temporary avoidance of the area. If nesting hawks were present, Project-related construction could result in nest failure or abandonment. Maintenance activities also have the potential to temporarily displace foraging hawks or disrupt nesting hawks. Construction of the proposed substation would result in the permanent loss of approximately five acres of potential foraging habitat.

The Project area provides potential nesting habitat for other non-listed birds, in eucalyptus trees (e.g., raptors, hawks), in agricultural “shoulder” areas (e.g., various blackbird species), along unpaved roadways (e.g., killdeer), and in ornamental vegetation (e.g., sparrows, towhees and finches). Impacts on other non-listed nesting birds would be the same as those identified for Swainson’s hawk.

Clearance surveys and nesting bird surveys were identified by the Applicant for the protection of nesting birds, requiring surveys during the nesting season to occur 30 days prior to ground disturbance and nest removal to be coordinated with CDFG and USFWS. However, survey details do not provide protection for nesting birds in the proximity of the construction area whose nests do not require removal, nor do they specifically address the potential for Swainson’s hawk, a federally-listed species, to nest in the Project area. Additionally, no measures were identified to mitigate the operational impacts of the proposed facilities. The following mitigation measure shall be implemented to provide additional protection and thereby reduce potential impacts on Swainson’s hawk and other nesting birds to a less than significant level:

Mitigation Measure 3.4-2: SCE and/or its contractors shall implement the following measures for construction and maintenance areas:

- Project design, construction, and maintenance shall conform to SCE’s corporate Avian Protection Plan and Avian Power Line Interaction Committee (APLIC) Guidelines.
- If active nests are not identified during the preconstruction survey, no further action shall be required for breeding birds.
- Raptor surveys will comply with survey protocols for Swainson’s Hawk in the Central Valley, as outlined in CDFG’s May 31, 2000 *Recommended Timing and Methodology for Swainson’s Hawk Nesting Surveys in California’s Central Valley*.
- If active nests are identified during the preconstruction survey, the following measures shall be implemented to avoid and minimize impacts:
 - The Worker Environmental Awareness Program (WEAP) for construction personnel shall cover the topic of nesting birds, including their legal status, suitable habitat in the project area, and mitigation measures being implemented for their protection.
 - Buffer zones and avoidance guidelines shall be established in coordination with CDFG.
 - Construction contractors shall observe CDFG avoidance guidelines and buffer zones shall remain in effect until young have fledged.
 - Monitoring of the nest by a qualified biologist shall be required if project-related activity has the potential to adversely impact the nest.

Notwithstanding Mitigation Measure 3.4-2, CDFG may, on a case-by-case basis, allow construction activities that are initiated outside the nesting season to continue without stopping even if birds choose to nest near work activities.

Burrowing Owl

During focused surveys of the Project area, burrowing owls and an occupied burrow were observed on adjacent property, approximately 500 feet east of the proposed subtransmission line segment. Agricultural lands, unpaved roads, railroad banks, and other disturbed portions of the Project area also provide suitable habitat for burrowing owls, and could be occupied at the time of construction.

Noise and other construction-related disturbances could cause temporary avoidance of the area. If construction activities occur during the nesting season (typically March through August in this region (BonTerra, 2009)), nest failure or abandonment could result. Maintenance activities also have the potential to temporarily displace foraging owls or disrupt nesting owls. Construction of the proposed substation also would result in the permanent loss of approximately five acres of potential foraging habitat.

The Applicant performed focused surveys of the Project area to assess the presence of burrowing owl, and clearance surveys and nesting bird surveys identified by the Applicant would detect any burrowing owls that move into suitable habitat between now and construction. However, no measures were identified to protect burrowing owls during construction activities. The following mitigation measure shall be implemented to provide additional protection and thereby reduce potential impacts on burrowing owl to a less-than-significant level.

Mitigation Measure 3.4-3: SCE and/or its contractors shall implement the following measures for construction and maintenance areas:

- Within 30 days prior ground disturbance, a qualified biologist shall survey the Project area and all areas within 500 feet according to the survey protocol identified in CDFG's 1995 Guidelines for Burrowing Owl Mitigation.
- The Worker Environmental Awareness Program (WEAP) for construction personnel shall cover burrowing owls, their legal status, suitable habitat in the Project area, and mitigation measures being implemented for their protection.
- If no active burrows are confirmed or newly-identified, then no further mitigation shall be required for burrowing owls.
- If identified, active burrows will be mapped and a qualified biologist shall monitor them for the duration of construction activities.
- If active burrowing owl nests are found in project impact areas, CDFG shall be consulted to determine whether such activities can occur without adversely affecting the active nest. Buffer zones and avoidance guidelines shall be established in coordination with CDFG if determined further action is required.
- If construction must within the nesting season (typically March through August, see discussion above), CDFG shall be consulted to determine whether such activities can occur without adversely affecting nesting birds. Buffer zones and avoidance guidelines shall be established in coordination with CDFG if CDFG determines such further action is required.
- Outside the nesting season, a 160-foot buffer shall be established around all occupied burrows.

- If the Proposed Project cannot continue while observing the 160-foot buffer, further Project activities shall be coordinated with CDFG to determine whether a reduced buffer could be accommodated without adversely impacting occupied burrows.

San Joaquin Kit Fox

The Project area is within the known range of the San Joaquin kit fox. The CNDDDB reports a fairly recent occurrence (2006) approximately four miles west of the Project area, and describes five older records within five miles of the Project area (CDFG, 2010). Agricultural “shoulders”, unpaved roads, and railroad banks provide potentially-suitable, though low-quality, denning and foraging habitat throughout the Project area.

Noise and other construction-related disturbances have the potential to cause temporary avoidance of the area. Construction of the proposed substation also would result in the permanent loss of approximately five acres of potential foraging habitat.

The Applicant has performed focused kit fox surveys within suitable habitat in the Project area. Based on the results of this survey, the proposed substation site is sufficiently disturbed as to preclude the development of a small mammal prey base, for the most part, at the present time (McCormick Biological, Inc., 2009). Irrigation canal banks along the proposed subtransmission line route supports California ground squirrels and their burrows in low densities, but no potential kit fox dens were identified among these and no kit fox sign was observed (McCormick Biological, Inc., 2009).

However, based on this species’ known persistence in agricultural areas, the Project area and vicinity were deemed to provide suitable foraging habitat and likely to support very low densities of kit fox (McCormick Biological, Inc., 2009). Also identified was the potential for fallow fields and canals adjacent in or adjacent to the Project area to become occupied in the future.

The Applicant identified preconstruction clearance surveys to be performed by a qualified biologist for the purpose of identifying species in the Project area; however no mitigation measures were identified to protect San Joaquin kit fox during construction activities. The following mitigation measure, derived from the *USFWS Standardized Recommendations for Protection of the San Joaquin Kit Fox* (USFWS, 1999), shall be implemented to provide additional protection and thereby reduce potential impacts on San Joaquin kit fox to a less than significant level.

Mitigation Measure 3.4-4: SCE and/or its contractors shall implement the following measures for construction areas:

- Preconstruction surveys shall be conducted within 200 feet of work areas to identify potential San Joaquin kit fox dens or other refugia in and surrounding work areas. A qualified biologist shall conduct the survey 14 to 30 days before construction begins. All potential dens shall be monitored for evidence of kit fox use by placing an inert tracking medium at den entrances and monitoring for at least three consecutive nights. If no activity is detected at these sites, they may be closed following guidance established in the 1999 *USFWS Standardized Recommendations for Protection of the San Joaquin Kit Fox*.
- If kit fox occupancy is determined at a given site during preconstruction surveys, as discussed in the bullet above, closure activities shall be halted immediately and the

USFWS contacted. Depending on the den type, reasonable and prudent measures to avoid effects to kit fox could include seasonal limitations on project construction at the site (i.e., restricting the construction period to avoid spring-summer pupping season), and/or establishing a construction exclusion zone around the identified site, or resurveying the den a week later to determine species presence or absence.

- The Worker Environmental Awareness Program (WEAP) for construction personnel shall cover kit fox, their legal status, suitable habitat in the Project area, and mitigation measures being implemented for their protection.
- To minimize the possibility of inadvertent kit fox mortality, Project-related vehicles shall observe a maximum 20 miles per hour speed limit on private roads in occupied kit fox habitat. Nighttime vehicle traffic shall be kept to a minimum on nonmaintained roads. Off-road SCE construction traffic outside the designated Project area shall be prohibited in areas of occupied kit fox habitat.
- To prevent accidental entrapment of kit fox or other animals during construction, all excavated holes or trenches greater than two feet deep shall be covered at the end of each work day by suitable materials, or escape routes constructed of earthen materials or wooden planks shall be provided. Before filling, such holes shall be thoroughly inspected for trapped animals.
- All food-related trash items (such as wrappers, cans, bottles, and food scraps) shall be disposed of in closed containers and removed daily from the Project area.
- To prevent harassment and mortality of kit foxes or destruction of their dens, no pets shall be allowed in the project area.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service: *NO IMPACT.*

The Proposed Project would have no substantial adverse effect on any riparian habitat or other sensitive natural community. These habitat types do not occur in the Project area (BonTerra, 2009).

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means: *NO IMPACT.*

The Proposed Project would have no substantial adverse effect on federally protected wetlands, as no wetlands are proposed for direct removal, fill, or hydrological interruption. Principally, the Project area does not appear to support federally jurisdictional wetlands or Waters of the State. The proposed five-acre Mascot substation is sited on a cultivated field and while the proposed single-circuit 66 kV subtransmission line segment crosses one irrigation channel, and parallels another for approximately 1,200 feet, these irrigation channels were constructed in upland areas in support of agricultural activities. They are more than 90 percent unvegetated, and vegetated areas contain mostly weedy upland species. The combination of manmade irrigation channels,

upland soils, lack of emergent vegetation, and growth of primarily upland vegetation on channel banks indicates the soil is unlikely to be hydric.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites: *LESS THAN SIGNIFICANT IMPACT.*

The Proposed Project would not interfere substantially with the movement of any native species or impede the use of native wildlife nursery sites. The Project area has a long history of cultivation and agricultural development, and any wildlife movement through the area would be habituated to the agricultural environment. Though a land parcel adjacent to the Project area supports burrowing owls, it is unknown if they are a mated pair and nesting has not been observed; moreover, this remnant pair would be habituated to the agricultural environment, and a single pair of owls would not represent a high-density population that would be significantly impacted by the Proposed Project.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance: *NO IMPACT.*

Local policies and ordinances protecting trees and other biological resources are not applicable to the Proposed Project, since the CPUC has exclusive jurisdiction over its siting, design, and construction.

Notwithstanding this fact, the Proposed Project is unlikely to conflict with natural resource conservation provisions found in the Kings County General Plan and in the City of Hanford General Plan; nor is the Project likely to conflict with street-tree protections managed by the City of Hanford Parks Department and the City of Hanford Tree Commission.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan: *NO IMPACT.*

The Project area does not fall within the geographic boundaries of any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. There would be no impact.

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3.5 Cultural Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
5. CULTURAL RESOURCES— Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.5.1 Environmental Setting

Cultural resources are defined as prehistoric-era and historic-era sites, structures, and districts, or any other physical evidence associated with human activity considered important to a culture, a subculture, or a community for scientific, traditional, religious or any other reason. For the purposes of this analysis, cultural resources may be categorized into three groups: archaeological resources, built historic resources, and contemporary Native American resources.

Cultural Setting

The Proposed Project is located in the southern San Joaquin Valley. Prior to European and American contact, the valley floor would have been defined by a series of wetlands, rivers and lakes. The prehistory of this era can be divided into three periods: The Paleoindian period (11,550 to 8,550 B.C.), the Archaic period (8,550 B.C. to A.D. 1100) and the Emergent period (A.D. 1100 to European contact) (Parr, 2009). Archaeological evidence of the Paleoindian Period comes primarily from fluted projectile points found near Tracy Lake, the Tulare Lake basin, and the Wolfsen Mound. Archaic period sites are characterized by an abundance of millstone implements for grinding plant resources, and evidence of the increasing exploitation of the river corridors of the Sacramento and San Joaquin Valleys. The Emergent period is characterized by mortars and pestles, Cottonwood projectile points, and some pottery obtained through trade.

At the time of European contact, the area around the Project area was occupied by the Tachi tribelet of the Southern Valley Yokuts (Parr, 2009). Yokuts tribelets were organized in large village settlements or groups of affiliated villages. Although Spanish soldiers led by Pedro Fages encountered the Yokuts during their expedition into the southern San Joaquin valley in 1772, contact with European and American settlers was minimal until the 1850s, when the Yokuts were driven from their homes by large numbers of American settlers, and the population was nearly eradicated.

The city of Hanford was founded in 1877, following the construction of the San Joaquin Valley Railroad (SJVR) the same year, and named for James Madison Hanford, a railroad executive (Parr, 2009). In the 19th and 20th centuries, the Project area was primarily used for agriculture, and a network of canals was constructed to support this endeavor.

Records Search, Survey, and Results

This section is based on the cultural resources assessments prepared for SCE (Lander, 2008; Parr, 2009; GPA, 2010). The cultural resources studies included a records search and survey of the Project Area, which includes a five-acre proposed substation site; a two-mile-long proposed subtransmission line; and the Hanford, Liberty, and Goshen substations.

A records search was completed at the Southern San Joaquin Valley Information Center for the Project area and a 1-mile radius. The records search included a review of existing site records and literature, historic maps, and listings of resources on the National Register of Historic Places (National Register), California Register of Historical Resources (California Register), California Points of Historical Interest, California Historical Landmarks, and the California Historic Resources Inventory. Contact with the Native American Heritage Commission (NAHC) and local Native American contacts also was performed by SCE. The NAHC responded that a check of their Sacred Lands File did not reveal the presence of Native American resources within the Project area. No responses were received from any of the Native American contacts recommended by the NAHC as of this writing.

The records search indicated that 12 cultural resources previously have been recorded within a 1-mile radius of the Project area, including six historic-period residences, a church, a radio station, and four linear features. Three cultural resources intersect and cross the Project Area: the Lakeside Ditch (P-16-000086), the Settlers Ditch (P-16-000127), and the San Joaquin Valley Railroad line (P-16-000122). No prehistoric archaeological resources were identified within a 1-mile radius of the Project area.

A pedestrian archaeological survey of the Project area was conducted in 2009, with the exception of a ½-mile segment of the proposed subtransmission line route (25 percent of the total Project area for the proposed subtransmission line). This segment could not be archaeologically surveyed because of thick vegetation. The existing substations (Liberty, Goshen, and Hanford) were not subject to archaeological survey because the ground surface either was paved or otherwise was obscured. Similarly, the proposed telecommunications ductbanks would be constructed either within the substation property or within existing roads immediately adjacent to the existing substations, and therefore, although a records search was conducted for these areas, a systematic archaeological survey was not. No new cultural resources were identified during the survey.

In 2010, Goshen and Hanford substations were formally recorded and evaluated for listing on the National Register and California Register (GPA, 2010). Liberty substation was not recorded or evaluated, as it was constructed too recently to be considered potentially historic. The two substations were recommended not eligible for the National Register and California Register. The substations were not evaluated for their significance at a local level because no local historic register or significance criteria exist.

Paleontological Setting

Paleontology is a multidisciplinary science that combines elements of geology, biology, chemistry, and physics in an effort to understand the history of life on earth. Paleontological resources, or fossils, are the remains, imprints, or traces of once-living organisms preserved in rocks and sediments. These include mineralized, partially mineralized, or unmineralized bones and teeth, soft tissues, shells, wood, leaf impressions, footprints, burrows, and microscopic remains. Fossils are considered nonrenewable resources because the organisms they represent no longer exist. Once destroyed, a fossil can never be replaced. The following subsection discusses existing conditions with respect to paleontological resources in the Project area.

In order to assess the Project area's paleontological sensitivity, a search of paleontological records and geologic maps was performed in 2008. The Project area is underlain primarily by Holocene alluvial fan deposits, including the late Pleistocene to Holocene Modesto Formation, in which numerous vertebrate fossils have been uncovered (Lander, 2008). The Modesto Formation has a high paleontological sensitivity and earth-moving activities within the formation at depths of greater than 3–4 feet could impact significant vertebrate fossils.

3.5.2 Regulatory Setting

Federal Regulations

Section 106 of the National Historic Preservation Act

Cultural resources are protected through the National Historic Preservation Act of 1966, as amended (16 USC 470f) (NHPA), and its implementing regulation, Protection of Historic Properties (36 CFR Part 800), the Archaeological and Historic Preservation Act of 1974, and the Archaeological Resources Protection Act of 1979. Prior to implementing an “undertaking” (e.g., issuing a federal permit), NHPA Section 106 requires federal agencies to consider the effects of the undertaking on historic properties and to afford the Advisory Council on Historic Preservation and the State Historic Preservation Officer a reasonable opportunity to comment on any undertaking that would adversely affect a property listed in or eligible for listing in the National Register of Historic Places. As indicated in NHPA Section 101(d)(6)(A), properties of traditional religious and cultural importance to a tribe are eligible for inclusion in the National Register. Under the NHPA, a find is considered significant if it meets the National Register listing criteria at 36 CFR 60.4.

National Register of Historic Places

First authorized by the Historic Sites Act of 1935, the National Register was established by the NHPA as “an authoritative guide to be used by federal, State, and local governments, private groups and citizens to identify the Nation’s historic resources and to indicate what properties should be considered for protection from destruction or impairment” (Code of Federal Regulations [CFR] 36 Section 60.2). The National Register recognizes both historical-period and prehistoric archaeological properties that are significant at the national, state, and local levels.

To be eligible for listing in the National Register, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must meet one or more of four established criteria (U.S. Department of the Interior, 1995), i.e., it must:

1. Be associated with events that have made a significant contribution to the broad patterns of our history;
2. Be associated with the lives of persons significant in our past;
3. Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
4. Have yielded, or may be likely to yield, information important in prehistory or history.

Unless the property possesses exceptional significance, it must be at least 50 years old to be eligible for National Register listing (U.S. Department of the Interior, 1995).

In addition to meeting the criteria of significance, a property must have integrity. Integrity is defined as “the ability of a property to convey its significance” (U.S. Department of the Interior, 1995). The National Register recognizes seven qualities that, in various combinations, define integrity. To retain historic integrity a property must possess several, and usually most, of these seven aspects. Thus, the retention of the specific aspects of integrity is paramount for a property to convey its significance. The seven factors that define integrity are location, design, setting, materials, workmanship, feeling, and association.

State Regulations

The State of California implements the NHPA through its statewide comprehensive cultural resource surveys and preservation programs. The California Office of Historic Preservation (OHP), as an office of the California Department of Parks and Recreation, implements the policies of the NHPA on a statewide level. The OHP also maintains the California Historical Resources Inventory. The State Historic Preservation Officer (SHPO) is an appointed official who implements historic preservation programs within the State’s jurisdiction.

California Environmental Quality Act

CEQA, as codified in California Public Resources Code (PRC) Sections 21000 et seq., is the principal statute governing the environmental review of projects in the State. The CEQA Guidelines define a historic resource as: (1) a resource in the California Register; (2) a resource included in a local register of historic resources, as defined in PRC Section 5020.1(k) or identified as significant in a historic resource survey meeting the requirements of PRC Section 5024.1(g); or (3) any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the lead agency’s determination is supported by substantial evidence in light of the whole record.

The California Register is “an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historic resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change” (PRC Section 5024.1[a]). The criteria for eligibility to the California Register are based on National Register criteria (PRC Section 5024.1[b]). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally eligible for or listed in the National Register.

To be eligible for the California Register as an historical resource, a prehistoric or historic-period resource must be significant at the local, State, and/or federal level under one or more of the established criteria, i.e., it must:

1. Be associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
2. Be associated with the lives of persons important in our past;
3. Embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possess high artistic values; or,
4. Have yielded, or be likely to yield, information important in prehistory or history [14 CCR Section 4852(b)].

For a resource to be eligible for the California Register, it also must retain enough integrity to be recognizable as a historical resource and to convey its significance. A resource that does not retain sufficient integrity to meet the National Register criteria may still be eligible for listing in the California Register.

CEQA requires lead agencies to determine if a proposed project would have a significant effect on archaeological resources, either as historical resources or unique archaeological resources. If a lead agency determines that an archaeological site is a historical resource, the provisions of PRC Section 21084.1 and CEQA Guidelines Section 15064.5 would apply. If an archaeological site does not meet the CEQA Guidelines criteria for a historical resource, then the site may meet the threshold of PRC Section 21083, regarding unique archaeological resources.

A unique archaeological resource is “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 specified criteria, i.e., it:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
- Is directly associated with a scientifically recognized important prehistoric or historic event or person [PRC Section 21083.2 (g)].

The CEQA Guidelines note that if a resource is neither a unique archaeological resource nor a historical resource, the effects of the project on that resource shall not be considered a significant effect on the environment (CEQA Guidelines Section 15064[c][4]).

Other State Laws

Several sections of the PRC protect paleontological resources. Section 5097.5 prohibits “knowing and willful” excavation, removal, destruction, injury, and defacement of any paleontologic feature on public lands (lands under State, county, city, district, or public authority jurisdiction, or the jurisdiction of a public corporation), except where the agency with jurisdiction has granted permission.

Section 7050.5 of the Health and Safety Code protects human remains by prohibiting the disinterment, disturbance, or removal of human remains from any location other than a dedicated cemetery. Section 5097.98 of the PRC (and reiterated in CEQA Section 15064.59 [e]) also states that the following steps should be taken in the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery:

1. There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:
 - a. The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and
 - b. If the coroner determines the remains to be Native American:
 - i. The coroner shall contact the Native American Heritage Commission within 24 hours.
 - ii. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American.
 - iii. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98, or
2. Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.
 - a. The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 48 hours after being notified by the commission.
 - b. The descendant identified fails to make a recommendation; or
 - c. The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.

Local Regulations

The Kings County General Plan (2010) contains the following goals, policies, and objectives concerning cultural resources relevant to this project:

RC GOAL II: Preserve significant historical and archaeological sites and structures that represent the ethnic, cultural, and economic groups that have lived and worked in Kings County.

RC Objective II.1: Promote the rehabilitation or adaptation to new uses of historic sites and structures.

RC Objective II.2: Identify potential archaeological and historical resources and, where appropriate, protect such resources.

RC Policy II.2.1: Participate in and support efforts to identify significant cultural and archaeological resources and protect those resources in accordance to Public Resources Code 5097.9 and 5097.993.

RC Policy II.2.2: Continue to solicit input from local Native American communities in cases where development may result in disturbance to sites containing evidence of Native American Activity and/or to sites of cultural importance.

RC Policy II.2.3: Address archaeological and cultural resources in accordance with the California Environmental Quality Act (CEQA) for discretionary land use applications.

3.5.3 Applicant Proposed Measures

SCE proposes the following applicant proposed measures (APMs) to minimize impacts on cultural resources from the Proposed Project. The impact analysis assumes that these APMs would be implemented to reduce impacts to cultural resources discussed below.

APM-PAL-01: Develop and Implement a Paleontological Monitoring Plan. A project paleontologist meeting the qualifications established by the Society of Vertebrate Paleontologists shall be retained by SCE to develop and implement a Paleontological Monitoring Plan prior to the start of ground disturbing activities for the Proposed Project. As part of the Paleontological Monitoring Plan, the Project paleontologist shall establish a curation agreement with an accredited facility prior to the initiation of ground-disturbing activities. The Paleontological Monitoring Plan shall also include a final monitoring report. If fossils are identified, the final monitoring report shall contain an appropriate description of the fossils, treatment, and curation.

APM-PAL-02: Paleontological Monitoring at the Proposed Project Substation Site. A paleontological monitor shall be on site to observe ground-disturbing activities at depths greater than three feet at the Proposed Project substation site. If fossils are found during ground-disturbing activities, the paleontological monitor shall halt the ground-disturbing activities within 25 feet of the find in order to allow evaluation of the find and determination of appropriate treatment.

APM-PAL-03: Paleontological Monitoring for Installation of Subtransmission Structures. A paleontological monitor shall be on site to spot check ground-disturbing activities at

depths greater than three feet during installation of the 66 kV subtransmission structures. If very few or no fossils remains are found during ground disturbing activities monitoring time can be reduced or suspended entirely as per recommendations of the paleontological field supervisor. If fossils are found during ground-disturbing activities, the paleontological monitor shall halt the ground-disturbing activities within 25 feet of the find in order to allow evaluation of the find and determination of appropriate treatment.

APM-PAL-04: Paleontological Monitoring for Installation of Telecommunications Duct Banks. A paleontological monitor shall be on site to spot check ground-disturbing activities at depths greater than three feet during installation of the telecommunications duct banks. If very few or no fossils remains are found during ground disturbing activities monitoring time can be reduced or suspended entirely as per recommendations of the paleontological field supervisor. If fossils are found during ground-disturbing activities, the paleontological monitor shall halt the ground-disturbing activities within 25 feet of the find in order to allow evaluation of the find and determination of appropriate treatment.

3.5.4 Environmental Impacts and Mitigation Measures

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5: *NO IMPACT.*

A significant impact would occur if the Project caused a substantial adverse change to a historical resource, herein referring to historic-era architectural resources or the built environment, including buildings, structures, and objects. A substantial adverse change includes the physical demolition, destruction, relocation, or alteration of the resource.

Five historic-era built resources are located within the Project area (Parr, 2009): Two historic-era 66 kV substations and three historic-era linear features. The two historic-era 66 kV substations, the Hanford Substation and Goshen Substation, both constructed in 1926, have been recommended not eligible for listing in the National Register and California Register (GPA, 2010). Therefore, the two substations are not considered historical resources, as defined by Section 15064.5 of the CEQA Guidelines, for the purposes of this analysis.

The proposed subtransmission line route crosses three historic-era linear features: the Lakeside Ditch (P-16-000086), the Settlers Ditch (P-16-000127), and the San Joaquin Valley Railroad line (P-16-000122). These resources have not been formally evaluated for listing in the California Register or National Register. Nonetheless, for the purposes of this analysis these resources are considered potentially significant. Construction of the proposed subtransmission line would span these three linear resources and thus avoid them; therefore, construction of the proposed subtransmission line would not impact the resources. Consequently, the Proposed Project would not cause a substantial adverse change in the significance of these potential historical resources and there would be no impact to historical resources.

b) Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to §15064.5: *LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED.*

A significant impact would occur if the Project caused a substantial adverse change to an archaeological resource through physical demolition, destruction, relocation, or alteration of the resource.

The records search at the Southern San Joaquin Valley Archaeological Information Center, Native American contacts, and field surveys did not indicate the presence of archaeological resources within the Project area, or within one mile of the Project area (Parr, 2009). However, a ½-mile segment of the proposed subtransmission line route could not be surveyed because of thick vegetation. In addition, the locations for equipment staging areas have not yet been determined, although the preferred location would be within the proposed mascot substation area. There is a possibility that previously unknown archaeological resources may exist within those portions of the Project area that have not yet been previously surveyed. When staging areas are determined those locations must be surveyed for the presence of cultural resources, if the locations are outside of the original survey area.

The inadvertent discovery of an archaeological resource would be a significant impact. However, impacts would be mitigated to less than significant with the implementation of Mitigation Measures 3.5-1 and 3.5-2.

Mitigation Measure 3.5-1: Additional Archaeological Survey. Prior to any ground disturbing activity, those portions of the Project area not previously subject to archaeological survey shall be surveyed by a qualified archaeologist, including a ½-mile segment of the proposed subtransmission line and any newly-proposed staging areas. For those areas that were not surveyed because of low visibility, the additional survey shall occur concurrent with or after vegetation clearance, but before any other ground-disturbing activity. After additional archaeological survey is carried out, the archaeologists shall prepare a report that summarizes the survey efforts, preliminarily evaluates cultural resources for their eligibility for listing in the National Register or California Register, and makes recommendations for treatment of resources if found to be significant.

Mitigation Measure 3.5-2: Cease Work if Subsurface Archaeological Resources are Discovered During Ground-Disturbing Activities. If archaeological resources are encountered during Project-related activity, SCE and/or its contractors shall cease all activity within 100 feet of the find until the find can be evaluated by a qualified archaeologist. If the archaeologist determines that the resources may be significant, the archaeologist shall notify the CPUC and shall develop an appropriate Treatment Plan for the resources in consultation with CPUC and with appropriate Native American representatives (if the resources are prehistoric or Native American in nature).

In considering any suggested mitigation proposed by the archaeologist in order to mitigate impacts to cultural resources, CPUC shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, Project design, costs, and other considerations. If avoidance is infeasible, other appropriate measures (e.g., data recovery) shall be instituted in accordance with the Treatment Plan. Work may proceed on other parts of the Project area while mitigation measures for cultural resources is being carried out.

Significance after Mitigation: Less than Significant.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature: *LESS THAN SIGNIFICANT IMPACT.*

The Project area is underlain primarily by Holocene alluvial fan deposits, including the late Pleistocene to Holocene Modesto Formation, in which numerous vertebrate fossils have been uncovered (Lander, 2008). The Modesto Formation has a high paleontological sensitivity and earth-moving activities within the formation at depths of greater than 3–4 feet could impact significant vertebrate fossils. Applicant Proposed Measures PAL-1, PAL-2, PAL-3, and PAL-4 call for the creation of a paleontological monitoring plan and full-time monitoring by a qualified paleontologist at the substation site, Subtransmission structure installation sites, and duct bank installation sites. With the inclusion of APMs PAL-1 through PAL-4, impacts to paleontological resources would be less than significant.

d) Disturb any human remains, including those interred outside of formal cemeteries: *LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED.*

Based on the records search and contact with Native Americans, no human remains are known to exist within the Project area; however the discovery of human remains during project-related ground-disturbing activity cannot entirely be discounted. The inadvertent discovery of human remains would be a significant impact. The implementation of Mitigation Measure 3.5-3 would reduce potential impacts concerning the disturbance of human remains to a less-than-significant level.

Mitigation Measure 3.5-3: Halt Work if Human Skeletal Remains are Identified During Construction. If human skeletal remains are uncovered during Project construction, SCE and/or its contractors shall immediately halt all work in the immediate area, contact the County Coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.5 (e)(1) of the CEQA Guidelines. Per Health and Safety Code 7050.5, upon the discovery of human remains there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains. If the County Coroner determines that the remains are Native American, the coroner shall contact the NAHC, in accordance with Health and Safety Code Section 7050.5(c), and Public Resources Code 5097.98 (as amended by AB 2641). Per Public Resources Code 5097.98, SCE shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the SCE has discussed and conferred, as prescribed in PRC 5097.98, with the most likely descendents regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.

Significance after Mitigation: Less than Significant.

References

GPA (Galvin Preservation Associates), *Mascot Substation Project: Hanford and Goshen Substations, Hanford, Kings County, and Goshen, Tulare County*, Preliminary Summary Report, prepared for SCE, May, 2010.

Lander, E. Bruce, *Paleontological Resources Inventory, Impact Assessment, and Recommended Mitigation Measures in Support of SCE Mascot Substation, Kings County, CA*, letter report prepared for SCE, November, 2008.

Parr, Robert E., *Cultural Resource Assessment for the Southern California Edison Company Mascot Substation Project near the City of Hanford, Kings County, CA*, prepared by Cal Heritage for SCE, November, 2009.

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3.6 Geology, Soils, and Seismicity

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
6. GEOLOGY, SOILS, AND SEISMICITY— Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.6.1 Environmental Setting

The Project study area is located in the southern portion of the Great Central Valley geomorphic province of California. This geomorphic province is characterized as a northwestward-trending trough that formed between the Coast Range Mountains to the west and the Sierra Nevada Mountains to the east. The Central Valley is about 50 miles wide and extends for 400 miles through the center of California. The northern and southern portions of the Great Valley are referred to as the Sacramento Valley and San Joaquin Valley, respectively; with the Sacramento River draining areas to the north and the San Joaquin River draining areas to the south. The topography of the Central Valley is relatively level, with elevations ranging from a few feet to a few hundred feet above mean sea level (msl). The Proposed Project area is situated on the valley floor consisting of flat terrain at an elevation approximately 250 feet above msl.

Local Geology

The surface of the San Joaquin Valley is underlain by Pleistocene and more recent alluvium comprised of sediments originating from the igneous and metamorphic rock of the Sierra Nevada Mountains located to the east. During the past 200 million years, the Central Valley has accumulated over 20,000 feet of sedimentary material originating primarily from the Sierra Nevada Mountains, and carried to the valley by drainages conveying vast amounts of water. The upper and most recently deposited material consists of alluvial deposits that are approximately 200 feet thick and composed of inter-layered sand, silt and clay (USGS, 1968).

Soils

Overlying the alluvial parent material described above are immature¹ soils mapped by the Natural Resource Conservation Service (NRCS) as the Kimberlina fine sandy loam² (Northern part of Project study area) and the Garces Loam (southern portion of the Project study area) (Soil Survey Staff, 2010). Both soils are well drained, and are known to have high salinity levels. While the Kimberlina fine sandy loam is free of any restrictive layer that impedes the downward infiltration, the Garces loam is described as having a clayey layer starting from nine to 14 inches from the surface which slows infiltration. Generally, soils in the Project area have been disturbed, reworked or amended within several feet of the surface due to agricultural use. As such, naturally-developed soil horizons have likely been removed and the whole soil has been altered to some degree through application of fertilizer and repeated plowing and irrigation.

Faults and Seismicity

The Proposed Project is situated in an area that has no active earthquake faults and is not in any Alquist-Priolo Special Studies Zones. The Project area has very low seismic activity levels, although shaking may be felt from earthquakes whose epicenters lie far to the east, west or south. All major fault zones are over 50 miles away and include the San Andreas, the Owens Valley, the Southern Sierra, the Ortogolita, the Garlock and the Little Lake fault zones (USGS, 2010). All of these fault zones are considered as having been active during the late Quaternary (within 15,000 years), although the only fault systems that have historically produced earthquakes (within the past 150 years) are the San Andreas and Owens Valley fault zones. Over the past 200 years, Kings County has not experienced any damaging earthquake equal to or greater than a Mercalli Index (M) 6.0 (Kings County, 2010). Overall, this indicates fairly low seismic risk when compared to many other areas in California.

¹ The “maturity” of a soil refers to its age and degree of profile development. Mature soils typically have many soil horizons reflecting a prolonged period of translocation of soluble minerals. Immature soils may exhibit only slight differences with its parent material (such as an organic-rich surface layer).

² Loam is soil composed of sand, silt, and clay in relatively even concentration (about 40-40-20% concentration respectively). The term is often qualified to indicate a relative abundance of one constituent over others (e.g., a “sandy loam” is a loam, but where sand is more abundant than silt and clay).

Geologic and Seismic Hazards

Generally, the site's flat topography and its great distance from active faults restrict geologic and seismic hazards to soil conditions that are routinely addressed through proper geotechnical design and characterization. The various geologic and seismic hazards that could affect the Project area are described below.

Accelerated Erosion

Because both the Kimberlina and Garces soil series are well drained and the site is on flat ground, accelerated erosion is not a major issue under normal conditions. Soil survey data indicates the hazard of soil loss from unsurfaced roads and trails for both soil series is slight. In addition, the hazard of soil loss from off-road and off-trail areas is also slight (Soil Survey Staff, 2010). These ratings are based on the soil erosion factor K, slope, and content of rock fragments, and assume that the soil is clear of vegetation.

However, when thoroughly wet, denuded of vegetation and under precipitation from long-duration storms, runoff and erosion potential increase significantly. The Kimberlina fine sandy loam belongs to hydrologic group C, and the Garces loam belongs to hydrologic group D (Soil Survey Staff, 2010). These groups indicate that the soils would have a slow to very slow infiltration rate and high runoff potential. Even on flat ground, both soils could experience accelerated erosion via sheet flow, rilling or gullyng. Rilling and erosional gullies are most likely to form along the side slopes of irrigation ditches or berms, where runoff velocities increase. If not properly managed, soils prone to accelerated erosion could undermine foundations, utility lines and access roads.

While runoff and erosion behavior can be estimated from the mapped soil series, the actual susceptibility to erosion would vary based on site-specific conditions, and how storm water runoff is managed. The possibility of substantial and accelerated erosion is further discussed in Section 3.6-4 (*Environmental Impacts and Mitigation Measures*) as well as Chapter 3.8 (*Hydrology and Water Quality*).

Foundation and Underground Utility Constraints

Problematic soils, such as those that are expansive or corrosive, can damage structures and buried utilities and increase maintenance requirements. Various soil constraints are addressed below:

Expansive Soils

Expansive soils are characterized by their ability to undergo significant volume change (i.e., to shrink and swell) due to variations in moisture content. Changes in soil moisture can result from rainfall, landscape irrigation, utility leakage, roof drainage, and/or perched groundwater.³ Expansive soils are typically very fine grained and have a high to very high percentage of clay. Expansion and contraction of expansive soils in response to changes in moisture content can lead to differential and cyclical movements that can cause damage and/or distress to structures and equipment. Because the

³ Perched groundwater is a local saturated zone above the water table that typically exists above an impervious layer (such as clay) of limited extent.

soils onsite are not particularly clay-rich and generally have a low liquid limit, expansive soils are not expected to be an issue (Soil Survey Staff, 2010). However, the actual presence and extent of expansive soils would be evaluated as part of the subsurface exploration program that would be required for the proper geotechnical design of the Proposed Project.

Corrosive Soils

The corrosivity of soils is commonly related to several key parameters, including soil resistivity, the presence of chlorides and sulfates, oxygen content, and pH. Typically, the most corrosive soils are those with the lowest pH and highest concentration of chlorides and sulfates. Wet/dry conditions can result in a concentration of chlorides and sulfates as well as movement in the soil, both of which tend to break down the protective corrosion films and coatings on the surfaces of building materials. High-sulfate soils are also corrosive to concrete and may prevent complete curing, reducing its strength considerably. Low pH and/or low-resistivity soils can corrode buried or partially buried metal structures. Depending on the degree of corrosivity of the subsurface soils, building materials such as concrete, reinforcing steel in concrete structures, and bare-metal structures exposed to these soils can deteriorate, eventually leading to structural failures. Because the soils onsite are highly saline and alkali, they may have a high corrosion potential for steel, and a moderate to high corrosion potential for concrete (Soil Survey Staff, 2010). However, the actual presence and extent of corrosive soils would be evaluated as part of the subsurface exploration program that would be required for the proper geotechnical design of the Proposed Project.

Collapsible Soils

Soil collapse, or hydro-consolidation, occurs when soils undergo a rearrangement of their grains and a loss of cementation, resulting in substantial and rapid settlement under relatively low loads. This phenomenon typically occurs in recently deposited Holocene soils in a dry or semiarid environment, including eolian (wind blown) sands and alluvial fan and mudflow sediments deposited during flash floods. The combination of weight from a building or other structures, and an increase in surface water infiltration (such as from irrigation or a rise in the groundwater table) can initiate settlement and cause structural foundations and walls to crack. The actual presence and extent of collapsible soils would be evaluated as part of the subsurface exploration program that would be required for the proper geotechnical design of the Proposed Project.

Land Subsidence

While land subsidence historically has been a problem in the San Joaquin Valley due to excessive groundwater withdrawal, the rate has slowed substantially since the 1960s with the increased use of surface water for crop irrigation. Further, the project is in a part of the San Joaquin Valley that is not considered a major subsidence area (USGS, 1999).

Seismic Ground Shaking

The most likely source for high seismic ground shaking would be an earthquake on the San Andreas Fault (Kings County, 2010). The primary tool that seismologists use to evaluate ground-shaking hazard and characterize statewide earthquake risks is a probabilistic seismic hazard assessment (PSHA). The PSHA for the State of California takes into consideration the range of possible

earthquake sources and estimates their characteristic magnitudes to generate a probability map for ground-shaking. The PSHA maps depict values of peak ground acceleration (PGA) that have a 10 percent probability of being exceeded in 50 years (or a one in 475 chance). This probability level allows engineers to design structures for ground motions that have a 90 percent chance of NOT occurring in the next 50 years, making structures safer than if they were simply designed for the most likely events. The peak ground acceleration for the Proposed Project expected to range from 0.144g to 0.187g⁴ (Peterson et al., 1996). These ground accelerations correspond to moderate ground shaking which would be widely felt and would likely cause non-structural damage, such as moving or toppling of unanchored objects, cracks in weak plaster and masonry D (adobe; poor mortar; low standards of workmanship; weak horizontally) and damage to weak chimneys. However, damage would be negligible in buildings designed and constructed according to current engineering standards of care and the California Building Code described in Section 3.6.2.

This level of ground shaking is not likely to induce significant ground deformations such as liquefaction or lateral spread. Accordingly, the Kings County General Plan describes the risk and danger of liquefaction or subsidence occurring within the County as minimal (Kings County, 2010).

3.6.2 Regulatory Setting

Federal

Occupational Safety and Health Administration (OSHA) Regulations

Excavation and trenching are among the most hazardous construction operations. The Occupational Safety and Health Administration's (OSHA) Excavation and Trenching standard, Title 29 of the Code of Federal Regulations (CFR), Part 1926.650, covers requirements for excavation and trenching operations. OSHA requires that all excavations in which employees could potentially be exposed to cave-ins be protected by sloping or benching the sides of the excavation, supporting the sides of the excavation, or placing a shield between the side of the excavation and the work area.

State

Alquist-Priolo Earthquake Fault Zoning Act

Surface rupture is the most easily-avoided seismic hazard. The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. In accordance with this Act, the State geologist established regulatory zones, called "earthquake fault zones," around the surface traces of active faults and published maps showing these zones. Within these zones, buildings for human occupancy cannot be constructed across the surface trace of active faults. Each earthquake fault zone extends approximately 200 to 500 feet on either side of the mapped fault trace, because many active faults are complex and consist of more than one branch. There is the potential for ground surface rupture along any of the branches. Although the Proposed Project crosses two of the mapped fault zones (San Andreas and Calaveras), this Act does not apply because it does not involve structures for human occupancy.

⁴ Value is expressed as a fraction of the acceleration due to gravity (g). Gravity (g) is 9.8 meters per second squared. 1.0 g of acceleration is a rate of increase in speed equivalent to a car traveling 328 feet from rest in 4.5 seconds.

California Building Code

The California Building Code (CBC) has been codified in the California Code of Regulations (CCR) as Title 24, Part 2. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under State law, all building standards must be centralized in Title 24 or they are not enforceable. The purpose of the CBC is to establish minimum standards to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, and general stability by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all building and structures within its jurisdiction. The 2007 CBC is based on the 2006 International Building Code (IBC) published by the International Code Conference. In addition, the CBC contains necessary California amendments which are based on the American Society of Civil Engineers (ASCE) Minimum Design Standards 7-05. ASCE 7-05 provides requirements for general structural design and includes means for determining earthquake loads as well as other loads (such as wind loads) for inclusion into building codes. The provisions of the CBC apply to the construction, alteration, movement, replacement, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California.

The earthquake design requirements take into account the occupancy category of the structure, site class, soil classifications, and various seismic coefficients which are used to determine a Seismic Design Category (SDC) for a project. The SDC is a classification system that combines the occupancy categories with the level of expected ground motions at the site and ranges from SDC A (very small seismic vulnerability) to SDC E/F (very high seismic vulnerability and near a major fault). Design specifications are then determined according to the SDC.

Seismic Hazards Mapping Act

The State Department of Conservation, CGS, provides guidance with regard to seismic hazards. Under the CGS Seismic Hazards Mapping Act, seismic hazard zones are to be identified and mapped to assist local governments for planning and development purposes. The intent of the Act is to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other types of ground failure, and other hazards caused by earthquakes. CGS Special Publication 117 Guidelines for Evaluating and Mitigating Seismic Hazards in California, provides guidance for evaluation and mitigation of earthquake-related hazards for projects within designated zones of required investigations (CGS, 2008). This Act will not apply to the Proposed Project because seismic hazard zones have not yet been established in Kings County. The development of seismic hazard zones is prioritized for areas of greatest risk and population density.

Local

Kings County General Plan Policies

The following General Plan objectives and policies relate to geologic and seismic hazards present on the Project site:

Health and Safety (HS) Objective A1.4: Maintain County building and construction standards and regulations to remain current with State and federal requirements that serve to protect residents from natural hazards.

HS Policy A1.4.1: Implement the current California Building Codes and any subsequent amendments as contained within California Code of Regulations Title 24 to improve disaster resistance of future buildings.

HS Objective A2.1: Regulate new construction to achieve acceptable levels of risk posed by geologic hazards.

HS Policy A2.1.1: Maintain and enforce current building codes and standards to reduce the potential for structural failure caused by ground shaking and other geologic hazards.

HS Policy A2.1.4: Review all development proposals to determine whether a geotechnical soils report is required for new construction.

3.6.3 Applicant Proposed Measures

SCE proposes the following applicant proposed measure (APM) to minimize impacts related to geology, soils and seismicity. The impact analysis in this MND assumes that APM GEO-1 would be implemented to reduce the impacts related to geology, soils and seismicity discussed below.

APM GEO-1: Perform Site-Specific Geotechnical Study. SCE will conduct a geotechnical study of the substation site and the subtransmission line that would include an evaluation of the soil type, depth to the water table, soil resistivity, and the presence of anthropogenic chemicals, including pesticides.

3.6.4 Environmental Impacts and Mitigation Measures

This impact analysis considers the potential geology, soils, and seismicity impacts associated with the construction, operation, and maintenance of Proposed Project. Due to the nature of the Proposed Project, there would be no impacts related to the following criterion; therefore, no impact discussion is provided for these topics for the reasons described below:

Fault Rupture. The Project would not be on an active or potentially active fault line. Therefore, there would be no impact involving rupture of a known earthquake fault.

Soils incapable of supporting septic tanks or alternative wastewater disposal systems. The Mascot Substation would be equipped with a portable chemical unit because municipal water is not available. It would be placed within the substation perimeter wall, and maintained by an outside service company. Thus, a subsurface septic system would not be required. Therefore, this criterion is not applicable to the Proposed Project.

- ai) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a**

known fault? (Refer to Division of Mines and Geology Special Publication 42.): NO IMPACT.

In the event of a large earthquake on the San Andreas Fault or other active fault system, seismic ground-shaking and related ground failures could affect the Project; however, all structures in California are subject to the standards in the California Building Code (CBC), which requires engineers to develop seismic design criteria that reflect the nature and magnitude of maximum ground motions that can be reasonably expected. These seismic design criteria allow engineers to apply appropriate building codes and design foundations and structures to withstand the effects of earthquakes. Seismic hazards are further discussed for each sub-item below:

aii) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking: LESS THAN SIGNIFICANT.

The nearest active fault system (the San Andreas Fault) is relatively distant from the Project site (over 50 miles), and ground shaking from a major earthquake would be attenuated by the distance to the fault. Ground shaking at the Project site for an earthquake that has a 10 percent chance of occurring in the next 50 years is expected to range from 0.144g to 0.187g⁵ (Peterson et al., 1996). These ground accelerations correspond to moderate to strong ground shaking, which would be widely felt and would likely cause non-structural damage, such as moving or toppling of unanchored objects, cracks in weak plaster and masonry (adobe; poor mortar; low standards of workmanship; weak horizontally) and damage to weak chimneys. However, damage would be negligible in buildings of good design and construction. Design-level geotechnical characterization of Project sites (APM GEO-1) and incorporation of seismic design criteria into final Project designs, which is standard practice in California and required by law through the CBC, would reduce the risks of seismic ground-shaking hazards. Therefore, the impact would be less than significant.

aiii) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving Seismic-related ground failure, including liquefaction: LESS THAN SIGNIFICANT.

Preconditions necessary for soils to liquefy or experience other modes of ground failure associated with liquefaction (such as lateral spread) include very strong to violent ground shaking, the presence of saturated soils with a low clay content (primarily silts and sands), a shallow groundwater table, and (for lateral spreading) large exposed soil-faces. While subsurface exploration has not been conducted at the Project site, detailed soil properties will be evaluated as part of geotechnical study for the project. However, sufficient information presently exists to determine liquefaction at the Project site is not a concern. Available boring logs within 10 miles of the site indicate a groundwater table anywhere between 60 and 100 feet below ground surface (bgs), and soils that are composed of primarily silt and sand (SWRCB, 2009). In addition, soil surveys of the area have indicated that the soils are sandy and well-drained (Soil Survey Staff, 2010). As discussed in the setting, the most severe level of ground shaking expected at the site would rate as moderate. Given the soils onsite lack the required preconditions, liquefaction is not expected to occur even during a worst-

⁵ Value is expressed as a fraction of the acceleration due to gravity (g). Gravity (g) is 9.8 meters per second squared. 1.0 g of acceleration is a rate of increase in speed equivalent to a car traveling 328 feet from rest in 4.5 seconds.

case shaking scenario. Additionally, lateral spreading would not occur because there would be no exposed soil faces beyond shallow drainage structures. Thus, seismic-related ground failure would be a less than significant impact to the Proposed Project.

aiv) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides: *NO IMPACT.*

Because the Project area is flat to nearly flat and there are no existing or proposed sloped areas, landslides due to non-seismic forces or seismic ground shaking would not occur and therefore slope failure is not considered an impact to the Proposed Project.

b) Result in substantial soil erosion or the loss of topsoil: *LESS THAN SIGNIFICANT.*

There is a certain rate of soil erosion that occurs naturally in the environment; however, the preliminary stages of construction, especially initial site grading, stripping, and soil stockpiles leaves loose soil exposed to the erosive forces of rainfall and high winds. In addition to causing sedimentation problems in storm drain systems, rapid storm water runoff can initiate or increase the size of rills and gullies, and potentially undermine engineered soils beneath foundations and paved surfaces. Loss of topsoil from an agricultural resource perspective is discussed in Section 3.2 (*Agricultural Resources*). Soil erosion from a water quality perspective is discussed in Section 3.8 (*Hydrology and Water Quality*). This discussion addresses soil erosion as a potential geotechnical and engineering issue, where accelerated erosion may undermine constructed facilities, or clog or compromise storm water drainage pipes.

Because the site is flat, is on well drained soils and would require a grading permit from Kings County, accelerated erosion is not an anticipated problem. Further, during construction, erosion control measures would be implemented, utilizing best management practices, to avoid or minimize soil erosion and off-site deposition, as discussed in Section 3.8 (*Hydrology and Water Quality*). Measures to be implemented would include scheduling or limiting activities to certain times of the year; installing sediment barriers along the perimeter of the site, such as silt fence and fiber rolls; maintaining equipment and vehicles used for construction; tracking controls, such as stabilizing entrances to the construction site, and developing and implementing a spill prevention and cleanup plan. These measures that serve to address soil erosion for water quality concerns also would prevent or minimize the development of erosion rills or gullies. Accelerated soil erosion during construction of the Proposed Project would be less than significant.

During operation of the Proposed Project, accelerated erosion would be prevented or minimized because SCE would obtain a grading permit SCE from Kings County and would direct all drainage to a detention pond or other drainage control feature. In addition, the size of the site makes it unlikely that runoff would gather with sufficient volume and velocity to initiate erosional channels, rill or gullies. Further, accelerated erosion would be minimized by the rock surfacing (1 to 1-1/2 inch per SCE Standard) of the substation site by slowing the velocity of storm water runoff and allowing rainfall to percolate into the subsurface. Therefore, impacts from accelerated soil erosion as a result of operation of the Proposed Project would be less than significant.

- c) Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse: *LESS THAN SIGNIFICANT*.**

The soil series consists of well-drained relatively flat lying soils and are not subject to off-site landslide. Construction of the Proposed Project would include minor grading, which would not result in slope or other geologic instability. As discussed in item a)iii), soils in the area are unlikely to experience liquefaction or lateral spread in a major earthquake. As discussed in the setting, the Project is in a part of the San Joaquin Valley that is not considered a major subsidence area (USGS, 1999). Even though the risks to the Project from unstable soils is low; consistent with modern building codes, a design-level geotechnical study (APM GEO-1) would be completed to assess soil and subsurface conditions for adequate foundation design. Engineering remedies for any adverse soil conditions would consist of standard engineering practice that commonly are implemented at construction sites throughout California without associated secondary environmental impacts. For these reasons, impacts to the Project site due to unstable soils would be less than significant.

- d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property: *LESS THAN SIGNIFICANT*.**

The soils beneath the Proposed Project are well-drained and do not have a high liquid limit, and therefore, are not expected to be expansive (Soil Survey Staff, 2010). A design-level geotechnical investigation would be conducted prior to Project construction to examine soil conditions in greater detail and if necessary, provide recommendations to correct problematic soil conditions. While unlikely, if soils are found to be expansive, such recommendations would likely involve standard engineering practices, such as designing structural foundations and utilities accommodate expected soil movements, or placing them within non-expansive imported sand, gravel or other backfill material. Such remedies would not generate secondary environmental impacts. For these reasons, the impact would be less than significant.

- e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater: *NO IMPACT*.**

References

- California Division of Mines and Geology (CDMG), *Geologic map of California: Fresno sheet*: scale 1:250000, prepared by Matthews, R.A. and Burnett, J.L., 1965.
- Kings County. 2010. Kings County 2035 General Plan. Adopted January 26, 2010, available online at <http://www.countyofkings.com/planning/2035%20General%20Plan.html> [cited May 2010].
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United States Geological Survey (USGS), *Geology, Hydrology and Quality of Water in the Hanford-Visalia Area, San Joaquin Valley, California*, prepared by Croft M.G., and Gordon G.V., USGS Open File Report 68-67, 1968.

US Geological Survey (USGS), Land Subsidence in the United States, Pgs 23-34, Circular 1182, 1999.

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3.7 Hazards and Hazardous Materials

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
7. HAZARDS AND HAZARDOUS MATERIALS				
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.7.1 Environmental Setting

Materials and waste may be considered hazardous if they are poisonous (toxic), can be ignited by open flame (ignitable), corrode other materials (corrosive), or react violently, explode, or generate vapors when mixed with water (reactive). The term “hazardous material” is defined in California Health and Safety Code Section 25501(o) as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment. In some cases, past industrial or commercial uses on a site can result in spills or leaks of hazardous materials and petroleum to the ground; thus resulting in soil and groundwater contamination. Federal and State laws require that soils having concentrations of contaminants such as lead, gasoline, or industrial solvents that are higher than certain acceptable levels must be handled and disposed as hazardous waste during excavation, transportation, and disposal. The California Code of Regulations (CCR), Title 22, Section 66261.20-24 contains technical descriptions of characteristics that would cause soil to be classified as a hazardous waste. The use of hazardous materials and disposal of hazardous wastes are subject to numerous laws and regulations at all levels of government.

In addition to toxic substances, the CPUC generally provides information about electric and magnetic fields (EMF) in its environmental documents, including this IS/MND, to inform the public and decision makers; however, it does not consider EMF, in the context of CEQA, to be an environmental impact because there is no agreement among scientists that EMF creates a potential health risk and because CEQA does not define or adopt standards for defining any potential risk from EMF. The CPUC has implemented Decision D.06-01-042 requiring utilities to incorporate “low-cost” or “no-cost” measures for managing EMF from power lines up to approximately four percent of total project cost. Using the four percent benchmark, SCE has incorporated low-cost and no-cost measures to reduce magnetic field levels along the proposed subtransmission lines (see Section 2.10, *Electric and Magnetic Fields Summary*). For informational purposes, additional information about EMF generated by power lines is provided in the Project Description and in Appendix A to this IS/MND.

Existing Environment

The study area is located in unincorporated areas of Kings County, near the City of Hanford. Portions of the Proposed Project are located within or adjacent to agricultural, rural residential, and industrial land uses. Activities in the vicinity of these uses could have resulted in hazardous material releases in those areas. As such, a regulatory database search was conducted to identify any known hazardous material storage sites, use locations, and or illicit release sites.

Hazardous Materials Database Records Search

Corporate Environment, Health and Safety, Environmental Engineering (CEH&S Environmental Engineering) conducted a review of the Proposed Project of behalf of SCE that included a FirstSearch Technology Corporation (FirstSearch) regulatory database search of sites in the Proposed Project area that are listed on agency files for the documented use, storage, generation, or release of hazardous materials and/or petroleum products (CEH&S Environmental Engineering, 2010). The database search process includes the review of dozens of lists generated by, federal, State, County, and/or city regulatory agencies for historically contaminated properties, and for businesses that use, generate, or dispose of hazardous materials or petroleum products. In addition, the database search lists active contaminated sites that currently are undergoing monitoring and remediation. The databases that were searched are listed in **Table 3.7-1**.

The records search included search radii along the proposed subtransmission line alignments that varied from 0.12 mile to 1.00 mile depending on the database. The radius search identified 19 sites near the proposed alignments. Among the 19 search-identified records, six are geo-coded and have adequate address information, while the remaining 13 records are non-geocoded and do not have adequate address information. **Table 3.7-2** identifies the six sites that were identified with adequate address information. As indicated in the table, the only geo-coded hazardous materials site with details of site contamination is the Baldrick Crop Dusting site, which is located 0.69 mile from the Proposed Project. At this distance, any local contamination at the Baldrick Crop Dusting site would not be expected to present a hazard risk to the Proposed Project. For discussion related to the State/Tribal SWL sites, see below.

**TABLE 3.7-1
REGULATORY AGENCY DATABASES ACCESSED**

Database	Type of Record	Agency
NPL	National Priority List	United States Environmental Protection Agency (USEPA)
NPL Delisted	National Priority List Subset	USEPA
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System	USEPA
NFRAP	No Further Remedial Action Plan (archive of CERCLIS sites)	USEPA
RCRA COR ACT	Resource Conservation and Recovery Act Information System Sites	USEPA
RCRA TSD	Resource Conservation and Recovery Act Treatment, Storage, and Disposal Facilities	USEPA
RCRA GEN	Resource Conservation and Recovery Information System Generators	USEPA
RCRA NLR	Resource Conservation and Recovery Act Information System Sites that no longer require reporting	
Federal IC / EC	Brownfield Management System	USEPA
ERNS	Emergency Response Notification System	USEPA / National Response Center
Tribal Lands	Indian Lands of the United States	U.S. Department of Interior / Bureau of Indian Affairs
State Spills 90	Regional Water Quality Control Board's (RWQCB's) spills, leaks, investigations, and cleanups	California Environmental Protection Agency (Cal EPA)
State/Tribal SWL	Solid Waste Information System	California Integrated Waste Management Board / State Water Resources Control Board (SWRCB) / Riverside County
State/Tribal LUST	Leaking Underground Storage Tank Listing	SWRCB / Riverside County
State/Tribal UST/AST	Underground and Aboveground Storage Tank Listing	SWRCB / Riverside County
State/Tribal IC	Deed Restricted Sites Listing	Cal EPA / Department of Toxic Substances Control (DTSC)
State/Tribal VCP	Voluntary Cleanup Program Sites	Cal EPA/ DTSC
State/Tribal Brownfields	Site Mitigation and Brownfields Reuse Program Database	DTSC
State Permits	Tracks establishments and the status of their permits in relation to compliance with federal, State and local regulations.	Riverside County
State Other	Database of sites that are known to be contaminated as well as sites with uncharacterized properties where further studies may reveal problems	Cal EPA / DTSC
Floodplains	100 year and 500 year floodplain boundaries	Federal Emergency Management Agency
Oil & Gas Wells	Completions, well pluggings and permits	California Department of Conservation

SOURCE: CEH&S Environmental Engineering, 2010.

**TABLE 3.7-2
 HAZARDOUS MATERIALS SITE LOCATIONS IDENTIFIED IN THE STUDY AREA**

Site Name	Site Address	Approximate Distance/Location to Proposed Project	Regulatory List^a	Additional Details
Circle K Store	1695 Hanford-Armona Road, Hanford.	0.12 mile to the southeast	RCRA GEN	Small quantity generator
Arnold Private DS/AKA Hanford Recycling	800 W. 7 th Avenue, Hanford.	0.19 mile to the southeast	State/Tribal SWL	Site closed in 1994 and is clean
Harold James INC Tire Disposal	Highway 43 at Hanford-Armona Road, Hanford.	0.31 mile to the west	State/Tribal SWL	Site closed in 1994
Hanford Sanitary Landfill	SE corner Highway 43 and Hanford, Hanford.	0.36 mile to the west	State/Tribal SWL	Site closed in 1994
Hanford Municipal SWDS	8 th Avenue and Hanford-Armona, Hanford.	0.41 mile to the west	State/Tribal SWL	Active
Baldrick Crop Dusting	954 East Hanford-Armona Road, Hanford.	0.69 mile to the southeast	State/Tribal State	Pesticides exceed regulatory values, no updates since 1993.

a Refer to Table 3.7-1 for definitions of the regulatory lists; Transportation related ERNS sites omitted from table.

SOURCE: CEH&S Environmental Engineering, 2010.

CEH&S Environmental Engineering attempted to determine the approximate locations of the non-geocoded sites and then assessed the distances to the Proposed Project to determine whether or not those sites are within the regulatory database search distances. None of the non-geocoded sites were found to pose an environmental concern with respect to the Proposed Project, with the potential exception of a State/Tribal Solid Waste Landfill (SWL) site.

A total of five State/Tribal SWL sites (i.e., the four sites identified in Table 3.7-2 and one non-geo-coded site) were identified in the FirstSearch database search and each of the sites had similar or the same addresses and. The California Integrated Waste Management Board maintains the State/Tribal SWL database on solid waste facilities, operations, and disposal sites throughout California. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites. Among the five State/Tribal SWL sites identified, only one of the sites (i.e., Arnold Private DS, also known as Hanford Recycling) has the current status of clean and closed. Two of the other facilities have the status of “closed operational,” and the other two have the status of “active operational.”

CEH&S Environmental Engineering interviewed the Environmental Health Officer (EHO) of Environmental Health Services of County Health Department, County of Kings. The EHO indicated that some remediation activities, including groundwater monitoring and gas collection and flaring activities, have been conducted at Hanford Sanitary Landfill since the early 2000’s. Based on the EHO’s recommendation, CEH&S Environmental Engineering contacted the facility operator of Kings Waste Recycling Authority, the owner of Hanford Sanitary Landfill. The facility operator indicated that there is only one landfill at the location and he was not familiar with the other three

landfills. Based on available information, there is a contaminant plume emanating from the landfill; however, the plume is limited to the facility site and the groundwater flow direction under the landfill is from northeast to southwest, away from the Proposed Project (CEH&S Environmental Engineering, 2010).

CEH&S Environmental Engineering found no evidence of recognized environmental conditions in the immediate vicinity of the Proposed Project (CEH&S Environmental Engineering, 2010).

Wood Treatment Products

Two existing wood poles along the Hanford-Liberty subtransmission line would be removed under the Proposed Project. These poles are likely treated with chemicals that include pentachlorophenol, creosote, and chromated copper arsenate. These treatment chemicals are used in pressure treated wood to protect wood from rotting due to insects and microbial agents and for certain uses and quantities can be considered to be hazardous materials, which require specific handling procedures prescribed by State and federal regulations. These chemicals typically are applied to utility wood poles by the manufacturer at its facility and are left to set and dry prior to installation and/or use of the poles. Additionally, the base of some of the treated wood poles may be wrapped with copper naphthenate paper, also known as CuNap wrap.¹ This paper has been accepted as a wood preservative for several decades and has been employed in non-pressure treatments of wood and other products. Copper naphthenate is a common preservative and its use has increased recently in response to environmental concerns associated with other wood treatment products.

Schools

No school sites are located within a quarter mile of any component of the Proposed Project.

Airports

The Hanford Municipal Airport is located approximately 1.7 miles west-southwest of the south end of proposed subtransmission tap line. The City of Hanford owns and operates Hanford Municipal Airport, which supports general aviation activities. The airport currently consists of one runway that is 5,180 feet in length; a 75-foot wide paved taxiway; several conventional hangers and tee shelters; and medium intensity runway lights. All types of general aviation aircraft use the facility including recreation and business aircraft. The average daily aircraft operation in 2005 was approximately 38 flights with 30 percent of those being single engine propeller aircraft (Kings County, 2010). Except for the Hanford Municipal Airport, there are no other airport facilities within three miles of any component of the Proposed Project.

¹ CuNap wrap is a self contained delivery system for copper naphthenate, the internationally recognized wood preservative that fights the damaging effects of moisture, decay, and insect attack.

Wildland Fire Conditions

The Proposed Project would not be located in an area conducive to wildland fires due to the lack of wildlands and/or undeveloped areas with overgrown vegetation. Fire risk in the study area is low due to the abundance of irrigated crops.

3.7.2 Regulatory Setting

Federal

Occupational Safety and Health Administration

The federal Occupational Safety and Health Administration (OSHA) enforces regulations that cover the handling of hazardous materials in the workplace. The regulations established in the Code of Federal Regulations (CFR) Title 29 are designed to protect workers from hazards associated with encountering hazardous materials at the work site. The regulations require certain training, operating procedures, and protective equipment to be used at work sites that could encounter hazardous materials.

Resource Conservation and Recovery Act

Under the federal Resource Conservation and Recovery Act (RCRA), individual states may implement their own hazardous waste programs in lieu of RCRA as long as the state program is at least as stringent as federal RCRA requirements and is approved by the U.S. Environmental Protection Agency (USEPA). The USEPA approved California's RCRA program, referred to as the Hazardous Waste Control Law (HWCL), in 1992.

Toxic Substance Control Act

The Toxic Substances Control Act (TSCA) of 1976 was enacted by Congress to give the USEPA the ability to track the 75,000 industrial chemicals currently produced or imported into the United States. The USEPA repeatedly screens these chemicals and can require reporting or testing of those that may pose an environmental or human-health hazard. The USEPA can ban the manufacture and import of those chemicals that pose an unreasonable risk.

CERCLA

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) was developed to protect the water, air, and land resources from the risk created by past chemical disposal practices. This act is also referred to as the Superfund Act; sites listed under it are referred to as Superfund sites. Under CERCLA, the USEPA maintains a list, known as the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), of all contaminated sites in the nation that have in part or are currently undergoing clean-up activities. CERCLIS contains information on current hazardous waste sites, potential hazardous waste sites, and remediation activities. This includes sites that are on the National Priorities List (NPL) or being considered for the NPL.

State

California Code of Regulations

The California Code of Regulations (CCR), Title 22, Section 66261.20-24, contains technical descriptions of characteristics that would classify waste material, including soil, as hazardous waste. When excavated, soils with concentrations of contaminants higher than certain acceptable levels must be handled and disposed as hazardous waste.

State Water Resources Control Board

The SWRCB and the Regional Water Quality Control Boards (RWQCBs) administer the requirements of the Clean Water Act that regulate pollutant discharges into waterways of the U.S. The Central Valley RWQCB (CVRWQCB) enforces site cleanup regulations for discharges that have resulted in contamination of groundwater in the Proposed Project area.

California Hazardous Materials Release Response Plans and Inventory Law

The California Hazardous Materials Release Response Plan and Inventory Law of 1985 (Business Plan Act) requires that businesses that store hazardous materials onsite prepare a business plan and submit it to local health and fire departments. The business plan must include details of the facility and business conducted at the site, an inventory of hazardous materials that are handled and stored onsite, an emergency response plan, and a safety and emergency response training program for new employees with an annual refresher course.

California Occupational Safety and Health Administration

In California, the California Occupational Safety and Health Administration (Cal OSHA) regulates worker safety similar to the federal OSHA. Cal OSHA has developed worker safety regulations for the safe abatement of lead-based paint and primers (Lead in Construction Standard, Title 8 CCR 1532.1).

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

In January 1996, Cal EPA adopted regulations, which implemented a Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program). The program has six elements, including: (1) hazardous waste generators and hazardous waste onsite treatment; (2) underground storage tanks (USTs); (3) aboveground storage tanks (ASTs); (4) hazardous materials release response plans and inventories; (5) risk management and prevention programs; and (6) Unified Fire Code hazardous materials management plans and inventories. The plan is implemented at the local level and the agency responsible for implementation of the Unified Program is called the Certified Unified Program Agency (CUPA). In Kings County, the Kings County Division of Environmental Health Services is the designated CUPA.

Department of Toxic Substance Control

DTSC is responsible for regulating the use, storage, transport, and disposal of hazardous substances in the State. DTSC maintains a Hazardous Waste and Substances Site List for site cleanup. This list is commonly referred to as the Cortese List. Government Code section 65962.5 requires the Cal EPA to update the Cortese List at least annually. DTSC is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List.

Hazardous Waste Management and Handling

Under RCRA, individual states may implement their own hazardous waste programs in lieu of RCRA as long as the state program is at least as stringent as federal RCRA requirements. The USEPA must approve state programs intended to implement federal regulations. In California, Cal EPA and DTSC, a department within Cal EPA, regulate the generation, transport, treatment, storage, and disposal of hazardous waste. The USEPA approved California's RCRA program, called the Hazardous Waste Control Law (HWCL), in 1992. DTSC has primary hazardous material regulatory responsibility, but can delegate enforcement responsibilities to local jurisdictions that enter into agreements with DTSC for the generation, transport, and disposal of hazardous materials under the authority of the HWCL.

The hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; prescribe the management of hazardous wastes; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous wastes that cannot be disposed of in ordinary landfills. Hazardous waste manifests must be retained by the generator for a minimum of three years. Hazardous waste manifests provide a description of the waste, its intended destination, and regulatory information about the waste. A copy of each manifest must be filed with the State. The generator must match copies of hazardous waste manifests with receipts from treatment, storage, and disposal facilities.

Contaminated soils and other hazardous materials removed from a site during construction or remediation may need to be handled as hazardous wastes.

Hazardous Materials Transportation

The State of California has adopted U.S. Department of Transportation (USDOT) regulations for the intrastate movement of hazardous materials; State regulations are contained in 26 CCR. In addition, the State of California regulates the transportation of hazardous waste originating in the State and passing through the State (26 CCR). Both regulatory programs apply in California.

The two State agencies with primary responsibility for enforcing federal and State regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol (CHP) and the California Department of Transportation (Caltrans). The CHP enforces hazardous materials and hazardous waste labeling and packing regulations to prevent leakage and spills of material in transit and to provide detailed information to cleanup crews in the event of an accident. Vehicle and equipment inspection, shipment preparation, container identification, and

shipping documentation are the responsibility of the CHP, which conducts regular inspections of licensed transporters to assure regulatory compliance. Caltrans has emergency chemical spill identification teams at as many as 72 locations throughout the State that can respond quickly in the event of a spill.

Common carriers are licensed by the CHP, pursuant to California Vehicle Code Section 32000. This section requires the licensing of every motor (common) carrier who transports, for a fee, in excess of 500 pounds of hazardous materials at one time, and every carrier, if not for hire, who carries more than 1,000 pounds of hazardous material of the type requiring placards.

Every hazardous waste package type used by a hazardous materials shipper must undergo tests that imitate some of the possible rigors of travel. Every package is not put through every test. However, most packages must be able to be kept under running water for a time without leaking, dropped fully loaded onto a concrete floor, compressed from both sides for a period of time, subjected to low and high pressure, and frozen and heated alternately.

Hazardous Materials Emergency Response

Pursuant to the Emergency Services Act (California Government Code Section 8550 et seq.), California has developed an Emergency Response Plan to coordinate emergency services provided by federal, State, and local governmental agencies and private persons. Response to hazardous materials incidents is one part of this plan. The plan is administered by the State Office of Emergency Services (OES). The OES coordinates the responses of other agencies, including the USEPA, CHP, California Department of Fish and Game (CDFG), the RWQCBs, the local air districts (in this case, the San Joaquin Valley Air Pollution Control District (SJVAPCD)), and local agencies.

Pursuant to the Business Plan Law, local agencies are required to develop “area plans” for the response to releases of hazardous materials and wastes. These emergency response plans depend to a large extent on the Business Plans submitted by people who handle hazardous materials. An area plan must include pre-emergency planning and procedures for emergency response, notification, and coordination of affected governmental agencies and responsible parties, training, and follow up.

California Public Utilities Code

California Public Utilities Code Section 21658 prohibits structural hazards associated with utility poles and lines near airports. Should a power line be located in the vicinity of an airport or exceed 200 feet in height, a Notice of Proposed Construction or Alteration (Form 7460-1) is required by the Federal Aviation Administration (FAA) in accordance with Federal Aviation Regulation, Part 77 (Objects Affecting Navigable Airspace).

Kings County

As mentioned above under the *Unified Hazardous Waste and Hazardous Materials Management Regulatory Program* discussion, the Kings County Division of Environmental Health Services is the designated CUPA for the study area and is responsible for establishing and updating the area

plan for hazardous material response, pursuant to California Health & Safety Code (HSC) Section 25503(c).

The basic purpose of an area plan is to describe in detail the roles and responsibilities of, and procedures to be followed by, those agencies tasked with performing hazardous material emergency response activities within specified jurisdictional boundaries. The *Kings County Area Plan for Hazardous Materials Emergency Response* is an adopted plan designed to describe emergency measures taken in response to Level 1 or 2 (minor or moderate) incidents within the boundaries of Kings County where local and/or State personnel and equipment resources are adequate and available to abate the hazard.

3.7.3 Applicant Proposed Measures

SCE has not proposed any applicant proposed measures to minimize impacts associated with hazards and hazardous materials from the Proposed Project.

3.7.4 Environmental Impacts and Mitigation Measures

- a) **Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials: *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.***

Construction

During construction of the Proposed Project, limited quantities of miscellaneous hazardous substances, such as gasoline, diesel fuel, hydraulic fluid, solvents, oils, etc., would be used to fuel and maintain vehicles and motorized equipment. Accidental spill of any of these substances could impact water and/or groundwater quality. Temporary bulk above-ground storage tanks and 55-gallon drums may be used for fueling and maintenance purposes. As with any liquid, during handling and transfer from one container to another, the potential for an accidental release would exist. Depending on the relative hazard of the material, if a spill were to occur of significant quantity, the accidental release could pose a hazard to construction workers, the public, as well as the environment.

Mitigation would be required for the development and implementation of a plan to minimize the potential for, and effects of, spills of hazardous materials during construction. Implementation of Mitigation Measures 3.7-1 through 3.7-5 (see below) would reduce these impacts associated with the use, storage, disposal, and/or transport of hazardous materials during the construction phase to a less-than-significant level.

In addition, as part of the Proposed Project, two existing wood subtransmission line poles would be removed from the existing Hanford-Armona Road subtransmission line. The wood poles to be removed are likely chemically treated and would require storage and or disposal. Improper storage and or disposal of these poles could result in a hazard to the public or the environment. Implementation of Mitigation Measure 3.7-1 would ensure that the wood poles would be disposed of at appropriate landfills, consistent with the requirements of HSC Section 25143.1.4(b). Impacts would be mitigated to a less than significant level.

Mitigation Measure 3.7-1: SCE and/or its contractors shall implement construction best management practices, including but not limited to, the following:

- Follow manufacturer's recommendations on use, storage, and disposal of chemical products used in construction;
- Avoid overtopping construction equipment fuel gas tanks;
- Use tarps and adsorbent pads under vehicles when refueling to contain and capture any spilled fuel;
- During routine maintenance of construction equipment, properly contain and remove grease and oils;
- Properly dispose of discarded containers of fuels and other chemicals; and
- If wood poles removed from the Hanford-Liberty subtransmission line are not recycled or reused, they shall be disposed of at a landfill facility that is authorized to accept treated wood pole waste in accordance with HSC 25143.1.4(b).

Mitigation Measure 3.7-2: SCE shall prepare a Hazardous Substance Control and Emergency Response Plan (Plan) and implement it during construction to ensure compliance with all applicable federal, State, and local laws and guidelines regarding the handling of hazardous materials. The Plan shall prescribe hazardous material handling procedures to reduce the potential for a spill during construction, or exposure of the workers or public to hazardous materials. The Plan also shall include a discussion of appropriate response actions in the event that hazardous materials are released or encountered during excavation activities. The Plan shall be submitted to the CPUC for review and approval at least 30 days prior to the commencement of construction activities.

Mitigation Measure 3.7-3: SCE shall prepare and implement a Health and Safety Plan to ensure the health and safety of construction workers and the public during construction. The plan shall include information on the appropriate personal protective equipment to be used during construction.

Mitigation Measure 3.7-4: SCE shall ensure that a Workers Environmental Awareness Program is established and implemented to communicate environmental concerns and appropriate work practices to all construction field personnel. The training program shall emphasize site-specific physical conditions to improve hazard prevention, and shall include a review of the Health and Safety Plan and the Hazardous Substance Control and Emergency Response Plan. SCE shall provide the CPUC mitigation monitor with a one-week advance notice of the first training session so that the CPUC mitigation monitor has adequate time to plan attendance at the first training. SCE shall submit documentation to the CPUC prior to the commencement of construction activities that each worker on the project has undergone this training program.

Mitigation Measure 3.7-5: SCE shall ensure that oil-absorbent material, tarps, and storage drums shall be used to contain and control any minor releases. Emergency spill supplies and equipment shall be kept at the project staging area and adjacent to all areas of work, and shall be clearly marked. Detailed information for responding to accidental spills and for handling any resulting hazardous materials shall be provided in the project's Hazardous Substance Control and Emergency Response Plan (see Mitigation Measure 3.7-2), which shall be implemented during construction.

Significance after Mitigation: Less than significant.

Operations

During operation of the Proposed Project, a transformer could fail, resulting in a spill of mineral oil. However, the facilities at the proposed Mascot Substation would meet federal Spill Prevention, Control, and Countermeasures (SPCC) requirements, as outlined in Title 40 of the Code of Federal Regulations, Part 112. Clean up and disposal of spills would be conducted pursuant to Title 40 of the CFR, Part 12. Pursuant to USEPA requirements, SCE would inspect the equipment and any required spill containment facilities on a monthly basis. Implementation of the SPCC requirements described above would ensure that potential impacts related to a transformer malfunction oil spill would be less than significant.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment: *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.*

Data obtained from regulatory databases and follow-up interviews indicate that no contamination has been identified at the proposed Mascot Substation site or along the proposed subtransmission line alignments. However, there is a potential that undocumented releases of hazardous materials (e.g., petroleum hydrocarbons from underground storage tanks, etc.) could have occurred along the Proposed Project alignments. Implementation of Mitigation Measure 3.7-6 would ensure that potential impacts associated with releasing previously unidentified hazardous materials into the environment would be less than significant by outlining steps to take in the event of encountering previously unidentified hazardous materials.

In addition, the potential presence of residual pesticide and herbicide contamination of the soil and/or groundwater in the agricultural areas at the proposed Mascot Substation site and along the proposed subtransmission line alignments represent a potentially significant impact due to the potential health hazards to construction workers and the public stemming from exposure to pesticide or herbicide contaminated soil and/or groundwater.

Pursuant to Mitigation Measure 3.7-3 (above), SCE would implement appropriate safety measures to ensure the safety of construction workers. Implementation of Mitigation Measure 3.7-6, which requires provisions to be implemented if any subsurface hazardous materials are identified during construction, would ensure that potential impacts associated with mobilizing hazardous materials into the environment at previously unidentified release sites would be less than significant. However, implementation of Mitigation Measure 3.7-6 may not be effective for pesticides and herbicides because these contaminants are not always readily apparent by visual or olfactory indicators. Therefore, implementation of Mitigation Measure 3.7-7, which requires testing for residual pesticides/herbicides in agricultural areas prior to subsurface ground disturbance and, if necessary, implementation of remediation procedures, also would be required to reduce impacts to a less than significant level. Concerning the reduction of impacts related to existing contaminated groundwater, see Section 3.8 (*Hydrology and Water Quality*).

Mitigation Measure 3.7-6: SCE's Hazardous Substance Control and Emergency Response Plan (Mitigation Measure 3.7-2) shall include provisions that would be implemented if any subsurface hazardous materials are encountered during construction. Provisions outlined in

the plan shall include immediately stopping work in the contaminated area and contacting appropriate resource agencies, including the CPUC designated monitor, upon discovery of subsurface hazardous materials. The plan shall include the phone numbers of County and State agencies and primary, secondary, and final cleanup procedures. The Hazardous Substance Control and Emergency Response Plan shall be submitted to the CPUC for review and approval at least 30 days prior to the commencement of construction activities.

Mitigation Measure 3.7-7: SCE shall develop and implement a Soil Sampling and Analysis Plan to determine the presence and extent of any residual herbicides, pesticides, and fumigants on currently or historically-farmed land in agricultural areas that would be disturbed during construction of the Proposed Project. The Plan shall be prepared and executed under the direction of an appropriate California-licensed professional. At a minimum, the Plan shall document the areas proposed for sampling, the procedures for sample collection, the laboratory analytical methods to be used, and the pertinent regulatory threshold levels for determining proper excavation, handling, and, if necessary, treatment or disposal of any contaminated soils. The Plan shall be submitted to the CPUC for review and approval at least 30 days before the commencement of construction.

The analytical results of the soil sampling investigation shall be evaluated with regard to California/USEPA's California Human Health Screening Levels (CHHSLs) for industrial/commercial land use. If soil contaminants exceed these preliminary screening levels, further site characterization, risk assessment, or remediation would be necessary, as described in the Department of Toxic Substances Control Preliminary Endangerment Assessment Guidance Manual. SCE shall implement appropriate handling and disposal procedures for any excavated materials containing elevated levels of contaminants. Prior to disturbing additional contaminated soil, SCE shall prepare and submit a health and safety plan that is approved by a certified industrial hygienist to address handling, treatment, and/or disposal options. Personnel working around, handling, and disposing of contaminated soil shall meet the federal Occupational Health and Safety Administration (OSHA) requirement for the 40-hour Hazardous Waste Operations and Emergency Response Standards as specified in Title 29, Section 1910.120, of the Code of Federal Regulations. The investigation results, and health and safety plan if needed, shall be submitted for review and approval by the appropriate regulatory agencies i.e., Department of Toxic Substances Control and/or Regional Water Quality Control Board). SCE shall submit to the CPUC copies of correspondence with regulatory agencies including the health and safety plan and any approvals.

Significance after Mitigation: Less than significant.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school: NO IMPACT.

The Proposed Project would not be located within one-quarter mile of an existing or proposed school. There would be no impact.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment: *NO IMPACT.*

The Proposed Project would not be located on a known hazardous materials site pursuant to California Government Code Section 65962.5. Given the distances of the known sites to the Proposed Project and the direction of groundwater flow in the Proposed Project area, no impact would occur related to known hazardous materials sites creating a significant hazard to the public or the environment. No impact would occur.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area: *LESS THAN SIGNIFICANT.*

The Hanford Municipal Airport is located approximately 1.7 miles west-southwest of a portion of the south end of the proposed subtransmission tap line. The new poles and conductor associated with the Proposed Project would be well under 200 feet in height; therefore, an FAA Notice of Proposed Construction would not be required. In addition, the proposed subtransmission tap line would parallel immediately adjacent to a taller existing PG&E transmission line. Therefore, given the distance of the proposed alignment to the airport, the roughly parallel orientation of the alignment and the airport runway, the height of the proposed poles, and the proposed location of the poles adjacent to an existing, taller PG&E transmission line, the Proposed Project would not create an aviation safety hazard. Impacts would be less than significant.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area: *NO IMPACT.*

There are no private airstrips located within the vicinity of any portion of the Proposed Project. Accordingly, there would be no impact related to private airstrip safety hazards associated with the Proposed Project. No impact would occur.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan: *LESS THAN SIGNIFICANT IMPACT.*

The *Kings County Area Plan for Hazardous Materials Emergency Response* is an adopted plan that describes the roles and responsibilities of, and procedures to be followed by, those agencies tasked with performing hazardous material emergency response activities within the County, including the Proposed Project area (Kings County, 2007). Although the Proposed Project would not directly impair implementation of or physically interfere with the County's emergency response plan, several private and public roadways, including but not limited to State Route 198, Lacy Boulevard, and 7th Road, would be crossed by the proposed subtransmission tap line and communication lines and would likely need to be temporarily closed or have traffic flow otherwise restricted during subtransmission and communication line stringing activities.

In addition, duct banks for underground distribution circuits would likely be constructed within the ROWs of 7 1/2 Avenue and Grangeville Boulevard. Duct bank construction activities would

likely require temporary partial or full lane closures of these roadways. These roadways could be used by people evacuating the area during an emergency. However, in the event of an emergency evacuation that would involve a road or lane temporarily closed by Proposed Project-related construction activities, construction crews would cease all work and would remove any equipment that would impede the flow of traffic. Access for emergency vehicles would be maintained throughout project construction. Although project construction activities may require temporary road closures, appropriate traffic control plans would be followed (see, e.g., Mitigation Measure 3.15-1 (*Traffic Management and Control Plan*)), and encroachment permits would be obtained from Caltrans or Kings County, depending on the jurisdiction of the road. Therefore, the Proposed Project would not physically interfere with emergency response or evacuation plans. Impacts would be less than significant.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands: *LESS THAN SIGNIFICANT IMPACT.*

Fire risk during construction of the Proposed Project would be low because construction would be in areas irrigated for agriculture and grubbed of vegetation prior to the staging of equipment, which would minimize the potential for construction equipment to spark a fire. As a result, construction of the Proposed Project would result in a less than significant impact associated with risk of loss, injury, or death involving wildland fires.

Regarding operations of the Proposed Project, the subtransmission line segments may pose a fire hazard if vegetation or other obstructions would come in contact with energized electrical equipment. However, the proposed facilities would be constructed and maintained in a manner consistent with CPUC General Order 95 and CPUC General Order 165. Consistent with these and other applicable State and federal laws, brush and other vegetation around the area of the equipment would be cleared or trimmed in order to minimize the potential for a fire. Impacts would be less than significant.

References

- CEH&S Environmental Engineering, 2010. *Records Search and Review for the Proposed Mascot Substation Transmission Line Right-of-Way, Hanford, CA.* May 7, 2010.
- Kings County, 2007. *Kings County Area Plan for Hazardous Materials Emergency Response*, last updated July 2007. Obtained online (http://www.countyofkings.com/health/ehs/forms/KC_area_plan_2007.pdf) March 22, 2010.

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3.8 Hydrology and Water Quality

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
8. HYDROLOGY AND WATER QUALITY— Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, in a manner that would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river or, by other means, substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
j) Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

This section discusses the existing environmental and regulatory setting of the Proposed Project, identifies potential impacts related to construction, operation and maintenance of the Proposed Project, and proposes mitigation measures for those impacts determined to be significant. Setting information in this section was compiled from the Proponent's Environmental Assessment (PEA) (SCE, 2009), resource agency websites and databases, and Geographic Information System (GIS) data.

3.8.1 Environmental Setting

Climate and Precipitation

The climate in Kings County can be classified as Mediterranean with an average precipitation range of seven to nine inches per year, occurring primarily between November and April (DWR, 2006). The average annual temperature is 62 degrees Fahrenheit (°F), although it is not unusual for summer readings to reach well over 100 °F. Extreme winter lows fall into the teens on rare occasions. The first freeze usually occurs in December and the last in March. Fog is common during the winter months and can settle in for periods of up to two weeks.

Regional Drainage Patterns

In the Southern San Joaquin Valley, runoff from the Sierra Nevada (and to a lesser extent, the Coast Ranges) is managed and conveyed by a complex network of channelized rivers, ditches and canals that were constructed beginning as early as the 1880's to supply the region with water for agricultural and municipal uses. The Project area is located north-northeast of the Tulare Lake bed, which represents the end point for the major rivers draining the west flank of the southern Sierra Nevada Mountains and the east flank of the southern Coast Ranges. The lake normally remains dry due to surface water diversions and groundwater pumping; however, the lake occasionally reappears following unusually high levels of precipitation (as it did during the El Niño winter of 1997–1998). Generally, direct precipitation, and water delivered to the valley via native surface water and imported water supplies percolates into valley groundwater if not lost through consumptive use, evapotranspiration, or evaporation (CVRWQCB, 2004).

Local Drainage

The local drainage courses consist of artificial conveyance channels (ditches) and irrigation canals including the Lakeside and Settlers ditches, which are fed by the Kaweah and Kings Rivers, respectively. Flows within the Kaweah and Kings Rivers are in large part controlled by upstream dams, located in the foothills of the Sierra Nevada Mountains, which provide flood control in the winter and supplement low flows. Importing irrigation water into this otherwise relatively arid region is necessary in order to produce the various crops grown in the study area. The ditches and irrigation canals in the vicinity of the Proposed Project are built and maintained by the Kings County Water District, Lakeside Irrigation District, and Kaweah-Delta Water Conservation District (US Bureau of Reclamation, 2003).

Because the Project area is located on flat topography with well-drained soils, and has a very low average precipitation range of seven to nine inches per year (DWR, 2006), it is not typically subject to substantial stormwater runoff into surface water features (canals, ditches and ponds). Rainfall in the area is more likely to immediately percolate or temporarily pond on the surface in localized areas. The Lakeside Ditch crosses the southern portion of the proposed transmission line, about a half-mile north of Hanford-Armona Road. The Settlers ditch parallels the proposed transmission line between the Lakeside Ditch and Hanford-Armona Road. The proposed substation site is located on an agricultural field a half-mile west of the nearest irrigation ditch. Surface water does not appear to leave the site, but may accumulate in small drainage swales or pond within slight topographic depressions.

Surface Water Quality

The primary surface water quality problem in the San Joaquin Valley occurs as a result of return flows from irrigated agriculture. Agricultural drainage, depending on management and location, carries varying amounts of salts, nutrients, pesticides, trace elements, sediments, and other by-products to surface and ground waters. The soils within the Project area have naturally high salt concentrations, and by irrigating soils that exist in naturally arid conditions, agricultural practices accelerate the process of leaching into surface and ground water (CVRWQCB, 2004). Further, cycles of evaporation and transpiration of imported and irrigation water supplies result in additional salt inputs in the root-zone of soils that would not exist under naturally-occurring conditions (i.e. direct precipitation). Such conditions can retard or inhibit plant growth and additional amounts of water often are applied to leach the salts below the root zone which eventually enter ground or surface water.

The Central Valley Regional Water Quality Control Board (CVRWQCB) is responsible for the protection of water quality and beneficial uses of waters within Kings County, including the study area. The CVRWQCB has yet to identify any water quality impairments in the vicinity of the study area. However, the CVRWQCB (2006) has identified water quality issues for a portion of the lower Kings River, located 10 miles west of the Project, related to electrical conductivity (an indicator of salinity), molybdenum, and toxaphene. The source of these constituents is identified as agriculture (note the project site does not drain to the Kings River. Regulatory frameworks, standards, and management actions concerning water quality in the study area are discussed in further detail below.

Groundwater Hydrology

Northeastern Kings County is located within the Tulare Lake subbasin of the San Joaquin Valley groundwater basin. Approximately 32 percent of water used annually in Kings County for all purposes is obtained from groundwater (Kings County, 2010). Groundwater is replenished from the natural precipitation, stream and creek flows, imported water, and underground flows which vary annually depending on hydrologic conditions. Groundwater flow in the Project area is generally to the southwest, toward the former Tulare lakebed. Available water well information adjacent to the site indicates that the regional groundwater table has historically fluctuated between 85 and 120 feet below the ground surface (DWR, 2010), although locally perched groundwater closer to the surface is not uncommon. Ground water pumping continues to contribute to overdraft of ground water aquifers and on average, the Tulare Lake subbasin water level has declined nearly 17 feet from 1970 through 2000 (DWR, 2006).

The greatest long-term problem facing the entire Tulare Lake Groundwater Basin is the increase of salinity. Even though an increase in the salinity of ground water in a closed basin is a natural phenomenon, salinity increases in the Basin have been accelerated by man's activity as described above. Within the Tulare Lake subbasin, there are areas of shallow, saline groundwater, localized areas of high arsenic, and odors caused by the presence of hydrogen sulfide reported in the City of Hanford (DWR, 2006).

Flood Hazards

The Project site is not located in any 100-year or 500-year flood zones as designated by FEMA (Kings County, 2010). However, the area is in the inundation zone for the Terminus and the Pine Flat Dams (Kings County, 2010). The Terminus and Pine Flat Dams (located east of the valley floor in the Sierra Nevada Mountains and feeding the Kaweah and Kings Rivers, respectively), plus improvements made to other flood control facilities in the Kings County area, have significantly reduced local natural flood hazards. However, if breached, these dams might cause flooding of significance to local inhabited areas, as well as the project study area. If the Pine Flat Dam failed while at full capacity, its floodwaters would arrive in Kings County within approximately five hours. If Terminus Dam failed while at full capacity, its floodwaters would arrive in Kings County within approximately 12 hours. The chances of any of these dams failing while at full capacity are considered remote.

3.8.2 Regulatory Setting

Federal and State Water Quality Policies

The statutes that govern the activities under the Project that affect water quality are the federal Clean Water Act (CWA) (33 U.S.C. Section 1251) and the Porter-Cologne Water Quality Control Act (Porter-Cologne) (Water Code Section 13000 et seq.). These acts provide the basis for water quality regulation in the study area.

The California Legislature has assigned the primary responsibility to administer and enforce statutes for the protection and enhancement of water quality to the State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs). The SWRCB provides State-level coordination of the water quality control program by establishing Statewide policies and plans for the implementation of State and federal regulations. The nine RWQCBs throughout California adopt and implement water quality control plans that recognize the unique characteristics of each region with regard to natural water quality, actual and potential beneficial uses, and water quality problems. The RWQCB adopts and implements a Water Quality Control Plan (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan (California Water Code Section 13240-13247).

Beneficial Use and Water Quality Objectives (CWA Section 303)

The CVRWQCB is responsible for the protection of the beneficial uses of waters within Kings County and the study area. The CVRWQCB uses its planning, permitting, and enforcement authority to meet this responsibility and has adopted the Water Quality Control Plan for the Tulare Lake (Basin Plan) to implement plans, policies, and provisions for water quality management. The CVRWQCB published the most recent version of the Basin Plan in January 2004 (CVRWQCB, 2004).

In accordance with State policy for water quality control, the CVRWQCB employs a range of beneficial use definitions for surface waters, groundwater basins, marshes, and mudflats that

serve as the basis for establishing water quality objectives and discharge conditions and prohibitions. The Basin Plan has identified beneficial uses supported by the key surface water drainages throughout its jurisdiction (CVRWQCB, 2004). **Table 3.8-1** identifies beneficial uses designated in the Basin Plan for the surface water and groundwater bodies relevant to the study area. **Table 3.8-2** defines the applicable beneficial use categories.

**TABLE 3.8-1
BENEFICIAL USES OF WATERS WITHIN THE STUDY AREA**

	MUN ^a	AGR	IND	PRO	GWR	FRSH	NAV	POW	REC 1	REC 2	COMM	WARM	COLD	WILD	RARE	MIGR	SPWN	AQUA
Surface Water																		
None																		
Groundwater																		
Tulare Lake Sub-Basin	X	X	X	X														

a. Refer to Table 4.8-2, below, for definition of abbreviations
SOURCE: CVRWQCB, 2004.

**TABLE 3.8-2
DEFINITIONS OF BENEFICIAL USES OF SURFACE WATERS**

Beneficial Use	Description
Municipal and Domestic Supply (MUN)	Uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply.
Agricultural Supply (AGR)	Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.
Industrial Service Supply (IND)	Uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well repressurization.
Industrial Process Supply (PRO)	Uses of water for industrial activities that depend primarily on water quality.
Groundwater Recharge (GWR)	Uses of water for natural or artificial recharge or groundwater for purposes of future extraction, maintenance of water quality, or halting of saltwater intrusion into freshwater aquifers.
Water Contact Recreation (REC 1)	Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white-water activities, fishing, or use of natural hot springs.
Non-Contact Water Recreation (REC 2)	Uses of water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.
Warm Freshwater Habitat (WARM)	Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
Wildlife Habitat (WILD)	Uses of water that support terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.

SOURCE: CVRWQCB, 2004.

The Basin Plan also includes water quality objectives that are protective of the identified beneficial uses; the beneficial uses and water quality objectives collectively make-up the water quality standards for a given region and Basin Plan (CVRWQCB, 2004). Within the study area, agricultural supply is an important and prevalent beneficial use of surface water and groundwater. The CVRWQCB is charged with protecting the quality of surface water and groundwater that may be diverted or extracted (or otherwise captured) and used for agricultural supply. However, the CVRWQCB does not exercise authority over the maintenance or condition of water delivery infrastructure (e.g., pipelines, canals, ditches, etc.). Therefore, any issues concerning the potential damage to water delivery infrastructure as a result of the Proposed Project or alternatives would be resolved between SCE and the appropriate landowner or entity during acquisition of Project right-of-way (ROW).

The objective of the federal CWA is “to restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” Under CWA section 303(d), the State of California is required to develop a list of impaired water bodies that do not meet water quality standards and objectives. For those water bodies failing to meet standards, states are required to establish total maximum daily loads (TMDL). A TMDL defines how much of a specific pollutant a given water body can tolerate and still meet relevant water quality standards.

Water Quality Certification (CWA Section 401)

Section 404 of the CWA requires a permit from the United States Army Corps of Engineers (Corps) prior to discharging dredged or fill material into waters of the United States, unless such a discharge is exempt from CWA Section 404. The term “waters of the United States” as defined in the Code of Federal Regulations (40 CFR 230.3[s]) includes all navigable waters and their tributaries. In addition, CWA Section 401 requires that an applicant for any federal permit (e.g., a CWA Section 404 permit) obtain certification from the state that the discharge will comply with other provisions of the CWA and with state water quality standards. For the study area, the CVRWQCB or SWRCB (in the case of activities associated with water diversions) must provide the water quality certification required under CWA Section 401. SCE would contact the relevant federal agency(s) in order to determine whether the federal agency(s) would take jurisdiction on a specific project and require a permit; if a federal permit is required then SCE also would be required to obtain water quality certification from the CVRWQCB.

NPDES Program (CWA Section 402)

The CWA was amended in 1972 to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. The 1987 amendments to the CWA added section 402(p), which establishes a framework for regulating municipal and industrial storm water discharges under the NPDES Program. In November 1990, the U.S. Environmental Protection Agency (USEPA) published final regulations that establish storm water permit application requirements for discharges of storm water to waters of the United States from construction projects that encompass five or more acres of soil disturbance. Regulations (Phase II Rule) that became final on December 8, 1999, expanded the existing NPDES Program to address storm water discharges from construction sites that disturb land equal to or greater than one acre and less than five acres (small construction activity).

Construction Stormwater NPDES Permit

The CWA prohibits discharges of stormwater from construction projects unless the discharge is in compliance with an NPDES permit. The SWRCB, the permitting authority in California, adopted a Statewide General Permit for Stormwater Discharges Associated with Construction Activity (Order No. 99-08) that encompasses construction sites that include one or more acres of soil disturbance. Construction activity includes clearing, grading, grubbing, excavation, stockpiling, and reconstruction of existing facilities involving removal or replacement. On September 2, 2009, the SWRCB adopted the NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit, Order No. 2009-0009). Order No. 2009-0009 became effective July 1, 2010, superseding Order No. 99-08; it applies to construction sites that include one or more acre of soil disturbance.

The Construction General Permit requires that the landowner and/or contractor file permit registration documents prior to commencing construction and pay an annual fee. These documents include a notice of intent, risk assessment, site map, stormwater pollution prevention plan (SWPPP), and signed certification statement. The permit specifies a risk-based permitting approach that includes requirements specific to three overall levels of risk, determined based on the potential for the project to cause sedimentation as well as the sensitivity of the receiving water to sedimentation. The three risk levels are used to determine specific numeric action levels and effluent limitations for pH and turbidity, as well as requirements for a rain event action plan, BMP implementation, monitoring, and reporting. Based on Project characteristics and setting, the site is likely to be characterized with the lowest level of risk.

The SWPPP must include measures to ensure that all pollutants and their sources are controlled; non-stormwater discharges are identified and either eliminated, controlled, or treated; site BMPs are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges; and BMPs installed to reduce or eliminate pollutants after construction are completed and maintained. The SWPPP must demonstrate that calculations and design details as well as BMP controls for site run-off are complete and correct. Non-stormwater discharges include those from improper dumping, accidental spills, and leakage from storage tanks or transfer areas. The General Construction Permit specifies minimum BMP requirements for stormwater control based on the risk level of the site. Post-construction stormwater performance standards must be included for sites not covered by a municipal stormwater permit. The standards address water quality, runoff reduction, drainage density, and channel protection requirements for the receiving water.

The permit requires effluent and receiving water monitoring to demonstrate compliance with permit requirements, and corrective action must be taken if these limitations are exceeded. The results of the monitoring and corrective actions must be reported annually to the SWRCB. The Construction General Permit specifies minimum qualifications for a qualified SWPPP developer and qualified SWPPP practitioner.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act (California Water Code Section 13000 *et seq.*) is the primary water quality control law for California. As mentioned above, it is implemented by the SWRCB and nine RWQCBs. The SWRCB establishes Statewide policy for water quality control and provides oversight of the RWQCBs' operations. The RWQCBs have jurisdiction over specific geographic areas that are defined by watersheds. Tulare County is under the jurisdiction of the CVRWQCB. In addition to other regulatory responsibilities, the RWQCBs have the authority to conduct, order, and oversee investigation and cleanup where discharges or threatened discharges of waste to waters of the State¹ could cause pollution or nuisance, including impacts to public health and the environment.

Dredge/Fill Activities and Waste Discharge Requirements

Actions that involve or are expected to involve dredge or fill, and discharge of waste, are subject to water quality certification under CWA section 401 and/or waste discharge requirements under the Porter-Cologne Act. The SWRCB's Division of Water Rights processes section 401 water quality certifications on projects that involve water diversions (California Code of Regulations, title 23, Section 3855). Chapter 4, Article 4 of the Porter-Cologne Act (California Water Code Sections 13260-13274), states that persons discharging or proposing to discharge waste that could affect the quality of waters of the state (other than into a community sewer system) shall file a Report of Waste Discharge with the applicable RWQCB. For discharges directly to surface water (waters of the United States) an NPDES permit is required, which is issued under both State and federal law; for other types of discharges, such as waste discharges to land (e.g., spoils disposal and storage), erosion from soil disturbance, or discharges to waters of the state (such as isolated wetlands), Waste Discharge Requirements (WDRs) are required and are issued exclusively under State law. SCE would contact the CVRWQCB and file a Report of Waste Discharge; the CVRWQCB then would determine whether an issuance or a waiver of WDRs is required.

Statewide General Waste Discharge Requirements for Discharges to Land with a Low Threat to Water Quality

In Water Quality Order WQO 2003-0003, the SWRCB adopted General Waste Discharge Requirements (General WDRs) for discharges to land that are considered to be a low threat to water quality and are low volume with minimal pollutant concentrations. The General WDRs establish minimum standards and monitoring requirements specific to specified categories of discharge, including: 1) wells/boring waste (well development discharge, monitoring well purge water discharge, boring waste discharge), 2) clear water discharges (water main/water storage tank/water hydrant flushing, pipelines/tank hydrostatic testing discharge, commercial and public swimming pools), 3) small dewatering projects (small /temporary dewatering projects, such as excavations during construction), and 4) miscellaneous (small inert solid waste disposal operations, cooling discharge).

¹ "Waters of the state" are defined in the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." (Water Code Section 13050 (e)).

If the Proposed Project would require any of the above covered discharges (aside from construction dewatering, which is covered under a separate waiver and discussed below), SCE or its contractor would be required to file with the CVRWQCB: (a) a Notice of Intent (NOI) to comply with the terms and conditions of the General WDRs or a Report of Waste Discharge (ROWD) pursuant to California Water Code Section 13260, (b) a fee, (c) a Project map, (d) evidence of CEQA compliance, and (e) a monitoring plan. Regional Board staff would determine whether or not coverage under the General WDRs is appropriate and, if so, would notify SCE by letter of coverage. In the event of any conflict between the provisions of the General WDRs and the Basin Plan, the more stringent provision would prevail.

Waiver for Dewatering and Discharge to Land (CVRWQCB Resolution R5-2003-0008)

The CVRWQCB has adopted a waiver of WDRs (Resolution R5-2003-0008) for specific types of low-threat discharges to the land surface with the Central Valley region. Construction dewatering is among the activities covered by this waiver. Waivers serve much the same purpose as general permits (i.e., they are intended to describe a range of protective measures that could be applied to a broad category of activities). SCE would apply for and obtain this waiver from the CVRWQCB for dewatering, if dewatering is required.

Local

County Well Ordinance

Improper well construction, maintenance, abandonment, or destruction can lead to contamination of ground water. California Water Code, Section 13801, requires all counties to adopt water well standards in accordance with Department of Water Resources Bulletin No. 74-81: “Water Well Standards: State of California,” and Bulletin No. 74-90: “California Well Standards”. The Kings County well ordinance (Ordinance No. 587, Chapter 14A of the County Code) requires any well removal to conform to the California well standards, or more strict provisions. Kings County requires a permit for the removal or destruction of any water well, and requires proper practice and procedures for well sealing so as to avoid cross contamination of groundwater aquifers.

Kings County General Plan

The following general plan policies may be relevant to the Proposed Project.

Resource Conservation Element (RC)

Objective A1.1: Maintain and Protect Existing Water Supplies.

RC Policy A1.1.2: Review new discretionary development proposals, including new or expanded uses within agricultural zone districts, to ensure that there are adequate water supplies to accommodate such uses. Projects should provide evidence of adequate and sustainable water availability prior to approval of a tentative map or other land use approval.

Objective A1.2: Conserve and reuse water to provide for the efficient use of water resources.

RC Policy A1.2.2: Require the use of low water consuming, drought-tolerant and native landscaping and other water conserving techniques, such as mulching, drip irrigation and moisture sensors, for new development.

RC Policy A1.2.6: Future development shall incorporate Low Impact Development(LID) principles to minimize long-term stormwater runoff. Such principles shall include:

- Permeable paving, such as pavers, porous concrete, or pathway comprised of decomposed granite that is effective in stormwater infiltration to help prevent excess runoff.
- Use of “urban bio-swales” to redirect stormwater into planter strips, rather than capturing runoff in pipes and diverting it to a remote location.
- Use of water efficient irrigation (e.g., drip irrigation system) to water trees, shrub beds, and areas of groundcover to eliminate evaporation losses and minimize runoff.
- Use of Predominately (75 percent) native plants and drought-tolerant landscaping wherever possible.

Objective A1.4: Protect the quality of surface water and groundwater resources in accordance with applicable federal, state and regional requirements and regulations.

RC Policy A1.4.1: Evaluate proposed land uses and development projects for their potential to create surface and groundwater contamination from point and non-point sources. Confer with other appropriate agencies, as necessary, to assure adequate water quality review to prevent soil erosion; direct discharge of potentially harmful substances; ground leaching from storage of raw materials, petroleum products or waste; floating debris; and runoff from the site.

RC Policy A1.4.2: Monitor and enforce provisions to control water pollution contained in the U.S. EPA National Pollutant Discharge Elimination System (NPDES) program as implemented by the California Water Quality Control Board, Central Valley Region.

RC Policy A1.4.3: Require the use of feasible and cost-effective Best Management Practices (BMPs) and other measures designed to protect surface water and groundwater from the adverse effects of construction activities and urban and agricultural runoff in coordination with the California Water Quality Control Board, Central Valley Region.

RC Policy A1.4.4: Encourage and support the identification of degraded surface water and groundwater resources and promote restoration where appropriate.

Objective A1.6: Protect groundwater quality by applying development standards which seek to prevent pollution of surface or groundwater and net loss of natural water features.

RC Policy A1.6.3: Protect groundwater by enforcing the requirements for installation of wells in conformity with the California Water Code, the Kings County Well Ordinance, and other pertinent state and local requirements.

Health and Safety Element (HS)

Objective A4.1: Direct new growth away from designated flood hazard risk areas, and regulate new development to reduce the risk of flood damage to an acceptable level.

3.8.3 Applicant Proposed Measures

The following are measures, proposed by the applicant as part of the Project, are aimed at addressing storm water management and water quality concerns:

APM HYD-1: Storm Water Pollution Prevention Plan. SCE would prepare a Storm Water Pollution Prevention Plan (SWPPP) that includes project information; monitoring and reporting procedures; and Best Management Practices (BMPs) such as storm water runoff quality control measures (boundary protection), spill reporting, and concrete waste management, as applicable to the project. The SWPPP would be based on final engineering design and would include all Project components.

APM HYD-2: Spill Prevention Control and Countermeasure Plan. The substation grading design would incorporate Spill Prevention Control and Countermeasure (SPCC) Plan requirements due to the planned operation of oil-filled transformers at the substation (in accordance with 40 CFR Part 112.1 through Part 112.7). Typical SPCC features include curbs and berms designed and installed to contain spills, should they occur. These features would be part of SCE's final engineering design for the Proposed Project.

3.8.4 Environmental Impacts and Mitigation Measures

a) Violate any water quality standards or waste discharge requirements: *LESS THAN SIGNIFICANT IMPACT.*

Construction

Site clearing, grading, and excavation activities occurring during Project construction could loosen soil, expose soil and increase its susceptibility to erosion from high winds and storm water. If intense rainfall occurred during construction phases, storm water runoff could convey eroded soil material and other contaminants present as part of construction activities (i.e. gasoline, engine oil, drilling lubricants, and concrete) to nearby ponds and drainage ditches. Degradation of ambient water quality from sediments and other foreign contaminants could violate water quality standards for turbidity, suspended sediment and/or chemical constituents, as set forth by the Water Quality Control Plan for the Tulare Lake Basin (CVRWQCB, 2004).

In accordance with the NPDES General Permit for Storm Water Discharges Associated with Construction Activity, the Central Valley Regional Water Quality Control Board requires the preparation of a Storm Water Pollution Prevention Plan (SWPPP) prior to construction (**APM HYD-1**). The SWPPP would include a list of Best Management Practices (BMPs) designed to reduce water quality impacts from excessive stormwater flow, erosion, and sedimentation. Examples of BMPs include scheduling practices that avoid earthwork during periods of heavy rainfall, protecting and stabilizing soils prior to anticipated rainfall events, and re-vegetating or stabilizing construction areas. Sedimentation and erosion control BMPs include containment of the site within silt fences and coir rolls, installation of slope breaks (e.g. straw wattles) near drainages and road crossings, and preserving the existing vegetation to the maximum extent feasible. In addition, hazardous materials BMPs include placing sanitary facilities and waste disposal locations away from sensitive areas, placing drip pans under parked vehicles, maintaining clean and sanitary work areas, and properly disposing of hazardous substances and construction/demolition wastes. Compliance with the NPDES General Permit would reduce the potential for erosion, sedimentation, and eventual surface water degradation by runoff during construction and therefore, the impacts from construction would be less than significant.

Operation and Maintenance

Based on the site setting and Project configuration, operation of the Proposed Project would not violate water quality standards or waste discharge requirements. As an active substation, the Proposed Project would not discharge contaminated or poor quality waste water, which could degrade a downstream water source. Stormwater would collect on the site and because of the slight changes in grade and few impermeable surfaces, and storm water runoff is more likely to pond and percolate into the soil rather than flow off the site and discharge into continuous watercourses. Onsite ponding, percolation and drainage would be facilitated by the proposed rock surfacing (1 to 1.5 inch diameter) and earthen detention basin. As part of its standard site development review, the Kings County Department of Public Works must review and approve proposed site grading plans and drainage features (Kinney, 2010). Substation grading design would also incorporate Spill Prevention Control and Countermeasure (SPCC) Plan (**APM HYD-2**) requirements due to the proposed operation of oil-filled transformers at the substation (see IS/MND Section 3.7 (Hazards and Hazardous Materials) for details). Typical SPCC features include curbs and berms designed and installed to contain spills, should they occur. Considering the site topography, proposed site grading, and required regulatory review and approvals, impacts associated with violation of water quality standards or waste discharge requirements during site operation would be less than significant.

b) Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted):
LESS THAN SIGNIFICANT IMPACT.

The Proposed Project would not deplete groundwater supplies or interfere substantially with groundwater recharge.

Available water well information adjacent to the site indicates that the groundwater table historically has fluctuated between 85 and 120 feet below the ground surface (DWR, 2010). As such, construction-related excavations would not intercept or require dewatering of the region's groundwater aquifer. While areas of shallow perched groundwater may be encountered, most if not all groundwater wells in the region tap much deeper aquifers (DWR, 2006).

Construction activities would require water as a dust suppressant, but it would be provided by water trucks. The Proposed Project would not be served by a municipal water supply, but operation and maintenance activities would use minimal amounts of water. Because the restroom would be a portable unit serviced by an outside company and there would be no landscaping requiring irrigation, a permanent water source such as a groundwater well or storage tank at the site would not be necessary.

Finally, the Project would result in minimal increases in impervious surfaces and the proposed gravel base cover and earthen detention basin would facilitate surface water infiltration into the soil. For these reasons, the project would result in a less than significant impact on groundwater recharge.

c) Would the project substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, in a manner that would result in substantial erosion or siltation on- or off-site: *LESS THAN SIGNIFICANT IMPACT.*

Construction and operation of the substation site would result in very little change to the existing drainage pattern of the area. There will be small changes in grade associated with site preparation for building pads, access roads and power pole footings, and the substation site as whole will be raised slightly above grade of Grangeville Boulevard. However, the site will generally remain flat, and these changes would be restricted to the site itself and would not alter the drainage courses in the area, the nearest of which is a half-mile to the east. Although onsite drainage may change slightly due to an additional 18,500 square feet of impervious surfaces (such as concrete foundation pads, access roads, or building rooftops) and finished grading, the site would not generate an additional volume of concentrated runoff that could cause erosion or siltation to occur on or off the site. The majority of the site (85,000 square feet) would be surfaced with crushed rock, which allows water to freely percolate into the subsurface, preventing uncontrolled or accelerated runoff. Further, site grading plans and drainage features will be reviewed and approved by the Kings County Department of Public Works, and will include drainage features such as an earthen detention basin. The proposed transmission line either would span or avoid encroachment on agricultural ditches in the southern portion of the alignment. During construction, effects on storm water flows and drainage facilities would be minimized with BMPs required under the NPDES general construction permit, as discussed under criterion (a).

The area is flat-lying, has well drained soils, stormwater tends to percolate or temporarily pond, and the project would avoid agricultural ditches located in the area. Considering the requirements of the NPDES permit, applicant proposed measure APM HYD-1, and required review and approval of the drainage plan, impacts to flow and water quality in the drainage ditches, which are attributable to project construction and operation, would be less than significant.

d) Would the project substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river or, by other means, substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site: *LESS THAN SIGNIFICANT IMPACT.*

As discussed above, the proposed substation would not encroach on or require the alteration of existing water courses, which in this case consist of seasonal agricultural drainage ditches. For the same reasons explained under criterion c), construction and operation of the Project would not affect the drainage courses in a manner that would result in flooding.

e) Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff: *LESS THAN SIGNIFICANT IMPACT.*

As discussed above, the Proposed Project would not create or contribute stormwater runoff that would exceed the existing drainage capacity; since changes to existing permeability and drainage patterns would be minimal. The Project thus would have a less than significant impact on runoff rates or volumes.

Limited quantities of miscellaneous hazardous substances, such as gasoline, diesel fuel, hydraulic fluid, solvents, oils, etc., would be used to fuel and maintain vehicles and motorized equipment. An accidental spill of any of these substances could impact water and/or groundwater quality. In addition, temporary bulk above-ground storage tanks and 55-gallon drums may be used for fueling and maintenance purposes. As with any liquid, during handling and transfer from one container to another, the potential for an accidental release would exist. During normal operations, the proposed substation would include transformer banks that would contain mineral oil that could leak or spill if the transformers were damaged by an unforeseen incident. Thus, the Project does increase the potential for additional sources of polluted runoff; but this effect would be minimized through implementation of the SWPPP during construction (APM HYD-1) and the SPCC (APM HYD-2) during the Project's operational lifetime, as described above. These measures would reduce the potential impact to a less than significant level.

f) Would the project otherwise substantially degrade water quality: *NO IMPACT.*

Potential water quality concerns for the Proposed Project involve erosion and siltation and release of contaminants to the surface water during construction operations. These impacts have been discussed under criteria a, c and d. No water quality impacts of the Proposed Project other than those that have already been discussed are reasonably foreseeable.

g) Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map: *NO IMPACT.*

The Proposed Project does not involve the construction of housing, and thus this significance criterion is not applicable.

h) Would the project place within a 100-year flood hazard area structures that would impede or redirect flood flows: *NO IMPACT.*

The Project is not within a 100-year or 500-year flood plain as mapped by FEMA, (Edison, 2009). The Project would not be subject to and would have no effect on 100-year floods. Thus, there would be no impact.

i) Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam: *LESS THAN SIGNIFICANT IMPACT.*

The Proposed Project would be located within the dam inundation area for the Pine Flat Dam and the Terminus Dam (Kings County, 2010). The dam inundation map is based on the unlikely scenario of a total, catastrophic earthen dam collapse, occurring in a very short time frame (seconds). The scenario is virtually improbable but provides a worst case for planning purposes. The Pine Flat Dam and Terminus Dam are under jurisdiction of the California Department of Water Resources, Division of Safety of Dams DOSD and are regularly inspected. DSOD inspectors review all aspects of dam safety and may require dam owners to perform work, maintenance or implement controls if issues are found that could compromise the structural integrity of the dam structure. DSOD engineering requirements and annual inspections greatly reduce the potential for dam failure in California.

In the exceptional and remote event of a dam failure, the flood waters for the Pine Flat and Terminus dams would take 12 and five hours, respectively, to reach the Project site (Kings County, 1993). This would give a sufficient warning period to ready the site for inundation. Site operators could protect the most critical components of the substation from flooding, and any damage as a result of the flood would be inspected and repaired. Power poles, substation structures, or perimeter walls would not significantly impede floodwaters because the site would be distant enough from the source dam that flooding would be shallow and flowing with low velocities. The Project would have a less than significant impact relating to the exposure of people or structures to a significant risk in the event of a dam failure.

j) Would the project expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow: *NO IMPACT.*

No large water bodies are located close to the Proposed Project and seiche or tsunami would not affect the area. In addition, the Proposed Project would be located on relatively flat ground and, therefore slope stability concerns, such as the potential for mudflow, are not considered a potential hazard. There would be no impact.

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U.S. Bureau of Reclamation, *Private Water Districts for California, 1:24,000-scale*, Edition 1.4, GIS Data prepared in coordination with the California Department of Water Resources, October 2003.

3.9 Land Use and Planning

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
9. LAND USE AND PLANNING— Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.9.1 Environmental Setting

The Proposed Project would be located within unincorporated Kings County, just east of the City of Hanford. The proposed Mascot substation and subtransmission line would be located outside the City of Hanford Primary Sphere of Influence (SOI), but within the Secondary SOI. The City's General Plan would not be applicable unless and until the properties on which the Proposed Project would be located are annexed to the City.

3.9.2 Regulatory Setting

Existing Land Uses

The Project area consists primarily of flat, agricultural fields with scattered rural residences, commercial and agricultural buildings, and existing infrastructure such as roadways and State Route (SR) 198. The site of the proposed Mascot Substation currently is planted with alfalfa. It is bordered to the north by Grangeville Boulevard, a two-lane rural roadway. Croplands border the site to the south and west, and orchards lie across Grangeville Boulevard to the north. The 2.0 miles of ROW for the proposed subtransmission line is characterized primarily by flat, open croplands. A small residential neighborhood is located east of the proposed ROW approximately 0.5 mile south of the proposed Mascot Substation, just north of SR 198.

The Project area does not fall within the geographic boundaries of any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

State

California Public Utilities Commission General Order No. 131-D

The California Public Utilities Commission (CPUC) has sole and exclusive jurisdiction over the siting and design of the Proposed Project because it authorizes the construction, operation, and maintenance of investor-owned public utility facilities. Although such projects are exempt from local land use and zoning regulations and discretionary permitting (i.e., they would not require discretionary approval from a local decision-making body such as a planning commission, county board of supervisors or city council), General Order No. 131-D, Section XIV.B requires that in locating a project “the public utility shall consult with local agencies regarding land use matters.” The public utility would be required to obtain any required non-discretionary local permit.

Local

Kings County General Plan

The proposed Mascot Substation would be located on land designated by the Kings County General Plan as *Limited Agriculture-10 acre*. The proposed subtransmission alignment would cross land designated as *Limited Agriculture*, *Light Industrial*, and *General Agriculture-20 acre*. The *Limited Agriculture* designation is intended primarily for application around cities and community districts to serve as a transitional buffer between intensive agricultural uses allowed under the *General Agriculture* designation and urban land uses. The *Limited Agriculture* designation allows less intensive agricultural practices and operations that are considered more compatible with urban land uses. The *Light Industrial* designation is intended for less intensive industrial and manufacturing operations that may be located in proximity to residential and commercial areas.

Kings County Zoning Ordinance

The Proposed Project would be located on parcels zoned as *AL-10 (Limited Agriculture)*, *AG-20 (General Agriculture)*, and *IL (Light Industrial)*. The intent of the agricultural districts is to “preserve land best suited for agriculture from the encroachment of incompatible uses in order that commercial agricultural operations may continue in a manner customary in the agricultural industry.” Permitted uses include public utility and service structures, including electric transmission and distribution substations (Kings County, 2008a). The *IL* district is intended for limited industrial and manufacturing uses. Public utility facilities also are permitted uses in the *IL* zoning district (Kings County, 2008b).

City of Hanford General Plan

The Proposed Project would be located on lands that are within the City of Hanford’s Secondary Sphere of Influence (SOI). The Kings County Local Agency Formation Commission (LAFCO) is required by State law to adopt a SOI for each city and community district in the County. The Kings County LAFCO is unique in that it also has adopted a Secondary SOI in addition to a Primary SOI. The Primary SOI is the SOI as defined under State law that allows statutory authority for annexations to occur. The Secondary SOI is a unique Kings County LAFCO-defined boundary that is established beyond the Primary SOI and includes additional territory that serves only as an area of planning

interest to the City of Hanford. The City of Hanford General Plan would not be applicable to the Proposed Project unless and until annexation occurs (Kings County, 2010).

San Joaquin Valley Blueprint

Eight San Joaquin Valley counties, including Kings County, are part of a regional planning program called the San Joaquin Valley Blueprint. As part of this regional planning effort, each county developed local blueprints to be integrated into the larger eight-county San Joaquin Valley Blueprint in order to address future growth through 2050. That portion of the proposed subtransmission line designated as *Light Industrial* by the Kings County General Plan would be located within the “Blueprint Urban Growth Boundary” for the City of Hanford.

3.9.3 Applicant Proposed Measures

No applicant proposed measures have been identified to reduce land use and planning impacts associated with the Proposed Project.

3.9.4 Environmental Impacts and Mitigation Measures

a) Physically divide an established community: *NO IMPACT.*

The proposed Mascot Substation would be constructed on to-be-acquired, private property currently used for growing alfalfa in unincorporated Kings County, east of the City of Hanford. The proposed substation site is not located on an existing or planned roadway or pathway. Therefore, the proposed Mascot Substation would not restrict access or constitute a physical barrier to adjacent communities including the City of Hanford, and would have no impact on the physical division of an established community.

The proposed modifications to the Goshen and Liberty Substations would occur on previously disturbed, un-vegetated areas within the existing fence line of the substations, or for short distances (30 to 200 feet) along existing roads between the substation and existing poles. Because the proposed substation modifications would not restrict access to or within existing communities, the proposed modifications to the Goshen and Liberty Substations would not result in the physical division of an established community.

The Proposed Project subtransmission alignment would be located within new ROW, adjacent to existing PG&E ROW currently being used for double circuit 115 kV transmission. Because the proposed subtransmission alignment would be located adjacent to an existing ROW in a largely undeveloped area and would not restrict access or constitute a physical barrier to an established or contemplated community it would not physically divide an established community. Therefore, the Proposed Project would have no impact on an established community.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect: *NO IMPACT.*

The CPUC has sole and exclusive jurisdiction over the siting and design of the Proposed Project. General Order 131-D states that local jurisdictions acting pursuant to local authority are preempted from regulating electric power line projects, distribution lines, substations, or electric facilities constructed by public utilities subject to the CPUC's jurisdiction. However, in locating such projects, the public utilities shall consult with local agencies regarding land use matters. In instances where the public utilities and local agencies are unable to resolve their differences, the CPUC shall set a hearing no later than 30 days after the utility or local agency has notified the Commission of the inability to reach agreement on land use matters. The CPUC met with representatives from Kings County and the City of Hanford in December of 2009, at which time no land-use related differences of opinion were expressed. The Proposed Project would not conflict with any applicable agency land use plan, policy, or regulation. Accordingly, there would be no impact.

Although the Proposed Project is exempt from local land use and zoning regulations and discretionary permitting, a local land use consistency analysis is provided below for informational purposes only.

Kings County General Plan

The proposed Mascot Substation would be located on land designated by the Kings County General Plan as *Limited Agriculture-10 acre*. The proposed subtransmission alignment would cross land designated as *Limited Agriculture*, *Light Industrial*, and *General Agriculture-20 acre*.

The Kings County General Plan does not discuss the allowance or disallowance of subtransmission line facilities within these land use designations; however, the Project applicant would obtain input from Kings County regarding land-use matters related to the siting of the Proposed Project prior to project construction. In addition, 0.6 miles of the subtransmission line would cross through or be located adjacent to parcels under a Williamson Act contract. Government Code Section 51238 states that electrical facilities are a compatible Williamson Act use. Therefore, the Proposed Project would not conflict with the Kings County General Plan.

Kings County Zoning Ordinance

The Proposed Project would be located on parcels zoned as *Limited Agricultural-10 (AL-10)*, *General Agricultural-20 (AG-20)*, and *Light Industrial (IL)*. In *AL-10* and *AG-20* zoning districts, public utility structures are permitted uses; in an *IL* zone, such structures are permitted uses with site plan review (Kings County, 2008a and b).

c) Conflict with any applicable habitat conservation plan or natural community conservation plan: *NO IMPACT.*

The Project area does not fall within the geographic boundaries of any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. Therefore, the Proposed Project would have no impact on any such plan.

References

Kings County, 2008a. Kings County Zoning Ordinance, Article 4. A Agricultural Districts. Last amended by Ordinance Number 296.65, effective November 27, 2008.

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3.10 Mineral Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
10. MINERAL RESOURCES—Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.10.1 Environmental Setting

Information about mineral resources has been collected from the Kings County General Plan, SMARA mineral land classifications, and the California Department of Conservation, Division of Oil, Gas and Geothermal Resources.

Mineral/Rock Resources

Few commercial mining and mineral extraction activities occur in Kings County. Currently, only limited amounts of soil, sand and some gravel is excavated for commercial use. In 2009, the County had only one surface mining permit for a non-active gravel operation, and two agricultural reclamation sites that were fully reclaimed (Kings County, 2010). Historical local mines that are now closed include an open pit gypsum mine and a mercury mine in southwestern Kings County. Open pit mining is regulated by the State Surface Mining and Reclamation Act (SMARA) and the County’s SMARA Ordinance (Chapter 17 of the Kings County Code), as described below in the regulatory setting.

To date, the California Geological Survey (CGS) has not produced mineral land classification maps or reports for Kings County—an indication that few significant mineral deposits exist (CDMG, 2001). In addition, there are no specific mineral resource protection zones identified in the County’s General Plan (Kings County, 2010).

Geothermal Resources

The Project area is located in the center of the San Joaquin Valley and is not the site of geothermal resources (California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, 2001). Geothermal fields are more typical of mountainous areas with present or former volcanic activity.

Oil and Gas

The San Joaquin Valley has long since eclipsed the Los Angeles Basin as the State’s primary oil production region. Small oil wells are found throughout the region, and several enormous extraction

facilities – most notably near Lost Hills and Taft, including the Midway Sunset Oil Field, the third-largest oil field in the United States – have been developed into veritable forests of pumps and derricks. However, oil and gas production in Kings County has diminished over the past 40 years and the trend continues. Although the County’s future energy production is likely to emphasize alternative energy sources that avoid or minimize production of greenhouse gases, new oil and gas sources may be allowed in the future where environmental quality will not be degraded and where well sites can be restored to a pre-drilling condition at completion of their useful life (Kings County, 2010).

The Project site itself is not located on an oil or gas field and there are no operating wells on or immediately adjacent to the Project site (California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, 2001). The closest active oil field is located about 20 miles northwest of the Project area (Riverdale Field). There are a few wells in the vicinity of the Project area, but they are plugged and abandoned dry holes that likely represent unsuccessful prospecting; in addition, there is an abandoned oil field about three miles east of the site (California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, 2010).

3.10.2 Regulatory Setting

State Regulations

Surface Mining and Reclamation Act

The State regulates open pit mining pursuant to the Surface Mining and Reclamation Act (SMARA) (California Public Resources Code (PRC) Section 2710, et seq.). SMARA was enacted in 1975 to limit new development in areas with significant mineral deposits. It calls for the State geologist to classify the lands within California based on mineral resource availability. SMARA states that the extraction of minerals is essential to the continued economic well-being of the State and to the needs of society, and that reclamation of mined lands is necessary to prevent or minimize adverse effects on the environment and to protect the public health and safety. The reclamation of mined lands will permit the continued mining of minerals and will provide for the protection and subsequent beneficial use of the mined and reclaimed land. Surface mining takes place in diverse areas where the geologic, topographic, climatic, biological, and social conditions are significantly different, and reclamation operations and the specifications therefore may vary accordingly (Pub. Res. Code Section 2711). Depending on the region, natural resources can include geologic deposits of valuable minerals used in manufacturing processes and the production of construction materials.

California Health and Safety Code

The California Health and Safety Code requires abandoned shafts, pits and excavations to be covered, filled or fenced (California Health and Safety Code Sections 24400-03).

Local Regulations

Local governments regulate mineral resources and mining within their jurisdictions pursuant to their General Plan and local zoning ordinances. The Resource Conservation Element of the Kings

County General Plan includes a goal and policies supporting the extraction of mineral resources in a manner that will not degrade the environment, will not conflict with other land uses, and will be conducted in accordance with the County's SMARA Ordinance, which is set forth in Chapter 17 of the Kings County Code of Ordinance (Kings County, 2010). Kings County has not identified any mineral resource protection zones in its General Plan, and no applicable specific plan or other land use plan identifies a locally important mineral resource recovery site in the Project area.

3.10.3 Applicant Proposed Measures

No applicant proposed measures have been identified to reduce impacts to mineral resources associated with the Proposed Project.

3.10.4 Environmental Impacts and Mitigation Measures

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state: *NO IMPACT.*

There are no known mineral resources of value in the Project area. Only one minor, non-active sand and gravel extraction site is currently under a SMARA permit in Kings County (Kings County, 2010). Previously, the only local mineral mining operations were an open pit gypsum mine and a mercury mine, but both have ceased operation. Oil and gas production in Kings County has diminished over the past 25 years, and the site is not over an oil, gas or geothermal field. Construction and operation of the Proposed Project would not result in the loss of availability of any such resource due to the limited footprint of project structures and poles and the subsurface nature of oil and gas resources. There would be no impact on valuable known mineral resources.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan: *NO IMPACT.*

Kings County has not identified any mineral resource protection zones in its General Plan, and no applicable specific plan or other land use plan identifies a locally important mineral resource recovery site in the Project area. For example, the California Geological Survey (CGS) has not produced mineral land classification maps and reports for Kings County to date (CDMG, 2001). Therefore, the Proposed Project would have no impact on the availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

References

California Division of Mines and Geology (CDMG), Publications of the SMARA Mineral Land Classification Project Dealing with Mineral Resources in California, 2001.

California Geological Survey, Aggregate Availability in California, Fifty Year Aggregate Demand Compared with Permitted Aggregate Resources, Map Sheet 52 (updated 2006), 2006.

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3.11 Noise

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
11. NOISE—Would the project:				
a) Result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.11.1 Environmental Setting

Noise Background

Sound is mechanical energy transmitted by pressure waves through a medium such as air. Noise can be defined as unwanted sound. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. Sound pressure level is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing, and 120 to 140 dB corresponding to the threshold of pain.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). When all the audible frequencies of a sound are measured, a sound spectrum is plotted consisting of a range of frequency spanning 20 to 20,000 Hz. The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the sound frequency/sound power level spectrum.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic

filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies instead of the frequency mid-range. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA).

Noise Exposure and Community Noise

An individual's noise exposure is a measure of the noise experienced by the individual over a period of time. A noise level is a measure of noise at a given instant in time. However, noise levels rarely persist consistently over a long period of time. In fact, community noise varies continuously with time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. Background noise levels change throughout a typical day, but do so gradually, corresponding with the addition and subtraction of distant noise sources and atmospheric conditions. The addition of short duration single event noise sources (e.g., aircraft flyovers, motor vehicles, sirens) makes community noise constantly variable throughout a day.

These successive additions of sound to the community noise environment vary the community noise level from instant to instant requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are summarized below:

L_{eq} : The equivalent sound level is used to describe noise over a specified period of time, in terms of a single numerical value. The L_{eq} is the constant sound level which would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).

L_{max} : The instantaneous maximum noise level measured during the measurement period of interest.

L_{dn} : The energy average of the A-weighted sound levels occurring during a 24-hour period, and which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night ("penalizing" nighttime noises). Noise between 10 p.m. and seven a.m. is weighted (penalized) by adding 10 dBA to take into account the greater annoyance of nighttime noises.

Effects of Noise on People

The effects of noise on people can be placed into three categories:

- subjective effects of annoyance, nuisance, dissatisfaction;
- interference with activities such as speech, sleep, learning; and
- physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers at industrial plants often experience noise in the last category. There is no completely satisfactory way to

measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction. A wide variation exists in the individual thresholds of annoyance, and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way the new noise compares to the existing noise levels that one has adapted, which is referred to as the “ambient noise” level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of one dBA cannot be perceived;
- Outside of the laboratory, a three dBA change is considered a just-perceivable difference when the change in noise is perceived but does not cause a human response;
- A change in level of at least five dBA is required before any noticeable change in human response would be expected; and
- A 10-dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

These relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a non-linear fashion; hence the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, rather they combine logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA. The combined dBA sound level is derived by converting the two dBA levels into units of micro Pascals (μPa), combining the μPa levels, and then converting back to dBA.

Noise Attenuation

Sound level naturally decreases as one moves further away from the source. This basic attenuation rate is referred to as the geometric spreading loss. The basic rate of geometric spreading loss depends on whether a given noise source can be characterized as a point source or a line source. Point sources of noise, including stationary mobile sources such as idling vehicles or onsite construction equipment, attenuate (lessen) at a rate of 6.0 dBA per doubling of distance from the source. In many cases, noise attenuation from a point source increases by 1.5 dB from 6.0 dBA to 7.5 dBA for each doubling of distance due to ground absorption and reflective wave canceling (Caltrans, 1998). These factors are collectively referred to as excess ground attenuation. The basic geometric spreading loss rate is used where the ground surface between a noise source and a receiver is reflective, such as parking lots or a smooth body of water. The excess ground attenuation rate (7.5 dBA per doubling of distance) is used where the ground surface is absorptive, such as soft dirt, grass, or scattered bushes and trees.

Widely distributed noises such as a street with moving vehicles (a “line” source) typically would attenuate at a lower rate of approximately 3.0 dBA for each doubling of distance between the source and the receiver. If the ground surface between source and receiver is absorptive rather than reflective, the nominal rate increases by 1.5 dBA to 4.5 dBA for each doubling of distance

(Caltrans, 1998). Atmospheric effects, such as wind and temperature gradients, also can influence noise attenuation rates from both line and point sources of noise. However, unlike ground attenuation, atmospheric effects are constantly changing and difficult to predict.

Vibration

Vibration is an oscillatory motion through a solid medium in which the motion’s amplitude can be described in terms of displacement, velocity, or acceleration. There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is most frequently used to describe the affect of vibration on the human body. The RMS amplitude is the average of the squared amplitude of the signal. Decibel notation (VdB) is commonly used to measure RMS. The decibel notation acts to compress the range of numbers required to describe vibration (FTA, 2006). Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration.

Existing Ambient Noise Environment

The Proposed Project would be located in unincorporated northeastern Kings County, east of Hanford in rural areas where typical noise sources include vehicle traffic on nearby highways and local streets, trains on the San Joaquin Valley Railroad, occasional aircraft overflights, and rural residential areas.

The Kings County 2030 General Plan contains modeled traffic noise levels for major highway and roadway segments within Kings County. Two of the modeled roadway segments are in the immediate vicinity of the Proposed Project, including Grangeville Boulevard, just north of the proposed Mascot Substation site, and State Route 198 (SR 198), where it would be crossed by the proposed subtransmission tap line. The modeled noise levels for these roadway segments are based on year 2006 traffic data and are presented below in **Table 3.11-1**.

**TABLE 3.11-1
 2006 MODELED TRAFFIC NOISE LEVELS IN THE PROJECT AREA**

Roadway Name	Segment Location	Ldn at 100 feet	Distance to Ldn Contours (feet)		
			70 dB	65 dB	60 dB
Grangeville Boulevard	Between Hanford City Limit and 6th Avenue	61	26	56	121
State Route 198	Between State Route 43 and 6th Avenue	70	107	231	497

SOURCE: Kings County, 2010a.

Based on the data presented in Table 3.11-1, existing L_{dn} traffic noise levels at the proposed Mascot Substation site range between 65 dBA (at the northern perimeter of the site) and approximately 55 dBA (at the southern perimeter of the site) and L_{dn} traffic noise levels in the area of the proposed subtransmission tap line in the vicinity of SR 198 tend to be over 60 dBA.

Trains that cross the proposed subtransmission tap line alignment along the San Joaquin Valley Railroad that is approximately 3,000 feet south of the proposed Mascot Substation site have average noise levels of approximately 103 dBA at a distance of 100 feet from the tracks (County of Kings, 2010a). Based on information presented in the County General Plan, the number of train trips in the Proposed Project area along the San Joaquin Valley Railroad varies between one and five trips per day. Short-term aircraft overflight noise associated with Hanford Municipal Airport, which is located approximately 1.7 miles west-southwest of the south end of proposed subtransmission tap line, can range between 55 and 75 dBA.

Noise levels in other parts of the Proposed Project area are typical of small town residential areas, which usually range between 40 and 50 dBA L_{dn} (FTA, 2006).

Sensitive Receptors

Human response to noise varies considerably from one individual to another. Effects of noise at various levels can include interference with sleep, concentration, and communication, and can cause physiological and psychological stress and hearing loss. Given these effects, some land uses are considered more sensitive to ambient noise levels than others. In general, residences, schools, hotels, hospitals, and nursing homes are considered to be the most sensitive to noise. Places such as churches, libraries, and cemeteries, where people tend to pray, study, and/or contemplate also are sensitive to noise. Commercial and industrial uses are considered the least noise-sensitive.

Sensitive receptors in the study area are rural residences. The closest residence to the proposed substation site is approximately 600 feet to the west-northwest along Grangeville Boulevard. Over a dozen residences are also located in the vicinity of the proposed subtransmission line alignments, including: several residences along 7 ½ Avenue, north of the San Joaquin Valley Railroad, that are approximately 2,000 feet to the east; at least eight residences along Ponderosa Road, north of Lacy Boulevard, that are between 50 and 100 feet to the east; and several residences along the north and south sides of Hanford Armona Road, that are approximately 100 feet to the east.

3.11.2 Regulatory Setting

Federal, State, and local agencies regulate different aspects of environmental noise. Federal and State agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies. Local regulation of noise in the Proposed Project area involves implementation of general plan policies that identify general standards intended to guide and influence development plans.

Kings County does not have a noise ordinance; however, the County generally regulates construction noise as a condition of approval for projects under County jurisdiction, and typically requires construction activities to be conducted between 7:00 a.m. and 7:00 p.m. on weekdays and between 8:00 a.m. and 7:00 p.m. on weekends (Kings County, 2010b).

County of Kings 2030 General Plan

The County of Kings 2030 General Plan contains the following policies that may be applicable to the Proposed Project (Kings County, 2010a).

N Policy B1.1.1: Appropriate noise mitigation measures shall be included in a proposed project design when the proposed new use(s) will be affected by or include non-transportation noise sources and exceed the County’s “Non-Transportation Noise Standards” (shown below in **Table 3.11-2**). Mitigation measures shall reduce projected noise levels to a state of compliance with this standard within sensitive areas. These standards are applied at the sensitive areas of the receiving use.

N Policy B1.1.3: Noise associated with construction activities shall be considered temporary, but will still be required to adhere to applicable County Noise Element standards.

Policy C1.1.2: Where noise mitigation measures are required to satisfy the noise level standards of this Noise Element, emphasis shall be placed on the use of setbacks and site design, prior to consideration of the use of noise barriers.

**TABLE 3.11-2
 NON-TRANSPORTATION NOISE STANDARDS AVERAGE (L_{EQ}) / MAXIMUM (L_{MAX})¹**

Receiving Land Use	Outdoor Area ²		Interior ³	Notes
	Daytime	Nighttime	Day and Night	
All Residential	55 / 75	55 / 75	35 / 55	
Transient Lodging	55 / 75	---	35 / 55	4
Hospitals and Nursing Homes	55 / 75	---	35 / 55	5, 6
Theaters and Auditoriums	---	---	30 / 50	6
Churches Meeting Halls, Schools, Libraries, etc.	55 / 75	---	35 / 60	6
Office Buildings	60 / 75	---	45 / 65	6
Commercial Buildings	55 / 75	---	45 / 65	6
Playgrounds, Parks, etc.	65 / 75	---	---	6
Industry	60 / 80	---	50 / 70	6

1. These standards shall be reduced by 5 dB for sounds consisting primarily of speech or music, and for recurring impulsive sounds. If the existing ambient noise level exceeds the standards identified above, then the noise level standards shall be increased at 5 dB increments to encompass the ambient.
2. Sensitive areas are defined acoustic terminology section.
3. Interior noise level standards are applied within noise-sensitive areas of the various land uses, with windows and doors in the closed positions.
4. Outdoor activity areas of transient lodging facilities are not commonly used during nighttime hours.
5. Hospitals are often noise-generating uses. The exterior noise level standards for hospitals are applicable only at clearly identified areas designated for outdoor relaxation by either hospital staff or patients.
6. The outdoor activity areas of these uses (if any) are not typically utilized during nighttime hours.

3.11.3 Applicant Proposed Measures

SCE has not proposed any applicant proposed measures to minimize noise impacts associated with the Proposed Project.

3.11.4 Environmental Impacts and Mitigation Measures

- a) **Result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies: *LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED.***

Construction

Noise associated with Proposed Project-related construction activities would result in temporary increases in noise levels in the study area. Construction activities that would be associated with the Proposed Project would require the use of dozers, loaders, backhoes, heavy trucks, etc. Maximum noise levels from such equipment would range between 80 dBA and 88 dBA at 50 feet (FTA, 2006).

There are no Kings County codes, ordinances, or regulations that specifically address construction noise levels or acceptable hours of operation for construction activities. However, the County generally requires construction activities for projects under its jurisdiction to be conducted between 7:00 a.m. and 7:00 p.m. on weekdays and between 8:00 a.m. and 7:00 p.m. on weekends. The Project Description (Section 2.8.6.1) states that the Proposed Project would be constructed during the allowed time period on the weekdays, but on Saturdays work would occur between 7:00 a.m. and 7:00 p.m., which would conflict with the County's informal weekend restriction of starting work at or after 8:00 a.m. Therefore, to ensure that the Proposed Project would not conflict with the County's informal time of day construction requirements, implementation of Mitigation Measure 3.11-1 would reduce this impact to a less than significant level.

The Project Description (Section 2.8.6.1) also indicates that if SCE determines that different construction hours would be necessary, SCE would obtain variances from the local noise ordinance, as necessary, to conduct the work; however, as discussed above, there is no applicable noise ordinance. Therefore, to ensure that SCE would minimize impacts associated with nighttime construction activities and obtain the necessary proper approval from the County in the event that nighttime construction activities are determined to be necessary, implementation of Mitigation Measures 3.11-1 and 3.11-2 would reduce this impact to a less than significant level.

The County's General Plan contains Policy B1.1.3, which indicates that temporary construction activities are required to adhere to applicable County Noise Element standards. However, for standard construction projects, the County has confirmed that there are no applicable decibel limits for construction activities, such as those identified in Table 3.11-2 (Kings County, 2010c).

Mitigation Measure 3.11-1: Construction activity shall be limited to between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday and limited to between the hours of 8:00 a.m. and 7:00 p.m., on Saturdays, with some exceptions (as approved by the CPUC and Kings County) as required for safety considerations or certain construction procedures that cannot be interrupted.

Mitigation Measure 3.11-2: In the event that nighttime (i.e., between 7:00 p.m. and 7:00 a.m. on weekdays and between 8:00 p.m. and 7:00 a.m. on Saturdays) construction activity is determined to be necessary within 500 feet of an occupied residential dwelling unit, a nighttime noise reduction plan shall be developed by SCE and submitted to the CPUC and

the County for review and approval. The noise reduction plan shall include a set of site-specific noise attenuation measures that apply state of the art noise reduction technology to ensure that nighttime construction noise levels and associated nuisance are reduced to the most extent feasible. The attenuation measures may include, but not be limited to, the control strategies and methods for implementation that are listed below. If any of the following strategies are found by SCE to not be feasible or warranted, an explanation as to why the specific strategy is not feasible or warranted shall be included in the nighttime noise reduction plan.

- Plan construction activities to minimize the amount of nighttime construction.
- Offer temporary relocation of residents within 200 feet of nighttime construction areas.
- Temporary noise barriers, such as shields and/or blankets, shall be installed immediately adjacent to all nighttime stationary noise sources (e.g., auger rigs, generators, pumps, etc.) that block the line of sight between nighttime activities and the closest residences.

Significance after Mitigation: Less than significant.

Operations and Maintenance

Operation of subtransmission lines generates random cracking or hissing sounds associated with corona discharge. The term “corona” is used to describe the breakdown of air into charged particles caused by the electrical field at the surface of a conductor. Audible noise levels generated by corona discharge vary depending on weather conditions as well as voltage of the line. Wet weather conditions often increase corona discharge due to accumulation of raindrops, fog, frost, or condensation on the conductor surface which causes surface irregularities thereby promoting corona discharge. Since a portion of the Proposed Project would cross immediately adjacent to existing residential receptors along Ponderosa Road, a slight increase in noise levels at some receptor locations could occur. However, given that the proposed subtransmission tap line would be located directly adjacent to an existing Pacific Gas and Electric (PG&E) power line; noise associated with corona discharge is considered to be part of the background noise levels.

Furthermore, given that noise levels from 66 kV lines are typically less than 33.5 dBA directly below the conductor, the addition of a new 66 kV subtransmission line would not be expected to result in a substantial increase in ambient noise levels. The Kings County 2030 General Plan identifies an exterior noise level of 60 dBA as acceptable for single family residences. Therefore, given that the maximum noise level from the proposed subtransmission tap line would be well below this level, it can be assumed that operation of the line would not conflict with the applicable General Plan standard. Therefore, corona noise impacts would be less than significant.

The Proposed Project would include construction of a new 66/12 kV distribution substation on a five acre site. The main noise source from operation of the substation would result from transformers and associated cooling fans. Typical noise levels from a 66/12 kV transformer at three feet (approximately one meter) with fans operating would be approximately 66 dBA. Field tests performed at the Riverway Substation in 2005 demonstrated lower noise levels (SCE, 2005); however, a noise level of 66 dBA for a single 66/12 kV transformer was assumed for the purpose of a conservative analysis. Therefore, the two 66/12 kV transformers proposed for the Mascot

Substation would result in a combined noise level of 69 dBA at three feet. As indicated in Figure 2-2, the transformers would be generally located near the center of the substation site; therefore, it is estimated that noise levels at the substation fenceline would be no louder than 40 dBA. Furthermore, an eight foot high perimeter wall would surround the substation; this wall would result in additional noise attenuation of at least five dBA. Given that the nearest sensitive receptor would be located over 600 feet west-northwest of the proposed new substation site, it can be assumed that noise from substation operations would not be audible at this receptor location and associated impacts would be less than significant.

Noise associated with maintenance of the Proposed Project would not be expected to increase substantially from existing conditions. The Mascot Substation would be unstaffed as all equipment within the substation would be monitored remotely through an automated system from SCE's Rector Regional Control Center. SCE personnel would generally visit the substation three to four times per month. The proposed subtransmission line segments would generally be inspected at least once per year by driving and/or flying the line alignments. Maintenance of the line would include activities such as repairing conductors, replacing insulators, replacing poles, and repairing or maintaining access roads. These activities would be performed on an as need basis, and would not result in any permanent noise level increases that would conflict with applicable local policies. Impacts associated with long-term maintenance of the Proposed Project would be less than significant.

b) Result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels: *LESS THAN SIGNIFICANT IMPACT.*

Construction

Some types of construction equipment can produce vibration levels that can cause architectural damage to structures and be annoying to nearby sensitive receptors. Vibration levels generated during construction of the Proposed Project would vary during the construction period, depending upon the construction activity and the types of construction equipment used. Typical vibration levels for the construction equipment types that would generally result in the highest vibration levels (e.g., auger rig, large bulldozers) are presented in **Table 3.11-3**.

**TABLE 3.11-3
VIBRATION SOURCE LEVELS FROM CONSTRUCTION EQUIPMENT**

Distance (feet)	Peak Particle Velocity (in/sec)
	Auger Rig, Large Bulldozer
15	0.191
25	0.089
50	0.031
75	0.017
100	0.011
150	0.006

SOURCE: FTA, 2006.

A numerical threshold to identify the point at which a vibration impact occurs has not been identified by County standards or municipal codes. Therefore, a PPV threshold identified by Caltrans is used in this analysis to determine the significance of vibration impacts related to adverse human reaction and risk of architectural damage to normal buildings. The PPV threshold is 0.20 in/sec (Caltrans, 2002). This PPV level has been found to be annoying to people in buildings and can pose a risk of architectural damage to buildings.

The nearest residences would be as close as 50 feet to active Proposed Project construction equipment. At this distance, construction equipment PPV levels would be as high as 0.031 in/sec, which would be less than the 0.20 in/sec significance threshold. Therefore, short-term construction-related vibration impacts would be less than significant.

Operations and Maintenance

Operation and maintenance of the Proposed Project would not introduce any new sources of groundborne vibration to the study area. There would be no impact.

c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project: *LESS THAN SIGNIFICANT IMPACT.*

As discussed above, corona discharge associated with operation of the proposed subtransmission lines could result in audible noise levels especially during wet weather conditions. While the addition of a 66 kV subtransmission line adjacent to an existing PG&E power line would have the potential to result in a slight increase in noise levels, such increases would not be expected to be perceptible at nearby sensitive receptors located in the vicinity of the proposed subtransmission line alignments. In addition, noise from the proposed two transformers at the new Mascot Substation would not be audible at the closest sensitive receptor location and maintenance of the Proposed Project would be limited to periodic inspections of the proposed substation and subtransmission lines, which would not result in substantial permanent increases in ambient noise levels. Impacts would be less than significant.

d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project: *LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED.*

Construction

Construction activities would result in temporary noise level increases in the vicinity of the Proposed Project that would not be substantial at sensitive receptor locations. If nighttime construction would be determined to be necessary in the vicinity of existing residences, such activities could result in a substantial increase in nighttime ambient noise levels that could cause a nuisance to these noise sensitive receptors. Such impacts would be less than significant with implementation of Mitigation Measure 3.11-2.

Maintenance

Also discussed under criterion a), SCE ground personnel would inspect the Mascot Substation three to four times per month. Furthermore, the 66 kV subtransmission lines constructed as part

of the Proposed Project would be inspected at least once per year by driving and/or flying along the alignment. Such activities would not result in substantial temporary noise level increases and impacts would be less than significant. Maintenance activities would also occur on an as-needed basis. Such activities would occur infrequently and would not be expected to result in substantial noise level increases that would represent a nuisance to nearby sensitive receptors. Therefore, noise associated with maintenance activities would have a less than significant impact on ambient noise levels in the project area.

- e) For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels: *LESS THAN SIGNIFICANT IMPACT.***

A portion of the proposed subtransmission line that would tap the Hanford-Liberty subtransmission line to the proposed Mascot Substation would be located within two miles of the Hanford Municipal Airport. However, the Proposed Project would not involve the development of noise-sensitive land uses that would be exposed to excessive aircraft noise. Workers that would construct the Proposed Project would be exposed to periodic short-term aircraft overflight noise associated with Hanford Municipal Airport; however, the average construction activity noise levels that the workers would be exposed to would be far greater than the average overflight noise levels that they would be exposed to. Therefore, the impact associated with this criterion is less than significant.

- f) For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels: *NO IMPACT.***

The Proposed Project is not located within the vicinity of a private airstrip. Therefore, there would be no impact associated with this criterion.

References

- California Department of Transportation (Caltrans), 1998. *Technical Noise Supplement*, 1998.
- Caltrans, 2002, *Transportation Related Earthborne Vibrations (Caltrans Experiences)*. Technical Advisory, Vibration TAV-02-01-R9601. February 20, 2002.
- Federal Transit Authority (FTA), 2006. *Transit Noise and Vibration Impact Assessment*, May 2006.
- Kings County, 2010a. *2035 Kings County General Plan*, Noise Quality Element. Adopted on January 26, 2010.
- Kings County, 2010b. Personal communication with James Radar, Kings County Senior Code Specialist, June 4, 2010.
- Kings County, 2010c. Personal communication with Jeremy Kinney, Kings County Senior Planner, June 7, 2010.

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3.12 Population and Housing

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
12. POPULATION AND HOUSING— Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.12.1 Environmental Setting

The proposed Mascot Substation would be located in unincorporated Kings County, California, just east of the City of Hanford. The proposed subtransmission line alignment would originate at the Goshen-Hanford 66kV subtransmission line which runs parallel to Grangeville Road and would be looped into the proposed Mascot Substation at the intersection of Grangeville Boulevard and 7 ½ Avenue in Kings County. From the proposed Substation site, another subtransmission line segment would traverse directly south from the substation along private property to connect with the Hanford-Liberty 66kV subtransmission line. The line would parallel a dirt road extension of 7 ½ Avenue and cross agricultural lands.

Population

Table 3.12-1 summarizes the estimated population growth from 2000 to 2030 for unincorporated Kings County and the City of Hanford. As demonstrated in the table, the population growth rate in Hanford is expected to increase substantially over the next 20 years, while the growth rate in Kings County is expected to be much lower.

**TABLE 3.12-1
ESTIMATED POPULATION GROWTH, 2000 - 2030**

Area	2000	2010	% Change 2000 - 2010	2020	% Change 2010 - 2020	2030	% Change 2020 - 2030
Kings County	26,650	43,420	62.9	45,420	4.6	47,990	5.7
City of Hanford	41,686	53,830	29.1	66,800	24.1	82,800	24.0

SOURCE: Kings County, 2010.

Housing

In 2008, there were approximately 8,152 residential units in unincorporated Kings County. By 2035, the Kings County General Plan estimates that buildout could result in 14,762 residential units, which would be an increase of approximately 81 percent. As with population growth, the number of housing units is expected to increase substantially over the next 25 years (Kings County, 2010).

3.12.2 Regulatory Setting

CEQA Guidelines Section 15126.2 requires a discussion of the ways in which a project could directly or indirectly foster economic development or population growth, and how that growth would, in turn, affect the surrounding environment. The Kings County and City of Hanford general plans do not include applicable goals, objectives or policies related to population and housing that would be directly applicable to the Proposed Project.

3.12.3 Applicant Proposed Measures

No applicant proposed measures have been identified to reduce population and housing impacts associated with the Proposed Project.

3.12.4 Environmental Impacts and Mitigation Measures

- a) **Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure): *LESS THAN SIGNIFICANT IMPACT.***

Construction and operation of the Proposed Project would not result in new homes, new businesses or new permanent jobs, and therefore would not directly induce substantial population growth in the project vicinity. Accordingly, the Proposed Project would have no direct impact on population growth inducement.

The Proposed Project could have an indirect impact on population growth inducement in the study area if it encouraged people to move to the study area to construct, operate or maintain the Proposed Project. Construction activities would be limited to an 11-month period and, during peak construction activities, would require approximately 40 crew members per day. Construction would be performed by SCE construction crews or contractors who reside generally within Kings County or adjacent areas and would not require a substantial number of workers to relocate into the study area to complete the work. Operation and maintenance activities associated with the Proposed Project also would not result in a substantial increase in area residents, given that operation of the Proposed Project would require no new staff to conduct the slight incremental increase in maintenance tasks relative to existing maintenance and repair activities. Accordingly, the Proposed Project would have a less than significant indirect impact on population growth associated with the Proposed Project's temporary or permanent workforce.

The Proposed Project also would not indirectly induce substantial population growth in the Project area through the extension of existing infrastructure. Construction of the Proposed Project is needed

to allow SCE to continue to provide safe and reliable electrical service in its Electrical Needs Area, and to meet the projected peak electrical demands during normal conditions as well as periods of extreme heat. Therefore, the Proposed Project is designed to increase reliability and accommodate existing and planned electrical load growth, rather than to induce growth. Growth in the Project area is planned and regulated by applicable local planning policies and zoning ordinances. In addition, the Proposed Project's provision of electrical service is consistent with development anticipated by plans and zoning in the jurisdictions that the Proposed Project would serve. Furthermore, the availability of electrical capacity by itself does not normally ensure or encourage growth within a particular area. Other factors such as economic conditions, land availability, population trends, availability of water supply or sewer services and local planning policies have a more direct effect on growth. Therefore, implementation of the Proposed Project would result in a less than significant indirect impact on population growth associated with extension of existing infrastructure.

b) Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere: *NO IMPACT.*

The Proposed Project would be located on a five-acre agricultural parcel to be acquired by SCE, and along a two-mile stretch of new right-of-way (ROW) adjacent to an existing PG&E ROW that also is used for agricultural purposes. No houses would be removed as part of the Proposed Project, and the construction of replacement housing therefore would not be required. As such, no impact would occur.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere: *NO IMPACT.*

As noted above, the Proposed Project would not displace any people, or any housing or other structures that currently are occupied by people. Therefore, no replacement housing would be necessary, and no impact relating to the displacement of people would occur.

References

Kings County, 2010. Kings County General Plan, Introduction. Adopted January 26, 2010.

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3.13 Public Services

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
13. PUBLIC SERVICES— Would the project:				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
i) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.13.1 Environmental Setting

Fire Protection

The Kings County Fire Department (KCFD) serves the unincorporated areas of Kings County including the communities of Armona, Home Garden, Kettleman City, and Stratford. The KCFD also provides contracted services to the cities of Avenal and Corcoran. The KCFD operates 10 fire stations and one headquarters, and has a professional staff of 61 employees who are assisted by 10 volunteer companies with approximately 100 volunteer firefighters; mutual aid agreements with the City of Hanford and other fire departments are also maintained by KCFD (Kings County, 2010). The nearest Kings County station to the Proposed Project is the South Hanford Station approximately four miles to the south. This station is staffed with four personnel and two engines, and the station's response area includes the eastern portion of Kings County from Burris Park to Corcoran (Kings County Fire Department, 2010). The nearest City of Hanford fire station to the Proposed Project is located approximately three miles west on Grangeville Boulevard (City of Hanford, 2010).

Police Protection

The Kings County Sheriff's Office provides law enforcement response to unincorporated areas of Kings County. The County is currently divided into six beat districts with five Sheriff substations located in Avenal, Corcoran, El Rancho, Kettleman City, and Stratford. Each beat district has at least one deputy sheriff on duty at all times to serve the unincorporated communities and surrounding County areas. The nearest station to the Proposed Project is located at 1444 West Lacey Boulevard in Hanford, approximately five miles to the west (Kings County Sheriff's Department, 2010). The City of Hanford's Police Department has a staff of 71 personnel, 49 sworn officers, and 22 non-sworn officers. The Hanford Police Department is headquartered at 425 North Irwin Street (City of Hanford, 2010).

Schools

The nearest school to the Proposed Project is Kit Carson Elementary School located approximately 1.3 miles to the southeast.

Other Public Facilities

There are no other public facilities within a quarter-mile of the Proposed Project.

3.13.2 Regulatory Setting

There are no federal or State regulations related to public services that apply to the Proposed Project. Additionally, the Kings County and City of Hanford general plans do not include applicable goals, objectives, and/or policies related to public services that would be directly applicable to the Proposed Project.

3.13.3 Applicant Proposed Measures

No applicant proposed measures have been identified to reduce population and housing impacts associated with the Proposed Project.

3.13.4 Environmental Impacts and Mitigation Measures

The Proposed Project involves various individual components and construction activities, several of which were found to have no impact on public services and therefore are not carried forward for discussion in this section. These activities include the proposed modifications at the Liberty and Goshen Substations, and the potential temporary construction and use of a staging area, if SCE is unable to use the Proposed Mascot Substation site for staging. Justification for not carrying these activities forward for individual public service analysis (13.a. i-v) is as follows:

The proposed modifications at the Liberty and Goshen Substations would consist of new underground duct banks to house telecommunication lines. Construction activities at these two substations would occur on previously disturbed, un-vegetated areas within the existing fence line of the substations, or for short distances (30 to 200 feet) along existing roads between the substation and existing poles. Because Project-related activities at the two existing substations would be limited in duration, require a small construction crew, and not require the need for additional permanent staff, they would not result in the need for new or physically altered governmental facilities to maintain acceptable service ratios, response times, and performance objectives. Consequently, there would be no impacts to public services due to the activities at the Goshen and Liberty Substation.

Construction staging for the Proposed Project would require a temporary staging area, either at the proposed Mascot Substation site or a to-be-determined facility within approximately five miles of the Proposed Project. If a to-be-determined facility is required it would be used only for parking and the storage of materials and equipment during construction. Since Project-related activities at the staging area would be limited in duration, require a small construction crew and not require the need for additional permanent staff, they would not result in the need for new or physically altered governmental facilities to maintain acceptable service ratios,

response times, and performance objectives. Consequently, there would be no impacts to public services due to the activities proposed at the to-be-determined staging area, if required.

a.i) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection: *LESS THAN SIGNIFICANT IMPACT.*

Increases in long-term demand for fire protection services typically are associated with substantial increases in population. The proposed substation would be unstaffed, and therefore operational activities would not contribute to a population increase. The Proposed Project would not introduce any new uses to the Project area that would generate long-term changes to fire protection services. Once constructed, the subtransmission line and substation would require routine maintenance trips, inspection, and vegetation management activities to be provided by SCE. Maintenance activities would increase slightly above existing levels that are employed to maintain the existing distribution lines to include the new Mascot Substation and approximately two miles of new subtransmission line. Therefore, the Proposed Project would not result in a substantial increased long-term demand for fire protection services. Accordingly, the Proposed Project would not require the construction or modification of fire service facilities, the construction of which could cause significant environmental impacts.

Construction activities for the Proposed Project are expected to last approximately 11 months. During peak construction activities, approximately 40 crew members per day would be required to construct the Proposed Project. Construction would be performed by either SCE construction crews or contractors, depending on the availability of SCE construction personnel at the time of construction. Construction activities could affect the temporary demand for fire protection and emergency response services. However, a temporary construction-related demand on fire protection services would not be significant enough to require the construction of a new fire station or the modification of an existing fire station. Therefore, short-term impacts to fire protection would be less than significant.

a.ii) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection: *LESS THAN SIGNIFICANT IMPACT.*

The Proposed Project would not introduce any new uses to the Project area that would generate long-term changes to the existing demand for police protection services. Once constructed, the subtransmission line and Mascot Substation would require monitoring in the form of police response to potential trespassing. Operational activities would increase above existing levels that are employed to monitor the existing adjacent subtransmission line to include the new Mascot Substation and two miles of new right-of-way (ROW). However, perimeter walls, fences and a locked metal gate would be installed around the Proposed Substation to restrict general and recreational vehicular access. Installation of such a gate would reduce opportunities for trespassing, and the need for

police response. Furthermore, the new ROW would be located adjacent to existing PG&E ROW and the increase in monitoring above existing levels would be negligible.

Increases in the demand for police protection services typically are associated with substantial increases in population. As mentioned previously, during peak activities, a 40 person crew comprised of SCE construction crews or contractors would be required to construct the Proposed Project. Construction activities would be temporary, lasting approximately 11 months. This would not result in a substantial population increase that would increase the long-term demand for police protection services. Therefore, the Proposed Project would not require new or physically altered police protection facilities.

Potential police protection service needs primarily would be confined to the construction phase of the Proposed Project, when police services may be required due to possible theft of construction equipment and/or vandalism. Additionally, Proposed Project construction may, at times, require temporary partial closure of adjacent roadways, requiring traffic control measures, or safety measures that would typically be coordinated with local police (see Section 15, *Traffic and Transportation*, for further discussion of potential impacts related to road closures and potential impacts to public roadways and associated emergency access). However, a temporary construction-related demand on police protection services would not be significant enough to require the construction of a new police station or the modification of an existing police station. Therefore, short-term impacts to police protection would be less than significant.

a.iii) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for schools: *NO IMPACT.*

The Proposed Project would not result in substantial adverse impacts to school facilities in the study area. The construction crew for the Proposed Project is estimated to be up to 40 people, including SCE and contracted construction personnel. If SCE subtransmission and telecommunications construction crews are used they would likely be based at one of SCE's local facilities such as the Rector Substation or the San Joaquin Service Center. The proposed Mascot Substation would not be manned. The Proposed Project therefore would not result in a significant increase of local population or housing, which typically is associated with increased demand for public school services. As such, the Proposed Project would not result in an increase in demand for school facilities. Therefore, the Proposed Project would result in no impacts associated with the construction or modification of schools.

a.iv) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for other public facilities: *NO IMPACT.*

The Proposed Project would not result in substantial adverse impacts to other public facilities such as public libraries, medical centers, or daycare facilities, as no such public facilities are

located within a quarter-mile of the Proposed Project. The Proposed Project would not result in a significant increase of local population or housing, which typically is associated with increased demand for public facilities. As discussed in a.i), construction of the Proposed Project would require a limited number of people as a temporary work crew, and operation of the Proposed Project would require no new staff. Therefore, no impact associated with the construction or modification of other public facilities would result.

For potential impacts to parks see Section 3.14 (*Recreation*).

References

City of Hanford, 2010. Website (www.ci.hanford.ca.us/index.htm), accessed June 1, 2010.

Kings County, 2010. Kings County General Plan, Health and Safety Element. Adopted January 26, 2010.

Kings County Fire Department, 2010. Website (www.countyofkings.com/fire/index.html), accessed May 27, 2010.

Kings County Sheriff's Department, 2010. Website (www.countyofkings.com/sheriff/index.html), accessed May 27, 2010.

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3.14 Recreation

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
14. RECREATION—Would the project:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.14.1 Environmental Setting

Local Recreational Resources

There are no designated recreational facilities or bicycle paths within 0.5 mile of the Proposed Project (Kings County, 2010; Kings County, 2007). The nearest Kings County park and recreational facility in the vicinity of the Proposed Project is Burriss Park, located approximately nine miles to the north. The 57-acre Burriss Park includes such amenities as a wagon barn, picnic area, and general recreation area. The Kings County Museum is also located within the park (Kings County, 2010). The nearest City of Hanford park is Freedom Park, located approximately two miles to the east of the Proposed Project (City of Hanford, 2010). No State or federal recreation facilities are located in the vicinity of the Proposed Project.

3.14.2 Regulatory Setting

No federal, State, or local plans or policies concerning recreation apply to the Proposed Project.

3.14.3 Applicant Proposed Measures

No applicant proposed measures have been identified to reduce population and housing impacts associated with the Proposed Project.

3.14.4 Environmental Impacts and Mitigation Measures

- a) **Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated: *NO IMPACT.***

Increases in demand for recreational facilities typically are associated with substantial increases in population. The Proposed Project would not contain a residential component that would result in an increased use of existing recreational facilities. Operation and maintenance of the Proposed Project would not result in additional staffing at the substation or along the alignment, and therefore

would not result in a substantial increased demand for recreational facilities or increase the use of existing parks or recreational facilities. The potential for impacts to existing recreational facilities would be temporary and limited to the construction period. As further discussed in Section 3.12 (*Population and Housing*), the number of construction workers that would be required to construct the Proposed Project, at its peak, would be approximately 40 crew members per day. The Proposed Project construction activities would be temporary, lasting approximately 11 months. The Proposed Project therefore would not result in a substantial increased demand for recreational facilities and would not increase the use of existing parks or recreational facilities so as to cause or accelerate the physical deterioration of any such facility. Therefore, there would be no impact.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment: *NO IMPACT.*

The Proposed Project does not include plans for the addition of any recreational facilities nor would it require the construction or expansion of recreational facilities. Therefore, the Proposed Project would not result in any adverse physical effects on the environment from construction or expansion of additional recreational facilities, and would have no impact.

References

City of Hanford, 2010. City of Hanford Recreation Department. Available at: www.ci.hanford.ca.us/Recreation%20Department.htm, accessed June 1, 2010.

Kings County, 2010. Kings County General Plan, Open Space Element. Adopted January 26, 2010.

Kings County, 2007. 2007 Kings County Regional Transportation Plan, Chapter 8: Non-Motorized Facilities. Adopted May 23, 2007.

3.15 Transportation and Traffic

<u>Issues (and Supporting Information Sources):</u>	<u>Potentially Significant Impact</u>	<u>Less Than Significant with Mitigation Incorporated</u>	<u>Less Than Significant Impact</u>	<u>No Impact</u>
15. TRANSPORTATION AND TRAFFIC— Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.15.1 Environmental Setting

The Proposed Project is located in Kings County, California near the City of Hanford. The study area is primarily rural, with areas of low-density residential and agricultural uses. The dominant mode of transportation in this region is the private automobile. The transportation system in the area is composed of an interconnected network of roadways under State and County control; local transit systems; and a railroad right-of-way (ROW). The transportation system in the study area is described below.

Roadway Network

Several public roadways provide regional and local access to the Proposed Project study area, each of which would likely be used to transport construction materials, equipment, and workers to and throughout the Proposed Project study area. The Proposed Project components and surrounding regional roadway network are illustrated in Figure 2-1 (see Chapter 2, *Project Description*). Descriptions of the regional and local roadway network in the study area are provided below.

Regional Roadways

Regional access to the study area is provided by State Route 43 (SR 43) and State Route 198 (SR 198). Below are summary descriptions of these regional roadways, which are under the jurisdiction of the California Department of Transportation (Caltrans).

SR 43 is a two-lane north-south oriented highway that extends from Selma to the north and Bakersfield to the south. In the Proposed Project area, SR 43 is also known as 8th Avenue and the Central Valley Highway. SR 43 intersects Grangeville Boulevard approximately 2,000 feet west of the proposed Mascot Substation site. Annual average daily traffic (ADT) levels along SR 43 in the area south of its junction with Grangeville Boulevard were 9,500 vehicles per day in 2008 (Caltrans, 2010) and 10,300 vehicles per day in 2006 (Kings County, 2010). In 2006, SR 43 operated at a level of service (LOS) of C, south of Grangeville Boulevard (Kings County, 2010). SR 43 would not be crossed by the Proposed Project.

SR 198 is a four-lane east-west oriented highway in the Proposed Project area that extends from Visalia to the east and north of Coalinga to the west. SR 198 is a Kings County General Plan designated Principal Arterial that is part of the established national network of long haul truck routes pursuant to the Surface Transportation Assistance Act 1982 (Kings County, 2010). Annual ADT levels along SR 189 in the area east of its junction with SR 43 were 18,000 vehicles per day in 2008 (Caltrans, 2010) and 18,900 vehicles per day in 2006 (Kings County, 2010). In 2006, SR 198 operated at a LOS of B, east of SR 43 (Kings County, 2010). Just east of the Proposed Project area, SR 198 is currently a two-lane highway that experiences severe traffic congestion during peak hours of use. SR 198 would be crossed by the proposed subtransmission tap line approximately one mile south of the proposed Mascot Substation site.

Local Roadways

The local roadways that border or cross a component of the Proposed Project, or may be used to access the study area, are under the jurisdiction of Kings County and are described below. Some of the roads would be affected during line stringing activities over the roads, while others would be used for continual access throughout the construction phase of the Proposed Project. Below are summary descriptions of the local roadways that may be affected by the Proposed Project.

Grangeville Boulevard is a two-lane east-west oriented roadway that extends from the Tulare County line to the east and Lamoore Naval Air Station to the west. Grangeville Boulevard is a Kings County General Plan designated Miner Arterial (Kings County, 2010). The 2006 annual ADT traffic volume along Grangeville Boulevard east of SR 43 was 3,080 with an LOS of B (Kings County, 2010). Direct access to the proposed Mascot Substation site would be achieved via Grangeville Boulevard. The proposed subtransmission loop line would not cross Grangeville Boulevard; however, it is anticipated that three of the proposed distribution circuits from Mascot Substation would be installed within Grangeville Boulevard.

Lacey Boulevard, 7th Road and East Hanford-Armona Road are two-lane east-west oriented local roads that would be affected by the Proposed Project. Lacey Boulevard and 7th Road would be crossed by the Proposed Project in the vicinity of SR 198. East Hanford-Armona Road would

be used for direct access to the proposed pole sites in the vicinity of the existing Hanford-Liberty line. These roads have relatively low traffic volumes.

7 ½ Avenue is a two-lane north-south oriented local road that extends from Grangeville Boulevard, across from the proposed Mascot Substation site, to a location approximately 2,000 feet north of Fargo Avenue. *7 ½ Avenue* has relatively low traffic volumes. It is anticipated that one of the distribution circuits from Mascot Substation would be installed within *7 ½ Avenue*.

Public Transit

Because Kings County is predominantly rural in nature, there are limited alternative modes of transportation currently available. However, public bus transit services in the study area are provided by Kings Area Rural Transit (KART). KART offers bus service between cities and communities in the County via seven routes, including the Hanford-Visalia route, which uses SR 198 to serve stops Monday through Friday at the College of Sequoias in Visalia, Chapman College in Lemoore, and Galen College in Fresno.

Bicycle and Pedestrian Transportation

The Kings County Association of Governments adopted the 2005 Kings County Regional Bike Plan, which outlines safety concerns, planned improvements, bicycle maps and funding opportunities. The 2005 Kings County Regional Bike Plan identifies no existing or planned bikeways in the immediate vicinity of the Proposed Project components (Kings County, 2010). The 2030 General Plan identifies the San Joaquin Valley Railroad right-of-way (ROW) as a viable option for pedestrian and bicycle use (Kings County, 2010); however, in the vicinity where the proposed subtransmission tap line would cross the railroad ROW, the railroad ROW currently does not contain pedestrian or bicycle facilities.

Pedestrian facilities include sidewalks, crosswalks, and pedestrian signals. While the proposed subtransmission tap line would cross a number of public roadways, it appears that it would not cross any designated pedestrian facilities.

Airports

The Hanford Municipal Airport is located approximately 1.7 miles west-southwest of the south end of proposed subtransmission tap line. The City of Hanford owns and operates Hanford Municipal Airport, which supports general aviation activities. The airport currently consists of one runway that is 5,180 feet in length; a 75-foot wide paved taxiway; several conventional hangers and tee shelters; and medium intensity runway lights. All types of general aviation aircraft use the facility including recreation and business aircraft. The average daily aircraft operation in 2005 was approximately 38 flights with 30 percent of those being single engine propeller aircraft (Kings County, 2010). With the exception of Hanford Municipal Airport, there are no other airport facilities within three miles of any component of the Proposed Project.

Rail Service

The proposed subtransmission tap line would cross the San Joaquin Valley Railroad approximately 3,000 feet south of the proposed Mascot Substation site. The San Joaquin Valley Railroad is an east-west line that currently provides freight rail service to industrial, manufacturing, and agricultural businesses from Visalia to the east and Huron to the west (Kings County, 2010).

3.15.2 Regulatory Setting

The development and regulation of the study area transportation network involves the jurisdictions of the State and Kings County. State jurisdiction includes permitting and regulation of the use of State roads, while County jurisdiction includes implementation of State permitting, policies, and regulations, as well as management and regulation of County roads. Construction work that would occur over or within a public roadway would require encroachment permits prior to commencing work in the public ROW from the jurisdiction that manages or maintains the applicable roadway(s).

Caltrans's construction practices require temporary traffic control planning for any time the normal function of a roadway is suspended. In addition, Caltrans requires that permits be obtained for transportation of oversized loads and transportation of certain materials, and for construction-related traffic disturbances. Caltrans regulations would apply to the transportation of oversized loads associated with the construction of the Proposed Project. Likewise, County regulations related to ROW encroachment and oversized loads would apply to the construction of the Proposed Project.

The Circulation Element of the Kings County 2030 General Plan (adopted January 26, 2010) includes transportation-related goals and policies that establish measures of effectiveness for the performance of the local circulation system. The 2030 General Plan identifies a minimum level of service (LOS) standard of D or better (Kings County, 2010). However, this threshold is not applicable to the Proposed Project given that the Proposed Project would only generate daily traffic during the construction period and construction related trips would be dispersed throughout the Proposed Project area at the proposed substation site, the existing substations, along the two subtransmission line alignments, and along the four distribution circuit alignments. In addition, pursuant to General Plan Policy C1.2.1, the County supports the operations of the San Joaquin Valley Railroad.

3.15.3 Applicant Proposed Measures

No applicant proposed measures have been identified to reduce transportation and traffic impacts associated with the Proposed Project.

3.15.4 Environmental Impacts and Mitigation Measures

- a) **Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit: *LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED.***

Traffic would be generated during construction as a result of required deliveries of materials and equipment to the proposed substation site, staging areas, and pole sites. In addition, truck haul trips would be required to remove the existing poles and up to 40 commuting construction workers would travel to and from the various construction sites each day. Construction activities would also include hauling of oversize loads, including poles, conductor and communication line spools, substation hardware, various types of equipment, etc. SCE anticipates that the greatest number of truck trips that would be required for the Proposed Project would occur during grading activities at the proposed substation site. During the 15 week grading period, SCE estimates that approximately 51 truck trips per day would be required to haul soil to and from the site.

Construction-generated traffic would be temporary and, therefore, would not result in any long-term degradation in performance of any of the roadways in the vicinity of the Proposed Project components. In addition, not all construction-related trips would be assigned to the same construction location (e.g., crews would be assigned to different sections of the subtransmission lines); these Project-generated trips would be dispersed throughout the study area and would occur at varying times throughout the workday. Therefore, the Proposed Project would not result in substantial traffic congestion and would not be expected to add a substantial number of trips to the roadways in the vicinity of the Proposed Project components.

Installation of the proposed subtransmission tap line would require overhead crossings of State Route 198, which is part of the established national network of long haul truck routes, as well as Lacy Boulevard, 7th Road, and the San Joaquin Valley Railroad. In addition, duct banks for underground distribution circuits would likely be constructed within the ROWs of 7 1/2 Avenue and Grangeville Boulevard. Overhead subtransmission line stringing and duct bank construction activities would likely require temporary partial or full lane closures of these roadways. Work within or above these roadways and railroad could temporarily disrupt existing automobile and train traffic patterns in the vicinity of the crossings, potentially resulting in significant short-term impacts to a General Plan-designated long haul trucking route and General Plan-supported freight rail line operations.

Prior to stringing conductor across roads, SCE would install temporary clearance structures along the road and railroad crossings for public protection. The guard structures would be designed to prevent the conductor from being lowered or falling into traffic. The use of guard structures during subtransmission line stringing activities over roadways would be at the discretion of the regulatory agency with permit authority of the roadway and the use of guard structures over the railroad would be at the discretion of San Joaquin Valley Railroad. For example, Caltrans, Kings County, or the San Joaquin Valley Railroad may require other or additional safety measures as part of the encroachment permit or approval process requirements.

SCE would be required to obtain necessary encroachment permits and approvals prior to commencement of construction activities within or above any public roads or railroads. Subtransmission line stringing and duct bank installation activity-related traffic congestion impacts to the existing circulation system could be significant. Implementation of Mitigation Measure 3.15-1 would require SCE to prepare a traffic management and control plan prior to commencement of construction activities and Mitigation Measure 3.15-2 would require SCE to coordinate all construction activities in the vicinity of the San Joaquin Valley Railroad to avoid delays in freight train service. Implementation of these mitigation measures would ensure that impacts would be reduced to less than significant.

Mitigation Measure 3.15-1: Traffic Management and Control Plan. SCE shall prepare a Traffic Management and Control Plan that shall include, at a minimum, the measures listed below. The Plan shall be submitted to the CPUC for approval at least 30 days prior to the start of construction and shall be distributed to all construction crew members prior to commencement of construction activities. The Plan shall:

- Include descriptions of work hours, haul routes, work area delineation, any traffic detour routes, bicyclists and pedestrian detour routes, traffic control, and flagging;
- Identify all access and parking restriction and signage requirements;
- Require workers to park personal vehicles at the approved staging areas and take only necessary project vehicles to the work sites;
- Lay out plans for notifications of all lane and road closures and a process for communication with affected road users, including truckers, residents, and landowners prior to the start of construction. Advance public notification shall be provided at least one to two weeks in advance of each lane and road closure and shall include posting of notices and appropriate signage of construction activities. The written notification shall include the construction schedule, the exact location and duration of activities within each street (i.e., which road/lanes and access point/driveways/parking areas would be blocked on which days and for how long), and a toll-free telephone number for receiving questions or complaints;
- Include plans to coordinate all construction activities with emergency service providers in the area. Emergency service providers would be notified of the timing, location, and duration of construction activities at least one week in advance of each lane and road closure. All roads would remain passable to emergency service vehicles at all times; and
- Identify all roadway locations where special construction techniques (e.g., night construction) would be used to minimize impacts to traffic flow.

Mitigation Measure 3.15-2: Coordination with San Joaquin Valley Railroad. SCE shall coordinate all construction activities with the San Joaquin Valley Railroad Company to avoid delays in freight train service in the vicinity of the proposed subtransmission line crossing. SCE shall implement, at a minimum, all San Joaquin Valley Railroad Company safety and engineering guidelines when installing the subtransmission line over the railroad right-of-way (ROW). All construction crews and project personnel shall be trained on San Joaquin Valley Railroad Company safety guidelines prior to commencing work within or over the railroad ROW.

Significance after Mitigation: Less than Significant.

Operations

Once constructed, operation of the Proposed Project would require periodic routine maintenance trips, inspection, and vegetation management activities. Maintenance activities would not generate a decrease in the LOS levels or any other standard used to gauge performance of the roadways in the Proposed Project area; therefore, the Proposed Project would not result in an increase in traffic in the project area. No impact would occur.

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways: *NO IMPACT.*

No congestion management program (CMP) applies to the Proposed Project. State Proposition 111, passed by voters in 1990, established a requirement that every county with an urbanized area of at least 50,000 people prepare and biennially update a Congestion Management Program (CMP). CMPs monitor performance of the region's roadway transportation system, develop programs to address near- and long-term congestion, and integrate transportation and land use planning. A CMP is not required and has not been adopted in Kings County. Therefore, no impact would occur.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks: *NO IMPACT.*

The Proposed Project would not result in a change to air traffic patterns, including air traffic levels or flight patterns associated with Hanford Municipal Airport, which is located approximately 1.7 miles west-southwest of the south end of proposed subtransmission tap line. In addition, the new poles and conductor associated with the Proposed Project would parallel immediately adjacent to an existing PG&E transmission line and the proposed poles would be generally shorter than the height of the existing PG&E lattice towers. Therefore, given the distance from the Proposed Project area to Hanford Municipal Airport and the Proposed Project's orientation and height relative to the existing PG&E transmission line, no substantial air traffic-related safety risks would result. No impact would occur.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment): *NO IMPACT.*

The Proposed Project would not result in the construction of new or modified existing roadways, and so would not change the configuration (alignment) of area roadways, introduce curves, or add intersections or other design features that could increase hazards due to design features. The proposed new substation, subtransmission lines, and other project components would be compatible with existing designated uses of the area, including agricultural, residential, and limited industrial uses. Therefore, the Proposed Project would not substantially increase traffic hazards due to incompatible uses. Thus, there would be no impact.

e) Result in inadequate emergency access: *LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED.*

Operation of the Proposed Project would have no impact on emergency access. However, construction of the Proposed Project could have a significant impact on emergency access associated with temporary effects on traffic flow when the proposed subtransmission tap line and telecommunication lines would be constructed over roadways and the proposed distribution circuits would be constructed within roadways. Subtransmission tap line and telecommunication line installation across roads and distribution circuit installation within roads, and the associated potential temporary closure of travel lanes, could result in delays for emergency vehicles passing through the vicinity.

Implementation of Mitigation Measure 3.15-1 would require the construction contractor to coordinate all construction activities with emergency service providers to minimize disruption to emergency vehicle access to land uses along the proposed subtransmission tap line, the telecommunication line, and distribution circuit alignments. Specific requirements are identified under Mitigation Measure 3.15-1 (see above). Implementation of this mitigation measure would ensure potential impacts associated with temporary effects on emergency access would be mitigated to a less than significant level.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities: *LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED.*

The Proposed Project would not conflict with adopted policies, plans, or programs regarding alternative transportation because it would not require an increase in long-term use of traditional modes of transportation or result in any increased demand on public transit, bicycle, or pedestrian facilities. Construction of the Proposed Project could result in temporary impacts to the safety of bicyclists and pedestrians using public roadways. However, implementation of Mitigation Measure 3.15-1 would ensure that impacts would be mitigated to a less than significant level by requiring detour routes for bicyclists and pedestrians around active construction work areas. Impacts would be mitigated to a less than significant level.

References

California Department of Transportation (Caltrans), 2010. Traffic and Vehicle Data Systems Unit 2008 All Traffic Volumes on CSHS Webpage (<http://traffic-counts.dot.ca.gov/2008all.htm>) accessed on June 8, 2010.

Kings County, 2010a. *2035 Kings County General Plan, Circulation Element*. Adopted on January 26, 2010.

3.16 Utilities and Service Systems

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
16. UTILITIES AND SERVICE SYSTEMS—Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.16.1 Environmental Setting

Water and Wastewater Service

The Proposed Project would be located within an agricultural area of unincorporated Kings County. An irrigation system and groundwater well are present on the Project site. No wastewater infrastructure exists onsite.

Solid Waste and Recycling Service

Private haulers licensed in Kings County provide solid waste and disposal services to unincorporated areas of the County. Solid waste generated within the study area primarily would be disposed of in the Avenal Regional Landfill or the CWMI, KHF Landfill. **Table 3.16-1** lists the total and remaining capacities of these landfills.

Electricity and Natural Gas

SCE provides electricity in the Project area and Southern California Gas provides natural gas.

**TABLE 3.16-1
 COUNTY LANDFILL REMAINING ESTIMATED CAPACITY**

Landfill	County	Total Estimated Permitted Capacity (cubic yards)	Total Estimated Capacity Used (cubic yards)	Remaining Estimated Capacity (cubic yards)	Estimated Year to Close
Avenal Regional Landfill	Kings	26,000,000	0 (0%)	26,000,000 (100%)	12/31/2020
CWMI, KHf (MSW Landfill B-19)	Kings	4,200,000	2,298,140 (54.7%)	1,901,860 (45.3%)	12/31/2010

Capacity information as of 2000.
 SOURCE: CIWMB, 2009a.

3.16.2 Regulatory Setting

State

Protection of Underground Infrastructure

California Government Code Section 4216.2 requires excavators, including utility operators, to contact a regional notification center at least two working days before beginning the excavation work. The notification center for southern California is Underground Service Alert. Any utility provider seeking to begin an excavation project must call Underground Service Alert’s toll-free hotline. In turn, Underground Service Alert will notify the utilities that may have buried lines within 1,000 feet of the excavation. Representatives of the utilities are required to mark the specific location of their facilities within the work area prior to the start of excavation. The excavator is required to probe and expose the underground facilities by hand prior to using power equipment.

Assembly Bill 939

Assembly Bill 939 (AB 939), enacted in 1989 and known as the Integrated Waste Management Act, required each city and/or county’s Source Reduction and Recycling Element to reduce the amount of waste being disposed to landfills, with diversion goals of 50 percent by the year 2000. (See California Public Resources Code Section 40000 et seq.). The Kings Waste and Recycling Authority jurisdiction had a diversion rate in 2005 and 2006 of 48 percent; the Avenal jurisdiction had a diversion rate in 2005 of 59 percent and 2006 of 66 percent (CIWMB, 2009b).

Regional

Central Valley Regional Water Quality Control Board

The Central Valley Regional Water Quality Control Board (CVRWQCB) is responsible for the protection of water quality and beneficial uses of waters within Kings County, including the study area. The CVRWQB is responsible for: preparing new or revised policies to address region-wide water quality concerns; adopting, monitoring compliance with, and enforcing waste discharge requirements and NPDES permits; providing recommendations to the State Board on financial assistance programs, proposals for water diversion, budget development, and other statewide

programs and policies; coordinating with other public agencies which are concerned with water quality control; and informing and involving the public on water quality issues. The RWQCB adopts and implements a Water Quality Control Plan (Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan (CVRWQCB, 2004)

Local

Kings County

Chapter 13 of the Kings County Code of Ordinances outlines regulations for solid waste collection and disposal. This ordinance does not set forth specific diversion requirements for solid waste associated with construction and demolition debris (Kings County, 2010).

3.16.3 Applicant Proposed Measures

No applicant proposed measures have been identified to reduce utilities and service system impacts associated with the Proposed Project.

3.16.4 Environmental Impacts and Mitigation Measures

The Proposed Project involves various individual components and construction activities, several of which were found to have no impact on utilities and are therefore not carried forward for discussion in this section. These activities include the proposed modifications at the Liberty and Goshen Substations, and the potential temporary construction and use of a staging area, if SCE is unable to use the Proposed Mascot Substation site for staging. Justification for not carrying these activities forward for individual utilities analysis (16.a-h) is as follows:

The proposed modifications at the Liberty and Goshen Substations would consist of new underground duct banks to house telecommunication lines. Construction activities at these two substations would occur on previously disturbed, un-vegetated areas within the existing fence line of the substations, or for short distances (30 to 200 feet) along existing roads between the substation and existing poles. The associated construction, operation, and maintenance activities would not result in the need for new or expanded water, wastewater, storm water, or solid waste treatment facilities, and would have no impact to water, wastewater, or storm water. Consequently, there would be no impacts to utilities due to the activities at the Goshen and Liberty Substation.

Construction staging for the Proposed Project would require a temporary staging area, either at the proposed Mascot Substation site or a to-be-determined facility within approximately five miles of the Proposed Project. If a to-be-determined facility is required it would be used only for parking and the storage of materials and equipment during construction. The associated construction activities would not result in the need for new or expanded water, wastewater, storm water, or solid waste treatment facilities, and would have no impact to water, wastewater, or storm water. Consequently, there would be no impacts to utilities due to the activities proposed at the to-be-determined staging area, if required.

Potential impacts to utilities resulting from construction and maintenance of other Proposed Project components are described below.

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board: *NO IMPACT.*

The Proposed Project would cause no impact to wastewater. Portable toilets would be utilized during construction (a one-time limited timeframe with an anticipated duration of 11 months), and the Mascot Substation would be equipped with a portable chemical unit restroom that would be placed within the substation perimeter wall, and maintained by an outside service company. Waste would be disposed of according to required regulations, and no additional wastewater would be generated during construction or operation of the Project. Therefore, the Proposed Project would not exceed wastewater treatment requirements of the Central Valley Regional Water Quality Control Board, and no impact would occur. See also, criterion e), below.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects: *NO IMPACT.*

The Proposed Project would require water use during construction primarily for periodic dust control on access roads. It is anticipated that construction water would be brought in on water trucks. However, construction-related water demand and use would be temporary in nature and would not generate wastewater that would require treatment or disposal. Municipal water is not currently available at the substation site, and is not projected to be available at the site as part of the Proposed Project. As such, operation of the Proposed Project is not projected to use any water. Consequently, the Proposed Project would not require or result in the construction of new or expanded water or wastewater treatment plant facilities; therefore, no impacts would occur. See also, criteria d) and e), below.

c) Require or result in the construction of new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects: *NO IMPACT.*

Currently, the watershed area including the proposed substation site is used to grow alfalfa; stormwater runoff does not appear to leave the property. To construct the Mascot Substation, the site would be graded to direct surface drainage towards the south, where it would be controlled by either an earthen detention basin or other means as defined by the grading and drainage plans. The portion of the substation site north of the perimeter wall would drain towards Grangeville Boulevard. Prior to substation construction, SCE would be required to obtain a grading permit from Kings County, during which time the final site drainage design would be determined.

In addition, construction of the Mascot Substation would require several ground surface improvements that would increase the amount of impermeable surface in the Project area. **Table 3.16-2** shows the Mascot Substation elements that will create new impermeable surfaces:

**TABLE 3.16-2
 SUBSTATION GROUND SURFACE IMPROVEMENT MATERIALS AND AREAS**

Element	Material	Approximate Surface Area (ft²)
Substation Equipment Foundations	Concrete	2,000
Cable Trenches	Concrete	1,900
66 kV Bus Enclosures	Asphalt concrete	4,100
Internal Driveway	Asphalt concrete	4,500
External Driveway	Asphalt concrete	3,000
Block Wall Foundation	Concrete	3,000

SOURCE: SCE, 2009

As such, construction of the Mascot Substation portion of the Proposed Project would result in the creation of approximately 18,500 square feet of impermeable surface.

Construction of the subtransmission line portion of the Proposed Project would include installation of 31 wooden and 14 steel poles along 2.0 miles of new right-of-way (ROW). Construction associated with the subtransmission line portion of the Proposed Project, including pole installation sites, work areas, pull and tension sites, the staging area, and access roads, would result in a minor net increase in impervious surfaces, consisting only of the footprint of the new poles and pole foundations. Consequently, none of these modifications would substantially increase runoff.

Although the construction of the Mascot Substation would increase the amount of impervious surfaces in the Project area by approximately 18,500 square feet, this would not create a substantial amount of additional runoff water. Furthermore, the site would be graded to direct surface drainage towards the direction of the natural drainage, towards an earthen detention basin or other means as defined by the grading and drainage plans. Operation and maintenance of the Proposed Project would have no effect on storm water drainage. Therefore, the Proposed Project would not require or result in the construction of a new or expanded storm water drainage facility, and there would be no impact.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed: *NO IMPACT.*

Operation of the Proposed Project would not require the use of water. The primary use of water during construction of the Proposed Project would be for dust suppression measures on access roads, and SCE and its contractors would have water tanks and/or water trucks sited/available in the Project area for fire protection. The water that would be required for construction of the transmission line would be trucked in from off-site. The working crew would bring in drinking water from off-site. Water used during the construction period would be available from existing municipal water sources and would not require local water providers to obtain additional water entitlements. The amount of water required for construction of the Proposed Project would be negligible and no new or expanded water entitlements would be needed. No impact would occur.

e) Result in a determination by the wastewater treatment provider that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments: *NO IMPACT*.

As described under criterion d), the primary use of water during construction of the Proposed Project would be for dust suppression measures on access roads. Disposal would not be required because the water used during dust suppression activities would be minimal and consequently this water would evaporate or be absorbed into the ground. In addition, construction crews would use portable sanitation facilities (portable toilets), generating relatively small volumes of wastewater for a limited time during the construction phase. Sanitation waste would be disposed of according to sanitation waste management practices. No other sources of wastewater are anticipated during the Proposed Project construction activities. Operation of the Proposed Project would not require the use of water, as the restroom installed at Mascot Substation would be a portable chemical unit that would be maintained by an outside service company. The negligible amount of water used during construction would not affect the wastewater treatment facilities' abilities to serve the Proposed Project's projected demand in addition to the providers' existing commitments. Therefore, no impact would occur.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs: *LESS THAN SIGNIFICANT IMPACT*.

Operation of the Proposed Project would not generate solid waste and would therefore not affect existing landfill capacities.

Construction of the Proposed Project would generate various waste materials, including wood, soil, vegetation, and sanitation waste (portable toilets). The Proposed Project would require the removal and disposal of two existing wooden poles. Depending on the condition and original chemical treatment, the two existing wood poles removed for the Proposed Project would be returned to the staging yard and either: (1) reused by SCE, (2) returned to the manufacturer, (3) disposed of in a Class I hazardous waste landfill, or (4) disposed of in the lined portion of a Regional Water Quality Control Board (RWQCB)-certified municipal landfill.

Soil excavated for the Proposed Project either would be used as fill or would be disposed of off-site at an appropriately licensed waste facility. Sanitation waste (i.e., human-generated waste) would be disposed of according to sanitation waste management practices. Other miscellaneous non-hazardous construction materials that could not be reused or recycled would be disposed of at municipal county landfills, such as the Avenal Regional Landfill or the CWMI, KHF Landfill. Each of the Kings County landfills has remaining permitted capacity. Assuming CWMI, KHF Landfill closes at the end of 2010, the remaining capacity at Avenal Regional Landfill would be sufficient to accept the waste generated by the Proposed Project. Any hazardous material would be recycled, treated and/or disposed of in accordance with federal, State and local laws. Impacts related to the removal and disposal of treated wood and construction materials would be less than significant (see Section 4.7, *Hazards and Hazardous Materials*, for additional information). Because Avenal Regional Landfill has sufficient capacity to accept SCE's construction waste, impacts would be less than significant.

g) Comply with federal, State, and local statutes and regulations related to solid waste: NO IMPACT.

As discussed above, the Proposed Project would generate waste during construction. Construction waste would include the one time disposal of material that could not be recycled or reused. Subtransmission line operation and maintenance are not anticipated to produce additional solid waste. The construction waste generated would be minimal and SCE would dispose of the waste in an appropriate landfill. As discussed above, landfills within the project area have sufficient capacity to accept anticipated Project waste.

Kings County has an adopted a Countywide Source Reduction and Recycling Element (SRRE) that establishes goals and methodologies for compliance with the California AB 939, which establishes 50 percent diversion of solid waste from landfills. The Kings Waste and Recycling Authority jurisdiction had a diversion rate in 2005 and 2006 of 48 percent; the Avenal jurisdiction had a diversion rate in 2005 of 59 percent and 2006 of 66 percent (CIWMB, 2009b). Therefore the Avenal jurisdiction within Kings County met the requirement of AB 939 in 2005 and 2006, but the Kings Waste and Recycling Authority jurisdiction did not meet the requirement in 2005 or 2006. Nevertheless, SCE would dispose of construction debris consistent with federal, State and local recycling, reduction and waste requirements and policies. Thus, the Proposed Project would not result in impacts related to conflicts with statutes and regulations regarding solid waste.

References

- California Integrated Waste Management Board (CIWMB), 2009a. *California Waste Stream Profiles: Facilities*. www.ciwmb.ca.gov/Profiles/Facility/Landfill/Default.asp, accessed December 28, 2009.
- California Integrated Waste Management Board (CIWMB), 2009b. *Countywide, Regionwide, and Statewide Jurisdiction Diversion Progress Report, Consolidated Waste Management Authority*. <http://www.ciwmb.ca.gov/LGTools/mars/jurdrsta.asp>, accessed December 28, 2009.
- Central Valley Regional Water Quality Control Board (CVRWQCB), 2004. *Water Quality Control Plan for the Tulare Lake Basin*, Second Edition, Revised January 2004 (with Approved Amendments).
- Kings County, 2010. *Code of Ordinances, Chapter 13, Solid Waste Collection and Disposal*, <http://library.municode.com/index.aspx?clientId=12257&stateId=5&stateName=California>, accessed June 1, 2010.

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3.17 Mandatory Findings of Significance

<u>Issues (and Supporting Information Sources):</u>	<u>Potentially Significant Impact</u>	<u>Less Than Significant with Mitigation Incorporation</u>	<u>Less Than Significant Impact</u>	<u>No Impact</u>
17. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulative considerable? ("Cumulative considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.17.1 Mandatory Findings of Significance Discussion

- a) **Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory: *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.***

Although the Proposed Project could degrade the quality of the environment, it does not have the potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory. As discussed in the *Aesthetics, Agricultural and Forestry Resources, Biological Resources, Cultural Resources, Hazards and Hazardous Materials, Noise, and Traffic and Transportation* sections of this Initial Study, the Proposed Project would result in potentially significant impacts that would have the potential to degrade the quality of the environment. However, adoption and implementation of mitigation measures would reduce these individual impacts to levels that would be less than significant.

As described in *Aesthetics*, the Proposed Project could create a new source of substantial light or glare that would adversely affect nighttime views in the area. Implementation of Mitigation Measure 3.1-1 (reducing nighttime lighting impacts) would reduce these individual impacts to levels that would be less than significant.

As described in *Agricultural and Forestry Resources*, the Proposed Project would convert Farmland of Statewide Importance to non-agricultural use and involve other changes in the existing environment which, due to their location or nature, could result in conversion of such farmland to non-agricultural use. Implementation of Mitigation Measure 3.2-1 and Mitigation Measure 3.2-2 would reduce these individual impacts to levels that would be less than significant.

As described in *Biological Resources*, the Proposed Project could have a substantial adverse effect, either directly or through habitat modifications, on sensitive and special-status species including western pond turtle, Swainson's hawk, western burrowing owl, nesting birds, and San Joaquin kit fox. Implementation of Mitigation Measure 3.4-1, Mitigation Measure 3.4-2, Mitigation Measure 3.4-3, and Mitigation Measure 3.4-4 would reduce these individual impacts to levels that would be less than significant by protecting the living, nesting and breeding habitats of these sensitive and special status species.

As described in *Cultural Resources*, the Proposed Project does not have the potential to eliminate important examples of the major periods of California history or prehistory. No prehistoric or historic-period archaeological resources are known to exist within the Project area. Five historic-period built resources are present within the Project area and may be historic resources; however, two of these would not be impacted by the Proposed Project and, with the inclusion of a mitigation measure stating that the other three (the Lakeside Ditch, Settlers Ditch, and San Joaquin Valley Railroad) shall be avoided during project implementation, impacts to the remaining potential historical resources would be mitigated to a less-than-significant level.

As described in *Hazards and Hazardous Materials*, the Proposed Project could create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; or create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Implementation of the following mitigation measures would reduce these individual impacts to levels that would be less than significant: Mitigation Measure 3.7-1, Mitigation Measure 3.7-2, Mitigation Measure 3.7-3, Mitigation Measure 3.7-4, Mitigation Measure 3.7-5, Mitigation Measure 3.7-6, and Mitigation Measure 3.7-7. These measures include such requirements as implementation of best management practices; implementation of measures to contain and control any releases of hazardous materials; and preparation of a Hazardous Substance Control and Emergency Response Plan, a Health and Safety Plan, a Workers Environmental Awareness Program, and a Soil Sampling and Analysis Plan.

As described in *Noise*, the Proposed Project could result in exposure of persons to, or generation of, noise levels in excess of the County's standards and result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. Implementation of Mitigation Measure 3.11-1 and Mitigation Measure 3.11-2 would reduce these individual impacts to levels that would be less than significant by limiting construction to daylight hours, and requiring development of a nighttime noise reduction plan in the event that nighttime construction is determined to be necessary.

As described in *Traffic and Transportation*, construction-related traffic impacts of the Proposed Project temporarily could result in inadequate emergency access and/or impacts to the safety of bicyclists and pedestrians using public roadways. Implementation of Mitigation Measure 3.15-1 and Mitigation Measure 3.15-2 would reduce these individual impacts to levels that would be less than significant.

b) Does the project have impacts that are individually limited, but cumulative considerable: *LESS THAN SIGNIFICANT IMPACT*.

The Proposed Project does not have impacts that are individually limited but cumulatively considerable. CEQA Guidelines Section 15130 requires a discussion of the cumulative impacts of a project when the project's incremental contribution to a significant cumulative effect is "cumulatively considerable," meaning that the project's incremental effects are considerable when viewed in connection with the effects of past, current, and probable future projects. An incremental, project-specific contribution to a cumulative impact is less than cumulatively considerable, and thus is not significant, if, for example, the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact. The cumulative impacts discussion does not need to provide as much detail as is provided in the analysis of project-specific impacts and should be guided by the standards of practicality and reasonableness.

CEQA Guidelines Section 15130(b) identifies the following elements as necessary for an adequate cumulative impacts analysis:

- A list of past, present, and reasonably anticipated future projects producing related or cumulative impacts, including those projects outside the control of the Lead Agency; or a summary of projections contained in a local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect;
- Definition of the geographic scope of the area affected by the cumulative effect and a reasonable explanation for the geographic limitation used;
- A summary of expected environmental effects to be produced by those projects. The summary shall include specific reference to additional information stating where that information is available; and
- A reasonable analysis of the cumulative impacts of the relevant projects, and an examination of reasonable options for mitigating or avoiding any significant cumulative effects of a proposed project.

Kings County, the City of Hanford, and the California Department of Transportation (Caltrans) were contacted for information on projects within their respective jurisdictions. Within the jurisdiction of the City of Hanford and Kings County, one extension of a water main and service is proposed within a mile of the proposed substation, which would traverse the subtransmission alignment (City of Hanford, 2010b). This project is pending the release of funding from the State, upon which plans and specifications will need to be prepared. In addition, three Caltrans projects would intersect with the Proposed Project. The first, a widening project (i.e. State Route 198 Widening Project), is currently under construction and is projected to be completed in fiscal year 2013/2014. The subtransmission line portion of the Proposed Project would traverse the SR 198 road widening area. The second and third Caltrans projects, installation of barriers on SR 198 and tree planting

along SR 198, are in planning phases, and projected to be completed in fiscal year 2010/2011 and fiscal year 2016/2017, respectively (Caltrans, 2010). Both of these projects would intersect with the subtransmission line portion of the Proposed Project. Besides the water main extension project, no Kings County or City of Hanford projects have been identified in vicinity of the Project Proposed (Kings County, 2010; City of Hanford, 2010a). It is reasonably foreseeable that the projects identified above will be constructed and/or operated during a similar timeframe as the Proposed Project.

There is only one existing significant cumulative impact in the project area; it relates to agricultural resources. The geographical context of cumulative impacts to agricultural resources includes Kings County. Agricultural uses, including hundreds of dairies and thousands of acres of row and orchard crops, still dominate Kings County's landscape; however, the County has seen a reduction in agricultural land due to urbanization. There has been a reduction of 2% of the total acreage of Farmland in Kings County from 2004 to 2006. This trend is similar to that of neighboring Tulare County.

**TABLE 3.17-1
 FARMLAND CONVERSION IN KINGS COUNTY**

Land Use Category	Total Acreage Inventoried		2004-06 Acreage Changes			% of 2004 total acreage lost
	2004	2006	Acres Lost (-)	Acres Gained (+)	Net Acreage Changed	
Prime Farmland	140,582	139,212	2,507	1,137	-1,370	-1%
Farmland of Statewide Importance	429,773	420,422	11,125	1,774	-9,351	-2%
Unique Farmland	28,523	25,982	4,276	1,735	-2,541	-9%
Farmland Subtotal	598,878	585,616	17,908	4,646	-13,262	-2%

SOURCE: FMMP, 2010

Several of the projects identified above would result in the permanent conversion of agricultural lands to non-agricultural uses, although the actual acreage of such conversion is not known. However, in general, the acreage of Farmland in Kings County is expected to decline.

The Proposed Project would temporarily disturb 30 acres of Farmland of Statewide Importance, and eight acres of Farmland of Statewide Importance would be permanently converted to non-agricultural use. Consequently, the Proposed Project would contribute incrementally to this decline. However, the implementation of Mitigation Measure 3.2-1 would require SCE to pay a mitigation fee for the agricultural land that would be converted to permanent non-agricultural use and, thereby, would minimize the impact to a less-than-significant level. Because the Proposed Project, as mitigated, would comply with the requirements in Kings County's mitigation program, which provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the Proposed Project is located, the incremental contribution of farmland conversion associated with the Proposed Project would not be cumulatively considerable.

There is no existing significant adverse cumulative impact to which the Proposed Project could contribute with respect to Aesthetics, Air Quality and GHG, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality,

Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services, Recreation, Transportation and Traffic, or Utilities and Service Systems. The Proposed Project would have no impact on Land Use Planning, Mineral Resources, or Recreation; consequently, the Proposed Project could not have a cumulatively considerable contribution with respect to these resources. Furthermore, the Proposed Project's incremental, less-than-significant impact on remaining resources would not be cumulatively considerable for the reasons discussed below.

Aesthetics

The geographic scope of the cumulative impacts to visual quality is the viewsheds that could be affected by the Proposed Project from public roadways, trails, and open space areas. Mitigation Measure 3.1-1 would ensure that the Proposed Project would not result in significant individual effects on visual resources. Past, present, and reasonably foreseeable future projects could alter the visual character of areas within the Project vicinity. Other projects could have the potential to create new visual impacts within the viewsheds that could be affected by the Proposed Project from public roadways, trails, open space, and residential areas. However, these projects generally would be located in urbanized, developed areas and would therefore not be likely to affect the area's visual character. Additionally, future development within the Project vicinity is guided by the applicable county and city General Plans, and associated planning and environmental documents. Furthermore, new development would be subject to the applicable city and county design review process. When considered with the existing visual setting and the past, present, and reasonably foreseeable projects in the Project area, the Proposed Project's contribution would not be cumulatively considerable because it would not significantly alter existing scenic quality or viewsheds.

Biological Resources

Biological impacts resulting from the Proposed Project are localized around the proposed substation and individual utility poles, and are comprised primarily of ground-disturbance during construction and maintenance activities. These project-level impacts are less than significant following mitigation. Nonetheless, the Proposed Project would make incremental, less-than-significant project-specific contributions to cumulative impacts on the following biological resources: San Joaquin kit fox, Swainson's hawk, and burrowing owl.

Other projects in the area that may affect biological resources include a road-widening project, installation of a roadway center barrier, extensive tree planting along a major expressway, and a water main/service extension project. A Caltrans road-widening project would convert State Route 198 from a 2-lane road into a 4-lane expressway for a distance of 6.8 miles. This would convert approximately 25 acres of agricultural land into developed land. Although agricultural lands are usually of minimal habitat value, there would be a permanent loss of 25 acres of potential foraging habitat. The installation of a roadway centerline barrier for a length of approximately three miles along State Route 198 could potentially restrict wildlife movement; however, this section of roadway (near the intersection of State Route 198 and State Route 43) passes through extensive agricultural areas that are not likely to support large numbers of wildlife, and it is not known to be a wildlife movement corridor. The details of tree planting along Hanford Expressway are not known, but species are likely to be native trees that would enhance biological resources in the area. The extension

of a water main and service would result in land disturbance, but the effect would be small, temporary, and possible contained within existing roadways.

The Proposed Project would result in the temporary loss of 30 acres of land and the permanent loss of eight acres of land, due to construction of the proposed substation, installation of new poles, creation of new access roads, and establishment of temporary staging areas. Similar to impacts for other projects described above, this is agricultural land that is of minimal habitat value but nonetheless results in the loss of eight acres of potential, low-quality foraging habitat for Swainson's hawk, San Joaquin kit fox, and burrowing owl. However, considered in concert with other projects in the area, this less-than-significant Project-specific impact is not cumulatively considerable due to the historical cultivation of the area and the extensive remaining tracts of agricultural land.

Cultural Resources

The potential construction impacts of the Proposed Project, in combination with impacts from other projects in the area, could contribute to a cumulatively significant impact on cultural resources. However, several mitigation measures would be included for the Proposed Project to reduce potential project impacts to cultural resources during construction of the Proposed Project, including supplementary archaeological surveys, paleontological monitoring, and provisions for the accidental discovery of cultural resources. Future projects with potentially significant impacts to cultural resources would be required to comply with federal, State, and local regulations and ordinances protecting cultural resources through implementation of similar mitigation measures during construction. Therefore, with implementation of the recommended Mitigation Measures, the Proposed Project would not have a cumulatively considerable contribution to impacts to cultural resources.

Geology, Soils and Seismicity

Impacts on geology and soils generally are localized and do not result in regionally cumulative impacts. Geologic conditions can vary significantly over short distances creating entirely different effects elsewhere. Other future development would be constructed to the then-current standards, which could exceed those of existing improvements within the region and, thereby, reduce the potential impacts to the public. The less-than-significant incremental Proposed Project-specific impacts on geology, soils and seismicity would not be cumulatively considerable.

Hazards and Hazardous Materials

As indicated in Section 3.7.1 (*Environmental Setting*), there is no existing contamination or other inherently cumulative hazards in the immediate vicinity of the Proposed Project; therefore, there is no existing significant cumulative impact on hazards or hazardous materials to which the Proposed Project could contribute. Further, construction activities associated with the Proposed Project would increase the hazard potential in the study area by a less than significant amount, and operation of the Proposed Project would result in no impacts or less than significant impacts on such potential. These incremental, Proposed Project-specific impacts would not be cumulatively considerable when analyzed together with the impacts of other past, present, and reasonably foreseeable future projects.

Hydrology and Water Quality

The geographic context for the cumulative impacts associated with hydrology and water quality is the Tulare Lake Basin, encompassing the project areas, and hydrologically down-gradient areas to the south and west. The Proposed Project, along with the past, present, and reasonably foreseeable future projects in the area would be required to comply with applicable federal, State, and local water quality regulations. The Proposed Project, along with other projects involving similar general construction activities, would be required to obtain coverage under the General Permit, Clean Water Act Section 401 water quality certification, and/or Waste Discharge Requirements. Storm water management measures would be required to be identified and implemented that would effectively control erosion and sedimentation and other construction-related pollutants during construction. Other management measures, such as construction of infiltration/detention basins, would be required to be identified and implemented that would effectively treat pollutants that would be expected for the post-construction land use for certain projects. Construction and operational related stormwater runoff from the Proposed Project would be controlled by the requirements of a National Pollutant Discharge Elimination System (NPDES) permit (e.g., General Permit), county review and approval of the grading plan, and applicant proposed measures. Other new development in the area also would be required to control construction- and operation-related stormwater by implementing State and local requirements regarding hydrology and water quality, as well as by requirements introduced through CEQA review where applicable. Furthermore, the Mitigation Measures described above would ensure that the Proposed Project-specific contribution to any cumulative hydrologic resources and water quality impact would be less than cumulatively considerable.

Noise

Noise levels tend to lessen quickly with distance from a source; therefore, the geographic scope for cumulative impacts associated with noise would be limited to projects within one mile of the Proposed Project. Construction of the Proposed Project could result in a potentially significant impact if nighttime construction activities are determined to be required; however, this impact would be reduced to less than significant with mitigation. Operation and maintenance activities would not result in permanent increases to existing noise levels in the study area and impacts would be less than significant.

There are several projects located within one mile of the Proposed Project, including three California Department of Transportation (Caltrans) projects associated with SR 198 and one Kings County project to extend a water main. It is reasonably foreseeable that these projects could be constructed simultaneously with the Proposed Project. If so, the potential for impacts to nearby sensitive receptors from construction noise would increase. However, with implementation of Mitigation Measures 3.11-1 and 3.11-2, the Proposed Project's incremental contribution to noise levels in the study area from construction activities would be less-than-significant. Other projects constructed simultaneously with the Proposed Project also would be subject to applicable noise standards, thereby reducing their own incremental contribution during construction. Given the very limited geographic scope for cumulative noise impacts and the nature and location the potentially cumulative projects, the Proposed Project's incremental contribution to temporary noise impacts from construction, with proposed mitigation, would not be cumulatively considerable.

Population and Housing

The geographic context for the cumulative impacts associated with population and housing issues are the cities and unincorporated communities of Kings County. Both Kings County and the City of Hanford are expected to undergo population growth over the next few decades. By 2030, the population of unincorporated Kings County is expected increase 80 percent from 2000 levels to 47,990 persons while the population of the City of Hanford is expected to increase nearly 99 percent from 2000 levels to 82,800 persons (Kings County, 2010).

Past, present, and reasonably foreseeable projects in the study area may result in direct and/or indirect impacts on population growth in the area. The Proposed Project would have no direct impact on population growth and a less than significant indirect impact. Because the Proposed Project's construction crews would not be expected to relocate into the area to construct the Proposed Project, any incremental indirect impacts on population growth associated with the Proposed Project's labor force would not be cumulatively considerable. Additionally, the cumulative projects and any other future development would be subject to the applicable city and/or county planning process, as well as environmental review on a project-by-project basis. As such, build-out of future projects would not be likely to result in the inducement of substantial direct or indirect population growth in the area beyond what is planned. Accordingly, the Proposed Project's less-than-significant incremental impact on indirect population growth associated with the extension of infrastructure would not be cumulatively considerable.

Public Services

The geographic scope of potential impacts on public services is the service area of affected public services, and generally is limited to the area within northeastern Kings County. During construction, the Proposed Project would have an individually less-than-significant effect on public services, including police and fire protection, and would result in no impact to schools and other public facilities.

Past, present and reasonably foreseeable projects in the project vicinity may increase demand for public services in the study area. Furthermore, construction activities associated with reasonably foreseeable projects may overlap with construction activities associated with the Proposed Project, which could result in substantial temporary increases in demand for public services. However, given that Proposed Project's less-than-significant incremental impacts to public services would be limited to the 11-month construction period, the Proposed Project would not make a cumulatively considerable contribution to any cumulative effect on public services that would require the construction of new or physical alteration of existing government facilities to maintain acceptable service ratios. The Proposed Project's contribution to cumulative impacts on public services would not be cumulatively considerable.

Traffic and Transportation

The geographic context for the cumulative impacts associated with transportation and traffic issues is limited to the areas where transportation facilities (e.g., roads, railroads, etc) would be used to access the proposed substation site and where they would be crossed during conductor stringing activities. The Proposed Project could have a temporary construction-related impact on local traffic flow in the Proposed Project area because street and lane closures may be required. Potentially

cumulative projects that could have similar impacts in the same geographic area include the three Caltrans projects along SR 198, Kings County's plan to extend a water main in the Proposed Project area, and other cumulative projects that could intercept the alignment of the proposed subtransmission tap line. Nonetheless, implementation of Mitigation Measures 3.15-1 and 3.15-2 would ensure that the Proposed Project's contribution to any transportation and traffic-related cumulative impact during construction would not be cumulatively considerable.

Utilities and Service Systems

The geographic scope of utilities and service system-related impacts is the service area of affected utilities and service systems, which generally is limited to northeastern Kings County. Construction of the Proposed Project would generate solid waste; however the Proposed Project would be served by a landfill(s) with sufficient permitted capacity to accommodate the project's solid waste disposal needs and impacts would be less than significant. Operation of other projects in the vicinity would result in long-term increases in solid waste generation. However, given that the Proposed Project's demand for landfill services would be limited to the construction period, the Proposed Project would have a less than cumulatively considerable contribution related to landfill impacts.

The Proposed Project also would have a temporary, less-than-significant impact with regard to contacting or disturbing underground utility lines during construction activities. Construction of many of the other projects in the area may involve subsurface work that could result in contact with or disturbance of underground utility lines or facilities. However, other projects involving ground disturbing activities also would be required to notify the Underground Service Alert, thereby reducing each project's individual chance of contacting underground utility lines. Therefore, the incremental impact of the Proposed Project, in combination with the potentially cumulative projects, would not be cumulatively considerable.

In sum, Proposed Project impacts are individually limited and would not be cumulatively considerable.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly: *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.*

The Proposed Project has the potential to have environmental effects that could cause substantial direct or indirect adverse effects on human beings; however, the implementation of mitigation measures would reduce such impacts to less-than-significant levels. As analyzed in the context of criterion a), the Proposed Project's impacts relating to *Aesthetics, Hazards and Hazardous Materials, Noise, and Traffic and Transportation* could cause adverse effects on human beings. However, implementation of the mitigation measures identified in the respective sections of this Initial Study/Mitigated Negative Declaration would reduce or avoid such impacts on human beings to a less than significant level.

SECTION 4

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CHAPTER 5

Mitigation Monitoring, Reporting and Compliance Program

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MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM

MASCOT SUBSTATION PROJECT (A.09-11-020)

INTRODUCTION

This document describes the mitigation monitoring, reporting and compliance program (MMRCP) for ensuring the effective implementation of the mitigation measures required for the California Public Utilities Commission (CPUC, or Commission) approval of the Southern California Edison (SCE) application to construct, operate and maintain the Proposed Project. All mitigations are presented in Table 5-1 provided at the end of this MMRCP.

If the Proposed Project is approved, this MMRCP would serve as a self-contained general reference for the Mitigation Monitoring Program adopted by the Commission for the project. If and when the Proposed Project has been approved by the Commission, the CPUC will compile the Final Plan from the Mitigation Monitoring Program in the Final MND, as adopted.

California Public Utilities Commission – MMRCP Authority

The California Public Utilities Code in numerous places confers authority upon the CPUC to regulate the terms of service and the safety, practices and equipment of utilities subject to its jurisdiction. It is the standard practice of the CPUC, pursuant to its statutory responsibility to protect the environment, to require that mitigation measures stipulated as conditions of approval are implemented properly, monitored, and reported on. In 1989, this requirement was codified statewide as Section 21081.6 of the Public Resources Code. Section 21081.6 requires a public agency to adopt a reporting or monitoring program when it adopts a mitigated negative declaration for a project that could have potentially significant environmental effects. California Environmental Quality Act (CEQA) Guidelines Section 15097 was added in 1999 to further clarify agency requirements for mitigation monitoring and reporting.

The purpose of a MMRCP is to ensure that measures adopted to mitigate or avoid significant impacts of a project are implemented. The CPUC views the MMRCP as a working guide to facilitate not only the implementation and compliance of mitigation measures by the project

proponent, but also the monitoring and reporting activities of the CPUC and any monitors it may designate.

The Commission will address its responsibility under Public Resources Code Section 21081.6 when it takes action on SCE's application. If the Commission approves the application, it will also adopt this Mitigation Monitoring, Compliance, and Reporting Program that includes the mitigation measures ultimately made a condition of approval by the Commission.

Because the CPUC must decide whether or not to approve the SCE application and because the application may cause either direct or reasonably foreseeable indirect effects on the environment, CEQA requires the CPUC to consider the potential environmental impacts that could occur as the result of its decision and to consider mitigation for any identified significant environmental impacts.

If the CPUC approves SCE's application for a permit to construct and operate the power lines and construct its substation, SCE would be responsible for implementation of any mitigation measures governing both construction and future operation of the power lines and substation. Though other federal, State and local agencies would have permit and approval authority over some aspects of construction of the power lines, the CPUC would continue to act as the lead agency for monitoring compliance with all mitigation measures required by the adopted IS/MND. All approvals and permits obtained by SCE would be submitted to the CPUC for mitigation compliance prior to commencing the activity for which the permits and approvals were obtained.

In accordance with CEQA, the CPUC reviewed the impacts that would result from approval of the application. The activities considered include the construction of a new 66/12 kilovolt (kV) distribution substation (Mascot Substation) and associated 66 kV subtransmission lines, telecommunications connection, and 12 kV distribution circuits in unincorporated Kings County. The proposed subtransmission lines would occur within approximately 2.0 miles of new right-of-way (ROW). The CPUC review concluded that implementation of the Proposed Project would not result in any significant unmitigable impacts. All potential impacts could be mitigated to less than significant levels or would be less than significant. SCE has agreed to incorporate all the CPUC-recommended mitigation measures into the Proposed Project. The CPUC has included the stipulated mitigation measures as conditions of approval of the applications and has circulated an IS/MND for public review.

The attached IS/MND presents and analyzes potential environmental impacts that would result from construction, operation and maintenance of the substation and subtransmission lines, and proposes and recommends mitigation measures, as appropriate. Based on the IS/MND, approval of the application would have no impact or less than significant impacts in the following areas:

- Air Quality
- Geology, Soils, and Seismicity
- Hydrology and Water Quality
- Land Use Planning
- Mineral Resources
- Population and Housing
- Public Services
- Recreation
- Utilities and Service Systems

The IS/MND indicates that approval of the application would result in less than significant impacts with mitigation in the areas of:

- Aesthetics
- Agricultural and Forestry Resources
- Biological Resources
- Cultural Resources
- Hazards and Hazardous Materials
- Noise
- Traffic and Transportation

Roles and Responsibilities

As the lead agency under CEQA, the CPUC is required to monitor this project to ensure that the required mitigation measures and any Applicant Proposed Measures are implemented. The CPUC will be responsible for ensuring full compliance with the provisions of this MMRCP and has primary responsibility for implementation of the monitoring program. The purpose of the monitoring program is to document that the mitigation measures required by the CPUC are implemented and that mitigated environmental impacts are reduced to the level identified in the Program. The CPUC has the authority to halt any activity associated with the proposed project if the activity is determined to be a deviation from the approved project or the adopted mitigation measures.

The CPUC may delegate duties and responsibilities for monitoring to other mitigation monitors or consultants as deemed necessary. The CPUC will ensure that the person(s) delegated any duties or responsibilities are qualified to monitor compliance.

The CPUC, along with its mitigation monitor, will ensure that any variance process, which will be designed specifically for the Proposed Project, or deviation from the procedures identified under the monitoring program is consistent with CEQA requirements; no project variance will be approved by the CPUC if it creates new significant environmental impacts. As defined in this MMRCP, a variance should be strictly limited to minor project changes that will not trigger other permit requirements, that does not increase the severity of an impact or create a new impact, and that clearly and strictly complies with the intent of the mitigation measure. A change to the Proposed Project that has the potential for creating significant environmental effects will be evaluated to determine whether supplemental CEQA review is required. Any proposed deviation from the approved project and adopted mitigation measures, including correction of such deviation, shall be reported immediately to the CPUC and the mitigation monitor assigned to the construction for their review and CPUC approval. In some cases, a variance may also require approval by a CEQA responsible agency.

Enforcement and Responsibility

The CPUC is responsible for enforcing the procedures for monitoring through the environmental monitor. The environmental monitor shall note problems with monitoring, notify appropriate agencies or individuals about any problems, and report the problems to the CPUC. The CPUC has the authority to halt any construction, operation, or maintenance activity associated with the

project if the activity is determined to be a deviation from the approved project or adopted mitigation measures. The CPUC may assign its authority to its environmental monitor.

Mitigation Compliance Responsibility

SCE is responsible for successfully implementing all the adopted mitigation measures in this MMRCP. The MMRCP contains criteria that define whether mitigation is successful. Standards for successful mitigation also are implicit in many mitigation measures that include such requirements as obtaining permits or avoiding a specific impact entirely. Additional mitigation success thresholds will be established by applicable agencies with jurisdiction through the permit process and through the review and approval of specific plans for the implementation of mitigation measures.

SCE shall inform the CPUC and its mitigation monitor in writing of any mitigation measures that are not or cannot be successfully implemented. The CPUC in coordination with its mitigation monitor will assess whether alternative mitigation is appropriate and specify to SCE the subsequent actions required.

Dispute Resolution Process

This MMRCP is expected to reduce or eliminate many of the potential disputes concerning the implementation of the adopted measures. However, in the event that a dispute occurs, the following procedure will be observed:

- **Step 1.** Disputes and complaints (including those of the public) should be directed first to the CPUC's designated Project Manager for resolution. The Project Manager will attempt to resolve the dispute.
- **Step 2.** Should this informal process fail, the CPUC Project Manager may initiate enforcement or compliance action to address deviations from the Proposed Project or adopted Mitigation Monitoring, Reporting and Compliance Program.
- **Step 3.** If a dispute or complaint regarding the implementation or evaluation of the MMRCP or the mitigation measures cannot be resolved informally or through enforcement or compliance action by the CPUC, any affected participant in the dispute or complaint may file a written "notice of dispute" with the CPUC's Executive Director. This notice should be filed in order to resolve the dispute in a timely manner, with copies concurrently served on other affected participants. Within 10 days of receipt, the Executive Director or designee(s) shall meet or confer with the filer and other affected participants for purposes of resolving the dispute. The Executive Director shall issue an Executive Resolution describing his/her decision, and serve it on the filer and other affected participants.
- **Step 4.** If one or more of the affected parties is not satisfied with the decision as described in the Resolution, such party(ies) may appeal it to the Commission via a procedure to be specified by the Commission.

Parties may also seek review by the Commission through existing procedures specified in the Commission's Rules of Practice and Procedure for formal and expedited relief.

General Monitoring Procedures

Mitigation Monitor

Many of the monitoring procedures will be conducted during the construction phase of the project. The CPUC and the mitigation monitor are responsible for integrating the mitigation monitoring procedures into the construction process in coordination with SCE. To oversee the monitoring procedures and to ensure success, the mitigation monitor assigned to the construction must be on site during that portion of construction that has the potential to create a significant environmental impact or other impact for which mitigation is required. The mitigation monitor is responsible for ensuring that all procedures specified in the monitoring and reporting program are followed.

Construction Personnel

A key feature contributing to the success of mitigation monitoring will be obtaining the full cooperation of construction personnel and supervisors. Many of the mitigation measures require action on the part of the construction supervisors or crews for successful implementation. To ensure success, the following actions, detailed in specific mitigation measures included in the MMRCP, will be taken:

- SCE shall require all contractors to comply with the conditions of project approval, including all applicable mitigation measures.
- One or more pre-construction meetings will be held to inform all and train construction personnel about the requirements of the MMRCP.
- A written summary of mitigation monitoring procedures will be provided to construction supervisors for all mitigation measures requiring their attention.

General Reporting Procedures

Site visits and specified monitoring procedures performed by other individuals will be reported to the mitigation monitor assigned to the construction. A monitoring record form will be submitted to the mitigation monitor by the individual conducting the visit or procedure so that details of the visit can be recorded and progress tracked by the mitigation monitor. A checklist will be developed and maintained by the mitigation monitor to track all procedures required for each mitigation measure and to ensure that the timing specified for the procedures is adhered to. The mitigation monitor will note any problems that may occur and take appropriate action to rectify the problems. SCE shall provide the CPUC with written quarterly reports of the project, which shall include progress of construction, resulting impacts, mitigation implemented, and all other noteworthy elements of the project. Quarterly reports shall be required as long as mitigation measures are applicable.

Public Access to Records

The public is allowed access to records and reports used to track the monitoring program. Monitoring records and reports will be made available for public inspection by the CPUC on request. The CPUC and SCE will develop a filing and tracking system.

Condition Effectiveness Review

In order to fulfill its statutory mandates to mitigate or avoid significant effects on the environment and to design a MMRCPP to ensure compliance during project implementation (CEQA 21081.6):

- The CPUC may conduct a comprehensive review of conditions which are not effectively mitigating impacts at any time it deems appropriate, including as a result of the Dispute Resolution procedure outlined above; and
- If in either review, the CPUC determines that any conditions are not adequately mitigating significant environmental impacts caused by the project, or that recent proven technological advances could provide more effective mitigation, then the CPUC may impose additional reasonable conditions to effectively mitigate these impacts.

These reviews will be conducted in a manner consistent with the CPUC's rules and practices.

Mitigation Monitoring, Reporting and Compliance Program

The table attached to this program presents the mitigation measures included in the IS/MND. The purpose of the table is to provide a single comprehensive list of impacts, mitigation measures, monitoring and reporting requirements, and timing.

SCE proposed the following Applicant Proposed Measures (APMs) to minimize impacts to the environment from implementation of the Proposed Project. The impact analysis in this IS/MND assumed that these APMs would be implemented as part of the Proposed Project.

Biological Resources: No measures were proposed by the applicant to minimize impacts on biological resources resulting from the Proposed Project. Environmental surveys were proposed, however, as part of the applicant's Project Description. The impact analysis in this MND assumes that these environmental surveys would be implemented to reduce impacts on biological resources:

Unsurveyed Areas. For areas disturbed by the Project that have not been surveyed, a desktop review of resources occurring in the area will be conducted to identify potential biological resources that may occur, and a qualified wildlife biologist would conduct a field survey of the areas directly impacted by construction.

Thirty days prior to the start of ground-disturbing activity, the following surveys will be conducted:

Clearance Surveys. A clearance survey will be conducted to identify potential plant and animal species that may be impacted by construction activities. Clearance surveys include a field survey by a qualified botanist and wildlife biologist and would be limited to areas directly impacted by construction activities.

Active nests. Work near nests will be scheduled to take place outside the nesting season when feasible. As of the clearance surveys that take place during nesting season (generally February 1 to August 31), a nesting survey will be conducted. If a nest must be moved

during the nesting season, SCE will coordinate with CDFG and the USFWS to obtain approval prior to moving the nest.

APM PAL-01: Develop and Implement a Paleontological Monitoring Plan. A project paleontologist meeting the qualifications established by the Society of Vertebrate Paleontologists shall be retained by SCE to develop and implement a Paleontological Monitoring Plan prior to the start of ground disturbing activities for the Proposed Project. As part of the Paleontological Monitoring Plan, the Project paleontologist shall establish a curation agreement with an accredited facility prior to the initiation of ground-disturbing activities. The Paleontological Monitoring Plan shall also include a final monitoring report. If fossils are identified, the final monitoring report shall contain an appropriate description of the fossils, treatment, and curation.

APM PAL-02: Paleontological Monitoring at the Proposed Project Substation Site. A paleontological monitor shall be on site to observe ground-disturbing activities at depths greater than three feet at the Proposed Project substation site. If fossils are found during ground-disturbing activities, the paleontological monitor shall halt the ground-disturbing activities within 25 feet of the find in order to allow evaluation of the find and determination of appropriate treatment.

APM PAL-03: Paleontological Monitoring for Installation of Subtransmission Structures. A paleontological monitor shall be on site to spot check ground-disturbing activities at depths greater than three feet during installation of the 66 kV subtransmission structures. If very few or no fossils remains are found during ground disturbing activities monitoring time can be reduced or suspended entirely as per recommendations of the paleontological field supervisor. If fossils are found during ground-disturbing activities, the paleontological monitor shall halt the ground-disturbing activities within 25 feet of the find in order to allow evaluation of the find and determination of appropriate treatment.

APM PAL-04: Paleontological Monitoring for Installation of Telecommunications Duct Banks. A paleontological monitor shall be on site to spot check ground-disturbing activities at depths greater than three feet during installation of the telecommunications duct banks. If very few or no fossils remains are found during ground disturbing activities monitoring time can be reduced or suspended entirely as per recommendations of the paleontological field supervisor. If fossils are found during ground-disturbing activities, the paleontological monitor shall halt the ground-disturbing activities within 25 feet of the find in order to allow evaluation of the find and determination of appropriate treatment.

APM GEO-1: Perform Site-Specific Geotechnical Study. SCE will conduct a geotechnical study of the substation site and the subtransmission line that will include an evaluation of the soil type, depth to the water table, soil resistivity, and the presence of anthropogenic chemicals, including pesticides.

APM HYD-1: Storm Water Pollution Prevention Plan. SCE will prepare a Storm Water Pollution Prevention Plan (SWPPP) that includes project information; monitoring

and reporting procedures; and Best Management Practices (BMPs) such as storm water runoff quality control measures (boundary protection), spill reporting, and concrete waste management, as applicable to the project. The SWPPP will be based on final engineering design and would include all Project components.

APM HYD-2: Spill Prevention Control and Countermeasure Plan. The substation grading design will incorporate Spill Prevention Control and Countermeasure (SPCC) Plan requirements due to the planned operation of oil-filled transformers at the substation (in accordance with 40 CFR Part 112.1 through Part 112.7). Typical SPCC features include curbs and berms designed and installed to contain spills, should they occur. These features would be part of SCE's final engineering design for the Proposed Project.

**TABLE 5-1
MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM FOR THE MASCOT SUBSTATION PROJECT**

Environmental Impact	Mitigation Measures Proposed in this IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Aesthetics	<p>Mitigation Measure 3.1-1: Reduce construction night lighting impacts. SCE shall design and install all lighting at construction and storage yards and staging areas such that light bulbs and reflectors are not visible from public viewing areas; lighting does not cause reflected glare; and illumination of the project facilities, vicinity, and nighttime sky is minimized. SCE shall submit a Construction Lighting Mitigation Plan to the CPUC for review and approval at least 90 days prior to the start of construction of any exterior lighting fixtures or components. SCE shall not install or operate any exterior lighting fixtures or lighting components for the Proposed Project until the Construction Lighting Mitigation Plan is approved by the CPUC. The Plan shall include but not be limited to the following measures:</p> <ul style="list-style-type: none"> Lighting shall be designed so exterior lighting is hooded, with lights directed downward or toward the area to be illuminated and so that backscatter to the nighttime sky is minimized. The design of the lighting shall be such that the luminescence or light sources are shielded to prevent light trespass outside the project boundary. All lighting shall be of minimum necessary brightness consistent with OSHA requirements. 	<p>SCE and its contractors to implement measure as defined.</p>	<p>SCE to submit Construction Lighting Mitigation Plan to CPUC for review. CPUC mitigation monitor to inspect compliance.</p>	<p>Submit plan to CPUC at least 90 days prior to commencement of construction activities. During all phases of construction activities.</p>
Agricultural and Forestry Resources Conversion of Farmland of Statewide Importance	<p>Mitigation Measure 3.2-1: Compensate for conversion of Farmland. SCE will pay a mitigation fee for agricultural land converted to permanent non-agricultural use in accordance with the Kings County General Plan, Table RC-4: Estimated Mitigation Fee, or as modified by the County.</p>	<p>SCE to implement measure as defined.</p>	<p>SCE to pay mitigation fee.</p>	<p>Payment in accordance with Kings County fee schedule.</p>
Loss of Agricultural Use	<p>Mitigation Measure 3.2-2: SCE and/or its contractors shall incorporate the following measures into project construction plans and specifications specific to lands designated as Farmland:</p> <ul style="list-style-type: none"> Ensure that existing drainage systems at Proposed Project sites that are needed for farming activities function as necessary so that agricultural uses are not disrupted. Coordinate with landowners to ensure that construction does not impact irrigation and/or other ancillary farming systems to a degree that farming practices cannot be maintained. Maintain existing levels of water available to landowners via the current irrigation system including but not be limited to implementing re-routing and/or temporary irrigation systems. <p>In lieu of implementing the above requirements, SCE shall have the option of negotiating agreements with any affected landowner(s) that shall enable the landowner(s) to effect their own irrigation and/or drainage system changes in a manner consistent with the landowner's farming practices and plans.</p>	<p>SCE and its contractors to implement measure as defined.</p>	<p>CPUC mitigation monitor to inspect compliance.</p>	<p>During project construction planning and all phases of construction.</p>

**TABLE 5-1 (CONTINUED)
MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM FOR THE MASCOT SUBSTATION PROJECT**

Environmental Impact	Mitigation Measures Proposed in this IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Air Quality	No mitigation required.			
Biological Resources	Special-Status Species: Western pond turtle	<p>Mitigation Measure 3.4-1: SCE and/or its contractors shall implement the following measures for construction and maintenance areas located in suitable habitat within 0.3 mile of aquatic features:</p> <ul style="list-style-type: none"> Establish a Worker Environmental Awareness Program (WEAP) for construction personnel. This program shall include a description of western pond turtle, its legal status, suitable habitat in the project area, and mitigation measures being implemented for its protection. Construction personnel shall observe a 15 mph speed limit on unpaved roads in the Project area. Before operating equipment, workers shall check underneath equipment that has remained in one location for 15 minutes. Any pond turtles located within the construction area shall be relocated, by a biologist, to the nearest safe location. 	<p>SCE to establish a Worker Environmental Awareness Program (WEAP) for construction personnel and restrict speed limits.</p> <p>CPUC mitigation monitor to inspect compliance.</p>	<p>Submit documentation to CPUC prior to commencement of construction activities.</p> <p>During all phases of construction activities.</p>
Special-Status Species: Swainson's hawk	<p>Mitigation Measure 3.4-2: SCE and/or its contractors shall implement the following measures for construction and maintenance areas:</p> <ul style="list-style-type: none"> Project design, construction, and maintenance shall conform to SCE's corporate Avian Protection Plan and Avian Power Line Interaction Committee (APLIC) Guidelines. If active nests are not identified during the preconstruction survey, no further action shall be required for breeding birds. Raptor surveys will comply with survey protocols for Swainson's Hawk in the Central Valley, as outlined in CDFG's May 31, 2000 Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley. If active nests are identified during the preconstruction survey, the following measures shall be implemented to avoid and minimize impacts: <ul style="list-style-type: none"> The Worker Environmental Awareness Program (WEAP) for construction personnel shall cover the topic of nesting birds, including their legal status, suitable habitat in the project area, and mitigation measures being implemented for their protection. Buffer zones and avoidance guidelines shall be established in coordination with CDFG. Construction contractors shall observe CDFG avoidance guidelines and buffer zones shall remain in effect until young have fledged. Monitoring of the nest by a qualified biologist shall be required if project-related activity has the potential to adversely impact the nest. 	<p>SCE and its contractors to implement measure as defined.</p>	<p>SCE to submit documentation demonstrating conformance with APLIC Guidelines to CPUC for review.</p> <p>CPUC mitigation monitor to inspect compliance.</p>	<p>Submit documentation to CPUC prior to commencement of construction activities.</p>

**TABLE 5-1 (CONTINUED)
MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM FOR THE MASCOT SUBSTATION PROJECT**

Environmental Impact	Mitigation Measures Proposed in this IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Special-Status Species: Burrowing owl	<p>Mitigation Measure 3.4-3: SCE and/or its contractors shall implement the following measures for construction and maintenance areas:</p> <ul style="list-style-type: none"> • Within 30 days prior ground disturbance, a qualified biologist shall survey the Project area and all areas within 500 feet according to the survey protocol identified in CDFG's 1995 Guidelines for Burrowing Owl Mitigation. • The Worker Environmental Awareness Program (WEAP) for construction personnel shall cover burrowing owls, their legal status, suitable habitat in the Project area, and mitigation measures being implemented for their protection. • If no active burrows are confirmed or newly-identified, then no further mitigation shall be required for burrowing owls. • If identified, active burrows will be mapped and a qualified biologist shall monitor them for the duration of construction activities. • If active burrowing owl nests are found in project impact areas, CDFG shall be consulted to determine whether such activities can occur without adversely affecting the active nest. Buffer zones and avoidance guidelines shall be established in coordination with CDFG if determined further action is required. • Outside the nesting season, a 160-foot buffer shall be established around all occupied burrows. • If the Proposed Project cannot continue while observing the 160-foot buffer, further Project activities shall be coordinated with CDFG to determine whether a reduced buffer could be accommodated without adversely impacting occupied burrows. 	<p>SCE and its contractors to implement measure as defined.</p> <p>CPUC mitigation monitor to monitor compliance.</p>	<p>SCE to submit survey results and, if applicable, documentation showing CDFG consultation to CPUC for review.</p> <p>CPUC mitigation monitor to monitor compliance.</p>	<p>Submit documentation to CPUC prior to commencement of construction activities.</p>
Special-Status Species: San Joaquin kit fox	<p>Mitigation Measure 3.4-4: SCE and/or its contractors shall implement the following measures for construction areas:</p> <ul style="list-style-type: none"> • Preconstruction surveys shall be conducted within 200 feet of work areas to identify potential San Joaquin kit fox dens or other refugia in and surrounding work areas. A qualified biologist shall conduct the survey 14 to 30 days before construction begins. All potential dens shall be monitored for evidence of kit fox use by placing an inert tracking medium at den entrances and monitoring for at least three consecutive nights. If no activity is detected at these sites, they may be closed following guidance established in the 1999 USFWS Standardized Recommendations for Protection of the San Joaquin Kit Fox. • If kit fox occupancy is determined at a given site during preconstruction surveys, as discussed in the bullet above, closure activities shall be halted immediately and the USFWS contacted. Depending on the den 	<p>SCE and its contractors to implement measure as defined.</p>	<p>SCE to submit survey results and, if applicable, documentation showing USFWS consultation to CPUC for review.</p> <p>CPUC mitigation monitor to monitor compliance.</p>	<p>Submit documentation to CPUC prior to commencement of construction activities.</p>

**TABLE 5-1 (CONTINUED)
MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM FOR THE MASCOT SUBSTATION PROJECT**

Environmental Impact	Mitigation Measures Proposed in this IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
	<p>type, reasonable and prudent measures to avoid effects to kit fox could include seasonal limitations on project construction at the site (i.e., restricting the construction period to avoid spring-summer pupping season), and/or establishing a construction exclusion zone around the identified site, or resurveying the den a week later to determine species presence or absence.</p>			
	<ul style="list-style-type: none"> The Worker Environmental Awareness Program (WEAP) for construction personnel shall cover kit fox, their legal status, suitable habitat in the Project area, and mitigation measures being implemented for their protection. 			
	<ul style="list-style-type: none"> To minimize the possibility of inadvertent kit fox mortality, Project-related vehicles shall observe a maximum 20 miles per hour speed limit on private roads in occupied kit fox habitat. Nighttime vehicle traffic shall be kept to a minimum on nonmaintained roads. Off-road SCE construction traffic outside the designated Project area shall be prohibited in areas of occupied kit fox habitat. 			
	<ul style="list-style-type: none"> To prevent accidental entrapment of kit fox or other animals during construction, all excavated holes or trenches greater than two feet deep shall be covered at the end of each work day by suitable materials, or escape routes constructed of earthen materials or wooden planks shall be provided. Before filling, such holes shall be thoroughly inspected for trapped animals. 			
	<ul style="list-style-type: none"> All food-related trash items (such as wrappers, cans, bottles, and food scraps) shall be disposed of in closed containers and removed daily from the Project area. 			
	<ul style="list-style-type: none"> To prevent harassment and mortality of kit foxes or destruction of their dens, no pets shall be allowed in the project area. 			
Cultural Resources	Archaeological Resources			
	<p>Mitigation Measure 3.5-1: Additional Archaeological Survey. Prior to any ground disturbing activity, those portions of the Project area not previously subject to archaeological survey shall be surveyed by a qualified archaeologist, including a ½-mile segment of the proposed subtransmission line and any newly-proposed staging areas. For those areas that were not surveyed because of low visibility, the additional survey shall occur concurrent with or after vegetation clearance, but before any other ground-disturbing activity. After additional archaeological survey is carried out, the archaeologists shall prepare a report that summarizes the survey efforts, preliminarily evaluates cultural resources for their eligibility for listing in the National Register or California Register, and makes recommendations for treatment of resources if found to be significant.</p>	<p>SCE and its contractors to implement measure as defined.</p>	<p>SCE to submit archaeological surveys to the CPUC and report recommending treatments, if applicable. CPUC mitigation monitor to monitor compliance.</p>	<p>Submit plan to CPUC prior to commencement of ground disturbing activities.</p>

**TABLE 5-1 (CONTINUED)
MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM FOR THE MASCOT SUBSTATION PROJECT**

Environmental Impact	Mitigation Measures Proposed in this IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
	<p>Mitigation Measure 3.5-2: Cease Work if Subsurface Archaeological Resources are Discovered During Ground-Disturbing Activities. If archaeological resources are encountered during Project-related activity, SCE and/or its contractors shall cease all activity within 100 feet of the find until the find can be evaluated by a qualified archaeologist. If the archaeologist determines that the resources may be significant, the archaeologist shall notify the CPUC and shall develop an appropriate Treatment Plan for the resources in consultation with CPUC and with appropriate Native American representatives (if the resources are prehistoric or Native American in nature).</p> <p>In considering any suggested mitigation proposed by the archaeologist in order to mitigate impacts to cultural resources, CPUC shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, Project design, costs, and other considerations. If avoidance is infeasible, other appropriate measures (e.g., data recovery) shall be instituted in accordance with the Treatment Plan. Work may proceed on other parts of the Project area while mitigation measures for cultural resources are being carried out.</p>	<p>SCE and its contractors to implement measure as defined.</p>	<p>SCE to suspend all work and contact CPUC if archaeological resources are discovered.</p> <p>If resource is significant, submit site Treatment Plan and records of consultation with Native American representatives to CPUC.</p> <p>CPUC mitigation monitor to monitor compliance.</p>	<p>During all phases of construction activities.</p>
<p>Human Remains</p> <p>No mitigation required.</p>	<p>Mitigation Measure 3.5-3: Halt Work if Human Skeletal Remains are Identified During Construction. If human skeletal remains are uncovered during Project construction, SCE and/or its contractors shall immediately halt all work in the immediate area, contact the County Coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.5 (e)(1) of the CEQA Guidelines. Per Health and Safety Code 7050.5, upon the discovery of human remains there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains. If the County Coroner determines that the remains are Native American, the coroner shall contact the NAHC, in accordance with Health and Safety Code Section 7050.5(c), and Public Resources Code 5097.98 (as amended by AB 2641), Per Public Resources Code 5097.98. SCE shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the SCE has discussed and conferred, as prescribed in PRC 5097.98, with the most likely descendants regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.</p>	<p>SCE and its contractors to implement measure as defined.</p>	<p>If human remains are discovered, SCE is to notify the CPUC and Kings County Coroner.</p> <p>CPUC mitigation monitor to monitor compliance.</p>	<p>During all phases of construction activities.</p>
<p>Geology, Soils, and Seismicity</p> <p>No mitigation required.</p>				

**TABLE 5-1 (CONTINUED)
MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM FOR THE MASCOT SUBSTATION PROJECT**

Environmental Impact	Mitigation Measures Proposed in this IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Hazards and Hazardous Materials	<p>Mitigation Measure 3.7-1: SCE and/or its contractors shall implement construction best management practices, including but not limited to, the following:</p> <ul style="list-style-type: none"> • Follow manufacturer's recommendations on use, storage, and disposal of chemical products used in construction; • Avoid overtopping construction equipment fuel gas tanks; • Use tarps and adsorbent pads under vehicles when refueling to contain and capture any spilled fuel; • During routine maintenance of construction equipment, properly contain and remove grease and oils; • Properly dispose of discarded containers of fuels and other chemicals; and • If wood poles removed from the Hanford-Liberty subtransmission line are not recycled or reused, they shall be disposed of at a landfill facility that is authorized to accept treated wood pole waste in accordance with HSC 25143.1.4(b). 	<p>SCE and its contractors to implement measure as defined.</p>	<p>CPUC mitigation monitor to monitor compliance.</p>	<p>During all phases of construction activities.</p>
	<p>Mitigation Measure 3.7-2: SCE shall prepare a Hazardous Substance Control and Emergency Response Plan (Plan) and implement it during construction to ensure compliance with all applicable federal, State, and local laws and guidelines regarding the handling of hazardous materials. The Plan shall prescribe hazardous material handling procedures to reduce the potential for a spill during construction, or exposure of the workers or public to hazardous materials. The Plan also shall include a discussion of appropriate response actions in the event that hazardous materials are released or encountered during excavation activities. The Plan shall be submitted to the CPUC for review and approval at least 30 days prior to the commencement of construction activities.</p>	<p>SCE and its contractors to implement measure as defined.</p>	<p>SCE to submit Hazardous Substance Control and Emergency Response Plan to CPUC for review and approval. CPUC mitigation monitor to monitor compliance.</p>	<p>Submit plan to CPUC at least 30 days prior to commencement of construction activities. During all phases of construction activities.</p>
	<p>Mitigation Measure 3.7-3: SCE shall prepare and implement a Health and Safety Plan to ensure the health and safety of construction workers and the public during construction. The plan shall include information on the appropriate personal protective equipment to be used during construction.</p>	<p>SCE and its contractors to implement measure as defined.</p>	<p>SCE to submit Health and Safety Plan to CPUC for review and approval. CPUC mitigation monitor to monitor compliance.</p>	<p>Submit plan to CPUC prior to commencement of construction activities. During all phases of construction activities.</p>
	<p>Mitigation Measure 3.7-4: SCE shall ensure that a Workers Environmental Awareness Program is established and implemented to communicate environmental concerns and appropriate work practices to all construction field personnel. The training program shall emphasize site-specific physical conditions to improve hazard prevention, and shall include a review of the Health and Safety Plan and the Hazardous Substance Control and</p>	<p>SCE and its contractors to implement measure as defined.</p>	<p>CPUC mitigation monitor to attend the first program. SCE to submit copies of sign in sheets from training sessions.</p>	<p>Training to be completed prior to commencement of construction activities. Submit sign-in sheets</p>

**TABLE 5-1 (CONTINUED)
MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM FOR THE MASCOT SUBSTATION PROJECT**

Environmental Impact	Mitigation Measures Proposed in this IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
	<p>Emergency Response Plan. SCE shall provide the CPUC mitigation monitor with a one-week advanced notice of the first training session so that the CPUC mitigation monitor has adequate time to plan attendance at the first training. SCE shall submit documentation to the CPUC prior to the commencement of construction activities that each worker on the project has undergone this training program.</p>			<p>to CPUC prior to commencement of construction activities.</p>
	<p>Mitigation Measure 3.7-5: SCE shall ensure that oil-absorbent material, tarps, and storage drums shall be used to contain and control any minor releases. Emergency spill supplies and equipment shall be kept at the project staging area and adjacent to all areas of work, and shall be clearly marked. Detailed information for responding to accidental spills and for handling any resulting hazardous materials shall be provided in the project's Hazardous Substance Control and Emergency Response Plan (see Mitigation Measure 3.7-2), which shall be implemented during construction.</p>	<p>SCE and its contractors to implement measure as defined.</p>	<p>CPUC mitigation monitor to monitor compliance.</p>	<p>During all phases of construction activities.</p>
<p>Accidental Release</p>	<p>Mitigation Measure 3.7-6: SCE's Hazardous Substance Control and Emergency Response Plan (Mitigation Measure 3.7-2) shall include provisions that would be implemented if any subsurface hazardous materials are encountered during construction. Provisions outlined in the plan shall include immediately stopping work in the contaminated area and contacting appropriate resource agencies, including the CPUC designated monitor, upon discovery of subsurface hazardous materials. The plan shall include the phone numbers of County and State agencies and primary, secondary, and final cleanup procedures. The Hazardous Substance Control and Emergency Response Plan shall be submitted to the CPUC for review and approval at least 30 days prior to the commencement of construction activities.</p>	<p>SCE and its contractors to implement measure as defined.</p>	<p>CPUC mitigation monitor to monitor compliance.</p>	<p>Submit plan to CPUC at least 30 days prior to commencement of construction activities. During all phases of construction activities.</p>
	<p>Mitigation Measure 3.7-7: SCE shall develop and implement a Soil Sampling and Analysis Plan to determine the presence and extent of any residual herbicides, pesticides, and fumigants on currently or historically-farmed land in agricultural areas that would be disturbed during construction of the Proposed Project. The Plan shall be prepared and executed under the direction of an appropriate California-licensed professional. At a minimum, the Plan shall document the areas proposed for sampling, the procedures for sample collection, the laboratory analytical methods to be used, and the pertinent regulatory threshold levels for determining proper excavation, handling, and, if necessary, treatment or disposal of any contaminated soils. The Plan shall be submitted to the CPUC for review and approval at least 30 days before the commencement of construction. Results of the laboratory testing and recommended resolutions for excavation, handling, dust control, and treatment/disposal of material found to exceed regulatory requirements shall be submitted to the CPUC at least one week prior to construction activities in the area to be disturbed.</p>	<p>SCE and its contractors to implement measure as defined.</p>	<p>SCE to submit Soil Sampling and Analysis Plan to CPUC for review and approval. SCE to submit results of soil sampling and recommended resolutions to CPUC. CPUC mitigation monitor to monitor compliance.</p>	<p>Submit plan to CPUC for review at least 30 days prior to commencement of construction activities. Submit results of soil sampling and recommended resolutions to CPUC for review at least one week prior to commencement of construction activities in the area to be disturbed. During excavation and</p>

**TABLE 5-1 (CONTINUED)
MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM FOR THE MASCOT SUBSTATION PROJECT**

Environmental Impact	Mitigation Measures Proposed in this IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
	<p>The analytical results of the soil sampling investigation shall be evaluated with regard to California/USEPA's California Human Health Screening Levels (CHHSLs) for industrial/commercial land use. If soil contaminants exceed these preliminary screening levels, further site characterization, risk assessment, or remediation would be necessary, as described in the Department of Toxic Substances Control Preliminary Endangerment Assessment Guidance Manual. SCE shall implement appropriate handling and disposal procedures for any excavated materials containing elevated levels of contaminants. Prior to disturbing additional contaminated soil, SCE shall prepare and submit a health and safety plan that is approved by a certified industrial hygienist to address handling, treatment, and/or disposal options. Personnel working around, handling, and disposing of contaminated soil shall meet the federal Occupational Health and Safety Administration (OSHA) requirement for the 40-hour Hazardous Waste Operations and Emergency Response Standards as specified in Title 29, Section 1910.120, of the Code of Federal Regulations. The investigation results, and health and safety plan if needed, shall be submitted for review and approval by the appropriate regulatory agencies i.e., Department of Toxic Substances Control and/or Regional Water Quality Control Board). SCE shall submit to the CPUC copies of correspondence with regulatory agencies including the health and safety plan and any approvals.</p>			<p>treatment/disposal of contaminated soil/material.</p>
Hydrology and Water Quality				
No mitigation required.				
Land Use and Planning				
No mitigation required.				
Mineral Resources				
No mitigation required.				
Noise				
Construction Noise	<p>Mitigation Measure 3.11-1: Construction activity shall be limited to between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday and limited to between the hours of 8:00 a.m. and 7:00 p.m., on Saturdays, with some exceptions (as approved by the CPUC and Kings County) as required for safety considerations or certain construction procedures that cannot be interrupted.</p> <p>Mitigation Measure 3.11-2: In the event that nighttime (i.e., between 7:00 p.m. and 7:00 a.m. on weekdays and between 8:00 p.m. and 7:00 a.m. on Saturdays) construction activity is determined to be necessary within 500 feet of an occupied residential dwelling unit, a nighttime noise reduction plan shall be developed by SCE and submitted to the CPUC and the County for review</p>	<p>SCE and its contractors to implement measure as defined.</p>	<p>CPUC mitigation monitor to monitor compliance.</p>	<p>During all phases of construction activities.</p>
		<p>SCE and its contractors to implement measure as defined.</p>	<p>SCE to submit nighttime noise reduction plan to CPUC and Kings County for review and approval.</p>	<p>Submit plan to CPUC and Kings County prior to commencing any nighttime construction</p>

**TABLE 5-1 (CONTINUED)
MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM FOR THE MASCOT SUBSTATION PROJECT**

Environmental Impact	Mitigation Measures Proposed in this IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
	<p>and approval. The noise reduction plan shall include a set of site-specific noise attenuation measures that apply state of the art noise reduction technology to ensure that nighttime construction noise levels and associated nuisance are reduced to the most extent feasible. The attenuation measures may include, but not be limited to, the control strategies and methods for implementation that are listed below. If any of the following strategies are found by SCE to not be feasible or warranted, an explanation as to why the specific strategy is not feasible or warranted shall be included in the nighttime noise reduction plan.</p> <ul style="list-style-type: none"> Plan construction activities to minimize the amount of nighttime construction. Offer temporary relocation of residents within 200 feet of nighttime construction areas. Temporary noise barriers, such as shields and/or blankets, shall be installed immediately adjacent to all nighttime stationary noise sources (e.g., auger rigs, generators, pumps, etc.) that block the line of sight between nighttime activities and the closest residences. 		<p>CPUC mitigation monitor to monitor compliance.</p>	<p>activities. During all phases of construction that include nighttime construction activities.</p>
Population and Housing	No mitigation required.			
Public Services	No mitigation required.			
Recreation	No mitigation required			
Transportation and Traffic				
Construction Traffic	<p>Mitigation Measure 3.15-1: SCE shall prepare a Traffic Management and Control Plan that shall include, at a minimum, the measures listed below. The Plan shall be submitted to the CPUC for approval at least 30 days prior to the start of construction and shall be distributed to all construction crew members prior to commencement of construction activities. The Plan shall:</p> <ul style="list-style-type: none"> Include descriptions of work hours, haul routes, work area delineation, any traffic detour routes, bicyclists and pedestrian detour routes, traffic control, and flagging; Identify all access and parking restriction and signage requirements; Require workers to park personal vehicles at the approved staging areas and take only necessary project vehicles to the work sites; 	<p>SCE and its contractors to implement measure as defined.</p>	<p>SCE to submit Traffic Management Plan and documentation showing agency approval to CPUC. CPUC mitigation monitor to monitor compliance.</p>	<p>Prior to commencement of construction activities. During all phases of construction.</p>

**TABLE 5-1 (CONTINUED)
MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM FOR THE MASCOT SUBSTATION PROJECT**

Environmental Impact	Mitigation Measures Proposed in this IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
	<ul style="list-style-type: none"> Lay out plans for notifications of all lane and road closures and a process for communication with affected road users, including truckers, residents, and landowners prior to the start of construction. Advance public notification shall be provided at least one to two weeks in advance of each lane and road closure and shall include posting of notices and appropriate signage of construction activities. The written notification shall include the construction schedule, the exact location and duration of activities within each street (i.e., which road/lanes and access point/driveways/parking areas would be blocked on which days and for how long), and a toll-free telephone number for receiving questions or complaints; Include plans to coordinate all construction activities with emergency service providers in the area. Emergency service providers would be notified of the timing, location, and duration of construction activities at least one week in advance of each lane and road closure. All roads would remain passable to emergency service vehicles at all times; and 			
	<p>Identify all roadway locations where special construction techniques (e.g., night construction) would be used to minimize impacts to traffic flow.</p>	<p>SCE and its contractors to implement measure as defined.</p>	<p>SCE to submit documentation to CPUC showing compliance with San Joaquin Valley Railroad Company safety and engineering guidelines.</p> <p>CPUC mitigation monitor to monitor compliance.</p>	<p>During all phases of construction involving wire installation within or over the railroad ROW.</p>
Utilities and Service Systems				
No mitigation required.				

Appendix A

Electric and Magnetic Fields

A.1 Summary

A.2 Field Management Plan for
the Proposed Project

Appendix A.1

Summary

SECTION A.1

Electric and Magnetic Fields Summary

Electric and Magnetic Fields

The California Public Utilities Commission (CPUC) and the California Department of Health Services (CDHS) have not concluded that exposure to magnetic fields from utility electric facilities is a health hazard. Many reports have concluded that the potential for health effects associated with electric and magnetic field (EMF) exposure is too speculative to allow the evaluation of impacts or the preparation of mitigation measures. EMF is a term used to describe electric and magnetic fields that are created by electric voltage (electric field) and electric current (magnetic field). Power frequency EMF is a natural consequence of electrical circuits, and can be either directly measured using the appropriate measuring instruments or calculated using appropriate information. EMF are present wherever electricity flows: around appliances and power lines, in offices, schools, and homes. Electric fields are invisible lines of force, created by voltage, and are shielded by most materials. Units of measure are volts per meter (V/m). Magnetic fields are invisible lines of force, created by electric current and are not shielded by most materials, such as lead, soil and concrete. Units of measure are Gauss (G) or milliGauss (mG, 1/1000 of a Gauss). Electric and magnetic field strengths diminish with distance. These fields are low energy, extremely low frequency fields, and should not be confused with high energy or ionizing radiation such as X-rays and gamma rays.

Possible Health Effects

The possible effects of EMF on human health have come under scientific scrutiny. Concern about EMF originally focused on electric fields; however, much of the recent research has focused on magnetic fields. Uncertainty exists as to what characteristics of magnetic field exposure need to be considered to assess human exposure effects. Among the characteristics considered are field intensity, transients, harmonics, and changes in intensity over time. These characteristics may vary from power lines to appliances to home wiring, and this may create different types of exposures. The exposure most often considered is intensity or magnitude of the field. There is a consensus among the medical and scientific communities that there is insufficient evidence to conclude that EMF causes adverse health effects. Neither the medical nor scientific communities have been able to provide any foundation upon which regulatory bodies could establish a standard or level of exposure that is known to be either safe or harmful. Laboratory experiments have shown that magnetic fields can cause biologic changes in living cells, but scientists are not sure whether any risk to human health can be associated with them. Some studies have suggested an association between surrogate measures of magnetic fields and certain cancers while others have not.

California Public Utilities Commission Summary

Background. On January 15, 1991, the CPUC initiated an investigation to consider its role in mitigating the health effects, if any, of electric and magnetic fields from utility facilities and power lines. A working group of interested parties, called the California EMF Consensus Group, was created by the CPUC to advise it on this issue. It consisted of 17 stakeholders representing citizens groups, consumer groups, environmental groups, state agencies, unions, and utilities. The Consensus Group was charged to 1) consider a balanced set of facts and concerns; 2) define near-term research objectives; and 3) develop interim policies and procedures to guide the electric utilities in educating their customers, reducing EMF, and responding to potential health concerns. The Consensus Group's fact-finding process was open to the public, and its report incorporated concerns expressed by the public. Its recommendations were filed with the Commission in March of 1992. In August of 2004, the CPUC opened an Order Instituting Rulemaking to update the Commission's policies and procedures related to electric and magnetic fields emanating from regulated utility facilities. The final decision was issued in D.06-01-042.

Findings. Based on the work of the Consensus Group, written testimony, and evidentiary hearings, the CPUC issued its decision (D.06-01-042) to address public concern about possible EMF health effects from electric utility facilities. The conclusions and findings included the following:

- The body of scientific evidence continues to evolve. However, it is recognized that public concern and scientific uncertainty remain regarding the potential health effects of EMF exposure.
- It is not appropriate to adopt any specific numerical standard in association with EMF until we have a firm scientific basis for adopting any particular value.

Interim Policies. The CPUC's decision specifically requires seven measures. One of these measures that is involved with the Project is as follows:

- No-cost and low-cost steps to reduce EMF. In response to a situation of scientific uncertainty and public concern, the CPUC felt it appropriate for utilities to take no-cost and low-cost measures where feasible to reduce exposure from new or upgraded utility facilities. It directs that no-cost mitigation measures be undertaken, and that low-cost options be implemented through the Project certification process. Four percent of total Project budgeted cost is the benchmark in developing EMF mitigation guidelines, and mitigation measures should achieve some noticeable reductions.

The CPUC will continue to monitor these issues. If new information develops in the future, the CPUC may amend its decision to reflect new scientific evidence.

Exemption Criteria. The CPUC agreed that "Utility management should have reasonable latitude to deviate and modify their guidelines as conditions warrant and as new EMF information is received. However, if the EMF guidelines are to be truly used as guidelines, the utilities should incorporate criteria which justify exempting specific types of projects from the guidelines."

Utilities may use the following guidelines to determine those specific types of projects that will be exempt from no/low cost field reduction:

1. Operation, repair, maintenance replacement or minor alteration of existing structures: facilities or equipment.
2. Restoration or rehabilitation of deteriorated or damaged structures, facilities or equipment to meet current standards of public safety.
3. Addition of safety devices.
4. Replacement or reconstruction of existing structures and facilities on the same site and for the same purpose as the replaced structure or facility.
5. Emergency restoration projects.
6. Re-conductoring projects except when structures are reframed or reconfigured.
7. Projects located on land under the jurisdiction of the Forest Service, Bureau of Land Management or other governmental agency.
8. Privately owned tree farms.
9. Agricultural land within the Williamson Act.
10. Areas not suited to residential/commercial development. Such areas might include steep slopes, areas subject to flooding or areas without access to public facilities.

The intent of the exemption criteria is to exclude two types of projects. The first type of projects are those that either replace or make minor additions or modifications to existing facilities. This will include pole replacements or relocations less than 2,000 feet in length. Those projects where more than 2,000 feet of line is relocated or reconstructed or where the circuit is reinsulated or reconfigured should be considered for low cost magnetic field management techniques.

The second type projects are those located in undeveloped areas.

EMF Reduction. Utilities must use the following Guidelines in the application of no and low cost steps to reduce magnetic field strengths:

1. Take low cost steps to reduce fields from new and upgraded facilities in accordance with CPUC decision D.06-01-042 on EMF.
2. No cost measures will be implemented when available and practical.
3. Mitigation measures should not compromise the reliability, operation, safety or maintenance of the system.
4. Total cost of mitigation measures should not exceed 4 percent of the total cost of the Project.
5. Mitigation measures should have a noticeable reduction in the magnetic field level approximately 15 percent or more.

In accordance with CPUC Decision No. 93-11-013 and 06-01-042, Southern California Edison (SCE) will incorporate "no cost" and "low cost" magnetic field reduction steps in the proposed subtransmission lines and substation facilities. The following measures would be included to reduce the magnetic field strength levels from electric power facilities:

For Proposed Mascot 66 kV Subtransmission Line Route Segment 1:

- Utilize structure heights that meet or exceeds SCE's EMF preferred design criteria
- Utilize subtransmission line construction that reduces the space between conductors compared with other designs
- Arrange conductors of proposed subtransmission line for magnetic field reduction
 - Proposed phasing arrangement: BCA (top to bottom, or equivalent)

For Proposed Mascot 66 kV Subtransmission Line Route Segment 2:

- Utilize structure heights that meet or exceed SCE's EMF preferred design criteria
- Arrange conductors of proposed subtransmission line for magnetic field reduction
 - Proposed phasing arrangement: ABC – ABC (top to bottom, or equivalent)
- Utilize double-circuit construction that reduces spacing between circuits as compared with single-circuit construction

For Proposed Mascot 66/12 kV Substation:

- Place major substation electrical equipment (such as transformers, switchracks, buses and underground duct banks) away from the substation property lines
- Configure the transfer and operating buses with the transfer bus closest to the nearest property line

For additional information, see Appendix A, Section 2, which further describes SCE's Field Management Plan, including EMF reduction plans.

Appendix A.2

Field Management Plan for the
Proposed Project

Appendix F
FIELD MANAGEMENT PLAN
FOR MASCOT SUBSTATION PROJECT

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List of Terms

CDHS	California Department of Health Services
C/L	center line
CPCN	Certificate of Public Convenience and Necessity
CPUC	California Public Utilities Commission
ELF	Extremely Low Frequency
EMF	electric and magnetic fields
FMP	field management plan
GO	General Order
IARC	International Agency for Research on Cancer
kV	kilovolt
LWS	light weight steel
mG	milliGauss
MVA	megavolt-ampere
MW	megawatt
NIEHS	National Institute of Environmental Health Sciences
NRPB	National Radiation Protection Board
PEA	Proponents Environmental Assessment
PG&E	Pacific Gas and Electric
RAPID	Research and Public Information Dissemination
R-O-W	right-of-way
SCE	Southern California Edison
T/L	transmission line
TSP	tubular steel pole
VAR	volt ampere reactive
WHO	World Health Organization

I. EXECUTIVE SUMMARY

This document is Southern California Edison Company's (SCE) Field Management Plan (FMP) for the proposed Mascot Substation Project (Proposed Project). SCE proposes to construct a new 66/12 kilovolt (kV) substation called Mascot Substation (Proposed Substation). The new subtransmission line segments would connect the Proposed Substation to two existing subtransmission lines; the Hanford-Liberty 66 kV subtransmission line and the Goshen-Hanford 66 kV subtransmission line. The Proposed Project includes the following components:

- A new 66/12 kilovolt (kV) distribution substation on an approximately five-acre site
- Construction of new 66 kV subtransmission line segments to serve the Proposed Substation; more specifically, the Goshen-Hanford 66 kV subtransmission line would be looped into Proposed Substation and the Hanford-Liberty 66 kV subtransmission line, approximately two miles away, would be tapped and connected to the Proposed Substation with a new single-circuit 66 kV subtransmission line segment
- Construction of four new 12 kV distribution circuits
- Facilities to connect the Proposed Substation to SCE's existing telecommunication system

SCE provides this FMP in order to inform the public, the California Public Utilities Commission (CPUC), and other interested parties of its evaluation of "no-cost and low-cost" magnetic field reduction design options for this project, and SCE's proposed plan to apply these design options to this project. This FMP has been prepared in accordance with CPUC Decision

No. 93-11-013 and Decision No. 06-01-042 relating to extremely low frequency (ELF)¹ electric and magnetic fields (EMF). This FMP also provides background on the current status of scientific research related to possible health effects of EMF, and a description of the CPUC's EMF policy.

The “no-cost and low-cost” magnetic field reduction design options that are incorporated into the design of the Proposed Project are as follows:

- Utilize subtransmission structure heights that meet or exceed SCE's preferred EMF design criteria
- Utilize subtransmission line construction that reduces the space between conductors compared with other designs
- Arrange conductors of proposed subtransmission line for magnetic field reduction
- Utilize double-circuit construction that reduces spacing between circuits as compared with single-circuit construction
- Place major substation electrical equipment (such as transformers, switchracks, buses and underground duct banks) away from the substation property lines
- Configure the transfer and operating buses with the transfer bus closest to the nearest property line

Table 1 on page 8 summarizes “no-cost and low-cost” magnetic field reduction design options that SCE considered for the Proposed Project.

SCE's plan for applying the above “no-cost and low-cost” magnetic field reduction design options for the Proposed Project is consistent with CPUC's EMF policy and with the direction of leading national and international health agencies. Furthermore, the plan complies

¹ The extremely low frequency is defined as the frequency range from 3 Hz to 3,000 Hz.

with SCE's EMF Design Guidelines², and with applicable national and state safety standards for new electrical facilities.

² EMF Design Guidelines, August 2006.

Table 1. Summary of “No-cost and Low-cost” Magnetic Field Reduction Design Options

Area No.	Location ²	Adjacent Land Use ⁴	MF Reduction Design Options Considered	Estimated Cost to Adopt	Design Option(s) Adopted? (Yes/No)	Reason(s) if not adopted
Mascot Substation	Located approximately south of Grangeville Blvd. and west of 7 ½ Ave. outside of the city of Hanford, California	5	<ul style="list-style-type: none"> • Place major substation electrical equipment (such as transformers, switchracks, buses and underground duct banks) away from the substation property lines • Configure the transfer and operating buses with the transfer bus closest to the nearest property line 	<ul style="list-style-type: none"> • No-Cost • No-Cost 	<ul style="list-style-type: none"> • Yes • Yes 	

² This column shows the major cross streets, existing subtransmission lines, or substation name as reference points.

⁴ Land usage codes are as follows: 1) schools, licensed day-cares, and hospitals, 2) residential, 3) commercial/industrial, 4) recreational, 5) agricultural, and 6) undeveloped land.

Area No.	Location ²	Adjacent Land Use ⁴	MF Reduction Design Options Considered	Estimated Cost to Adopt	Design Option(s) Adopted? (Yes/No)	Reason(s) if not adopted
66 kV Source sub-transmission line Segment 1	Tap location on Hanford Armona Rd. between 7 th and 8 th Ave. Line travels approximately 2 miles north to Grangeville Blvd.	2,5	<ul style="list-style-type: none"> Utilize subtransmission structure heights that meet or exceed SCE's preferred EMF design criteria Arrange conductors of proposed subtransmission line for magnetic field reduction Utilize subtransmission line construction that reduces the space between conductors compared with other designs 	<ul style="list-style-type: none"> No-Cost⁵ No-Cost No-Cost 	<ul style="list-style-type: none"> Yes Yes Yes 	
66 kV Source sub-transmission line Segment 2	Tap location on Grangeville Blvd.	5	<ul style="list-style-type: none"> Utilize subtransmission structure heights that meet or exceed SCE's preferred EMF design criteria Arrange conductors of proposed subtransmission line for magnetic field reduction Utilize double-circuit construction that reduces spacing between circuits as compared with single-circuit construction 	<ul style="list-style-type: none"> No-Cost⁶ No-Cost No-Cost 	<ul style="list-style-type: none"> Yes Yes Yes 	

² Included in the preliminary design

⁶ *ibid*

II. BACKGROUND REGARDING EMF AND PUBLIC HEALTH RESEARCH ON EMF

There are many sources of power frequency⁷ electric and magnetic fields, including internal household and building wiring, electrical appliances, and electric power transmission and distribution lines. There have been numerous scientific studies about the potential health effects of EMF. After many years of research, the scientific community has been unable to determine if exposures to EMF cause health hazards. State and federal public health regulatory agencies have determined that setting numeric exposure limits is not appropriate.⁸

Many of the questions about possible connections between EMF exposures and specific diseases have been successfully resolved due to an aggressive international research program. However, potentially important public health questions remain about whether there is a link between EMF exposures and certain diseases, including childhood leukemia and a variety of adult diseases (e.g., adult cancers and miscarriages). As a result, some health authorities have identified magnetic field exposures as a possible human carcinogen. As summarized in greater detail below, these conclusions are consistent with the following published reports: the National Institute of Environmental Health Sciences (NIEHS) 1999⁹, the National Radiation Protection Board (NRPB) 2001¹⁰, the International Commission on non-Ionizing Radiation Protection (ICNIRP) 2001, the California Department of Health Services (CDHS) 2002¹¹, and the International Agency for Research on Cancer (IARC) 2002¹².

⁷ In U.S., it is 60 Hertz (Hz).

⁸ CPUC Decision 06-01-042, p. 6, footnote 10

⁹ National Institute of Environmental Health Sciences' Report on Health Effects from Exposures to Power-Line frequency Electric and Magnetic Fields, NIH Publication No. 99-4493, June 1999.

¹⁰ National Radiological Protection Board, Electromagnetic Fields and the Risk of Cancer, Report of an Advisory Group on Non-ionizing Radiation, Chilton, U.K. 2001

¹¹ California Department of Health Services, An Evaluation of the Possible Risks from Electric and Magnetic Fields from Power Lines, Internal Wiring, Electrical Occupations, and Appliances, June 2002.

¹² World Health Organization / International Agency for Research on Cancer, IARC Monographs on the evaluation of carcinogenic risks to humans (2002), Non-ionizing radiation, Part 1: Static and extremely low-frequency (ELF) electric and magnetic fields, IARC Press, Lyon, France: International Agency for Research on Cancer, Monograph, vol. 80, p. 338, 2002

The federal government conducted EMF research as a part of a \$45-million research program managed by the NIEHS. This program, known as the EMF RAPID (Research and Public Information Dissemination), submitted its final report to the U.S. Congress on June 15, 1999. The report concluded that:

- “The scientific evidence suggesting that ELF-EMF exposures pose any health risk is weak.”¹³
- “The NIEHS concludes that ELF-EMF exposure cannot be recognized as entirely safe because of weak scientific evidence that exposure may pose a leukemia hazard.”¹⁴
- “The NIEHS suggests that the level and strength of evidence supporting ELF-EMF exposure as a human health hazard are insufficient to warrant aggressive regulatory actions; thus, we do not recommend actions such as stringent standards on electric appliances and a national program to bury all transmission and distribution lines. Instead, the evidence suggests passive measures such as a continued emphasis on educating both the public and the regulated community on means aimed at reducing exposures. NIEHS suggests that the power industry continue its current practice of siting power lines to reduce exposures and continue to explore ways to reduce the creation of magnetic fields around transmission and distribution lines without creating new hazards.”¹⁵

In 2001, Britain’s NRPB arrived at a similar conclusion:

“After a wide-ranging and thorough review of scientific research, an independent Advisory Group to the Board of NRPB has concluded that the power frequency electromagnetic fields that exist in the vast majority of homes are not a cause of cancer in general. However, some epidemiological studies do indicate a possible small risk of childhood leukemia associated with exposures to unusually high levels of power frequency magnetic fields.”¹⁶

In 2002, three scientists for CDHS concluded:

¹³ National Institute of Environmental Health Sciences, NIEHS Report on Health Effects from Exposures to Power-Frequency Electric and Magnetic Fields, p. ii, NIH Publication No. 99-4493, 1999

¹⁴ *ibid.*, p. iii

¹⁵ *ibid.*, p. 37 - 38

¹⁶ NRPB, NRPB Advisory Group on Non-ionizing Radiation Power Frequency Electromagnetic Fields and the Risk of Cancer, NRPB Press Release May 2001

“To one degree or another, all three of the [C]DHS scientists are inclined to believe that EMFs can cause some degree of increased risk of childhood leukemia, adult brain cancer, Lou Gehrig’s Disease, and miscarriage.

They [CDHS] strongly believe that EMFs do not increase the risk of birth defects, or low birth weight.

They [CDHS] strongly believe that EMFs are not universal carcinogens, since there are a number of cancer types that are not associated with EMF exposure.

To one degree or another they [CDHS] are inclined to believe that EMFs do not cause an increased risk of breast cancer, heart disease, Alzheimer’s disease, depression, or symptoms attributed by some to a sensitivity to EMFs. However, all three scientists had judgments that were “close to the dividing line between believing and not believing” that EMFs cause some degree of increased risk of suicide, or

For adult leukemia, two of the scientists are ‘close to the dividing line between believing or not believing’ and one was ‘prone to believe’ that EMFs cause some degree of increased risk.”¹⁷

Also in 2002, the World Health Organization’s (WHO) IARC concluded:

“ELF magnetic fields are possibly carcinogenic to humans”¹⁸, based on consistent statistical associations of high-level residential magnetic fields with a doubling of risk of childhood leukemia...Children who are exposed to residential ELF magnetic fields less than 0.4 microTesla (4.0 milliGauss) have no increased risk for leukemia.... In contrast, “no consistent relationship has been seen in studies of childhood brain tumors or cancers at other sites and residential ELF electric and magnetic fields.”¹⁹

In June of 2007, the WHO issued a report on their multi-year investigation of EMF and the possible health effects. After reviewing scientific data from numerous EMF and human health studies, they concluded:

“Scientific evidence suggesting that everyday, chronic low-intensity (above 0.3-0.4 μ T [3-4 mG]) power-frequency magnetic field exposure poses a health risk is based on epidemiological studies demonstrating a consistent pattern of increased risk for childhood leukaemia.”²⁰

¹⁷ CDHS, An Evaluation of the Possible Risks From Electric and Magnetic Fields (EMFs) From Power Lines, Internal Wiring, Electrical Occupations and Appliances, p. 3, 2002

¹⁸ IARC, Monographs, Part I, Vol. 80, p. 338

¹⁹ *ibid.*, p. 332 - 334

²⁰ WHO, Environmental Health Criteria 238, EXTREMELY LOW FREQUENCY FIELDS, p. 11 - 13, 2007

“In addition, virtually all of the laboratory evidence and the mechanistic evidence fail to support a relationship between low-level ELF magnetic fields and changes in biological function or disease status. Thus, on balance, the evidence is not strong enough to be considered causal, but sufficiently strong to remain a concern.”²¹

“A number of other diseases have been investigated for possible association with ELF magnetic field exposure. These include cancers in both children and adults, depression, suicide, reproductive dysfunction, developmental disorders, immunological modifications and neurological disease. The scientific evidence supporting a linkage between ELF magnetic fields and any of these diseases is much weaker than for childhood leukemia and in some cases (for example, for cardiovascular disease or breast cancer) the evidence is sufficient to give confidence that magnetic fields do not cause the disease”²²

“Furthermore, given both the weakness of the evidence for a link between exposure to ELF magnetic fields and childhood leukemia, and the limited impact on public health if there is a link, the benefits of exposure reduction on health are unclear. Thus the costs of precautionary measures should be very low.”²³

III. APPLICATION OF THE CPUC’S “NO-COST AND LOW-COST” EMF POLICY TO THIS PROJECT

Recognizing the scientific uncertainty over the connection between EMF exposures and health effects, the CPUC adopted a policy that addresses public concern over EMF with a combination of education, information, and precaution-based approaches. Specifically, Decision 93-11-013 established a precautionary based “no-cost and low-cost” EMF policy for California’s regulated electric utilities based on recognition that scientific research had not demonstrated that exposures to EMF cause health hazards and that it was inappropriate to set numeric standards that would limit exposure.

²¹ *ibid.*, p. 12

²² *ibid.*, p. 12

²³ *ibid.*, p. 13

In 2006, the CPUC completed its review and update of its EMF Policy in Decision 06-01-042. This decision reaffirmed the finding that state and federal public health regulatory agencies have not established a direct link between exposure to EMF and human health effects,²⁴ and the policy direction that (1) use of numeric exposure limits was not appropriate in setting utility design guidelines to address EMF,²⁵ and (2) existing “no-cost and low-cost” precautionary-based EMF policy should be continued for proposed electrical facilities. The decision also reaffirmed that EMF concerns brought up during Certificate of Public Convenience and Necessity (CPCN) and Permit to Construct (PTC) proceedings for electric and transmission and substation facilities should be limited to the utility’s compliance with the CPUC’s “no-cost and low-cost” policies.²⁶

The decision directed regulated utilities to hold a workshop to develop standard approaches for EMF Design Guidelines and such a workshop was held on February 21, 2006. Consistent design guidelines have been developed that describe the routine magnetic field reduction measures that regulated California electric utilities consider for new and upgraded transmission line and transmission substation projects. SCE filed its revised EMF Design Guidelines with the CPUC on July 26, 2006.

“No-cost and low-cost” measures to reduce magnetic fields would be implemented for this project in accordance with SCE’s EMF Design Guidelines. In summary, the process of evaluating “no-cost and low-cost” magnetic field reduction measures and prioritizing within and between land usage classes considers the following:

²⁴ CPUC Decision 06-01-042, Conclusion of Law No. 5, mimeo. p. 19 (“As discussed in the rulemaking, a direct link between exposure to EMF and human health effects has yet to be proven despite numerous studies including a study ordered by this Commission and conducted by DHS.”).

²⁵ CPUC Decision 06-01-042, mimeo. p. 17 - 18 (“Furthermore, we do not request that utilities include non-routine mitigation measures, or other mitigation measures that are based on numeric values of EMF exposure, in revised design guidelines or apply mitigation measures to reconfigurations or relocations of less than 2,000 feet, the distance under which exemptions apply under GO 131-D. Non-routine mitigation measures should only be considered under unique circumstances.”).

²⁶ CPUC Decision 06-01-042, Conclusion of Law No. 2, (“EMF concerns in future CPCN and PTC proceedings for electric and transmission and substation facilities should be limited to the utility’s compliance with the Commission’s low-cost/no-cost policies.”).

1. SCE's priority in the design of any electrical facility is public and employee safety. Without exception, design and construction of an electric power system must comply with all applicable federal, state, and local regulations, applicable safety codes, and each electric utility's construction standards. Furthermore, transmission and subtransmission lines and substations must be constructed so that they can operate reliably at their design capacity. Their design must be compatible with other facilities in the area and the cost to operate and maintain the facilities must be reasonable.
2. As a supplement to Step 1, SCE follows the CPUC's direction to undertake "no-cost and low-cost" magnetic field reduction measures for new and upgraded electrical facilities. Any proposed "no-cost and low-cost" magnetic field measures, must, however, meet the requirements described in Step 1 above. The CPUC defines "no-cost and low-cost" measures as follows:
 - Low-cost measures, in aggregate, should:
 - Cost in the range of 4 percent of the total project cost.
 - Result in magnetic field reductions of "15% or greater at the utility ROW [right-of-way]..."²⁷

The CPUC Decision stated,

"We direct the utilities to use 4 percent as a benchmark in developing their EMF mitigation guidelines. We will not establish 4 percent as an absolute cap at this time because we do not want to arbitrarily eliminate a potential measure that might be available but costs more than the 4 percent figure. Conversely, the utilities are encouraged to use effective measures that cost less than 4 percent."²⁸

²⁷ CPUC Decision 06-01-042, p. 10

²⁸ CPUC Decision 93-11-013, § 3.3.2, p.10.

3. The CPUC provided further policy direction in Decision 06-01-042, stating that, “[a]lthough equal mitigation for an entire class is a desirable goal, we will not limit the spending of EMF mitigation to zero on the basis that not all class members can benefit.”²⁹ While Decision 06-01-042 directs the utilities to favor schools, day-care facilities and hospitals over residential areas when applying low-cost magnetic field reduction measures, prioritization within a class can be difficult on a project case-by-case basis because schools, day-care facilities, and hospitals are often integrated into residential areas, and many licensed day-care facilities are housed in private homes, and can be easily moved from one location to another. Therefore, it may be practical for public schools, licensed day-care centers, hospitals, and residential land uses to be grouped together to receive highest prioritization for low-cost magnetic field reduction measures. Commercial and industrial areas may be grouped as a second priority group, followed by recreational and agricultural areas as the third group. Low-cost magnetic field reduction measures will not be considered for undeveloped land, such as open space, state and national parks, and Bureau of Land Management and U.S. Forest Service lands. When spending for low-cost measures would otherwise disallow equitable magnetic field reduction for all areas within a single land-use class, prioritization can be achieved by considering location and/or density of permanently occupied structures on lands adjacent to the projects, as appropriate.

This FMP contains descriptions of various magnetic field models and the calculated results of magnetic field levels based on those models. These calculated results are provided only for purposes of identifying the relative differences in magnetic field levels among various

²⁹ CPUC Decision 06-01-042, p. 10

transmission or subtransmission line design alternatives under a specific set of modeling assumptions and determining whether particular design alternatives can achieve magnetic field level reductions of 15 percent or more. The calculated results are not intended to be predictors of the actual magnetic field levels at any given time or at any specific location if and when the project is constructed. This is because magnetic field levels depend upon a variety of variables, including load growth, customer electricity usage, and other factors beyond SCE's control. The CPUC affirmed this in D. 06-01-042 stating:

“Our [CPUC] review of the modeling methodology provided in the utility [EMF] design guidelines indicates that it accomplishes its purpose, which is to measure the relative differences between alternative mitigation measures. Thus, the modeling indicates relative differences in magnetic field reductions between different transmission line construction methods, but does not measure actual environmental magnetic fields.”³⁰

IV. PROJECT DESCRIPTION

Southern California Edison proposes to construct the new 66 kilovolt (kV)-12 kV Mascot Substation (Proposed Substation), one loop-in 66 kV source subtransmission line, and one single-circuit 66 kV source subtransmission line (Proposed Project). The Proposed Substation would be constructed in unincorporated Kings County, California. Construction of the Proposed Project's 66 kV source lines would connect to the existing Goshen-Hanford 66 kV subtransmission line and the Hanford-Liberty 66 kV subtransmission line and would occur in unincorporated Kings County. The Proposed Substation would be an unstaffed, automated 56 MVA 66/12 kV low-profile substation capable of an ultimate build-out of 112 MVA. The

³⁰ CPUC Decision 06-01-042, p. 11

substation components include a 66 kV switchrack, circuit breakers, disconnect switches, two (2) 28 MVA transformers, capacitor banks and a 12 kV switchrack.

For the purpose of evaluating “no-cost and low-cost” magnetic field reduction design options, the Proposed Project is divided into three parts:

- Part 1: Proposed Mascot 66 kV Subtransmission Lines
- Part 2: Mascot 66/12 kV Substation
- Part 3: Project Alternatives

Part 1: Proposed Mascot 66 kV Subtransmission Lines

For the purpose of field reduction evaluation, the proposed subtransmission lines will be divided into two segments as follows:

Segment 1

The new subtransmission line segment connection between the Proposed Substation and the existing Hanford-Liberty 66 kV subtransmission line would be approximately 2 miles long and parallels an existing Pacific Gas and Electric (PG&E) powerline. Approximately two existing wood poles along the Hanford-Liberty 66 kV subtransmission line would be removed and replaced with two new wood poles, and approximately one new tubular steel pole (TSP) would be installed to facilitate tapping the existing subtransmission line.

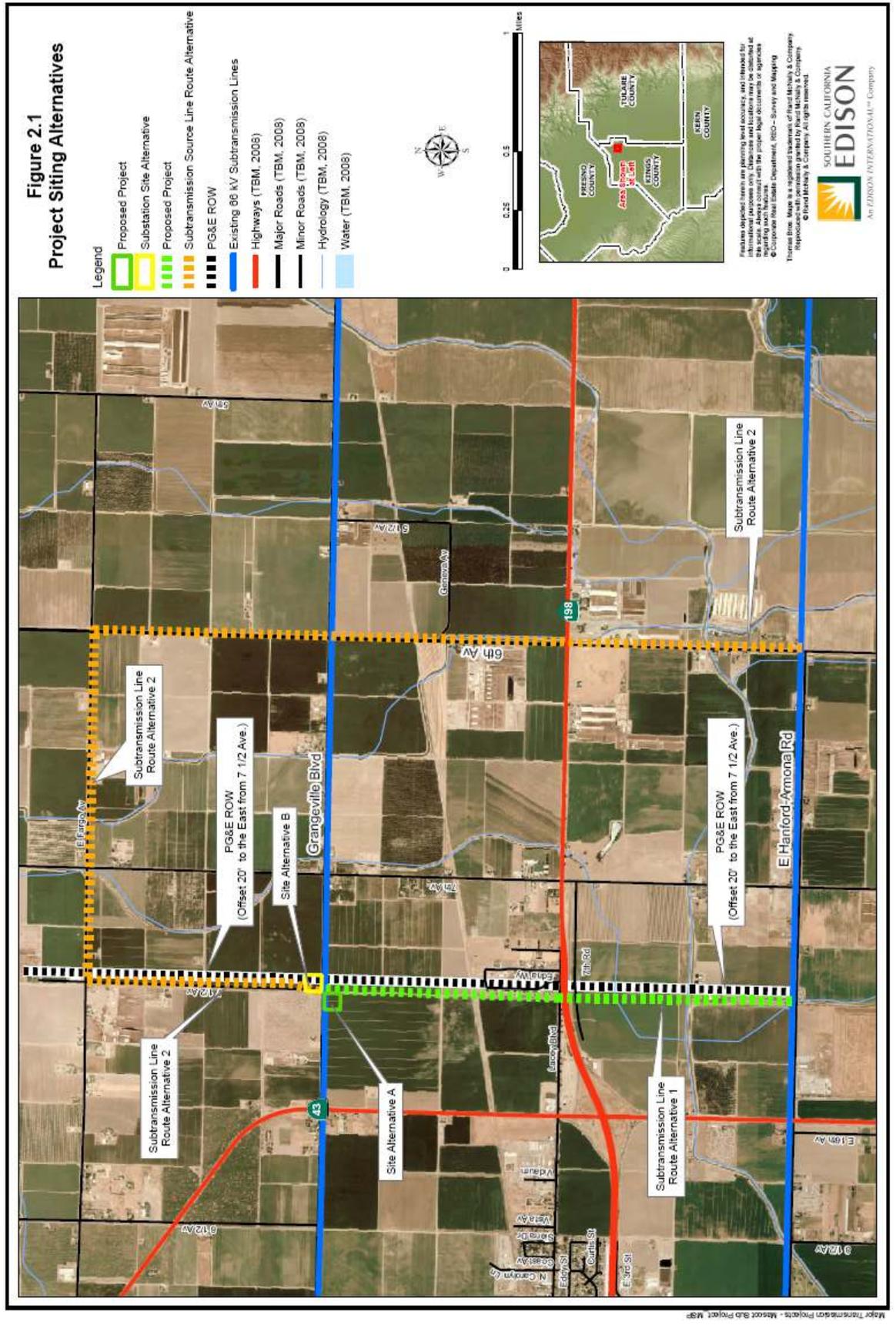
From the tap location on Hanford Armona Road between 7th and 8th Avenue, the route then travels north to Grangeville Boulevard (Proposed Substation location). The proposed Hanford-Liberty-Mascot 66 kV subtransmission line segment will be constructed on single-circuit poles along this route. This segment is approximately 2 mile long.

Segment 2

In addition, the existing Goshen-Hanford 66 kV subtransmission line that parallels Grangeville Boulevard would be looped into the Proposed Substation. Approximately three TSPs and one light weight steel (LWS) pole would be installed to connect the existing Goshen-Hanford 66 kV subtransmission line to the Proposed Substation, creating the Hanford-Mascot and Goshen-Mascot 66 kV subtransmission lines.

The information presented in this section is based on preliminary engineering design, and refinement during final engineering design may result in components that are modified from the descriptions provided in this FMP. SCE engineers added magnetic field reduction measures early in the design phase for this project. The total project cost will include “low-cost” magnetic field reduction measures in the proposed designs.

Figure 1. Project Area and Proposed 66 kV Subtransmission Line Routes



V. EVALUATION OF “NO-COST AND LOW-COST” MAGNETIC FIELD REDUCTION DESIGN OPTIONS

Please note that following magnetic field models and the calculated results of magnetic field levels are intended only for purposes of identifying the relative differences in magnetic field levels among various subtransmission line and subtransmission line design alternatives under a specific set of modeling assumptions (see §VII-Appendix A for more detailed information about the calculation assumptions and loading conditions) and determining whether particular design alternatives can achieve magnetic field level reductions of 15 percent or more. The calculated results are not intended to be predictors of the actual magnetic field levels at any given time or at any specific location when the Proposed Project is constructed.

- **Part 1: Proposed Mascot 66 kV Subtransmission Lines**

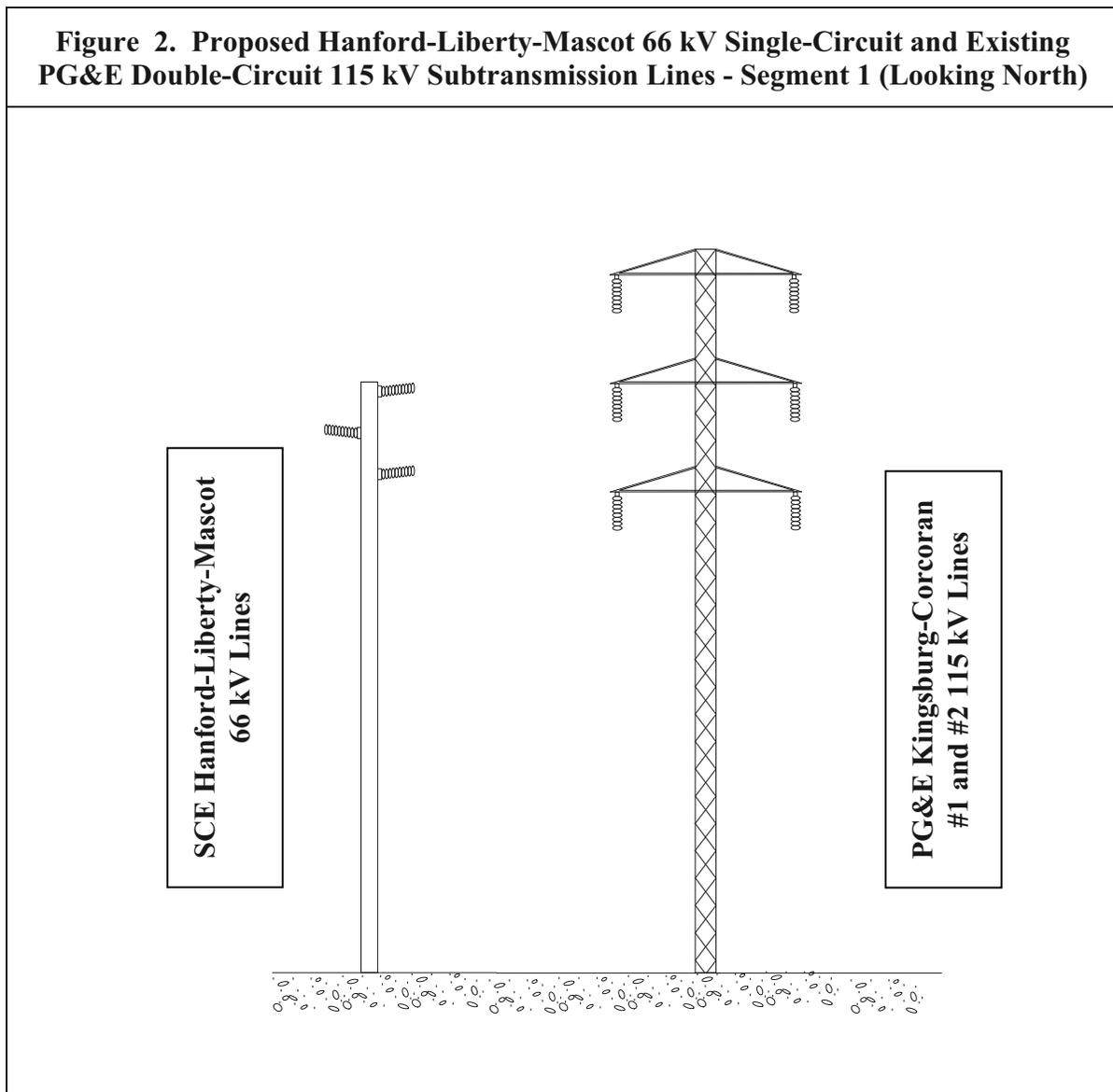
- Segment 1**

The proposed design used for Segment 1 is shown in Figure 2. The proposed 66 kV subtransmission line will be constructed on single-circuit structures. Based on preliminary designs, the wood and LWS poles will be approximately 70 feet in height, and TSPs will be approximately 65 to 85 feet in height. The poles will be located in utility franchise or easement. For EMF analysis, field levels at 10 feet from the center line (C/L) of the structure for a single circuit. Currently, there are no schools along the Segment 1 of the Proposed 66 kV subtransmission line route. The proposed route for Segment 1 runs through mostly agricultural land with scattered residences.

No-Cost Field Reduction Measures: The proposed design for Segment 1 includes the following no-cost field reduction measure:

1. Utilize structure heights that meet or exceed SCE's EMF preferred design criteria.
2. Utilize subtransmission line construction that reduces the space between conductors compared with other designs
3. Arrange conductors of proposed subtransmission line for magnetic field reduction

Figure 2. Proposed Hanford-Liberty-Mascot 66 kV Single-Circuit and Existing PG&E Double-Circuit 115 kV Subtransmission Lines - Segment 1 (Looking North)



Low-Cost Field Reduction Options: Because the proposed design incorporates the above no-cost field reduction measures including structure heights that meet or exceed SCE's EMF preferred design criteria, no further low-cost reduction measures such as utilizing taller structures were considered for this segment of the Proposed Project.

Magnetic Field Calculations: Figure 3 and Table 2 show the calculated magnetic field levels for proposed design. These calculations were made using the typical proposed structure height of 70 feet.

Figure 3. Calculated Magnetic Field Levels³¹ for the Proposed Hanford-Liberty-Mascot 66 kV and Existing Subtransmission Lines Segment 1 (Looking North)

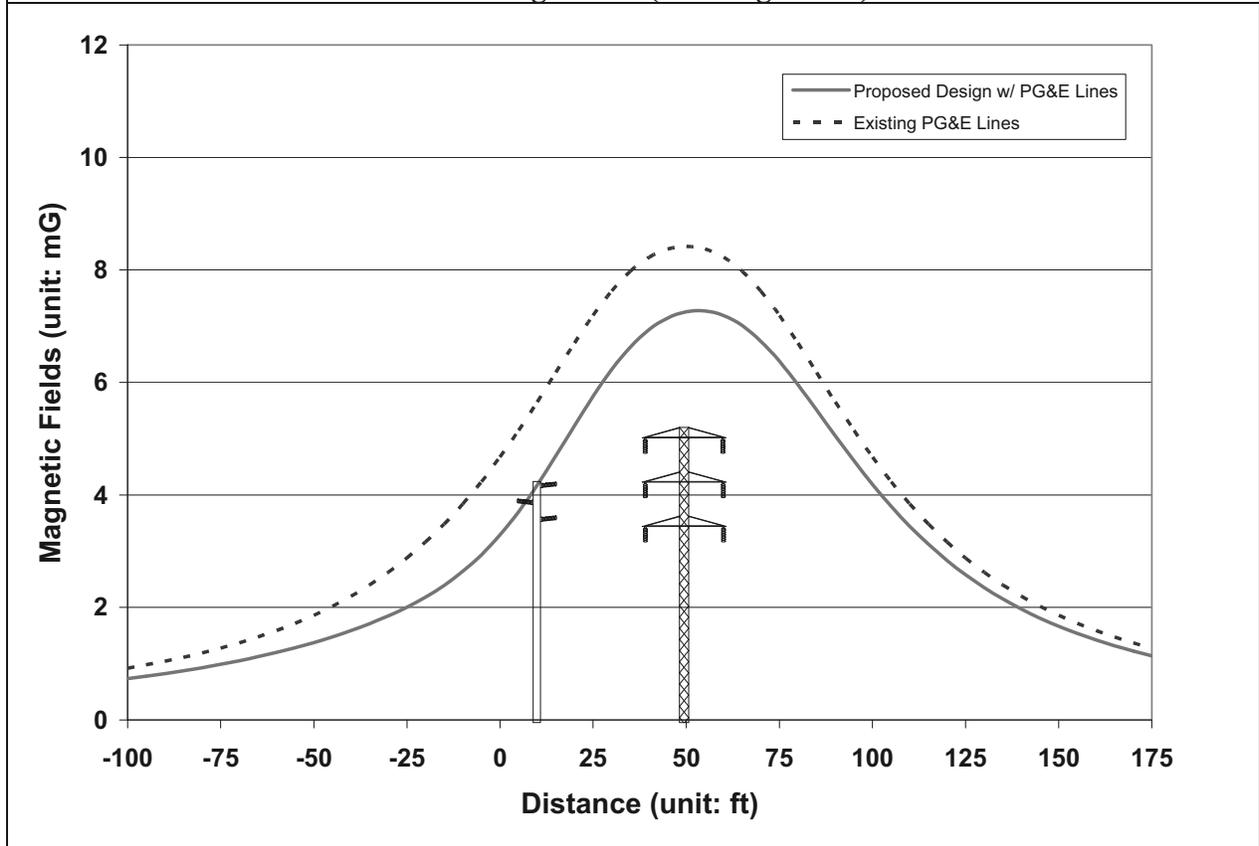


Table 2. A Comparison of Calculated Magnetic Field Levels³² for Segment 1

Design Options	10 Feet Left of C/L (mG)	% Reduction	10 Feet Right of C/L (mG)	% Reduction
Existing PG&E Double Circuit 115 kV Lines	4.7	N/A	7.2	N/A
Proposed Single-Circuit 66 kV Design	3.3	30%	5.2	28%

³¹ This table lists calculated magnetic field levels for design comparison only and is not meant to predict actual magnetic field levels.

³² This table lists calculated magnetic field levels for design comparison only and is not meant to predict actual magnetic field levels.

Recommendations for Segment 1: *The proposed design includes no-cost field reduction measures. Because the proposed design already incorporates structures with heights meeting or exceeding SCE's preferred design criteria, no further low-cost field reduction measures are recommended.*

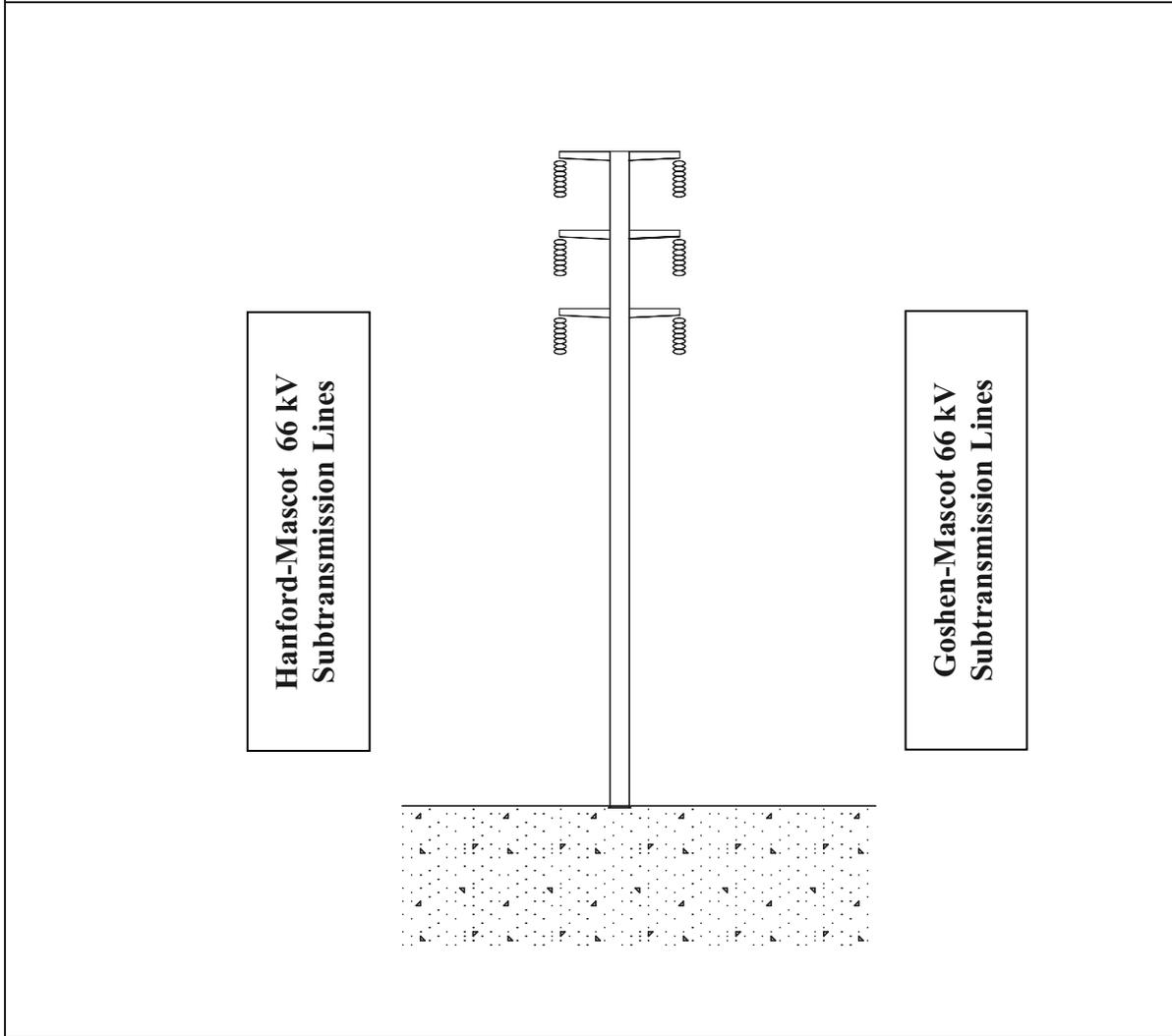
Segment 2

The proposed design used for Segment 2 is shown in Figure 4. The proposed 66 kV subtransmission line will be constructed on double-circuit structures. Based on preliminary designs, the LWS poles will be approximately 70 feet in height, and TSPs will be approximately 65 feet in height. The poles will be located in utility franchise or easement. Currently, there are no schools along the Segment 2 of the proposed 66 kV subtransmission line route. The proposed route for Segment 2 runs through mostly agricultural land.

No-Cost Field Reduction Measures: The proposed design for Segment 2 includes the following no-cost field reduction measure:

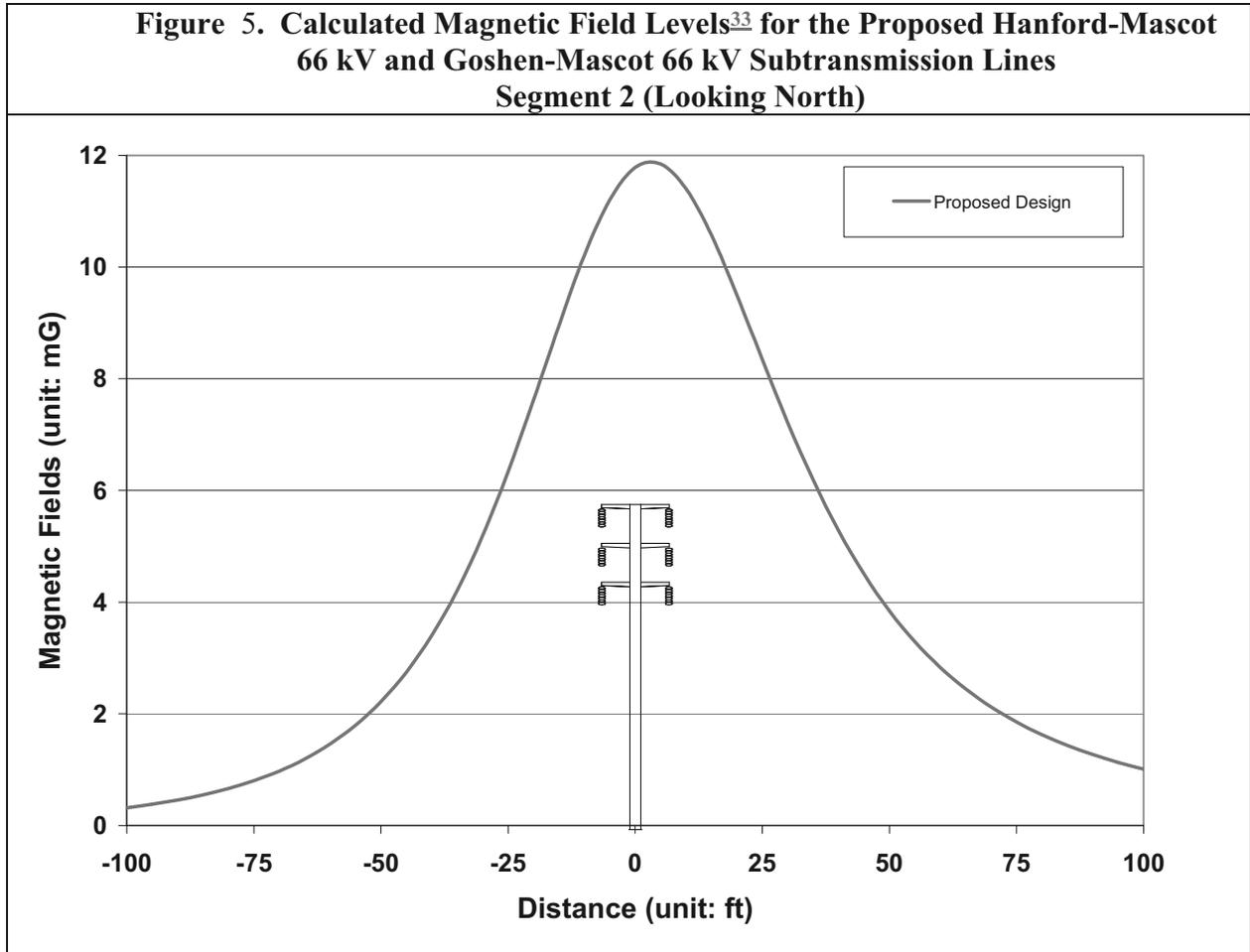
1. Utilize structure heights that meet or exceed SCE's EMF preferred design criteria.
2. Arrange conductors of proposed subtransmission line for magnetic field reduction
3. Utilize double-circuit construction that reduces spacing between circuits as compared with single-circuit construction

Figure 4. Proposed Double Circuit Tap Goshen-Mascot 66 kV and Hanford-Mascot 66 kV Subtransmission Lines - Segment 2 (Looking North)



Low-Cost Field Reduction Options: Because the proposed design incorporates the above no-cost field reduction measures including structure heights that meet or exceed SCE's EMF preferred design criteria, no further low-cost reduction measures such as utilizing taller structures were considered for this segment of the Proposed Project.

Magnetic Field Calculations: Figure 5 and Table 3 show the calculated magnetic field levels for proposed design. These calculations were made using the typical proposed structure height of 65 feet.



³³ This table lists calculated magnetic field levels for design comparison only and is not meant to predict actual magnetic field levels.

Table 3. Calculated Magnetic Field Levels³⁴ for Segment 2				
Design Options	10 Feet Left of C/L (mG)	% Reduction	10 Feet Right of C/L (mG)	% Reduction
Proposed Double-Circuit 66 kV Design	10.2	N/A	11.4	N/A

***Recommendations for Segment 2:** The proposed design includes no-cost field reduction measures. Because the proposed design already incorporates structures with heights meeting or exceeding SCE's preferred design criteria, no further low-cost field reduction measures are recommended.*

Part 2: Mascot 66/12 kV Substation

Generally, magnetic field values along the substation perimeter are low compared to the substation interior because of the distance from the perimeter to the energized equipment. Normally, the highest magnetic field values around the perimeter of a substation result from overhead power lines and underground duct banks entering and leaving the substation, and are not caused by substation equipment. Therefore, the magnetic field reduction design options generally applicable to a substation project are as follows:

- Site selection for a new substation;
- Setback of substation structures and major substation equipment (such as bus, transformers, and underground cable duct banks, etc.) from perimeter;
- Field reduction for transmission lines and subtransmission lines entering and exiting the substation.

³⁴ This table lists calculated magnetic field levels for design comparison only and is not meant to predict actual magnetic field levels.

The Substation Checklist, as shown in Table 4, is used for evaluating the no-cost and low-cost design options considered for the substation project, the design options adopted, and reasons that certain design options were not adopted if applicable.

Table 4. Substation Checklist for Examining No-cost and Low-cost Magnetic Field Reduction Design Options			
No.	No-Cost and Low-Cost Magnetic Field Reduction Design Options Evaluated for a Substation Project	Design Options Adopted? (Yes/No)	Reason(s) if not Adopted
1	Are 66 kV rated transformer(s) 15 feet from the substation property line?	Yes	
2	Are 66 kV rated switch-racks, capacitor banks & bus 8 feet (or more) from the substation property line?	Yes	
3	Are 66kV rated transfer & operating buses configured with the transfer bus facing the nearest property line?	Yes	
4	Are underground cable duct banks greater than 12 feet from side of property line?	Yes	

Part 3: Project Alternatives

This FMP includes only “no-cost and low-cost” magnetic field reduction design options for SCE’s Proposed Routes and Proposed Substation site. SCE’s Proponent’s Environmental Assessment (PEA) contains various alternative line routes and substation site(s). Comparable “no-cost and low-cost” magnetic field reduction options for the Proposed Project can be applied to all alternative subtransmission routes and substation sites. A Final FMP will be prepared should an alternative route be approved.

VI. FINAL RECOMMENDATIONS FOR IMPLEMENTING “NO-COST AND LOW-COST” MAGNETIC FIELD REDUCTION DESIGN OPTIONS

In accordance with the “EMF Design Guidelines”, filed with the CPUC in compliance with CPUC Decisions 93-11-013 and 06-01-042, SCE would implement the following “no-cost and low-cost” magnetic field reduction design options for Proposed Project:

For Proposed Mascot 66 kV Subtransmission Line Route Segment 1:

- Utilize structure heights that meet or exceeds SCE’s EMF preferred design criteria
- Utilize subtransmission line construction that reduces the space between conductors compared with other designs
- Arrange conductors of proposed subtransmission line for magnetic field reduction
 - Proposed phasing arrangement: BCA (top to bottom, or equivalent)

For Proposed Mascot 66 kV Subtransmission Line Route Segment 2:

- Utilize structure heights that meet or exceeds SCE’s EMF preferred design criteria
- Arrange conductors of proposed subtransmission line for magnetic field reduction
 - Proposed phasing arrangement: ABC – ABC (top to bottom, or equivalent)
- Utilize double-circuit construction that reduces spacing between circuits as compared with single-circuit construction

For Proposed Mascot 66/12 kV Substation:

- Place major substation electrical equipment (such as transformers, switchcracks, buses and underground duct banks) away from the substation property lines

- Configure the transfer and operating buses with the transfer bus closest to the nearest property line

The recommended “no-cost and low-cost” magnetic field reduction design options listed above are based upon preliminary engineering designs, and therefore, they are subject to change during the final engineering designs. If the final engineering designs are different than preliminary engineering designs, SCE would implement comparable “no-cost and low-cost” magnetic field reduction design options. If the final engineering designs are significantly different (in the context of evaluating and implementing CPUC’s “no-cost and low-cost” EMF Policy) than the preliminary designs, a Final FMP will be prepared.

SCE’s plan for applying the above “no-cost and low-cost” magnetic field reduction design options uniformly for the Proposed Project is consistent with the CPUC’s EMF Decisions No. 93-11-013 and No. 06-01-042, and also with recommendations made by the U.S. NIEHS. Furthermore, the recommendations above meet the CPUC approved EMF Design Guidelines as well as all applicable national and state safety standards for new electrical facilities.

VII. APPENDIX A: TWO-DIMENSIONAL MODEL ASSUMPTIONS AND YEAR 2012 FORECASTED LOADING CONDITIONS

Magnetic Field Assumptions:

SCE uses a computer program titled “MFields”³⁵ to model the magnetic field characteristics of various transmission designs options. All magnetic field models and the calculated results of magnetic field levels presented in this document are intended only for purposes of identifying the relative differences in magnetic field levels among various subtransmission line and subtransmission line design alternatives under a specific set of modeling assumptions and determining whether particular design alternatives can achieve magnetic field level reductions of 15 percent or more. The calculated results are not intended to be predictors of the actual magnetic field levels at any given time or at any specific location if and when the project is constructed.

Typical two-dimensional magnetic field modeling assumptions include:

- All subtransmission lines were modeled using forecasted peak loads (see Table 5, 6 and 7 below)
- All conductors were assumed to be straight and infinitely long
- A 18-foot sag was assumed for PG&E 115 kV subtransmission designs
- A 12-foot sag was assumed for the Hanford-Liberty-Mascot 66 kV, Hanford-Mascot 66 kV, and Goshen-Mascot 66 kV subtransmission line designs
- Magnetic field strength was calculated at a height of three feet above ground
- Resultant magnetic fields values were presented in this FMP
- All line currents were assumed to be balanced (i.e. neutral or ground currents are not considered)
- Terrain was assumed to be flat
- Project dominant power flow directions were used.

³⁵ SCE, MFields for Excel, Version 2.0, 2007.

Table 5. Year 2012 Forecasted Loading Conditions for Proposed 66 kV and 115 kV Subtransmission Lines Segment 1	
Circuit Name	Current (Amp)
Proposed Hanford-Liberty-Mascot 66 kV subtransmission line	150
Existing PG&E Kingsburg-Corcoran #1 115 kV subtransmission line	100
Existing PG&E Kingsburg-Corcoran #2 115 kV subtransmission line	100

Table 6. Existing PG&E 115 kV Subtransmission Line Loads	
Circuit Name	Current (Amp)
Existing PG&E Kingsburg-Corcoran #1 115 kV subtransmission line	100
Existing PG&E Kingsburg-Corcoran #2 115 kV subtransmission line	100

Table 7. Year 2012 Forecasted Loading Conditions for Proposed 66 kV Subtransmission Lines Segment 2	
Circuit Name	Current (Amp)
Hanford-Mascot 66 kV subtransmission line	350
Goshen-Mascot 66 kV subtransmission line	400

Notes:

1. Forecasted loading data is based upon scenarios representing load forecasts for the second quarter of 2012. The forecasting data is subject to change depending upon

availability of generations, load increase, changes in load demand, and by many other factors.

2. All existing line loading data is derived from historical data.
3. Load flow for Table 5 and 6 is assumed in the same direction
4. Load flow for Table 7 is assumed in the opposite direction

Appendix B

Air Quality Calculations

Combined Annual Emissions Reports (Tons/Year)

File Name: G:\207xxx\ID207584.07 - CPUC Mascot Substation\04 Work Products\04.1 Technical Data\AQ Modeling\Construction.urb924

Project Name: Mascot

Project Location: Kings County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2011 TOTALS (tons/year unmitigated)	0.43	3.63	2.38	0.00	2.17	0.19	2.36	0.45	0.17	0.63	474.63

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2011	0.43	3.63	2.38	0.00	2.17	0.19	2.36	0.45	0.17	0.63	474.63

Substation Construction

Mass Grading 01/03/2011-01/14/2011

Mass Grading Dust	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.81
Mass Grading Off Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.81
Mass Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading 01/17/2011-05/20/2011	0.17	1.62	0.88	0.00	1.13	0.08	1.21	0.24	0.07	0.31	198.16

Mass Grading Dust

Mass Grading Off Road Diesel

Mass Grading On Road Diesel

Mass Grading Worker Trips

Building 01/24/2011-04/22/2011

Building Off Road Diesel

Mass Grading Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Off Road Diesel	0.12	0.99	0.53	0.00	0.00	0.05	0.05	0.00	0.05	0.05	94.76
Mass Grading On Road Diesel	0.04	0.62	0.22	0.00	0.00	0.02	0.03	0.00	0.02	0.02	93.05
Mass Grading Worker Trips	0.00	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.34
Building 01/24/2011-04/22/2011	0.03	0.25	0.22	0.00	0.00	0.01	0.01	0.00	0.01	0.01	36.09
Building Off Road Diesel	0.02	0.17	0.08	0.00	0.00	0.01	0.01	0.00	0.01	0.01	17.28

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Phase: Mass Grading 1/17/2011 - 5/20/2011 - Grading

Total Acres Disturbed: 5

Maximum Daily Acreage Disturbed: 1.25

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 513.61

Off-Road Equipment:

- 1 Graders (174 hp) operating at a 0.61 load factor for 3 hours per day
- 1 Plate Compactors (8 hp) operating at a 0.43 load factor for 2 hours per day
- 1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 4 hours per day
- 1 Scrapers (313 hp) operating at a 0.72 load factor for 3 hours per day
- 4 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 3 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 2 hours per day

Phase: Mass Grading 1/24/2011 - 4/15/2011 - Civil Work

Total Acres Disturbed: 5

Maximum Daily Acreage Disturbed: 1.25

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

- 1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 5 hours per day
- 1 Cranes (399 hp) operating at a 0.43 load factor for 2 hours per day
- 1 Excavators (168 hp) operating at a 0.57 load factor for 4 hours per day
- 1 Forklifts (145 hp) operating at a 0.3 load factor for 4 hours per day
- 3 Skid Steer Loaders (44 hp) operating at a 0.55 load factor for 3 hours per day
- 2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 3 hours per day
- 2 Water Trucks (189 hp) operating at a 0.5 load factor for 3 hours per day

Phase: Mass Grading 1/31/2011 - 2/25/2011 - MEER

Total Acres Disturbed: 0

Maximum Daily Acreage Disturbed: 0

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 40

Off-Road Equipment:

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Phase: Mass Grading 2/7/2011 - 7/8/2011 - Substation Testing

Total Acres Disturbed: 0

Maximum Daily Acreage Disturbed: 0

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 40

Off-Road Equipment:

Phase: Mass Grading 2/28/2011 - 3/18/2011 - Substation Landscaping

Total Acres Disturbed: 5

Maximum Daily Acreage Disturbed: 1.25

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 6/6/2011 - 6/13/2011 - TSP Foundations

Total Acres Disturbed: 5.5

Maximum Daily Acreage Disturbed: 1.25

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 100

Off-Road Equipment:

2 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day

3 Other Equipment (190 hp) operating at a 0.62 load factor for 5 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 7/18/2011 - 8/2/2011 - Pole haul

Total Acres Disturbed: 0

Maximum Daily Acreage Disturbed: 0

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Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 80

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

Phase: Mass Grading 8/15/2011 - 8/16/2011 - Restoration

Total Acres Disturbed: 5

Maximum Daily Acreage Disturbed: 1.25

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 60

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Plate Compactors (8 hp) operating at a 0.43 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 11/8/2011 - 11/15/2011 - Distribution Duct Bank and Vault Install

Total Acres Disturbed: 0.02

Maximum Daily Acreage Disturbed: 0.02

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Trenching 2/28/2011 - 3/25/2011 - Substation Irrigation

Off-Road Equipment:

1 Skid Steer Loaders (44 hp) operating at a 0.55 load factor for 8 hours per day

1 Trenchers (63 hp) operating at a 0.75 load factor for 8 hours per day

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Phase: Paving 2/28/2011 - 3/18/2011 - Substation Asphaltting

Acres to be Paved: 1.25

Off-Road Equipment:

2 Pavers (100 hp) operating at a 0.62 load factor for 4 hours per day

2 Rollers (95 hp) operating at a 0.56 load factor for 4 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 3 hours per day

Phase: Building Construction 1/24/2011 - 4/22/2011 - Electrical

Off-Road Equipment:

5 Aerial Lifts (60 hp) operating at a 0.46 load factor for 3.2 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 3 hours per day

Phase: Building Construction 1/31/2011 - 3/4/2011 - Wiring

Off-Road Equipment:

5 Aerial Lifts (60 hp) operating at a 0.46 load factor for 3.2 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 3 hours per day

Phase: Building Construction 2/7/2011 - 3/18/2011 - Transformers

Off-Road Equipment:

5 Aerial Lifts (60 hp) operating at a 0.46 load factor for 3.2 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 3 hours per day

Phase: Building Construction 2/14/2011 - 2/25/2011 - Fencing

Off-Road Equipment:

5 Aerial Lifts (60 hp) operating at a 0.46 load factor for 3.2 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 3 hours per day

Phase: Building Construction 6/20/2011 - 7/15/2011 - Steel and Wood Pole Assembly and Erection

Off-Road Equipment:

5 Aerial Lifts (60 hp) operating at a 0.46 load factor for 3.2 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 3 hours per day

Phase: Building Construction 8/3/2011 - 8/10/2011 - Conductor Installation

Off-Road Equipment:

5 Aerial Lifts (60 hp) operating at a 0.46 load factor for 3.2 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 3 hours per day

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Phase: Building Construction 8/1/2011 - 8/12/2011 - Guard Structure Installation and Removal

Off-Road Equipment:

5 Aerial Lifts (60 hp) operating at a 0.46 load factor for 3.2 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 3 hours per day

Phase: Building Construction 9/1/2011 - 10/4/2011 - Telecom Installation

Off-Road Equipment:

5 Aerial Lifts (60 hp) operating at a 0.46 load factor for 3.2 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 3 hours per day

Phase: Building Construction 9/5/2011 - 10/14/2011 - Overhead Fiber Installation

Off-Road Equipment:

5 Aerial Lifts (60 hp) operating at a 0.46 load factor for 3.2 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 3 hours per day

Phase: Building Construction 10/17/2011 - 10/28/2011 - Duct Bank Installation

Off-Road Equipment:

5 Aerial Lifts (60 hp) operating at a 0.46 load factor for 3.2 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 3 hours per day

Phase: Building Construction 10/31/2011 - 11/7/2011 - Underground Cable Pulling

Off-Road Equipment:

5 Aerial Lifts (60 hp) operating at a 0.46 load factor for 3.2 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 3 hours per day

Phase: Building Construction 11/16/2011 - 11/18/2011 - Distribution Pulling

Off-Road Equipment:

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Building Construction 11/21/2011 - 12/6/2011 - Distribution Cable Splicing and Switching

Off-Road Equipment:

Appendix C

Certificate of Service and Mailing List

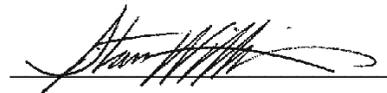
CERTIFICATE OF SERVICE

I, Stan Williams of Phoenix1, certify that I have on this date caused the following:

Publication of the notice of intent (NOI) to adopt an Initial Study/Mitigated Negative Declaration (IS/MND) for Southern California Edison's (SCE) Application to the California Public Utilities Commission (CPUC) pursuant to General Order (GO) 131-D to construct and operate the Mascot Substation Project. The NOI is to be served by United States Postal Service (USPS) mail to the owners of property within 300 feet of the Proposed Project. Copies of the NOI and Draft IS/MND are to be delivered via USPS mail or an overnight delivery service to Responsible, Trustee, and other local, State and federal public agencies whose jurisdiction falls within the project area; and planning departments of Kings County and the City of Hanford, as documented in the comprehensive mailing list included in Appendix C of the Draft IS/MND.

I declare under penalty of perjury pursuant to the laws of the State of California that the foregoing is true and correct.

Executed on August 26, 2010 in Fremont, California.



Stan Williams

**MASTER MAILING LIST:
AGENCIES, ORGANIZATIONS AND INDIVIDUALS SENT A HARD COPY OF DRAFT IS/MND**

Agency/Organization	First Name	Last Name	Title	Street	City	State	Zip Code
Lead Agency/Applicant							
California Public Utilities Commission	Monisha	Gangopadhyay	CEQA Project Manager	505 Van Ness Avenue	San Francisco	CA	94102
Southern California Edison Company	Ryan	Stevenson	Project Manager, Regulatory Policy & Affairs Dept.				
Local Agencies							
City of Hanford	Cathy	Cain	City Planner	319 North Douy Street	Hanford	CA	93230
City of Hanford	Lou	Camara	Public Works Director	900 South 10th Avenue	Hanford	CA	93230
Kings County	Chuck	Kinney	Senior Planner	1400 West Lacey Blvd	Hanford	CA	93230
Kings County Board of Supervisors	Tony	Barba	Supervisor	1400 West Lacey Blvd	Hanford	CA	93230
Kings County Board of Supervisors	Richard	Fagundes	Supervisor	1400 W. Lacey Blvd	Hanford	CA	93230
Kings County Farm Bureau	Diana	Peck	Executive Director	870 Greenfield Avenue	Hanford	CA	93230
San Joaquin Valley Air Pollution Control District	Debbie	Johnson	Central Region Contact	1990 E. Gettysburg Avenue	Fresno	CA	93726
Kings County			County Clerk	1400 West Lacey Blvd	Hanford	CA	93230
State and Federal Agencies							
California Air Resources Board			Attn: Stationary Sources	1001 I Street PO Box 2815	Sacramento	CA	95812
California Department of Fish and Game, Region 4	Justin	Sloan		1234 E. Shaw Avenue	Fresno	CA	93710
California Department of Food and Agriculture	Gregory	Aghazarian	Legislation and Policy	1220 N Street	Sacramento	CA	95814
California Department of Transportation, District 6	Brian	Everson	Director	1352 W. Olive Avenue PO Box 12616	Fresno	CA	93778
California Energy Commission	Melissa	Jones	Executive Director	1516 Ninth Street	Sacramento	CA	95814
California Regional Water Quality Control Board, Central Valley Fresno Office	Pamela	Creedon	Executive Officer	1685 E Street	Fresno	CA	93706
California Resources Agency	Mike	Chrisman	Secretary	1416 Ninth St, Suite 1311	Sacramento	CA	95814
Department of Toxic Substances Control							
Department of Water Resources	Cathy	Crothers	Chief Council	1416 9th Street	Sacramento	CA	95814
Native American Heritage Commission	Katy	Sanchez		915 Capitol Mall, Room 364	San Francisco	CA	95814
Office of Historic Preservation	Ron	Parsons		1725 23rd Street, Suite 100	San Francisco	CA	95816
US Fish and Wildlife Service	Diane	Elam		2800 Cottage Way, Suite W2606	San Francisco	CA	95825
Local Libraries Serving As Repositories							
Hanford Main Library	Brenda	Bettencourt		401 N. Douy Street	Hanford	CA	93230
Tulare County Library	Janet	Harader		200 West Oak Avenue	Visalia	CA	93291

**MASTER MAILING LIST:
AGENCIES, ORGANIZATIONS AND INDIVIDUALS SENT A COMPACT DISC (CD) OF DRAFT IS/MND**

Agency/Organization	First Name	Last Name	Title	Street	City	State	Zip Code
Local Agencies							
City of Hanford	Gary	Misenhimer	City Manager	319 North Douty Street	Hanford	CA	93230
City of Hanford	David	Ayers	Mayor	319 North Douty Street	Hanford	CA	93230
City of Hanford Chamber of Commerce				109 West 7th Street	Hanford	CA	93230
City of Hanford Community Development Department, Planning Department	Hillary	Straus	Deputy City Manager	319 North Douty	Hanford	CA	93230
Kings County	Larry	Spikes	Administrative Officer	1400 West Lacey Blvd	Hanford	CA	93230
Kings County	Deb	West	Assistant Administrative Officer	1400 West Lacey Blvd	Hanford	CA	93230
Kings County	Terri	Yarbrough	Planning Commission Secretary	1400 W. Lacey Blvd	Hanford	CA	93230
Kings County	Bill	Zumwalt	Planning Director	1400 West Lacey Blvd	Hanford	CA	93230
Kings County	Harry	Verheul	Public Works Director	1400 West Lacey Blvd	Hanford	CA	93230
Kings County Board of Supervisors	Joe	Neves	Chairman	1400 W. Lacey Blvd	Hanford	CA	93230
Kings County EDC	Jay	Salyer	Executive Director	120 North Irwin Street	Hanford	CA	93230
Kings County Farm Bureau Development Agency	Jim	Crisp	President	870 Greenfield Avenue	Hanford	CA	93230
Kings County School District	Gregory	Gatzka	Planning Director	1400 W. Lacey Blvd	Hanford	CA	93230
Kit Carson School District	Todd	Barlow	Assistant Superintendent	9895 7th Avenue	Hanford	CA	93230
Kit Carson School District	John	Sousa	Superintendent	9895 7th Avenue	Hanford	CA	93230
State Assemblyman Danny Gilmore's office	Noah	Lawson	District Director	1489 W Lacey Blvd, Ste 103	Hanford	CA	93230
State Senator Dean Florez's office	Susan	Good	District Director	2550 Mariposa Mall, Ste 2016	Fresno	CA	93721
State and Federal Agencies							
California Department of Fish and Game	Donald	Koch	Director	1416 Ninth Street	Sacramento	CA	95814
California Department of Transportation	Randell	Iwasaki	Director	P.O. Box 942873	Sacramento	CA	94273
California Department of Transportation, Division of Aeronautics MS #40	Gary	Cathy	Division of Aeronautics Acting Chief	P.O. Box 942874	Sacramento	CA	94247
California Energy Markets				425 Divisadero St., Suite 303	San Francisco	CA	94117
California Farm Bureau Federation	Karen Norene	Mills	Attorney	2300 River Plaza Drive	Sacramento	CA	95833
Department of Health Services State Clearinghouse	Sandra	Shewry	Director	1501 Capitol Avenue, Suite 6001 P.O. Box 3044	Sacramento	CA	94234 95812-3044
US Army Corp of Engineers	Robert	Smith		1455 Market Street, 16th Floor	San Francisco	CA	94103

**MASTER MAILING LIST:
HOMEOWNERS SENT NOTICE OF INTENT TO ADOPT (NOI) IS/MND**

APN(S)	House #	Street	City	State	Zip Code
14130052000		PO BOX 1579	Hanford	CA	93232
14130071000, 14090041000, 14130069000, 14260021000, 14260087000	7696	Grangeville	Hanford	CA	93230
14260001000	39	6th	Lawton	OK	73501
14260029000	8030	7 1/2	HANFORD	CA	93230
14390007000	9733	Ponderosa	Hanford	CA	93230
14390008000	9785	Ponderosa	Hanford	CA	93230
14390009000	9851	Ponderosa	Hanford	CA	93230
14390010000	9909	Ponderosa	Hanford	CA	93230
14390011000	7456	Lacey	Hanford	CA	93230
14390012000	9944	Ponderosa	Hanford	CA	93230
14390013000	9896	Ponderosa	Hanford	CA	93230
14390014000	9844	Ponderosa	Hanford	CA	93230
14390015000	9780	Ponderosa	Hanford	CA	93230
14390016000	9724	Ponderosa	Hanford	CA	93230
14390017000	7450	Mountain View	Hanford	CA	93230
16070012000	4020	Bandini	Los Angeles	CA	90023
16070013000, 16070015000		Po Box 416	Kerman	CA	93630
16070036000, 16070038000	8881	Houston	Hanford	CA	93230
16070037000	2495	Spruce	Hanford	CA	93230
16130055000	10431	8 3/4	HANFORD	CA	93230
16130079000, 995191773000, 996191773000		Po Box 903	Goshen	CA	93227
16130081000	1629	Jacques	Visalia	CA	93277
16130082000, 991270153000, 990270153000	5225	Via Amore	Fresno	CA	93711
995191929001, 996191929001	5225	Via Amore	Fresno	CA	93711
14120004000, 14120005000, 14130022000, 14130079000, 14130080000	5220	Flint	Hanford	CA	93230
14100023000	9488	Elder	Hanford	CA	93230
14130007000	645	C	Lemoore	CA	93245
140900046000	6268	Fargo	Hanford	CA	93230
14130014000, 14130058000, 14130013000, 14130075000	7701	Silva Ranch	Sacramento	CA	95831
140900045000	6268	Fargo	Hanford	CA	93230
140900042000, 14090006000	8030	7 1/2	HANFORD	CA	93230
141300043000	6481	Fargo	Hanford	CA	93230
14130055000, 14130061000, 140900043000	6571	Fargo	Hanford	CA	93230
14130060000	8139	7th	Hanford	CA	93230
14090037000, 14120001000	6511	Flint	Hanford	CA	93230

**MASTER MAILING LIST (CONTINUED):
 HOMEOWNERS SENT NOTICE OF INTENT TO ADOPT (NOI) IS/MND**

APN(S)	House #	Street	City	State	Zip Code
14130076000	7794	Grangeville	Hanford	CA	93230
14260025000, 14260026000	2181	M	Tulare	CA	93274
14090027000	10589	Boulder Canyon	Alta Loma	CA	91737
14270012000, 14270029000, 14270006000, 990273606000	2178	Berkshire	Hanford	CA	93230
16070021000	1423	17th	Los Osos	CA	93402
14130023000	8486	6th	Hanford	CA	93230
14130024000	6335	Lacey	Hanford	CA	93230
14130062000	502	Grangeville	Hanford	CA	93230
14260080000, 14260068000, 14260079000	9550	6th	Hanford	CA	93230
16080010000	10957	6th	Hanford	CA	93230
16070090000, 995195110000, 16130045000	6236	Hanford Armona	Hanford	CA	93230
16070099000	6335	Lacey	Hanford	CA	93230
16070055000	10816	6th	Hanford	CA	93230
16070056000	10806	6th	Hanford	CA	93230
991269316000, 16120001000, 990269316000, 16080011000	10795	6th	Hanford	CA	93230
995191881000, 16070064000	10654	6th	Hanford	CA	93230
16070057000	10612	6th	Hanford	CA	93230
16080043000	5811	Lacey	Hanford	CA	93230
16080032000	10175	6th	Hanford	CA	93230