SOUTHERN CALIFORNIA EDISON'S FALCON RIDGE SUBSTATION PROJECT

CPUC A.10-12-017
SCH NO. 2011041009

Draft Environmental Impact Report

Prepared for
California Public Utilities Commission

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ACRONYMS AND ABBREVIATIONS

AADT	Annual Average Daily Traffic
AB	Assembly Bill
AC	alternating current
ACSR	Aluminum Conductor Steel Reinforced
AFY	acre-feet per year
AG	Agriculture
ags	above ground surface
ALJ	Administrative Law Judge
amsl	above mean sea level
ANSI	American National Standards Institute
AP	Alquist-Priolo
APLIC	Avian Power Line Interaction Committee
APM	Applicant Proposed Measure
APN	Assessor's Parcel Number
APSA	Aboveground Petroleum Storage Act
AQMP	Air Quality Management Plan
ASCE	American Society of Civil Engineers
AST	Aboveground Storage Tank
BACM	Best Available Control Measures
Basin Plan	Santa Ana River Basin Water Quality Control Plan
BAT	Best Available Technology
BCT	Best Conventional Technology
bgs	Below Ground Surface
BMP	Best Management Practice
BNSF	Burlington Northern Santa Fe Railway
B.P.	Before Present
CA DOF	California Department of Finance
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection
Cal OSHA	California Occupational Safety and Health Administration
CalARP	California Accidental Release Program
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation

CARB	California Air Resources Board
CAT	Climate Action Team
CBC	California Building Code
CCAR	California Climate Action Registry
CCR	California Code of Regulations
CDC	California Department of Conservation
CDFG	California Department of Fish and Game
CDMG	California Division of Mines and Geology
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH_4	methane
CHP	California Highway Patrol
CIWMP	Countywide Integrated Waste Management Plan
CLUP	California Land Use Plan
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
Corps	United States Army Corps of Engineers
CPUC	California Public Utilities Commission
CSE	Countywide Siting Element
CSP	California State Parks
CUPA	Certified Unified Program Agency
CVWD	Cucamonga Valley Water District
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DC	direct current
DHS	California Department of Health Services
DigAlert	Underground Services Alert of Southern California
DMP	Discharge Monitoring Plan
DOGGR	Division of Oil, Gas, and Geothermal Resources
DPM	diesel particulate matter
DTSC	Department of Toxic Substance Control
DWR	Department of Water Resources

EIR	Environmental Impact Report
ELF	Extremely Low Frequency
EMF	Electric and Magnetic Fields
ENA	Electrical Needs Area
EPRI	Electric Power Research Institute
ESA	Environmental Science Associates
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FESA	Federal Endangered Species Act
FFPD	Fontana Fire Protection District
FGC	Fish and Game Code
FMMP	Farmland Mapping and Monitoring Program
FMP	Field Management Plan
FPD	Fontana Police Department
ft	feet
FTA	Federal Transit Administration
g	gravity
GHG	greenhouse gas
GIS	Geographic Information System
GWh	gigawatt-hour
HFC	hydrofluorocarbon
HMI/PLC	Human Machine Interface/Programmable Logic Controller
HVAC	heating ventilation and air-conditioning
HWCL	Hazardous Waste Control Law
Hz	hertz
I	Interstate
IARC	International Agency for Research on Cancer
IBC	International Building Code
IEEE	Institute of Electrical and Electronic Engineers
IPCC	Intergovernmental Panel on Climate Change
KOP	Key Observation Point
kV	kilovolt
lb	pound
LDL	Larson Davis Laboratories
L_{dn}	day-night average level
L_{eq}	equivalent sound level
L_{max}	maximum sound level
L_{min}	minimum sound level

L_n	percentile-exceeded sound level
LOS	Level of Service
L_p	average sound pressure level
LST	Localized Significance Thresholds
LUST	Leaking Underground Storage Tank
L_w	sound power level
LWS	Light Weight Steel
MBTA	Migratory Bird Treaty Act
MEER	Mechanical and Electrical Equipment Room
MMRCP	Mitigation Monitoring, Reporting, and Compliance Program
MPO	Metropolitan Planning Organization
MRZ	Mineral Resource Zone
MS4	Municipal Separate Storm Sewer System
MSDS	Material Safety Data Sheet
MVA	megavolt-ampere
MVAR	megavolt-amperes reactive
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NERC	North American Electric Reliability Corporation
NFPA	National Fire Protection Association
NHPA	National Historic Preservation Act
NO	nitric oxide
NO_2	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOP	Notice of Preparation
NO_x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRCS	Natural Resources Conservation Service
OA	Operational Area
OEHHA	Office of Environmental Health Hazard Assessment
OES	Office of Emergency Services
OHGW	overhead ground wire
OHP	Office of Historic Preservation
OSHA	Occupational Safety and Health Administration
PCB	polychlorinated biphenyl
PCE	Primary Constituent Element
PEA	Proponent's Environmental Assessment
PFC	perfluorocarbon

PGA	peak ground acceleration
PM10	particulate matter less than 10 microns in diameter
PM2.5	particulate matter less than 2.5 microns in diameter
Porter-Cologne	Porter-Cologne Water Quality Control Act
ppb	parts per billion
PPV	peak particle velocity
Project	Falcon Ridge Substation Project
PSHA	Probabilistic Seismic Hazard Assessment
PTC	Permit to Construct
PVC	polyvinyl chloride
RCFPD	Rancho Cucamonga Fire Protection District
RCPD	Rancho Cucamonga Police Department
RCRA	Resource Conservation and Recovery Act
RFD	Rialto Fire Department
RHNA	Regional Housing Needs Assessment
RMS	root mean square
ROC	reactive organic compounds
ROW	right-of-way
RPD	Rialto Police Department
RPLI	Regional Paleontological Locality Inventory
RPZ	Runway Protection Zone
RWQCB	Regional Water Quality Control Board
SAC	Standard Aluminum Conductor
SAFZ	San Andreas Fault Zone
SANBAG	San Bernardino Associated Governments
SARWQCB	Santa Ana Regional Water Quality Control Board
SB	Senate Bill
SBCFCD	San Bernardino County Flood Control District
SBCFD	San Bernardino County Fire Department
SBCRP	San Bernardino County Regional Parks
SBCSD	San Bernardino County Sheriff's Department
SBSFCD	San Bernardino Flood Control District
SBVMWD	San Bernardino Valley Municipal Water District
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SDC	Seismic Design Category
SF_6	sulfur hexafluoride
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SMARA	Surface Mining and Reclamation Act
SMGB	State Mining Geological Board

SO_2	sulfur dioxide
SOx	sulfur oxides
SPCC	Spill Prevention and Control Countermeasures
SR	State Route
SRA	Source Receptor Area
SVP	Society of Vertebrate Paleontology
SWAPA	Santa Ana Watershed Project Authority
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminant
TCE	trichloroethene
TDS	Total Dissolved Substance
TMDL	Total Maximum Daily Load
TPH	Total Petroleum Hydrocarbons
TPZ	Timberland Production Zone
TSDF	Treatment, Storage and Disposal Facility
TSP	Tubular Steel Pole
UBC	Uniform Building Code
UC	Utility Corridor
USACOE	United States Army Corps of Engineers
USDOT	United States Department of Transportation
USEIA	United States Energy Information Administration
USEPA	United States Environmental Protection Agency
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
VdB	decibel notation
VMT	Vehicle Miles Traveled
VOC	volatile organic compound
WDR	Waste Discharge Requirements
WEAP	Worker Environmental Awareness Program
WECC	Western Electricity Coordinating Council
Williamson Act	California Land Conservation Act of 1965
WQMP	Water Quality Management Plan
WRCC	Western Regional Climate Center
yd	yard

EXECUTIVE SUMMARY

ES.1 Introduction/Background

This Environmental Impact Report (EIR) is an informational document intended to disclose to the public and decision-makers the environmental consequences of the Falcon Ridge Substation Project (Project) proposed by Southern California Edison (SCE) in its application to the California Public Utilities Commission (CPUC) for a Permit to Construct (PTC), to construct, operate and maintain electrical facilities pursuant to CPUC General Order No. 131-D. The application includes a Proponent's Environmental Assessment (PEA) (SCE, 2010a) prepared by SCE pursuant to Rule 2.4 of CPUC's Rules of Practice and Procedure.

This Executive Summary includes the following sections:

- Introduction (ES.1)
- Project Objectives (ES.2)
- Project Description (ES.3)
- Alternatives (ES.4)
- Environmentally Superior Alternative (ES.5)
- Areas of Controversy and Issues to be Resolved (ES.6)
- Summary of Impacts and Mitigation Measures (ES.7)

The EIR assesses the direct, indirect, and cumulative environmental impacts that could occur as a result of the construction, operation, and maintenance of the Project and alternatives to the Project. A comparative summary of the impacts of the Project and alternatives is provided in Table ES-1. Based on this evaluation and the documentation that follows, this Draft EIR identifies Alternative 1: the Lowell Street Realignment Alternative as the Environmentally Superior Alternative.

ES.2 Project Objectives

Under the rules, regulations, and guidelines of the Federal Energy Regulatory Commission (FERC), the North American Electric Reliability Corporation (NERC), the Western Electricity Coordinating Council (WECC), and the CPUC, electrical systems must have sufficient capacity to maintain safe, reliable, and adequate service to customers. System safety and reliability must be maintained under normal conditions, when all facilities are in service, and also under abnormal conditions. Abnormal conditions result from equipment or line failures, maintenance outages, or

outages that cannot be predicted or controlled due to weather, earthquakes, traffic accidents, and other unforeseeable events. In light of these requirements, SCE identified the following objectives for the Falcon Ridge Substation Project (SCE, 2010a):

- Serving long-term projected electrical demand requirements in the Electrical Needs Area beginning in June 2014;
- Maintaining system reliability within the Electrical Needs Area;
- Improving system operational flexibility by providing the ability to transfer load between distribution lines and substations within the Electrical Needs Area;
- Meeting the Project's need while minimizing environmental impacts;
- Meeting the Project's need in a cost-effective manner; and
- Using existing right-of-way (ROW) to the extent feasible

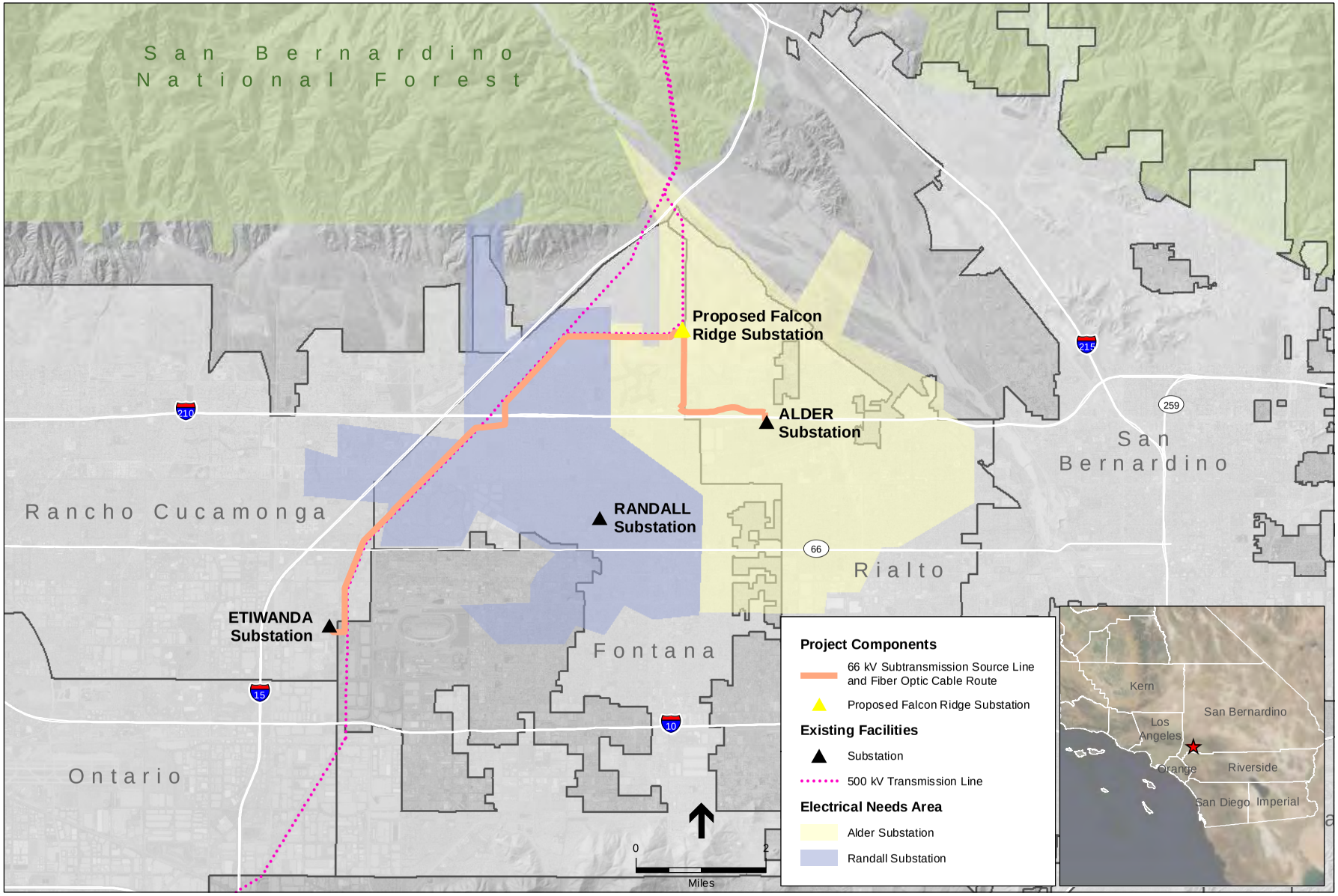
The CPUC, as CEQA Lead Agency, has distilled the Applicant's stated objectives into the three "basic" objectives that have been relied upon in crafting alternatives to the Project (see CEQA Guidelines §15126.6).[1] The basic objectives of the Project are:

- Serving long-term projected electrical demand requirements in the Electrical Needs Area beginning in 2014;2
- Maintaining system reliability within the Electrical Needs Area; and
- Improving system operational flexibility by providing the ability to transfer load between distribution lines and substations within the Electrical Needs Area.

The Electrical Needs Area consists of portions of the cities of Rancho Cucamonga, Fontana, and Rialto, together with the surrounding areas of unincorporated San Bernardino County that currently are served by the existing Alder 66/12 kilovolt (kV) Substation and Randall 66/12 kV Substation. These two existing substations currently provide electrical service to approximately 46,000 metered customers and serve forecasted electrical demand within the Electrical Needs Area. The energy demands in the area are projected to exceed the Maximum Operating Limit capacity during periods of extreme heat in 2014. If approved, the Project would serve forecasted electrical demand in the Electrical Needs Area for the foreseeable future. The Electrical Needs Area is shown in **Figure ES-1**.

1 Section 15126.6 requires an EIR to describe a range of reasonable alternatives to the project, or its location, that feasibly would attain *most of the basic objectives* of the project even if these alternatives would impede to some degree the attainment of the project objectives as stated by the Applicant.

2 Paul Scheuerman, 2012. Email of P. Scheuerman to J. Scott, January 12, 2012.



SOURCE: SCE, 2011

Falcon Ridge Substation Project . 207584.09

Figure ES-1
Electrical Needs Area

ES.3 Project Description

Project components and Applicant Proposed Measures (APMs) identified by SCE to avoid or reduce environmental impacts of the Project are described below.

Project Components

SCE proposes to construct, operate, and maintain a 66/12 kV unattended, automated, 56 megavolt-ampere (MVA) low-profile substation (the Falcon Ridge Substation) on an approximately 2.7 acres located just south of Casa Grande Avenue, east of Sierra Avenue, north of Summit Avenue and adjacent to SCE's existing transmission ROW, in the City of Fontana, California. SCE would establish vehicular access to the proposed substation site from Sierra Avenue. In addition to the proposed substation, the Project would include the installation of two subtransmission source line segments; construction of five new underground vaults, which also are referred to as distribution getaways; telecommunications (fiber-optic) infrastructure work; and upgrades to existing optical communications equipment at Etiwanda, Alder, and Randall Substations.

Installation of two independent 66 kV subtransmission source line segments to connect the proposed Falcon Ridge Substation to the existing Alder and Etiwanda substations. One segment would be approximately 3 miles in length to form the new Alder 115 kV Subtransmission Source Line; the other would be approximately 9 miles in length to form the new Etiwanda 66 kV Subtransmission Source Line.

Construction of five underground 12 kV distribution "getaways." Five new underground vaults, located outside the substation walls on either the SCE substation property, private property, or in franchise. The first getaway would exit the substation property boundary to the west for approximately 600 feet where a new vault would be installed. It would continue approximately 530 feet and then terminate in a new vault located within Sierra Avenue. The second getaway would exit the substation property boundary to the west for approximately 600 feet where a new vault would be installed. It would continue for approximately 635 feet and terminate by being capped for future use. The third getaway would exit north from the substation approximately 200 feet where a new vault would be installed. It would continue approximately 540 feet and terminate in a new vault located within the future Casa Grande Avenue.

Within the substation site, distribution circuits would be placed in an underground conduit system. At ultimate build out, the Falcon Ridge Substation could accommodate 16- 12 kV distribution circuits. Additional electrical distribution circuits would be constructed from the Falcon Ridge Substation to serve electrical demand on an as-needed basis and with consideration of the location of the current load growth, existing electrical distribution facilities in the area and location of roads and existing SCE rights-of-way (ROWs).

Telecommunications infrastructure work (overhead and underground) to connect the proposed substation to nearby substations.

- One new fiber-optic cable route would connect the Falcon Ridge Substation to the existing Alder Substation and one new fiber-optic cable route would connect the Falcon Ridge Substation to the existing Etiwanda Substation.

- New fiber-optic equipment would be installed at the proposed substation. Upgrades to existing fiber-optic communications equipment would occur at the existing Etiwanda, Alder, and Randall substations. All communications equipment installations and upgrades would occur within the proposed Mechanical and Electrical Equipment Room at the Falcon Ridge substation or within existing structures at the existing Etiwanda, Alder, and Randall substations: no further ground disturbance would be required for this telecom work.

Applicant Proposed Measures

As noted above, SCE has identified a number of APMs to address potential impacts of the Project. These measures relate to aesthetics, biological resources, and paleontological resources. All APMs would be implemented as part of the Project, and are not considered "mitigation measures" in this EIR. If the EIR is certified and the Project is approved, SCE's implementation of and compliance with these APMs would be monitored and enforced by the CPUC. APMs are as follows:

APM-BIO-01 Migratory Bird Treaty Act (MBTA) and Nesting Raptors: In order to avoid impacts on nesting birds and raptors (common or special status), Project initiation shall be scheduled outside the breeding season (i.e., March 15–September 15 for nesting birds; February 1–June 30 for nesting raptors). If Project timing requires that work be initiated during this time period, a pre-construction survey shall be conducted by a qualified Biologist for nesting birds and/or raptors within 7 days prior to clearing of any vegetation or any work within 500 feet of construction areas. If the Biologist does not find any active nests within the impact area, the vegetation clearing/construction work shall be allowed to proceed.

If the Biologist finds an active nest within the construction area and determines that the nest may be impacted or breeding activities substantially disrupted, the Biologist will delineate an appropriate buffer zone around the nest depending on the sensitivity of the species and the nature of the construction activity. The active site will be protected until nesting activity has ended to ensure compliance with the MBTA and California Fish and Game Code. Encroachment into the buffer area around a known nest shall only be allowed if the Biologist determines that the proposed activity would not disturb the nest occupants. APM-BIO-02: Riversidean Alluvial Fan Sage Scrub, Disturbed Riversidean Alluvial Fan Sage Scrub, Disturbed Riversidean Sage Scrub, and Annual Grassland/Disturbed Riversidean Alluvial Fan Sage Scrub Project impacts on sage scrub vegetation.

APM-BIO-02 Riversidean Alluvial Fan Sage Scrub, Disturbed Riversidean Alluvial Fan Sage Scrub, Disturbed Riversidean Sage Scrub, and Annual Grassland/Disturbed Riversidean Alluvial Fan Sage Scrub: Project impacts on sage scrub vegetation types would be avoided and/or minimized to the maximum extent practicable. Permanent impacts to disturbed Riversidean alluvial fan sage scrub, disturbed Riversidean sage scrub, and annual grassland/disturbed Riversidean alluvial fan sage scrub vegetation would be mitigated at a

minimum replacement ratio of 1:1. Residual temporary impacts on undisturbed/disturbed Riversidean alluvial fan sage scrub would be restored on site and/or mitigated at a replacement ratio of 1:1. Permanent impacts on undisturbed Riversidean alluvial fan sage scrub would be mitigated at a replacement ratio of up to 3:1. Final compensation ratios for impacts to Riversidean alluvial fan sage scrub would be determined in consultation with the United States Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG).

A detailed restoration program shall be prepared for approval by SCE and the appropriate resource agencies. Restoration shall consist of seeding and planting containers of appropriate Riversidean alluvial fan sage scrub species. The program shall include, at a minimum, the following items:

- Responsibilities and qualifications of the personnel to implement and supervise the plan.
- Site selection.
- Site preparation and planting implementation.
- Schedule.
- Maintenance plan/guidelines.
- Monitoring plan.
- Long-term preservation.

Additionally, the grading limits shall be clearly marked, and temporary fencing or other appropriate markers shall be placed around any sage scrub vegetation adjacent to work areas prior to the commencement of any ground-disturbing activity or native vegetation removal. No construction access, parking, or storage of equipment or materials shall be allowed within the marked areas. SCE shall be fully responsible for implementing the Riversidean Alluvial Fan Sage Scrub Revegetation Program until the restoration areas have met the success criteria outlined in the program. SCE and the appropriate resource agencies shall have final authority over mitigation area sign-off. The site shall be monitored and maintained for a suitable number of years to ensure successful establishment of Riversidean alluvial fan sage scrub habitat within the restored and created areas, as determined by the resource agencies.

APM-PA-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 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-PA-02 Paleontological Monitoring for the Project: A paleontological monitor shall be on site to spot check ground-disturbing activities at depths greater than 5 feet during installation of the Project. 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.

ES.4 Alternatives

Alternative 1: Lowell Street Realignment Alternative

Under Alternative 1, Lowell Street Realignment Alternative, all aspects of the Project would remain as described in Chapter 2, *Project Description*, except for the alignment of the Alder Subtransmission Source Line route. This component of Alternative 1 would extend north from Alder Substation, spanning the 210 Freeway and following Locust Avenue until its intersection with Lowell Street. It then would extend west along Lowell Street and continue past the end of Lowell Street to N. Alder Avenue. It then would extend south along N. Alder Avenue to Summit Avenue and west along Summit Avenue to Mango Avenue. It then would extend north along the future Mango Avenue ROW until entering the proposed substation site. Three tubular steel poles (TSPs) would be required, one at each of the proposed corners. Wood poles would be installed along the extension of Summit Avenue, and along Locust Avenue.

No Project Alternative

Under the No Project Alternative, no action would be taken. The proposed substation site would continue to be used for agriculture unless and until some other use was approved (consistent with applicable land use regulations and in accordance with available infrastructure and community services). The existing electric power infrastructure (including the Nuevo Substation, temporary Model Pole Top Substation, subtransmission and telecommunications facilities) would remain in place, serving the Electrical Needs Area with decreasing reliability as the electrical demands of growing area communities increase. The projected energy demand in this area is expected to exceed the combined energy capacity of the existing substations in the 2013-2014 timeframe.

The analysis of the No Project Alternative in this document focuses on a no-development/no Project scenario where the existing agricultural use is continued. With a no-development scenario, the proposed substation site would continue in agricultural use and the existing environmental setting would be maintained. Changes to that setting, including changes to the landscape (aesthetics, habitat, and land use/agriculture); construction-related noise, traffic, and air and greenhouse gas emissions would not occur. Available irrigation infrastructure would remain in place, and public services and utilities would continue to be provided or available to the site as they are now.

ES.5 Environmentally Superior Alternative

The California Environmental Quality Act (CEQA) Guidelines §15126.6(e)(2) requires an EIR to identify an environmentally superior alternative. If the environmentally superior alternative is the No Project Alternative, the EIR also must identify an environmentally superior alternative from among the other alternatives. In general, the environmentally superior alternative is defined as that alternative with the least adverse impacts to the project area and its surrounding environment.

The No Project Alternative would avoid all impacts of the Project and would not create any new significant impacts of its own. Therefore, the No Project Alternative is considered the environmentally superior alternative for CEQA purposes. However, the No Project Alternative would fail to meet the basic Project Objectives relating to service of existing and projected electrical demand requirements and enhancement of system reliability in the Electrical Needs Area. As noted above, the projected energy demand in the Electrical Needs Area is expected to exceed the combined energy capacity of the existing facilities in the 2013-2014 timeframe.

The remaining alternative to the Project, Alternative 1, would not result in any new significant impacts, but would result in a materially lessening of impact to air quality, specifically peak daily emissions of particulate matter less than 10 microns in diameter (PM10) and less than 2.5 microns in diameter (PM2.5) would be reduced by approximately 16 percent (i.e., PM10 would be reduced by approximately 40 pounds and PM2.5 would be reduced by approximately 2.5 pounds) when compared to the Project. Therefore, Alternative 1 is considered the environmentally superior alternative.

ES.6 Areas of Controversy and Issues to be Resolved

Areas of controversy known to the lead agency, including issues raised by agencies and the public, must be identified in the Executive Summary of an EIR (14 Cal. Code Regs. §15123). The scoping period for this Project began on March 30, 2011, and closed on April 29, 2011.

A Scoping Report prepared for the Project is provided in Appendix A. It includes all of the comments received during the scoping period, and describes how each was addressed. The overarching themes in the comments received relate to the following:

- Aesthetic impacts of substation and new subtransmission lines from residences and roadways.
- Biological resources and potential impacts to habitat for wildlife and plant species of concern.
- Cultural resources, including potential impacts related to historical and archeological resources, Native American religious expression, items of religious and other cultural significance, and human remains.
- Hydrology and water quality, including potential impacts related to wetlands and water courses that support riparian and aquatic values.
- Land use, including potential impacts related to new ROW easements.
- Noise impacts during construction and operation.
- Public safety, including potential wind-related hazards and proximity of power lines to schools.
- Transportation and traffic impacts of contributing to congestion.
- Alternatives, including the installation of Project components underground.

ES.7 Summary of Impacts and Mitigation Measures

Table ES-1 summarizes each of the environmental impacts of the Project and mitigation measures recommended to avoid or substantially reduce them. Impacts of the Project are analyzed in detail in Chapter 4, *Environmental Analysis*. Resource areas evaluated include:

4.1 Aesthetics
4.2 Agriculture and Forestry Resources
4.3 Air Quality
4.4 Biological Resources
4.5 Cultural Resources
4.6 Energy Conservation
4.7 Geology and Soils
4.8 Greenhouse Gas Emissions
4.9 Hazards and Hazardous Materials
4.10 Hydrology and Water Quality
4.11 Land Use and Planning
4.12 Mineral Resources
4.13 Noise
4.14 Population and Housing
4.15 Public Services
4.16 Recreation
4.17 Transportation and Traffic
4.18 Utilities and Service Systems

For each impact, the following information is presented: impact number and title, impact class (Class I, II, III, or IV), mitigation measure(s) if applicable, and residual impact following the implementation of recommended mitigation measures (i.e., significant and unavoidable or less than significant). Impact classes include Class I, signifying a significant, unavoidable impact; Class II, signifying less than significant with mitigation incorporated; Class III, signifying a less-than-significant impact; and Class IV, signifying no adverse impact.

No adverse impact (Class IV) was identified for:

Agriculture and Forest Resources
Public Services

Impacts were found to be less than significant (Class III) for:

Energy Conservation
Geology and Soils
Greenhouse Gas Emissions
Hydrology and Water Quality
Land Use and Planning
Mineral Resources
Population and Housing
Utilities and Service Systems

Implementing the Project could result in the potential for significant impacts to occur if mitigation measures were not implemented (Class II) for:

Biological Resources
Cultural Resources
Hazards and Hazardous Materials
Recreation
Transportation and Traffic

Where potentially significant impacts are identified, mitigation measures are proposed that would reduce the extent of the impacts to a less-than-significant level with the exception of the following, which were found to be significant and unavoidable (Class I):

Aesthetics
Air Quality
Noise

Table ES-2 compares the conclusions of the environmental analysis of the Project with impact conclusions for each of the Alternatives that would meet most of the basic objectives of the Project. For each resource area, the impacts of the Project are summarized, and a preference is expressed where one is documented, for alternative(s) that would cause less environmental harm. Impacts of Alternatives are analyzed in detail in Section 5.2, *Evaluation of Project Alternatives*.

TABLE ES-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROJECT

Impact	Impact Class	Mitigation Measure(s)	Residual Impact
1. Aesthetics			
Impact 4.1-1: The Project would have an adverse effect on a scenic vista.	Class I	**Mitigation Measure 4.1-1:** SCE and/or its contractors shall use subtransmission line conductors that are non-specular and non-reflective and insulators that are non-reflective and non-refractive.	Significant Unavoidable
Impact 4.1-3: Use of construction conductor/wire stringing set-up locations during the approximately 12-month construction period could result in temporary adverse impacts to visual quality.	Class II	**Mitigation Measure 4.1-3:** SCE and/or its contractors shall not place equipment at the conductor/wire stringing set-up locations more than 2 weeks prior to the required use.	Less than Significant
Impact 4.1-6: The Project would introduce new sources of substantial light or glare that would adversely affect day or nighttime views in the area.	Class II	**Mitigation Measure 4.1-6:** Implement Mitigation Measure 4.1-1.	Less than Significant
2. Agriculture and Forestry Resources			
No Impact	Class IV	None Required	No Impact
3. Air Quality			
Impact 4.3-1: Project construction activities would generate NOx and PM10 emissions that could contribute substantially to violations of ozone and PM10 air quality standards.	Class I	**Mitigation Measure 4.3-1a:** For off-road construction equipment of more than 50 horsepower and on-road diesel fueled vehicles, SCE shall ensure achievement of a Project-wide fleet-average 20 percent NOx reduction and 45 percent PM10 exhaust reduction compared to the most recent CARB fleet average. An Exhaust Emissions Control Plan to achieve these reductions shall be submitted to the CPUC for review and approval at least 30 days prior to commencement of construction activities. Construction activities cannot commence until the plan has been approved. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as such become available. **Mitigation Measure 4.3-1b:** SCE and/or its contractors shall develop a Fugitive Dust Control Plan that specifically describes how compliance with each of SCAQMD Rule 403 Best Available Control Measures (BACMs) shall be achieved. If it is determined that any of the BACMs are not applicable to construction of the Project, the plan shall present rationale as to why the BACMs are not applicable and would not be implemented. This plan shall be submitted to the CPUC for review and approval at least 30 days prior to commencement of construction activities, and the approved plan shall be distributed to all employees and construction contractors working on the Project.	Significant Unavoidable
Impact 4.3-3: Construction activities would generate emissions of criteria pollutants that would be cumulatively considerable.	Class I	**Mitigation Measure 4.3-3:** Implement Mitigation Measures 4.3-1a (Exhaust Emissions Control Plan) and 4.3-1b (Fugitive Dust Control Plan).	Significant Unavoidable

TABLE ES-1 (Continued)
SUMMARY OF IMPACTS OF AND MITIGATION FOR THE PROJECT

Impact	Impact Class	Mitigation Measure(s)	Residual Impact
4. Biological Resources			
Impact 4.4-1: Construction activities could result in adverse impacts to special-status plant species.	Class III	**Mitigation Measure 4.4-1:** Where avoidance of Riversidean sage scrub habitat is not possible, SCE shall compensate for losses through habitat creation and enhancement, and long-term preservation for temporary and permanent impacts by implementing the following measures: • SCE shall establish buffer zones and mitigate for the loss of special-status plant species and sensitive plant communities. SCE and their contractors shall avoid and minimize impacts to special-status plant species and sensitive plant communities to the maximum extent feasible. Avoidance will be carried out by establishing a visible buffer zone around sensitive areas prior to construction in coordination with a qualified biologist, redesigning or relocating proposed disturbance areas, locating staging areas within disturbed areas when possible, or using other measures recommended by the CNPS (1998). • SCE shall mitigate for Riversidean sage scrub vegetation losses at a minimum replacement ratio of 1:1. Residual temporary impacts on undisturbed/disturbed Riversidean sage scrub shall be restored on site and/or mitigated at a replacement ratio of 1:1. Permanent impacts on undisturbed Riversidean sage scrub shall be mitigated at a replacement ratio of up to 3:1. Final compensation ratios for impacts to Riversidean sage scrub shall be determined in consultation with the USFWS and CDFG. • As a component of the Program, SCE shall develop and implement a five-year restoration mitigation and monitoring program. The Program will be described in a Restoration Plan that shall be subject to approval by the USFWS, CDFG, and the CPUC. The Restoration Plan shall include: - detailed design drawings and specifications for the mitigation site(s), including site drawings, final grade elevations, an appropriately spaced planting plan, a plant species list showing the number of each plant species, and notes on proper site preparation (including temporary erosion and sediment control); - a discussion of ongoing maintenance practices to protect the mitigation site, including a minimum 5-year performance monitoring program with specific, measurable performance standards to evaluate mitigation success; - a contingency plan indicating actions and corrective measures to be taken if monitoring indicates performance standards are not being met; - a statement of financial assurance that the mitigation will be constructed, maintained, monitored, and contingencies implemented, if necessary; and - a plan for restoring temporarily disturbed areas.	Less than Significant

TABLE ES-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION FOR THE PROJECT

Impact	Impact Class	Mitigation Measure(s)	Residual Impact
4. Biological Resources (cont.)			
Impact 4.4-1 (cont.)		• SCE shall submit an annual vegetation monitoring report to the USFWS, CDFG, CPUC to document site compliance, advise of remedial actions that were undertaken during the previous monitoring year, and advise of restoration site management needs for the coming year. Reports shall be required for a minimum of five years following initial site restoration to document progress of mitigation areas toward attaining the minimum performance standards. • SCE shall revegetate all natural areas temporarily disturbed by project activities. Revegetation criteria will include general restoration concepts and methods, including the use of locally native plants, protection and restoration of soil conditions, and control of aggressive non-native plant species. The planting effort shall commence in the fall following completion of construction at a given site. If the project is expected to have an extended construction timeline, revegetation shall be completed as extensively as possible during each fall season. Interim revegetation by hydroseeding or with a seeding mixture and mulch using broadcast methods shall be implemented as necessary to control erosion in disturbed areas prior to final revegetation. The plant palette will include locally native plants such as California buckwheat, black sage, white sage, cane cholla, and California sagebrush.	
Impact 4.4-2: Construction activities associated with the Project could result in adverse impacts to Los Angeles pocket mouse and other non-listed special-status wildlife species.	Class II	**Mitigation Measure 4.4-2:** SCE shall avoid impacts to occupied Los Angeles pocket mouse habitat to the maximum extent feasible in the final Project design. SCE shall define Los Angeles pocket mouse habitat as "off limits" in construction plans and specifications. The presence of a Biological Monitor during Project construction would further ensure that any potential impacts to special-status wildlife species are avoided and minimized.	Less than Significant
Impact 4.4-4: Operation of new transmission lines could impact raptors as a result of electrocution or collision.	Class II	**Mitigation Measure 4.4-4:** SCE shall follow Avian Power Line Interaction Committee guidelines for avian protection on powerlines. SCE shall use current guidelines to reduce bird mortality from interactions with powerlines. The Avian Power Line Interaction Committee (APLIC, 2006) and USFWS recommend the following: • Provide 60-inch minimum horizontal separation between energized conductors or energized conductors and grounded hardware; • Insulate hardware or conductors against simultaneous contact if adequate spacing is not possible; • Use pole designs that minimize impacts to birds, and; • Shield wires to minimize the effects from bird collisions.	Less than Significant

TABLE ES-1 (Continued)
SUMMARY OF IMPACTS OF AND MITIGATION FOR THE PROJECT

Impact	Impact Class	Mitigation Measure(s)	Residual Impact
4. Biological Resources (cont.)			
Impact 4.4-6: Construction within the existing Etiwanda Substation could impact federally protected wetlands.	Class II	**Mitigation Measure 4.4-6a:** SCE shall through Project design, avoid jurisdictional waters of the U.S. and waters of the state where feasible. This includes minimizing the footprint of facilities at the Etiwanda Substation that could impact jurisdictional areas and spanning drainages that occur in the Project area. **Mitigation Measure 4.4-6b:** In the event of any Project changes that involve ground disturbance outside the boundary of the Jurisdictional Delineation Report (BonTerra, 2010e), a new wetland delineation shall be performed. **Mitigation Measure 4.4-6c:** Where jurisdictional wetlands and other waters cannot be avoided at the Etiwanda Substation, to offset anticipated temporary impacts that would occur as a result of the Project, the original contours and character of disturbed jurisdictional areas shall be restored. A minimum replacement ratio of 1:1, or as otherwise agreed to by the resource agencies, would be required to ensure that there would be no net loss of habitat value. Disturbed portions of jurisdictional areas shall be reseeded with an appropriate mix of native species that are appropriate to the site to prevent locally abundant non-native plants such as cocklebur from colonizing disturbed areas.	Less than Significant
5. Cultural Resources			
Impact 4.5-1: Project construction could cause an adverse change in the significance of a historical resource [inclusive of archaeological resources] which is either listed or eligible for listing on the National Register of Historic Places, the California Register of Historical Resources, or a local register of historic resources; or to a unique archaeological resource.	Class II	**Mitigation Measure 4.5-1:** 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 are significant, the archaeologist shall notify the CPUC and the resource shall be avoided if feasible. If avoidance is infeasible, a Treatment Plan that documents the research approach and methods for data recovery shall be prepared and implemented in consultation with CPUC and with appropriate Native American representatives (if the resources are prehistoric or Native American in nature). Work may proceed on other parts of the Project area while treatment is being carried out.	Less than Significant
Impact 4.5-2: Project implementation would have a potentially significant impact on a unique paleontological resource or site or unique geological feature.	Class II	**Mitigation Measure 4.5-2:** Prior to the initiation of any site preparation or start of construction, SCE and/or its contractors shall contract with a qualified vertebrate paleontologist, who shall be responsible for preparing and implementing a paleontological monitoring plan. The paleontologist must be a practicing scientist who is recognized in the paleontologic community, and is proficient in vertebrate paleontology, as demonstrated by institutional affiliations or appropriate credentials, ability to recognize and recover vertebrate fossils in the field, local geological and biostratigraphic expertise, and publications in scientific journals. The qualified	Less than Significant

TABLE ES-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION FOR THE PROJECT

Impact	Impact Class	Mitigation Measure(s)	Residual Impact
5. Cultural Resources (cont.)			
Impact 4.5-2 (cont.)		paleontologist shall be available "on-call" to SCE and/or its contractors throughout the duration of ground-disturbing activities. At a minimum, the scope of services shall include: • Preparation of a paleontological monitoring plan based on final project design. The qualified professional paleontologist shall review information presented in this EIR, existing fossil localities in the region, Project grading plans and all geological/geotechnical reports developed to date to determine with greater precision the depth and extent of geologic units of high paleontological potential (e.g. older alluvial fan deposits) within the areas to be excavated. Based on the volume, depth and extent of soil excavations and the professional judgment of the paleontologist, he or she shall prepare a paleontological monitoring plan describing the locations/phases of project construction activity where paleontological monitoring of ground-disturbing activities would be needed. The monitoring plan shall outline procedures to follow in the event of discovery of a potentially significant fossil resource and shall describe the assessment and salvage procedures to be followed. The report shall also identify a paleontological repository (i.e., a publicly supported, not-for-profit museum or university employing a permanent curator) that is willing and able to accept and curate any fossil specimens recovered from Project construction sites. Construction of the Project shall not proceed until the report has been reviewed and approved by the CPUC. • Active monitoring of construction sites for paleontological resources. During construction of the Project, paleontological monitoring will consist of periodically inspecting disturbed, graded, and excavated surfaces, as well as soil stockpiles and disposal sites, as identified in the paleontological monitoring plan. The monitor (which will be the professional paleontologist or a designee) will have authority to divert grading or excavation away from exposed surfaces temporarily in order to examine disturbed areas more closely, and/or recover fossils. The monitor will coordinate with the construction manager to ensure that monitoring is thorough but does not result in unnecessary delays. If the monitor encounters a paleontological resource, he or she shall assess the fossil, and record or salvage it, as described below. • Assessment and salvage of potential fossil finds. If potential fossils are discovered incidentally by construction crews, or in areas being actively monitored, all earthwork or other types of ground disturbance within 50 feet of the find shall stop immediately until the qualified professional paleontologist can assess the nature and importance of the find. Based on the scientific value or uniqueness of the find, the monitor may record the find and allow work to continue, or recommend salvage and recovery of the fossil. The monitor may also propose modifications to the stop-work radius based on the nature of the find, site geology, and the activities occurring on the site. If treatment and	

TABLE ES-1 (Continued)
SUMMARY OF IMPACTS OF AND MITIGATION FOR THE PROJECT

Impact	Impact Class	Mitigation Measure(s)	Residual Impact
5. Cultural Resources (cont.)			
Impact 4.5-2 (cont.)		salvage is required, recommendations will be consistent with SVP guidelines (SVP, 1995; SVP, 1996) and currently accepted scientific practice, and shall be subject to review and approval by the CPUC. If required, treatment for fossil remains may include preparation and recovery of fossil materials so that they can be housed in the paleontological repository, and may also include preparation of a report for publication describing the finds. SCE and/or its contractors will be responsible for ensuring that treatment is implemented and reported to the CPUC. If no report is required, SCE and/or its contractors will nonetheless ensure that information on the nature, location, and depth of all finds is readily available to the scientific community through university curation or other appropriate means.	
Impact 4.5-3: Project construction could result in damage to previously unidentified human remains.	Class II	**Mitigation Measure 4.5-3:** If human remains are uncovered during Project construction, SCE and/or its contractors shall immediately halt all work, contact the county coroner to evaluate the remains, and follow the procedures and protocols set forth in CEQA Guidelines §15064.5 (e)(1). If the county coroner determines that the remains are Native American, SCE and/or its contractors shall contact the NAHC, in accordance with Health and Safety Code §7050.5, subdivision (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 and/or its contractor has discussed and conferred, as prescribed in this section (PRC 5097.98), with the most likely descendents regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.	Less than Significant
Impact Alternative 1-CUL-1: Project construction could cause an adverse change in the significance of a historical resource [inclusive of archaeological resources] which is either listed or eligible for listing on the National Register of Historic Places, the California Register of Historical Resources, or a local register of historic resources, or a unique archaeological resource.	Class II	**Mitigation Measure Alternative 1-CUL-1:** SCE and/or its contractors shall retain a qualified archaeologist (defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology) to survey those portions of the final selected Project footprint that have not been previously subjected to systematic pedestrian cultural resources survey. After additional archaeological survey is carried out, the archaeologist shall prepare a report, for approval by the CPUC, that summarizes the survey efforts, and evaluates any identified cultural resources for their eligibility for listing in the National Register, California Register, or local register, or as a unique archaeological resource pursuant to §15064.5. Any resources determined to be significant shall be avoided if feasible. If avoidance is infeasible, a Treatment Plan that documents the research approach and methods for data recovery shall be prepared and implemented in consultation with CPUC and with appropriate Native American representatives (if the resources are prehistoric or Native American in nature).	Less than Significant

TABLE ES-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION FOR THE PROJECT

Impact	Impact Class	Mitigation Measure(s)	Residual Impact
6. Energy Conservation			
Less than Significant	Class III	None Required	Less than Significant
7. Geology and Soils			
Less than Significant	Class III	None Required	Less than Significant
8. Greenhouse Gas Emissions			
Less than Significant	Class III	None Required	Less than Significant
9. Hazards and Hazardous Materials			
Impact 4.9-1: Project construction, operation and maintenance would require the use of certain materials such as fuels, oils, solvents, and other chemical products that could pose a potential hazard to the public or the environment during routine transport, use or disposal.	Class II	**Mitigation Measure 4.9-1:** SCE and/or its contractors shall prepare and implement a Health and Safety Plan in accordance with applicable regulations prior to construction. The health and safety plan shall identify the chemicals potentially present in soil, health and safety hazards associated with those chemicals, monitoring to be performed during site activities, soil handling methods required to minimize the potential for harmful exposures, appropriate personnel protective equipment, and emergency response procedures. The plan shall be submitted to the CPUC for approval prior to commencement of construction activities and shall be distributed to all construction crew members prior to construction and operation of the Project.	Less than Significant
Impact 4.9-5: The Project would reduce compliance with an adopted emergency response plan or emergency evacuation plan.	Class II	**Mitigation Measure 4.9-5:** Implement Mitigation Measure 4.17-1.	Less than Significant
Impact 4.9-6: Construction, operation and maintenance-related activities in high fire hazard areas could ignite dry vegetation and start a fire.	Class II	**Mitigation Measure 4.9-6:** SCE and/or its contractors shall prepare and implement a Fire Prevention and Emergency Response Plan to ensure the health and safety of construction workers, SCE personnel, and the public during Project construction and operation. The Fire Prevention and Emergency Response Plan shall include, but not be limited to, the following: • Two water trucks each of 4,000-gallon capacity, equipped with 50 feet of fast-response hose with fog nozzles, shall be on-site during construction for immediate response to fire incidents, unless this provision is amended by the fire jurisdictions. • Each Project construction site (if construction occurs simultaneously at various locations) and the proposed Falcon Ridge substation shall be equipped with fire extinguishers and fire-fighting equipment sufficient to extinguish small fires. • All construction workers and SCE personnel visiting the substation and/or subtransmission source lines to perform maintenance activities shall receive training on the proper use of fire-fighting equipment and procedures to be followed in the event of a fire.	Less than Significant

TABLE ES-1 (Continued)
SUMMARY OF IMPACTS OF AND MITIGATION FOR THE PROJECT

Impact	Impact Class	Mitigation Measure(s)	Residual Impact
9. Hazards and Hazardous Materials (cont.)			
Impact 4.9-6 (cont.)		• The SBCFD and local fire departments shall be consulted during plan preparation and fire safety measures recommended by the agencies included. • The plan shall list fire prevention procedures and specific emergency response and evacuation measures that would be required to be followed during emergency situations. • The plan shall be submitted to the CPUC for approval prior to commencement of construction activities and shall be distributed to all construction crew members prior to construction and to all SCE personnel visiting the substation during operation and maintenance of the Project.	
10. Hydrology and Water Quality			
Less than Significant	Class III	None Required	Less than Significant
11. Land Use and Planning			
Less than Significant	Class III	None Required	Less than Significant
12. Mineral Resources			
Less than Significant	Class III	None Required	Less than Significant
13. Noise			
Impact 4.13-1: Construction activities would violate City of Rancho Cucamonga exterior noise standards.	Class I	**Mitigation Measure 4.13-1:** SCE and/or its contractors shall develop a Construction Noise Reduction Plan in coordination with the City of Rancho Cucamonga to be implemented for construction activities within the City of Rancho Cucamonga. The Plan shall be submitted to the CPUC for review and approval prior to the commencement of construction activities. The Plan shall include, but not be limited to, the following measures for construction activities: • Publish and distribute to the potentially affected community within 200 feet, a telephone number, which shall be attended during active construction working hours, for use by the public to register complaints. All complaints shall be logged noting date, time, complainants' name, nature of complaint, and any corrective action taken. • All construction equipment shall have intake and exhaust mufflers recommended by the manufacturers thereof, to meet relevant noise limitations. • Maximize physical separation, as far as practicable, between noise sources (construction equipment) and noise receptors. Separation may be achieved by providing enclosures for stationary items of equipment and noise barriers	Significant Unavoidable

TABLE ES-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION FOR THE PROJECT

Impact	Impact Class	Mitigation Measure(s)	Residual Impact
13. Noise (cont.)			
Impact 4.13-1 (cont.)		around particularly noisy areas at the project sites and by locating stationary equipment to minimize noise impacts on the community. • Utilize construction noise barriers such as paneled noise shields, barriers, or enclosures adjacent to or around noisy equipment associated with construction activities, including access road construction, steel pole installation and wood pole removal, etc., in the immediate vicinity (i.e., within 200 feet) of sensitive receptors. Noise control shields shall be made featuring a solid panel and a weather-protected, sound-absorptive material on the construction-activity side of the noise shield. Shields used during linear construction activities shall be readily removable and moveable so that they may be repositioned, as necessary, to provide noise abatement for construction activities located near City of Rancho Cucamonga residential receptors.	
Impact 4.13-5: Construction-related noise levels would increase ambient noise levels in the vicinity of the Project.	Class II	**Mitigation Measure 4.13-5:** In the event that nighttime construction activity is determined to be necessary within 1,000 feet of sensitive receptors, SCE shall develop a Nighttime Noise and Nuisance Reduction Plan that shall be submitted to the CPUC for review and approval prior to the commencement of construction activities. The 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 nuisances are reduced to the 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 determined by SCE to not be feasible, an explanation as to why the specific strategy is not feasible shall be included in the Nighttime Noise and Nuisance Reduction Plan. • Plan construction activities to minimize the amount of nighttime construction. • Offer temporary relocation of residents within 200 feet of nighttime construction activities. • Temporary noise barriers, such as shields and blankets, shall be installed immediately adjacent to all nighttime stationary noise sources (e.g., auger rigs, bore rigs, generators, pumps, etc.). • Install temporary noise barriers that block the line of sight between nighttime activities and the closest residences within 1,000 feet. • Publish and distribute to the potentially affected community within 1,000 feet of pending nighttime construction activities, a telephone number, which shall be attended during nighttime construction working hours, for use by the public to register complaints. All complaints shall be logged noting date, time, complainants' name, nature of complaint, and any corrective action taken.	Less than Significant

TABLE ES-1 (Continued)
SUMMARY OF IMPACTS OF AND MITIGATION FOR THE PROJECT

Impact	Impact Class	Mitigation Measure(s)	Residual Impact
14. Population and Housing			
Less than Significant	Class III	None Required	Less than Significant
15. Public Services			
No Impact	Class IV	None Required	No Impact
16. Recreation			
Impact 4.16-1: The Project could increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated.	Class II	**Mitigation Measure 4.16-1:** SCE shall coordinate with the City of Fontana Community Services Department to ensure that appropriate warning signs are posted alerting pedestrians and park users to pedestrian pathway and park closures and informing users about nearby alternative recreational resources, such as Koehler and North Fontana parks.	Less than Significant
17. Transportation and Traffic			
Impact 4.17-1: Project construction would cause temporary increases in traffic volumes on area roadways, and would temporarily reduce roadway capacity and increase traffic delays on area roadways or cause conflicts 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.	Class II	**Mitigation Measure 4.17-1:** SCE and/or its contractor shall prepare and implement a traffic control plan to reduce construction related traffic impacts on the roadways at, and near the work site, as well as to reduce potential traffic safety hazards and ensure adequate access for emergency responders. SCE and/or its contractor shall coordinate development and implementation of this plan with jurisdictional agencies (e.g., San Bernardino County, Fontana, Rialto, Rancho Cucamonga, San Bernardino), as appropriate. To the extent applicable, the traffic control plan shall conform to Part 6 (Temporary Traffic Control) of the California Manual on Uniform Traffic Control Devices (Caltrans, 2010), and shall include, but not be limited to, the following elements: • Circulation and detour plans to minimize impacts on local road circulation during road and lane closures. Flaggers and/or signage shall be used to guide vehicles through and/or around the construction zone. • Identifying truck routes designated by San Bernardino County and local jurisdictions. Haul routes that minimize truck traffic on local roadways shall be utilized to the extent possible. • Providing sufficient-sized staging areas for trucks accessing construction zones to minimize disruption of access to adjacent public right-of-ways. • Controlling and monitoring construction vehicle movement through the enforcement of standard construction specifications by on-site inspectors. • Scheduling truck trips outside the peak morning and evening commute hours to the extent possible. • Limiting the duration of road and lane closures to the extent possible.	Less than Significant

TABLE ES-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION FOR THE PROJECT

Impact	Impact Class	Mitigation Measure(s)	Residual Impact
17. Transportation and Traffic (cont.)			
Impact 4.17-1 (cont.)		• Maintaining pedestrian and bicycle access and circulation during Project construction where safe to do so. If construction activities encroach on a bicycle routes or multi-use paths, advance warning signs (e.g., "Bicyclists Allowed Use of Full Lane" and/or "Share the Road") shall be posted that indicate the presence of such users. • Identifying detours for bicycles and pedestrians, where applicable, in all areas where maintaining pedestrian and bicycle access and circulation during Project construction cannot be safely done. • Storing all equipment and materials in designated contractor staging areas on or adjacent to the worksite, such that traffic obstruction is minimized. • Implementing roadside safety protocols. Advance "Road Work Ahead" warning and speed control signs (including those informing drivers of state-legislated double fines for speed infractions in a construction zone) shall be posted to reduce speeds and provide safe traffic flow through the work zone. • Providing advance notification to administrators of police and fire stations (including fire protection agencies), ambulance service providers, and recreational facility managers of the timing, location, and duration of construction activities and the locations of detours and lane closures, where applicable. Maintain access for emergency vehicles within, and/or adjacent to, roadways affected by construction activities at all times. • Repairing and restoring affected roadway rights-of way to their original condition after construction is completed.	
Impact 4.17-4: The Project could substantially increase hazards due to a design feature or incompatible uses.	Class II	**Mitigation Measure 4.17-4:** Implement Mitigation Measure 4.17-1.	Less than Significant
Impact 4.17-5: Project construction could temporarily result in inadequate access to adjacent roadways and land uses for both general and emergency vehicles.	Class II	**Mitigation Measure 4.17-5:** Implement Mitigation Measure 4.17-1.	Less than Significant
Impact 4.17-6: The Project could conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.	Class II	**Mitigation Measure 4.17-6:** Implement Mitigation Measure 4.17-1.	Less than Significant
18. Utilities and Service Systems			
Less than Significant	Class III	None Required	Less than Significant

TABLE ES-1 (Continued)
SUMMARY OF IMPACTS OF AND MITIGATION FOR THE PROJECT

Impact	Impact Class	Mitigation Measure(s)	Residual Impact
Cumulative			
Impact CUMULATIVE-TRANS: The Project's contribution to traffic increases and safety hazards on local and regional roads could be cumulatively considerable.	Class II	**Mitigation Measure CUMULATIVE-TRANS: Coordinated Transportation Management Plan.** The Applicant and its construction management contractor(s) shall work with San Bernardino County and local jurisdictions (as appropriate) to prepare and implement a transportation management plan for roadways adjacent to and directly affected by the planned well facilities and pipeline alignments, and to address the transportation impact of the multiple overlapping construction projects within the vicinity of the projects in the region. The transportation management plan shall include, but not be limited to, the following requirements: • Coordination of individual traffic control plans for the Project and other projects. • Coordination between the contractor(s) and Applicant in developing circulation and detour plans that include safety features (e.g., signage and flaggers). The circulation and detour plans shall address: - Full and partial roadways closures - Circulation and detour plans to include the use of signage and flagging to guide vehicles through and/or around the construction zone, as well as any temporary traffic control devices - Bicycle and transit detour plans, where feasible - Parking along arterial and local roadways - Haul routes for construction trucks and staging areas for instances when multiple trucks arrive at the work sites - A public information outreach program to notify nearby residents and businesses in the area of construction activities • Establishment of protocols for updating the transportation management plan to account for delays or changes in the schedules of individual projects.	Less than Significant

TABLE ES-2
COMPARISON OF ENVIRONMENTAL IMPACTS OF THE PROJECT AND ALTERNATIVES

Resource Area	Project	Alternative 1
1. Aesthetics	Class I **No Preference**	Class I **No Preference**
2. Agriculture and Forestry Resources	Class IV **No Preference**	Class IV **No Preference**
3. Air Quality	Class I **Not Preferred**	Class I **Preferred**
4. Biological Resources	Class II **No Preference**	Class II **No Preference**
5. Cultural Resources	Class II **No Preference**	Class II **No Preference**
6. Energy Conservation	Class III **No Preference**	Class III **No Preference**
7. Geology and Soils	Class III **No Preference**	Class III **No Preference**
8. Greenhouse Gas Emissions	Class III **No Preference**	Class III **Slightly Preferred**
9. Hazards and Hazardous Materials	Class III **Slightly Preferred**	Class III **No Preference**
10. Hydrology and Water Quality	Class III **No Preference**	Class III **No Preference**
11. Land Use and Planning	Class III **No Preference**	Class III **No Preference**
12. Mineral Resources	Class III **No Preference**	Class III **No Preference**
13. Noise	Class I **No Preference**	Class I **No Preference**
14. Population and Housing	Class III **No Preference**	Class III **No Preference**
15. Public Services	Class IV **No Preference**	Class IV **No Preference**
16. Recreation	Class II **No Preference**	Class II **No Preference**
17. Transportation and Traffic	Class II **No Preference**	Class II **No Preference**
18. Utilities and Service Systems	Class III **No Preference**	Class III **No Preference**

CHAPTER 1
Introduction

1.1 History and Overview of Proposed Project

This Environmental Impact Report (EIR) is an informational document intended to disclose to the public and decision-makers the potential environmental impacts of the Falcon Ridge Substation Project (Project) proposed by Southern California Edison (SCE). This document assesses the direct, indirect, and cumulative environmental impacts that could occur as a result of the construction, operation, and maintenance of the Project and alternatives to the Project. The analysis in this document is based upon information submitted to the lead agency, the California Public Utilities Commission (CPUC), as part of SCE's application for a permit to construct, operate, and maintain electrical facilities pursuant to CPUC General Order No. 131-D, SCE's Proponent's Environmental Assessment (PEA), SCE's responses to the CPUC's requests for additional information, and from independent studies and research conducted by and on behalf of the CPUC.

This EIR examines the potential impacts of the Project and alternatives to the Project. All of the resource areas in the California Environmental Quality Act (CEQA) Guidelines Appendix G Checklist and Appendix F were studied: Aesthetics, Agriculture and Forestry Resources, Air Quality, Biological Resources, Cultural Resources, Energy Conservation, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services, Recreation, Transportation/Traffic, and Utilities and Service Systems.

1.2 Project Overview

SCE proposes to construct, operate, and maintain a project known as the Falcon Ridge Substation Project. The Project consists of: (1) a new automated 66/12 kilovolt (kV) low profile substation; (2) two new 66 kV subtransmission line segments to serve the new substation; (3) three new underground 12 kV distribution getaways; (4) facilities to connect the substation to SCE's existing fiber-optic telecommunications system; and (5) rehabilitate and new access roads.

The Project would be located in the cities of Rancho Cucamonga, Rialto, Fontana, and a portion of unincorporated San Bernardino County, California. The Falcon Ridge Substation would be constructed on approximately 7.5 acres south of Casa Grande Avenue, east of Sierra Avenue, north of Summit Avenue and adjacent to SCE's existing transmission right-of-way (ROW) in the City of Fontana, San Bernardino County, California. Access to the site would be from the west along a paved driveway connecting Sierra Avenue to the proposed substation entry gate located at

the western substation wall. If approved, construction of the Project would take approximately 12 months. Operation of the Project, anticipated to begin in 2014, would serve forecasted electrical demand in the Electrical Needs Area for the foreseeable future.

1.3 Agency Use of this Document

CEQA Guidelines §15124(d) requires that an EIR contain a statement briefly describing the intended uses of the EIR. The CEQA Guidelines indicate that the EIR should identify the ways in which the Lead Agency and any responsible agencies would use this document in their approval or permitting processes. The following discussion summarizes the roles of the agencies and the intended uses of the EIR.

1.3.1 CPUC

The CPUC is serving as the CEQA "Lead Agency" for this Project. A lead agency is the public agency that has the primary responsibility for approving a proposed project and the one responsible for preparing the appropriate CEQA document. The CPUC is considering whether to approve SCE's application for a Permit to Construct Electrical Facilities with Voltages between 50 kV and 200 kV: Falcon Ridge Substation Project. SCE filed the application (A.10-12-017) and PEA on December 29, 2010.

The CPUC's response to such applications is two-fold. First, it involves consideration of the application as part of what's known as the General Proceeding, which is governed by the CPUC's General Order No. 131-D and its Rules of Practice and Procedure. The CPUC's general proceeding is a formal review process that considers how projects could benefit or harm the public, including its potential effects on utility ratepayers. A CPUC Commissioner and Administrative Law Judge (ALJ) are in charge of the general proceeding, which may occur while the environmental review is underway.

Second, the CPUC considers the environmental effects of the proposed project under CEQA. The environmental review process for this Project, including the preparation of this EIR, is conducted in accordance with the California Environmental Quality Act (CEQA) (Pub. Res. Code § 21000 et seq.), the statute's implementing guidelines (CEQA Guidelines) (14 Cal. Code Regs. § 15000 et seq.), and the CPUC's own environmental rules.

When both the environmental evaluation and general proceeding are complete, the ALJ assigned to the Project will prepare a proposed decision for consideration by the five CPUC Commissioners. The ALJ will base the proposed decision on evidence provided as part of the general proceeding, conclusions of the environmental analysis, and the public comments received. Each Commissioner may draft an alternative proposed decision for CPUC review. All five Commissioners then will vote on the proposed decision and any alternates at a meeting of the full Commission.

1.3.2 Other Agencies

Several other agencies will rely on information in this EIR to inform their decisions regarding the issuance of specific permits related to Project construction or operation. SCE would obtain permits, approvals, licenses, or other authorizations as needed from, and would participate in reviews and consultation as needed with, federal, state, and local agencies. Potential required permits and other approvals include, but are not limited to, those summarized in **Table 1-1**.

TABLE 1-1
SUMMARY OF POTENTIAL PERMIT REQUIREMENTS

Permits and Other Requirements	Agency	Jurisdiction/Purpose
Federal		
Nationwide or Individual Permit (Section 404 of the Clean Water Act)	United States Army Corps of Engineers (Corps)	Construction impacting Waters of the United States, including wetlands
Notification and approval request for use of construction cranes	Federal Aviation Administration	Use of objects greater in height than the distance from the closest runway divided by 100, to a distance of 20,000 feet, including along most of the Alder Subtransmission Source Line Route.
State		
Permit to Construct	California Public Utilities Commission	Overall project approval and California Environmental Quality Act review
Encroachment Permit Permit for Oversize Loads	California Department of Transportation, District 8	Caltrans has the discretionary authority to issue special permits for the movement of vehicles/loads exceeding statutory limitations on the size, weight, and loading of vehicles contained in Division 15 of the California Vehicle Code. Caltrans also has discretionary authority to issue encroachment permits for the use of California State highways for purposes other than normal transportation, including construction, operation and maintenance activities within, under or over a state highway right-of way.
Aerial Utility Crossing Permit	San Bernardino County Flood Control District (SBCFCD)	Aerial crossings of flood control and storm drain facilities.
Wire Line Crossing Permit	Burlington Northern Santa Fe (BNSF) Railway	Per CPUC General Order No. 95, consent must be obtained from rail line owners for supply and communication line crossings.
Section 7 Consultation	California Department of Fish and Game	Construction, operation, and maintenance activities that may affect a state-listed species or its habitat; incidental take authorization (if required)
Regional and Local		
National Pollutant Discharge Elimination System Construction Stormwater Permit	Santa Ana California Regional Water Quality Control Board (RWQCB)	Stormwater 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 (ministerial)	San Bernardino County City of Rialto City of Rancho Cucamonga City of Fontana	Construction, operation, and maintenance within, under, or over city road ROW[1]

TABLE 1-1 (Continued)
SUMMARY OF POTENTIAL PERMIT REQUIREMENTS

Permits and Other Requirements	Agency	Jurisdiction/Purpose
Regional and Local (cont.)		
Traffic Control Permit	City of Fontana	Temporary lane closures
Lane Closure Permit	City of Rancho Cucamonga	Temporary lane closures
Grading Permit/SWPPP	County of San Bernardino City of Rialto City of Rancho Cucamonga City of Fontana	San Bernardino County: before a project may undertake excavation greater than two feet in depth or a fill one foot or more in thickness Rialto: before a project may move more than 50 cubic yards of earth Rancho Cucamonga: before a project may do any grading Fontana: before a project may cut or fill soil to a depth of more than 12 inches to support a structure
Spill Prevention, Control, and Countermeasure (SPCC) Plan	San Bernardino County Fire Department	For storage of mineral oil in an aboveground tank with a capacity greater than 1,320 gallons.

[1] Encroachment permits for San Bernardino County and the City of Rialto include traffic control and temporary lane closures.

SOURCES: SCE, 2010a; SBCFCD, 2011; BNSF, 2010; San Bernardino County, 2011; City of Fontana, 2011; City of Rancho Cucamonga, 2011; City of Rancho Cucamonga, 2010; SBCFD, 2011

1.4 Public Review and Comment

1.4.1 Notification

On Wednesday, March 30, 2011, the CPUC published and distributed a Notice of Preparation (NOP) to solicit guidance from federal, state, and local agencies on the scope and content of information to be considered in an EIR for the Project. A copy of the NOP was sent to the State Clearinghouse of the Office of Planning and Research. The NOP described the Project, included a map showing the location of proposed components of the Project and identified potential environmental impacts.

In addition to soliciting agency input, the CPUC invited public participation in a workshop and Scoping Meeting for the Project through newspaper legal advertisements and the CPUC's website. The CPUC published legal advertisements in the Fontana Herald News on April 8, 2011, and in the Inland Valley Daily Bulletin (formerly The Daily Report) on April 8, 2011 and April 11, 2011. An electronic copy of the NOP also was posted on the CPUC's website established for the Project: http://www.cpuc.ca.gov/Environment/info/esa/falconridge/index.html.

1.4.2 Education Outreach

The CPUC conducted a public workshop and scoping meeting on Thursday, April 14, 2011, at Summit High School, located at 15551 Summit Avenue, Fontana, California. The workshop was

held from 6:30 p.m. to 7:00 p.m. Applicant representatives and seven member of the public attended. Meeting attendees were provided with the presentation slides, written comment forms, and speaker cards. Topics covered during the workshop included participants in the process and their roles, the CPUC's decision and review processes, and opportunities for public involvement.

1.4.3 Scoping

The Scoping Report included in Appendix A provides an overview and a summary of the written and oral comments provided by agencies and individuals during the scoping period for this Project, which began on Wednesday, March 30, 2011, and closed on Friday, April 29, 2011.

The CPUC conducted a public scoping meeting from 7:00 p.m. until 8:30 p.m. on Thursday, April 14, 2011, immediately following the educational workshop described above. During the scoping meeting, a Project overview was provided, alternatives identified by SCE were presented, ideas about other possible alternatives were solicited, next steps were outlined, and public comments were accepted. Meeting attendees were provided with materials including presentation slides, written comment forms, and speaker cards. Copies of the NOP were available upon request. A court reporter's transcript documented public comments.

The CPUC conducted follow-up Scoping Meetings on May 11, 2011, with the cities of Fontana and Rialto at the request of these cities. During these meetings, the cities provided additional oral comments on the scope of the analysis and alternatives to be considered in the Project EIR

The Scoping Report includes all of the comments received during the scoping period, and describes how each was addressed. Ideas and concerns raised related to the following:

- Aesthetic impacts of substation and new subtransmission lines from residences and roadways.
- Biological resources and potential impacts to habitat for wildlife and plant species of concern.
- Cultural resources, including potential impacts related to historical and archeological resources, Native American religious expression, items of religious and other cultural significance, and human remains.
- Hydrology and water quality, including potential impacts related to wetlands and water courses that support riparian and aquatic values.
- Land use, including potential impacts related to new ROW easements.
- Noise impacts during construction and operation.
- Public safety, including potential wind-related hazards and proximity of power lines to schools.
- Transportation and traffic impacts of contributing to congestion.
- Alternatives, including the installation of Project components underground.

1.4.4 Public Comment on the Draft EIR

This Draft EIR is being circulated to state and local agencies and to interested individuals who may wish to review and comment on the report. Written comments may be submitted to the CPUC during the 45-day public review period. Written comments on this Draft EIR will be accepted via regular mail, fax, and e-mail and at a public meeting that will be noticed under separate cover. All comments received will be addressed in a Response to Comments document, which, together with this Draft EIR, will constitute the Final EIR for the Project.

1.5 Reader's Guide to This EIR

This EIR is organized as follows:

Executive Summary. Provides a summary description of the Project, the alternatives, their respective environmental impacts, and the Environmentally Superior Alternative. Also provides a summary table of the impacts and mitigation measures of the Project and alternatives.

Chapter 1, *Introduction*. Provides a discussion of the background and project objectives, briefly describes the Project, and outlines the public agency use of the EIR.

Chapter 2, *Project Description*. Provides a detailed description of the Proposed Project.

Chapter 3, *Alternatives Analysis*. Provides a description of the alternatives screening and evaluation process, describes the alternatives considered but eliminated from further analysis and the rationale therefore, and describes the alternatives analyzed in Chapter 4.

Chapter 4, *Environmental Analysis*. Provides a comprehensive analysis and assessment of impacts and mitigation measures for the Project and alternatives, including the No Project Alternative. This chapter is divided into sections for each environmental issue area (e.g., Air Quality, Biological Resources, etc.) that contain the environmental and regulatory settings, and impacts and mitigation measures for the Project and each alternative.

Chapter 5, *Comparison of Alternatives*. Provides a discussion of the relative advantages and disadvantages of the Project and the alternatives that were evaluated, and identifies the CEQA Environmentally Superior Alternative.

Chapter 6, *Cumulative Effects*. Identifies the cumulative projects considered in the analysis of cumulative impacts. Provides a discussion of the cumulative impacts of the Project in combination with reasonable foreseeable past, present and future projects.

Chapter 7, *Other CEQA Considerations*. Provides a discussion of growth-inducing impacts, significant environmental effect that cannot be avoided, irreversible environmental changes, and cumulative impacts.

Chapter 8, *Report Preparers*. Identifies the primary authors of this Draft EIR

Chapter 9*, Mitigation Monitoring, Reporting, and Compliance Plan*. Provides a discussion of the CPUC's mitigation monitoring, reporting and compliance program requirements for the Project as approved by the CPUC.

Appendix A. Contains the Scoping Report which includes the NOP, the Supplemental Scoping Report, copies of notifications and scoping materials, and copies of comments received.

Appendix B. Provides SCE's Electric and Magnetic Fields (EMF) Field Management Plan (FMP) summary.

Appendix C. Contains calculations pertaining to Section 4.3, *Air Quality*, and Section 4.7, *Greenhouse Gas Emissions*.

Appendix D. Provides a copy of the mailing list to whom the Draft EIR and/or Notice of Availability were sent.

1.6 Electric and Magnetic Fields

Extremely low frequency (ELF) electric and magnetic fields (EMF) include alternating current (AC) fields and other electromagnetic, non-ionizing radiation from 1 Hz to 300 Hz. Power lines, like electrical wiring and electrical equipment, produce ELF fields at 60 Hz (Occupational Safety and Health Administration, 2011). This EIR does not consider 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. For example, on behalf of the CPUC, three scientists who work for the California Department of Health Services (DHS) were asked to review studies by the National Institutes of Environmental Health Sciences Working Group, the International Agency for Research on Cancer, and the British National Radiological Protection Board about possible health problems from electric and magnetic fields from power lines, wiring in buildings, some jobs, and appliances (Neutra et al., 2002). The results of their evaluation noted "important differences between the three DHS reviewers' conclusions" and made no recommendations about actions to be taken to address potential health risks (Id.).

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 EIR 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.

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. For example, the International Agency for Research on Cancer (IARC) and the California DHS both have 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 and otherwise in accordance with "EMF Design Guidelines" filed with the CPUC in compliance with CPUC Decisions 93-11-013 and 06- 01-042, SCE would implement low- and no-cost measures for the Project as described in the Field Management Plan submitted by SCE with its application (SCE, 2010b). A copy of the Field Management Plan is included in the EIR as Appendix B. Its measures relate to the proposed Falcon Ridge Substation and 66 kV subtransmission source lines, and are summarized in **Table 1-2**.

TABLE 1-2
EMF DESIGN GUIDELINES LOW- AND NO-COST MEASURES PROPOSED FOR THE PROJECT

Project Component	Proposed Low- and No-Cost Measures
Falcon Ridge Substation	• Placing major substation electrical equipment (such as transformers, switchracks, buses, and underground duct banks) away from the substation property lines. • Configuring the transfer and operating buses with the transfer bus closest to the nearest property line.
Subtransmission Source Line Segments	
66 kV Etiwanda Source Line Segment 1 66 kV Etiwanda Source Line Segment 2	• Utilizing subtransmission structure heights that meet or exceed SCE's preferred EMF design criteria • Utilizing subtransmission line construction that reduces the space between conductors compared with other designs • Arranging conductors of proposed subtransmission line for magnetic field reduction
66 kV Etiwanda Source Line Segment 3 66 kV Etiwanda Source Line Segment 4 66 kV Etiwanda Source Line Segment 5	• Utilizing subtransmission structure heights that meet or exceed SCE's preferred EMF design criteria • Arranging conductors of proposed subtransmission line for magnetic field reduction
66 kV Alder Source Line Route	• Utilizing subtransmission structure heights that meet or exceed SCE's preferred EMF design criteria

References – Introduction

Burlington Northern Santa Fe Railway (BNSF), 2010. Application for Wire Line Crossing or Longitudinal. http://www.bnsf.com/communities/faqs/pdf/wireline.pdf, accessed October 25, 2011.

City of Fontana, 2011. Traffic Control Conditions for the Issuance of Permits. http://www.fontana.org/DocumentView.aspx?DID=2461, accessed October 26, 2011.

City of Rancho Cucamonga, 2010. Information for Grading Plans & Permit. April 1, 2010. http://rc-web.civicasoft.com/civica/filebank/blobdload.asp?BlobID=3434, accessed January 13, 2012.

City of Rancho Cucamonga, 2011. Permit Information. http://rc-web.civicasoft.com/cityhall/engineering/landev/permits.asp, accessed October 26, 2011.

Raymond Richard Neutra, M.D. Dr. P.H.; Vincent DelPizzo, Ph.D. GDE; and Geraldine M. Lee, Ph.D. (Neutra et al.), 2002. An Evaluation of the Possible Risks from Electric and Magnetic Fields (EMFs) from Power Lines, Internal Wiring, Electrical Occupations, and Appliances (June 2002).

San Bernardino County, 2011. Land Use Services Department, Building & Safety Division, Permit Fees, Grading Permits. http://cms.sbcounty.gov/Portals/5/Building%20&%20Safety/BnSPermitsDocs/gradingpermit.pdf, accessed October 18, 2011.

San Bernardino County Fire Department (SBCFD), 2011. Aboveground Petroleum Storage Act (APSA) and Spill Prevention Control and Countermeasure (SPCC). http://www.sbcfire.org/hazmat/apsa_spcc.aspx, accessed October 26, 2011.

San Bernardino County Flood Control District (SBCFCD), 2011. Schedule of Fees Ordinance No. FCD 11-01. http://www.sbcounty.gov/dpw/floodcontrol/pdf/fc_fee_schedule.pdf, accessed October 25, 2011.

Southern California Edison (SCE), 2010b. Application of Southern California Edison Company (U 338-E) For a Permit to Construct Electrical Facilities with Voltages between 50 kV and 200 kV: Falcon Ridge Substation Project (December 29, 2010).

U.S. Department of Labor, Occupational Safety and Health Administration (OSHA), 2011. Extremely Low Frequency (ELF) Radiation. Available at http://www.osha.gov/SLTC/elfradiation/index.html. Accessed July 7, 2011.

CHAPTER 2
Project Description

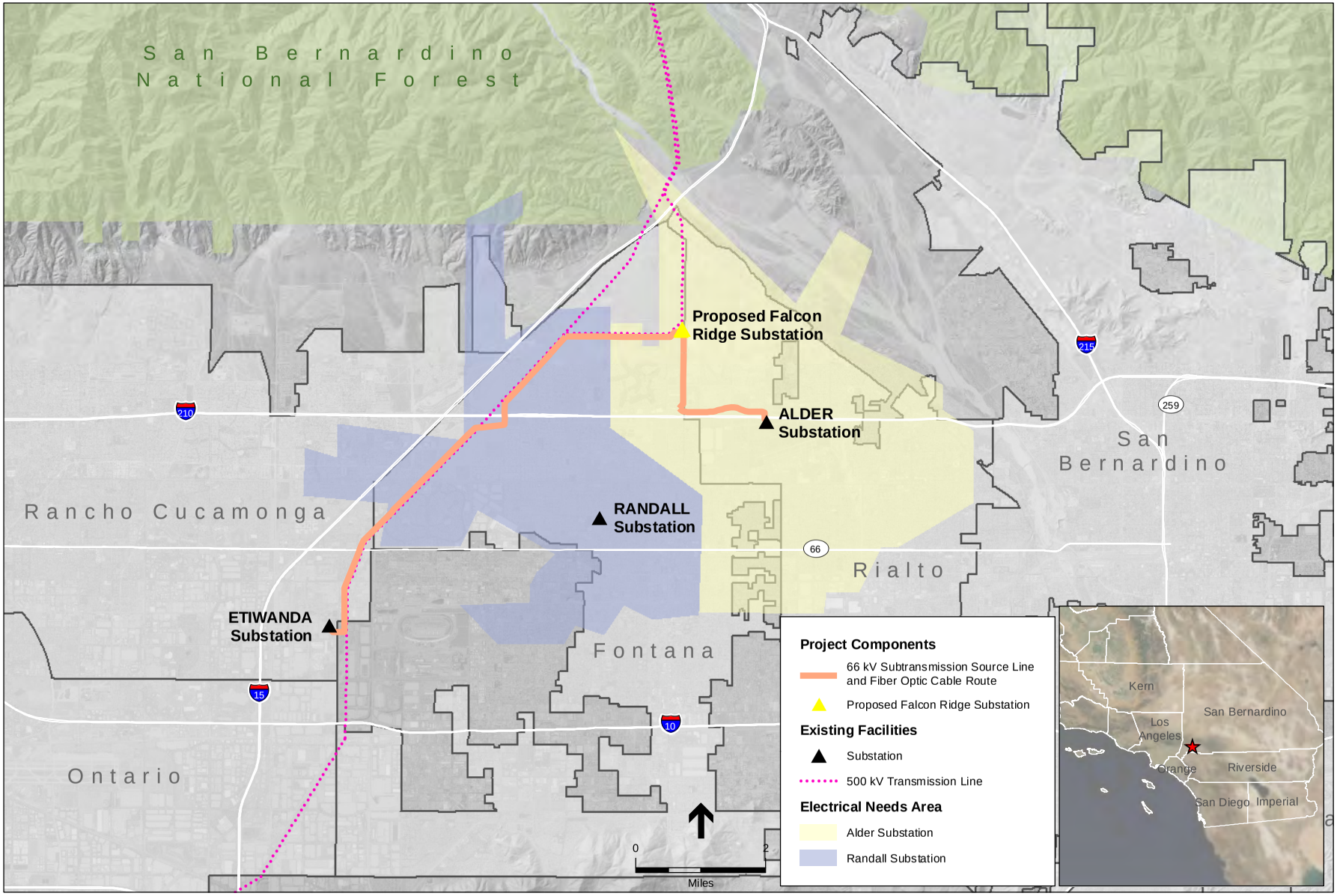
2.1 Introduction

Southern California Edison (SCE), in its California Public Utilities Commission (CPUC) application (A.1012017), filed on December 29, 2010, requests a Permit to Construct (PTC) a new 66/12 kilovolt (kV) distribution substation (Falcon Ridge Substation) and associated 66 kV subtransmission lines, telecommunications connection, and related distribution components in the cities of Rancho Cucamonga, Rialto, Fontana, and a portion of unincorporated San Bernardino County. Power to the Falcon Ridge Substation would be supplied by connecting to two existing substations, Alder and Etiwanda Substations. New right-of-way (ROW) and easement rights would be required for portions of the proposed subtransmission source line routes. Approximately four existing subtransmission poles would be removed and a combination of new poles and underground distribution facilities would be constructed. SCE's application for a PTC 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 (Project) must comply with the California Environmental Quality Act (CEQA)[1].

2.2 Project Location

The Project is located in the cities of Rancho Cucamonga, Rialto, Fontana, and a portion of unincorporated San Bernardino County (see **Figure 2-1**, *Electrical Needs Area*). The Falcon Ridge Substation would be in Fontana just south of Casa Grande Avenue, east of Sierra Avenue, north of Summit Avenue and adjacent to SCE's existing transmission ROW. Two subtransmission source line segments are proposed. The proposed Alder Subtransmission Source Line would connect the existing Alder Substation to the Falcon Ridge Substation. The new 66 kV subtransmission line would leave Alder Substation and parallel West Casmalia Street until it reaches Mango Avenue. The subtransmission line would then traverse north along the future extension of Mango Avenue until it reaches the Falcon Ridge Substation. The Etiwanda Subtransmission Source Line Route would connect to the existing Etiwanda Substation. The new 66 kV subtransmission line would exit Etiwanda Substation and extend northeast within SCE's existing transmission ROW until it intersects with South Highland Avenue. The subtransmission line would then parallel South Highland Avenue until the intersection of San Sevaine Road. The subtransmission line would then

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



SOURCE: SCE, 2011

Falcon Ridge Substation Project. 207584.09

Figure 2-1

Electrical Needs Area

extend north paralleling San Sevaine Road spanning the 210 Freeway at right angles until San Sevaine Road intersects with SCE's existing transmission ROW. The 66 kV subtransmission facilities would then again extend northeast within SCE's existing transmission ROW until it intersects with Summit Avenue. The 66 kV subtransmission facilities would then extend east on SCE's existing transmission ROW until it reaches the Falcon Ridge Substation.

2.3 Existing System

The Electrical Needs Area (ENA) is shown in Figure 2-1, and is presently served by two 66/12 kV substations: the Alder and Randall Substations. These substations provide electrical service to approximately 46,000 metered customers. The amount of electrical power that can be delivered into the ENA is limited to the maximum amount of electrical demand that both the Alder and Randall Substations can serve before the operating capacity limits are exceeded in a 1-in-10 year heat storm. Currently, the operating capacity of the Alder Substation combined with the Randall Substation is be limited to 277 MVA under normal operating conditions. The reliability and system operational flexibility of the existing electrical system serving the ENA would be enhanced through the construction of the Project, which has a planned operating date of June 2014.

2.4 Project Objectives

SCE has established the following objectives for the Project (SCE, 2010a):

- Serving long-term projected electrical demand requirements in the Electrical Needs Area beginning in June 2014
- Maintaining system reliability within the Electrical Needs Area
- Improving system operational flexibility by providing the ability to transfer load between distribution lines and substations within the Electrical Needs Area
- Meeting the Project's need while minimizing environmental impacts
- Meeting the Project's need in a cost-effective manner
- Using existing ROW to the extent feasible

2.5 Overview of the Project

The Project includes construction, operation and maintenance of the following components. A more detailed description of the individual components is provided in Section 2.5.

- Construction of an unmanned, automated 66/12 kV low-profile substation substation (Falcon Ridge Substation)
- Installation of two 66 kV subtransmission source line segments (one 3 miles long and one 9 miles long) to connect the Falcon Ridge Substation to the existing Alder and Etiwanda Substation, respectively

- Construction of three new underground 12 kV distribution getaways
- Installation of new telecommunications facilities at the Falcon Ridge Substation, including fiber-optic communication cable to connect the Falcon Ridge Substation to SCE's telecommunications network, and upgrades to telecommunications equipment at Etiwanda and Alder Substations.

Figure 2-2, *Proposed Project,* shows the footprint of the Falcon Ridge Substation and the subtransmission lines alignments. New ROW and easement rights would be required for the proposed subtransmission facilities and access roads.

2.6 Project Components

The Project consists of a number of distinct components, which are described in detail below. Section 2.6 presents ROW information while Sections 2.7 and 2.8 include details on pre-construction and construction activities.

2.6.1 Substations

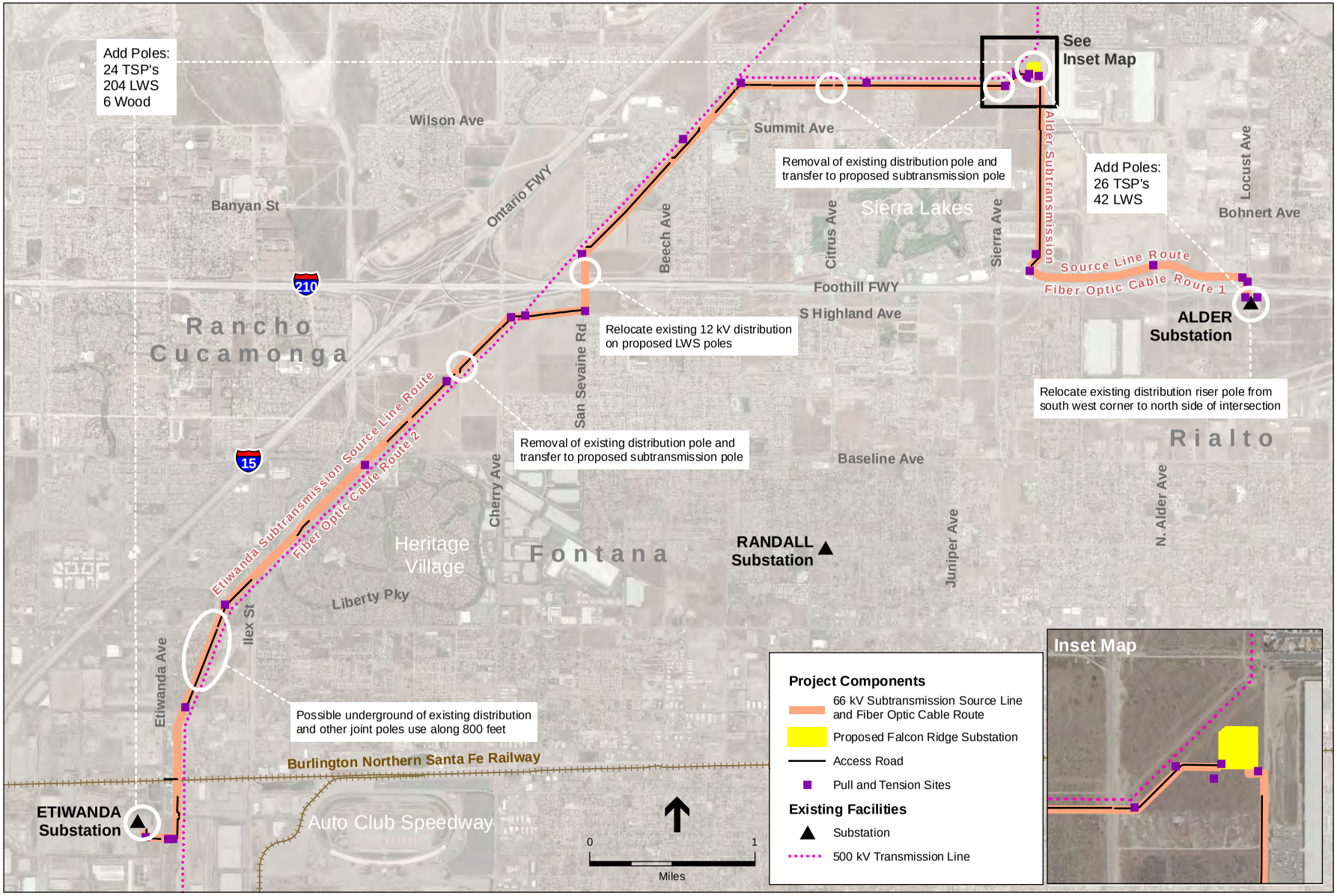
2.6.1.1 Falcon Ridge Substation

The Falcon Ridge Substation would be a new 66/12 kV unattended, automated, 56 MVA low-profile substation. The substation capacity would have the potential to expand to 112 MVA, as necessary. The dimensions of the substation would be approximately 370 feet by 337 feet. The property is triangular in shape and the boundaries are approximately 1,130 feet by 800 feet by 800 feet. The substation would encompass approximately 2.7 acres of an approximately 7.5-acre parcel located in the City of Fontana. The remaining 4.8 acres would include allowances for future street improvements and widening, street set-backs, safety buffers, and landscaping. The Falcon Ridge Substation would include a 66 kV switchrack, a 66 kV Circuit Breakers and Disconnect Switches, two 28 MVA, 66/12 kV Transformers, one 12 kV Switchrack, capacitor banks, a Mechanical and Electrical Equipment Room (MEER), distribution getaways, a restroom facility, a concrete access road, lighting, perimeter walls, gates, and drainage. **Figure 2-3**, *Proposed Substation Layout*, depicts the preliminary plan view of the Falcon Ridge Substation. The following components would be installed at or in proximity to the Falcon Ridge Substation site.

Substation Equipment and Associated Facilities

66 kV Switchrack

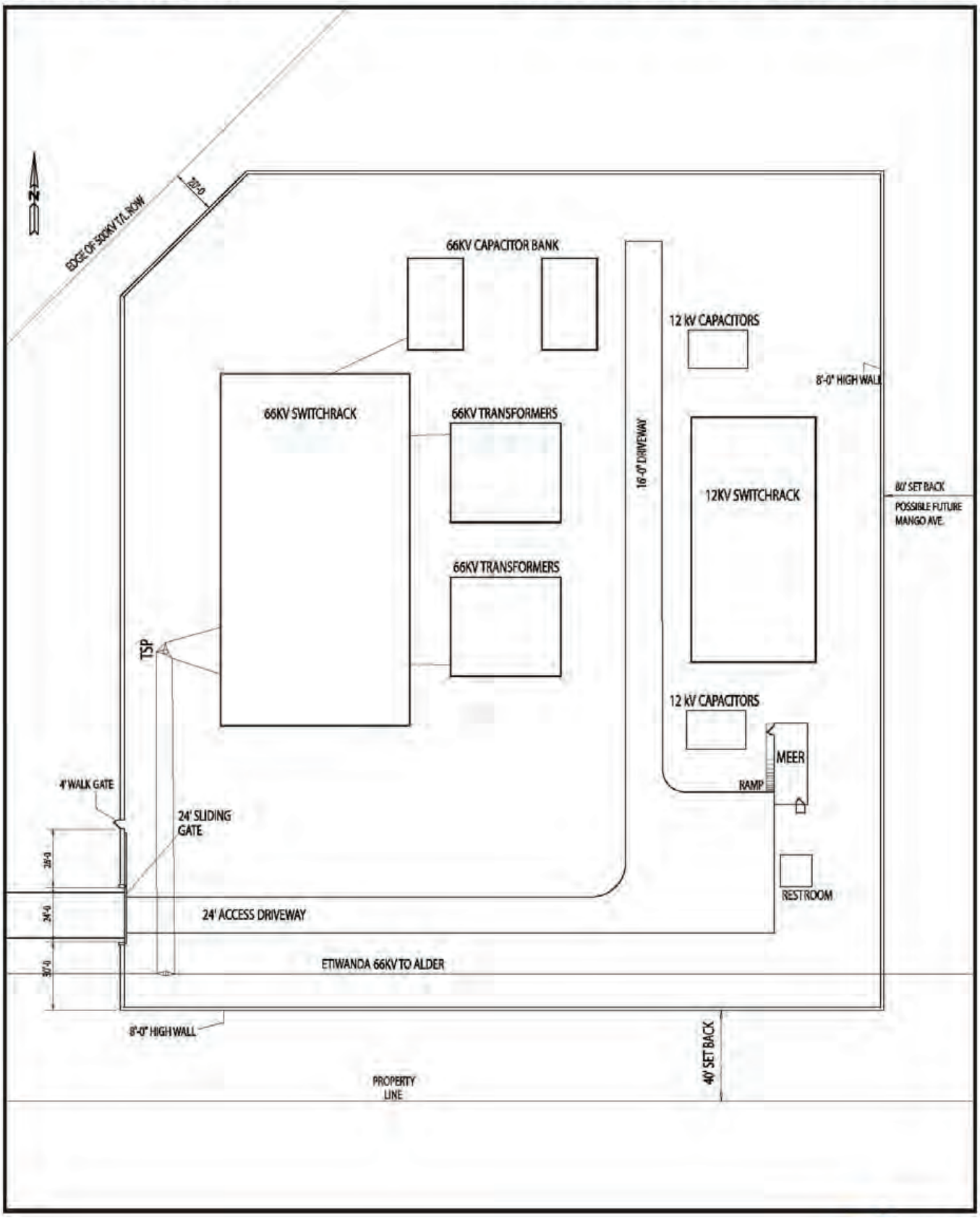
One steel 66kV switchrack, up to 154 feet long by 82 feet wide by 25 feet high would be installed. The switchrack would consist of eight 18-foot-wide positions (e.g., two for subtransmission source lines, two for transformer banks, one for a bus-tie between the operating and transfer buses; and three vacant for future use).



SOURCE: SCE, 2011

Falcon Ridge Substation Project . 207584.09

Figure 2-2
Project



Falcon Ridge Substation Project . 207584.09

SOURCE: SCE, 2011

Figure 2-3
Proposed Falcon Ridge Substation Layout

Each operating and transfer bus would be 144 feet long and consist of two 1,590 kcmil (thousand circular mills) Aluminum Conductor Steel Reinforced (ACSR) for each of the three electrical phases. To protect substation personnel from the potential of electric shock each bus would be enclosed by a 6-foot high chain link fence. The surface area within the enclosure would be paved with asphalt concrete.

66 kV Circuit Breakers and Disconnect Switches

The two line positions and the two transformer bank positions 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.

Two 28 MVA, 66/12 kV Transformers

Transformation would consist of two 28 MVA 66/12 kV transformers, each equipped with group-operated isolating disconnect switches on the high voltage and low voltage side, surge arrestors, and neutral current transformers. The transformer area would be approximately 108 feet long by 64 feet wide by 25 feet high.

One 12 kV Switchrack

The 12 kV low-profile steel switchrack would be approximately 108 feet long by 55 feet wide by 17 feet high. The 12 kV switchrack would initially consist of eight positions with the potential to expand to 12 positions in a wrap-around arrangement. The initial steel structure installation would include eight positions (e.g., four distribution lines. two transformer banks, one bus-tie between the operating bus and transfer bus, one bus parallel, and four vacant for future use.

Capacitor Banks

Two 12 kV, 4.8 megavolts ampere reactive (MVAR) capacitor banks would be installed. Each of these capacitor banks would be approximately 17 feet long by 13 feet wide by 17 feet high. To protect substation personnel from the potential of electric shock each capacitor would be enclosed by a 6-foot high chain link fence. The surface area within the enclosure would be paved with asphalt concrete.

Mechanical and Electrical Equipment Room (MEER)

A MEER is a prefabricated structure that is typically made of steel and has a grey roof and side walls. The roofline, wall joints, and doorway may have brown trim. The MEER would be equipped with two heating ventilation air-conditioning units (HVAC), a temperature and humidity sensor, a direct current (DC) paralleling box and distribution panel, a single-phase alternating current (AC) panel, two 19-inch telecom racks, a battery charger and associated batteries, nine Station Automation 2 Systems (SA-2) 19-inch racks, and a Human Machine Interface/Programmable Logic Controller (HMI/PLC). Control cable trenches would be installed to connect the MEER to the 66 kV and the 12 kV switchracks. The MEER dimensions would be approximately 36 feet long by 20 feet wide by 11 feet tall.

Restroom Facility

Currently, there is potable water service available at the site; however, no feasible sewer service option is available. Therefore, a portable chemical unit would be placed within the substation perimeter wall, and maintained by an outside service company. If at the time of final engineering, both sewer and water connections become available, a standalone prefabricated permanent restroom may be installed in close proximity to the MEER. The approximate dimensions of the restroom facility would be 10 feet long by 10 feet wide by 10 feet high.

Substation Access

Access to the substation site would be from the west along a paved driveway connecting Sierra Avenue to the substation entry gate located at the western substation wall. The driveway would be asphalt concrete paved, approximately 1,000 feet in length and 24 feet in width. Approximately 700 feet of the driveway would cross SCE's existing transmission ROW and approximately 300 feet would cross the SCE property to the substation entry gate. The automated substation entry gate would be approximately 24 feet wide and eight feet high. In addition to the substation entry gate, a four-foot wide walk-in gate would be installed within the substation wall for personnel access into the site. **Figure 2-4**, *Falcon Ridge Substation Access*, provides the Falcon Ridge Substation access road design.

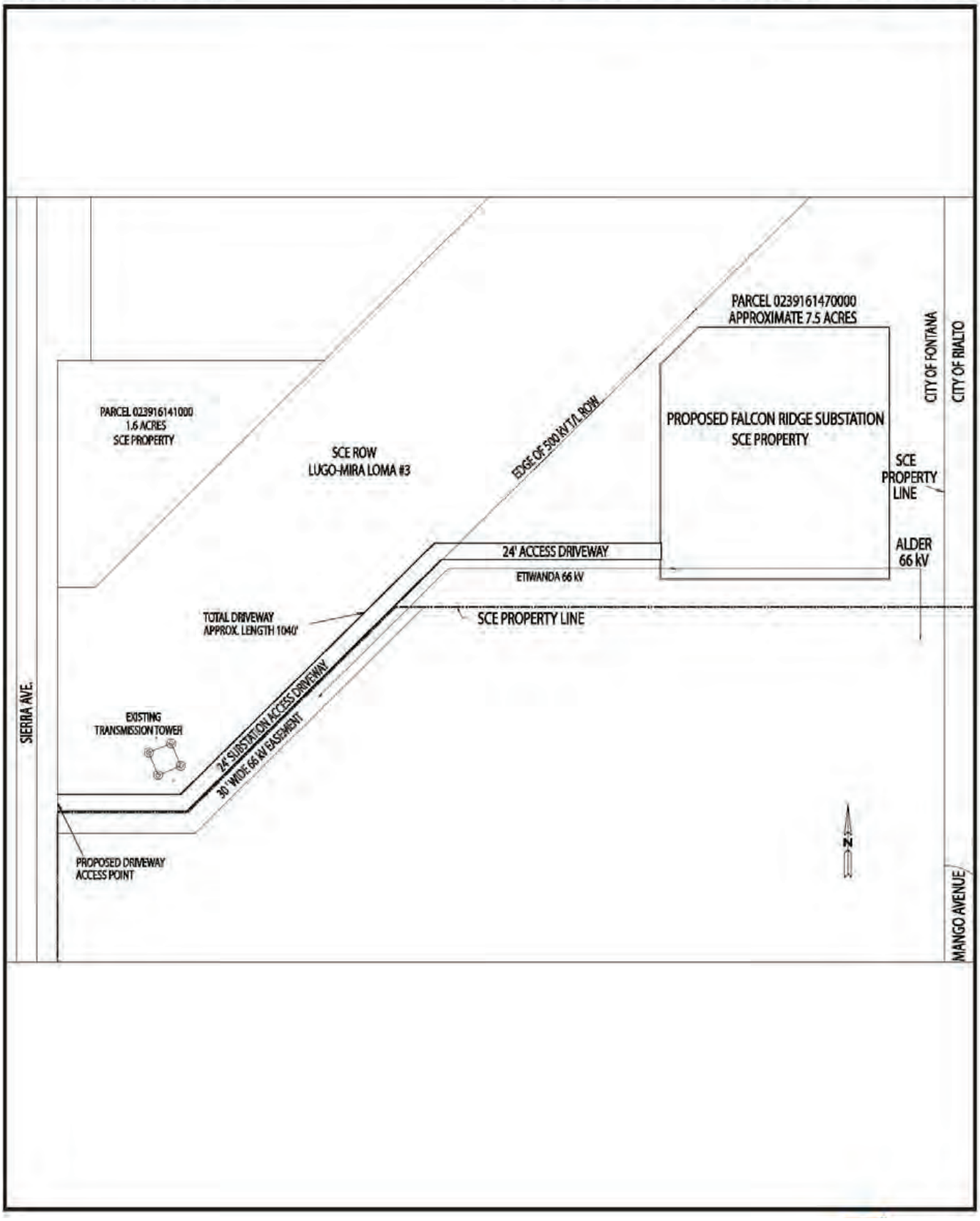
Distribution Getaways

The initial distribution getaways would consist of five new underground vaults. The connections to those vaults would be installed outside the substation walls on either the SCE substation property, private property, or in franchise. The first getaway would exit the substation property boundary to the west for approximately 600 feet where a new vault would be installed. It would continue approximately 530 feet and then terminate in a new vault located within Sierra Avenue.

The second getaway would exit the substation property boundary to the west for approximately 600 feet where a new vault would be installed. It would continue for approximately 635 feet and terminate by being capped for future use. The third getaway would exit north from the substation approximately 200 feet where a new vault would be installed. It would continue approximately 540 feet and terminate in a new vault located within the future Casa Grande Avenue.

Within the substation site, distribution circuits would be placed in an underground conduit system. At ultimate build out, the Falcon Ridge Substation could accommodate 16- 12 kV distribution circuits. Additional electrical distribution circuits would be constructed from the Falcon Ridge Substation to serve electrical demand on an as-needed basis and with consideration of the location of the current load growth, existing electrical distribution facilities in the area and location of roads and existing SCE rights-of-way

The exact location, routing and timing of construction of the remaining distribution circuits have yet to be determined because at present there is no need for such facilities. Therefore, this EIR does not evaluate impacts related to construction, operation and maintenance of the remaining distribution circuits. Supplemental CEQA analysis may be required before these circuits are constructed, operated and maintained in the future.



Falcon Ridge Substation Project . 207584.09

SOURCE: SCE, 2011

Figure 2-4
Proposed Falcon Ridge
Substation Access

Lighting

Lighting at Falcon Ridge Substation would consist of high-pressure sodium, low-intensity lights located in switchyards, around the transformer banks, and in areas of the yard where operation and maintenance activities may take place during evening hours for emergency/scheduled work. Maintenance lights would be controlled by a manual switch and would normally be in the "off" position. The lights would be directed downward and shielded to reduce glare outside the facility. A beacon light, indicating the operation of the rolling gate, would automatically turn on once the gate opens and turn off when the gate is closed.

Perimeter Wall

The Falcon Ridge Substation would be enclosed on four sides by an eight-foot high perimeter wall typically constructed of light colored decorative blocks. A band of at least three strands of barbed wire would be affixed near the top of the perimeter wall inside the substation.

Landscaping and irrigation would be established around the full perimeter of the substation after the perimeter wall is constructed and a connection to the West Valley Water District's water system is established. Prior to commencement of the substation construction, SCE would consult with the City of Fontana to develop an appropriate landscaping plan and perimeter wall design that would be submitted with the grading permit application for the Project. The landscaping plan would be consistent with Fontana Ordinance 1625, Landscaping and Water Conservation.

Substation Drainage

The Falcon Ridge Substation site slopes to the south at an approximate 3 percent grade. The existing storm water runoff from the site discharges to the south across the natural grade for a distance of approximately 2,600 feet before a portion of the flow would be diverted to the west towards an existing storm drain system along Sierra Avenue. The remainder of the flow would be diverted towards the east where it would flow into the established drainage along the western border of a landfill within the City of Rialto. Both drainage courses would ultimately flow into the regional stormwater system north of the 210 Freeway.

The substation site has an average approximate elevation of 1,710 feet above mean sea level (AMSL). The enclosed substation surface would be graded at a uniform slope of no less than 1 percent in a west-to-east direction. The enclosed substation surface would be covered with permeable material (crushed rock) in areas where no paving or structures would be placed. Prior to substation construction, SCE would prepare final engineering drawings for grading and drainage, and submit these drawings to the City of Fontana to obtain a grading permit.

Based on the anticipated volume of hazardous liquid materials, such as mineral oil, in use at the site being in excess of 1,320 gallons, a Spill Prevention and Control Countermeasures (SPCC) Plan would be required (40 C.F.R. Parts 112.1-112.7). Typical SPCC secondary containment 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 Project.

2.6.1.2 Upgrades to Existing Substations

Upgrades to existing optical communications equipment would occur at Etiwanda, Alder, and Randall Substations. All upgrades at the existing substations would occur within the existing MEER; therefore, no additional ground disturbance is associated with the proposed telecommunications work.

In order to accommodate the 66 kV subtransmission source line connection at the Etiwanda Substation, the following work would be conducted: equip a position of the 66 kV switchrack with two 66 kV circuit breakers, four 66 kV group-operated disconnect switches, a 66 kV underground getaway, and add two protection relays.

In order to accommodate the 66 kV subtransmission line connection at the Alder Substation, the following work would be conducted: Extension of one position of the 66 kV operating and transfer buses to the east. Equip the new 66 kV position with one 66 kV circuit breaker, three 66 kV group operated disconnect switches, an overhead 66 kV getaway, and add three protection relays.

2.6.2 Subtransmission Source Lines

The new 66 kV subtransmission source line route consists of two independent source line segments that would connect to the existing Alder Substation and Etiwanda Substation, which would supply power to the Falcon Ridge Substation substation, as shown in Figure 2-2, *Proposed Project*.

The approximately 3 mile long Alder Subtransmission Source Line Route would connect to the existing Alder Substation which is located south of the 210 Freeway and east of Locust Avenue. The new 66 kV subtransmission line would leave Alder Substation on existing structures (Etiwanda-Alder-Randall 66 kV Subtransmission Line) to the west for approximately 600 feet The new 66 kV subtransmission line would then extend north spanning the 210 Freeway and paralleling Locust Avenue until it intersects with West Casmalia Street. The 66 kV subtransmission line would then extend west along West Casmalia Street until it intersects with Mango Avenue. At the intersection of West Casmalia Street and Mango Avenue, the 66 kV subtransmission line would then extend north along the future extension of Mango Avenue until it reaches the Falcon Ridge Substation site.

The approximately 9 mile long Etiwanda Subtransmission Source Line Route would connect to the existing Etiwanda Substation which is located south of Foothill Boulevard and west of Etiwanda Avenue. The new 66 kV subtransmission line would exit Etiwanda Substation underground for approximately 1,300 feet in a new duct bank to the east side of Etiwanda Avenue where the subtransmission line would rise to an overhead position. The 66 kV subtransmission line would then extend northeast within SCE's existing transmission ROW until it intersects with South Highland Avenue where it would be placed underground for approximately 300 feet to maintain required electrical clearances with the existing 500 kV transmission line. The subtransmission line would rise to an overhead position where SCE's existing transmission ROW

intersects South Highland Avenue and would divert from SCE's existing transmission ROW and extend east parallel to South Highland Avenue to the intersection of South Highland Avenue and San Sevaine Road. The subtransmission line would then extend north paralleling San Sevaine Road spanning the 210 Freeway at right angles until San Sevaine Road intersects with SCE's existing transmission ROW. The total length of subtransmission routing off of the existing corridor would be approximately 0.75 miles. The 66 kV subtransmission line would then again extend northeast within SCE's existing transmission ROW, until it intersects with Summit Avenue. The 66 kV subtransmission line would then extend east on SCE's existing transmission ROW until it reaches the substation site. New access roads would be required to construct and maintain the subtransmission line. SCE would need to acquire approximately 13 acres of new easement rights for a 30 foot wide ROW to accommodate the subtransmission lines and road access for a distance approximately 3.6 miles.

2.6.3 Poles

The Project would require the installation of approximately 300 new subtransmission poles, consisting of six wood poles, 244 Light Weight Steel (LWS) poles, and 50 Tubular Steel Poles (TSPs) with polymer insulators. Each structure would support polymer post insulators and dead-end insulators, 954 kcmil stranded aluminum conductor (SAC), and 4/0 ACSR fault return conductor.

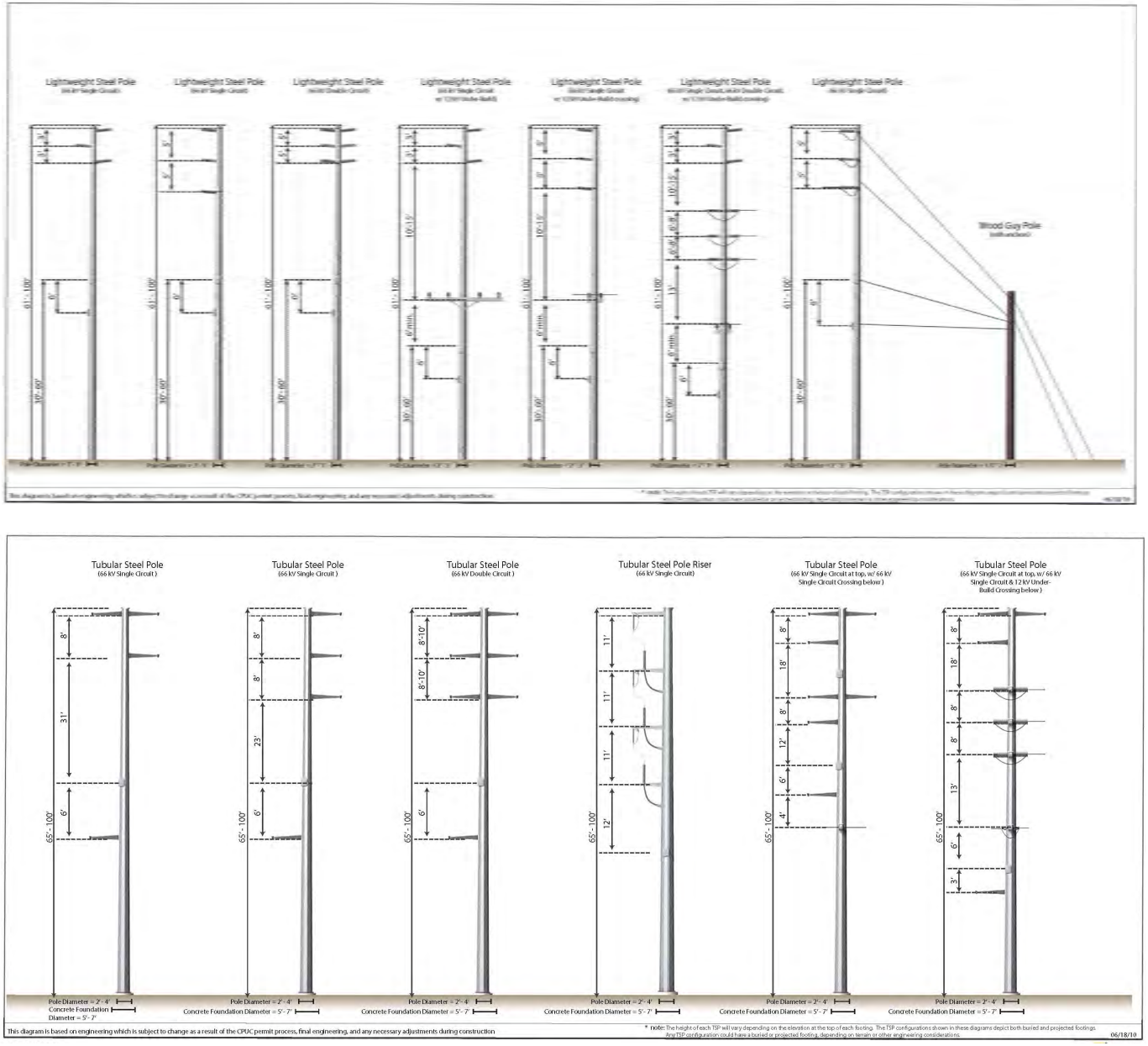
All poles would be designed to be consistent with the Suggested Practices for Raptor Protection on Power Lines: the State of the Art in 2006 (Edison Electric Institute and the Avian Power Line Interaction Committee, 2006). These design features could include one or more of the following: conductor and insulator covers, increased conductor spacing, suspending phase conductors, insulated jumper wires, horizontal jumper supports, and perch deterrents on crossarms.

Figure 2-2, *Proposed Project* shows the locations of all new poles. **Figure 2-5**, *Subtransmission Structures,* depicts typical subtransmission pole configurations. **Table 2-1**, *Approximate Subtransmission Structure Dimensions*, shows approximate subtransmission structure dimensions.

TABLE 2-1
APPROXIMATE SUBTRANSMISSION STRUCTURE DIMENSIONS

Pole Type	Approximate Diameter	Approximate Height Above Ground	Approximate Auger Hole Depth	Approximate Auger Hole Diameter
Wood	1 to 2 feet	35 to 75 feet	8 to 10 feet	2 to 4 feet
Light Weight Steel (LWS)	2 to 3 feet	65 to 100 feet	8 to 11 feet	2 to 4 feet
Tubular Steel Pole (TSP)	2 to 4 feet	70 to 100 feet	Not Applicable	Not Applicable
TSP Concrete Foundation	5 to 8 feet	2 to 4 feet	20 to 30 feet	5 to 8 feet

SOURCE: SCE, 2010a



SOURCE: SCE, 2010

Figure 2-5
Subtransmission Structures

2.6.3.1 Wood Poles

The Project would install six wood poles which would extend from 35 to 75 feet above ground surface (ags) and have a base diameter of 1 to 2 feet. Wood poles would be direct-buried to a depth of approximately 8 to 10 feet below ground surface (bgs), with an approximate auger diameter of 2 to 4 feet.

2.6.3.2 Light Weight Steel Poles

The Project would install 244 LWS poles consisting of tapered gray poles with dull galvanized finish. LWS poles typically range from 65 to 100 feet ags with a base diameter of 2 to 3 feet tapering to approximately 1 foot diameter at the top of the pole. LWS poles would be direct-buried to a depth of approximately 8 to 11 feet below ground surface, with an approximate auger diameter of 2 to 4 feet.

2.6.3.3 Tubular Steel Poles

The Project would install 50 TSPs, each having a dulled galvanized finish (gray). TSPs would range from 70 to 100 feet above ground surface with an approximate diameter of 2 to 4 feet. TSPs are installed on a concrete base 5 to 8 feet in diameter that may extend 2 to 4 feet above ground surface, and approximately 20 to 30 feet below ground. TSPs are used in areas of uneven terrain, turning points, long conductor spans, and other locations where extra structure strength is needed.

2.6.3.4 Relocation of Existing Distribution Facilities

In order to accommodate the proposed 66 kV subtransmission facilities, some of the existing 12 kV distribution facilities would need to be modified. The following modifications are based on preliminary engineering and the facilities as they currently exist in the field:

- ***Location 1*:** The removal of one existing distribution pole located near Sierra Avenue and SCE's existing transmission ROW. Existing distribution facilities would be transferred to a new proposed subtransmission pole at or near this location.

- ***Location 2*:** The removal of one existing distribution pole located near Citrus Avenue and SCE's existing transmission ROW. Existing distribution facilities would be transferred to a new proposed subtransmission pole at or near this location.

- ***Location 3*:** Existing 12 kV distribution facilities consisting of approximately 10 poles would be removed and re-located on the proposed LWS poles located at San Sevaine from the 210 Freeway to SCE's existing transmission ROW.

- ***Location 4*:** The removal of one existing distribution pole located near Victoria Avenue and SCE's existing transmission ROW. Existing distribution facilities would be transferred to a new proposed subtransmission pole at or near this

- ***Location 5*:** The relocation of an existing riser pole from the south west corner of the intersection of West Casmalia Street and Locust Avenue to the north side of the intersection.

- ***Location 6*:** Approximately 800 feet and 12 existing poles with distribution and other joint pole facilities would be placed underground near Foothill Boulevard and SCE's existing transmission ROW; however, this would be dependent upon ultimate street width and future street improvements.

2.6.4 Telecommunications Description

Electrical equipment at the Falcon Ridge Substation would be integrated into and monitored through SCE's existing telecommunications system. New telecommunications infrastructure would connect the Falcon Ridge Substation to both the Alder and Etiwanda Substations. The new telecommunication infrastructure would provide protective relaying, data transmission, and telephone services for the Falcon Ridge, Alder, and Etiwanda Substations.

The new telecommunications infrastructure would include additions and modifications to the existing system. One new fiber optic cable route would connect the Falcon Ridge Substation to the existing Alder Substation and one new fiber optic cable route would connect Falcon Ridge Substation to the existing Etiwanda Substation. Figure 2-2, *Proposed Project,* details the proposed fiber optic cable routes. Cable would be located within both overhead and underground facilities.

The proposed fiber optic cable routes are described as follows:

- The first fiber optic cable route would exit Alder Substation to the west. From inside the substation, originating at the MEER, cable would be placed in new underground duct bank for approximately 25 feet to the east, then continue north and west in new underground duct bank approximately 265 feet to a new manhole and continue approximately 10 feet to an existing subtransmission riser pole. Typical manhole dimensions are 4 feet long by 4 feet wide by 5 feet high. In an overhead position, the fiber optic cable would then continue approximately 13,850 feet along the new Alder 66 kV subtransmission source line route to a proposed subtransmission riser pole located near the south side of the Falcon Ridge Substation approximately 195 feet west of the Mango Avenue extension. The cable would transition to an underground position on a proposed subtransmission riser pole along the proposed Alder subtransmission source line route; there would be one new manhole located near the proposed subtransmission riser pole. The fiber optic cable would then continue north approximately 1,000 feet in a new underground duct bank to the MEER at the proposed Falcon Ridge Substation. The entire route is approximately 2.9 miles long.

- The second fiber optic cable route that would exit the Falcon Ridge Substation to the west. From inside the substation, originating at the MEER, cable would be placed in a new underground duct bank for approximately 1,000 feet to a new vault located near a proposed subtransmission riser pole at the southwest corner of the substation. There would be one new manhole near the proposed subtransmission riser pole at the southwest corner of the substation. The cable would rise on a proposed subtransmission riser pole located along the proposed Etiwanda Subtransmission Source Line Route. In an overhead position, the fiber optic route would then continue approximately 19,300 feet along the proposed Etiwanda subtransmission source line route to a proposed subtransmission riser pole along the north side of South Highland Avenue approximately 925 feet east of Cherry Avenue; at the intersection of South Highland Avenue and Cherry Avenue there would be three new manholes. The cable would drop on this proposed subtransmission riser pole along the proposed Etiwanda Subtransmission Source Line Route. The fiber optic cable would then

proceed west approximately 925 feet in a new underground duct bank to Cherry Avenue, turn south and continue approximately 325 feet in a new underground duct bank to SCE's existing transmission ROW where it would turn southwest and continue approximately 300 feet to a new vault located near a proposed subtransmission riser pole along SCE's existing transmission ROW approximately 350 feet west of Cherry Avenue. The cable would rise on a proposed subtransmission riser pole located along the proposed Etiwanda Subtransmission Source Line Route. The cable would transition underground on a proposed Etiwanda Subtransmission Source Line pole located approximately 500 feet south of Napa Street, where it would continue south in a new underground trench for approximately 200 feet and connect to the proposed Etiwanda Subtransmission Source Line underground trench. The cable would continue west underground in the proposed Etiwanda Subtransmission Source Line trench for approximately 1,300 feet to Etiwanda Substation. The cable would continue west approximately 1,000 feet in a new underground duct bank inside Etiwanda Substation to the MEER. Three manholes would be required for this section. The entire route would be approximately 8.5 miles long.

New communications equipment would be installed at the Falcon Ridge Substation within the proposed MEER.

Upgrades to existing optical communications equipment would occur at Etiwanda, Alder, and Randall Substations. All upgrades at the existing substations would occur within the existing MEER; therefore, no additional ground disturbance is associated with the proposed telecommunications work.

2.7 Rights-of-Way Requirements

The Falcon Ridge Substation would be constructed on an approximately 7.5-acre parcel of land owned by SCE. SCE would need to upgrade approximately 24 acres with a 30 foot wide strip of land located within the existing 250 foot wide ROW corridor which extends 7 miles along the SCE's existing transmission ROW. SCE would also utilize approximately 7.5 acres with a 30 foot wide strip of land located within the existing SCE fee owned 330 foot wide, 2 miles in length transmission ROW. Finally, SCE would need to acquire approximately 13 acres of new ROW for the subtransmission source lines and access roads. SCE would acquire a 30-foot-wide easement for the subtransmission source lines for a distance of approximately 3.6 miles.

2.8 Preconstruction Activities

2.8.1 Geotechnical Investigations

SCE conducted a geotechnical evaluation of the Falcon Ridge Substation site and the subtransmission source line segments in May 2010. The investigation report presents seismic design parameters which will be incorporated into the design of the Falcon Ridge Substation. The proposed subtransmission source line routes and the proposed telecommunication facilities would be designed to be consistent with CPUC General Order 95 to withstand seismic loading.

SCE would continue to conduct geotechnical investigations. The investigations would include an evaluation of the water table depth, evidence of faulting, liquefaction potential, physical properties of subsurface soils, soil resistivity, slope stability, and the presence of hazardous materials.

2.8.2 Environmental Surveys

SCE has conducted an initial biological evaluation and would conduct further focused environmental surveys after project approval, but prior to the start of construction. Surveys would identify and/or address any potential sensitive biological and cultural resources in the vicinity of the Project, including the subtransmission source line routes, telecommunications routes, wire stringing locations, access roads, and staging area(s). The locations of these Project components are described below. Where feasible, the information gathered from these surveys may be used to finalize project design in order to avoid sensitive resources, or to minimize the potential impact to sensitive resources from project-related activities. The results of these surveys would also determine the extent to which environmental specialist construction monitors would be required.

The following environmental surveys would occur prior to construction:

- Protocol level Delhi-sands flower loving fly surveys;
- Protocol level San Bernardino kangaroo rat surveys;
- Protocol level Burrowing Owl surveys;
- Protocol level California gnatcatcher surveys;
- Sensitive plant surveys;
- Plant community mapping and habitat assessment; and
- Los Angeles pocket mouse surveys.

2.8.3 Worker Environmental Awareness Training

A Worker Environmental Awareness Program (WEAP) would be developed based on the final engineered design, the results of pre-construction surveys, and a list of mitigation measures developed in this EIR to mitigate significant environmental effects from construction, operation and maintenance of the 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 resources protective measures and Project mitigation measures that are developed after the pre-construction surveys, all construction personnel would also receive the following:

- A list of phone numbers of SCE environmental specialist personnel associated with the Project (archaeologist, biologist, environmental compliance coordinator, and regional spill response coordinator);

- Instruction on the South Coast Air Quality Management District (SCAQMD) Fugitive Dust and Ozone Precursor Control Measures;

- Instruction on what typical cultural resources look like, and instruction that if discovered during construction, work is to be suspended in the vicinity of any find and the site foreman and archeologist or environmental compliance coordinator is to be contacted for further direction;

- Instruction on what typical biological resources look like, and instruction that if discovered during construction, work is to be suspended in the vicinity of any find and the site foreman and biologist or environmental compliance coordinator is to be contacted for further direction;

- Instruction on the 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 (MSDS) for the 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 (see Section 2.8.9.2, *Use, Storage, and Disposal or Hazardous Materials* for details);

- 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 Project.

2.8.4 Temporary Power for Construction

Prior to construction SCE would select a nearby 12 kV distribution circuit to serve as the temporary three phase power source during construction activities at the substation site. Wood poles installed for temporary power would be approximately 25 feet high and placed approximately 50 feet apart. It is estimated that 10 to 15 wood poles would extend from a nearby 12 kV distribution circuit to the substation construction site. Wood poles would be installed using a work truck with auger and placed at a depth of approximately 5 feet. Conductor would be strung from the nearby 12 kV distribution circuit and attached to the wood poles. Temporary power would be in place for the duration of construction at the Falcon Ridge Substation site.

2.9 Construction

This section describes construction methods that would be used to complete the various components of the Project, including: replacement of existing poles, installation of new subtransmission poles, substation site construction, and telecommunications installation. In addition, construction support activities, such as the establishment of one or more staging areas and the development of access roads extending to construction sites would be required. Equipment and workforce necessary for the construction of Project components are described as well.

Project construction would generally occur in the following manner:

- Falcon Ridge Substation Construction and Upgrades to Existing Substations

  - Site Preparation and Grading
  - Below-Grade Construction
  - Above-Grade Construction

- Overhead Subtransmission Source Lines Installation

  - Access Road and Site Preparation
  - Wood and LWS Pole Installation
  - TSP Installation
  - Guard Structure Installation
  - Conductor and Telecommunication Line Stringing
  - Existing Wood Pole Removal

- Underground Subtransmission Source Line Installation

  - Survey
  - Trenching
  - Duct Bank Installation
  - Vault Installation
  - Cable Pulling, Splicing, Termination
  - Transition Structure Construction

- Energizing Subtransmission Source Lines
- Telecommunications Construction
- Distribution Getaway and Relocation of Existing Distribution Facilities Construction
- Post Construction Cleanup and Landscaping

2.9.1 Access Roads

The subtransmission source line portion of the Project involves construction within existing and new ROW. Existing public roads, as well as existing transmission line roads, would be used as much as possible during construction of the Project. Transmission line roads are classified into two groups: access roads and stub roads. Access roads are through roads that run between structure sites along a ROW and serve as the main transportation route along transmission line ROW. Stub roads are generally much shorter and branch off of access roads and terminate at one or more structure sites.

Rehabilitation work may be necessary in some locations along the existing transmission line roads to accommodate construction activities. As required, these roads would be cleared of vegetation, blade-graded to remove potholes, ruts, and other surface irregularities, or re-compacted to provide a smooth and dense riding surface capable of supporting heavy construction equipment. The graded road would have a minimum drivable width of 14 feet with 2 feet of shoulder on each side but may be wider depending upon field conditions.

Portions of the new subtransmission source line segments would require new access roads. Up to 7 miles of new access road would need to be constructed resulting in a disturbance of approximately 11 acres. See Figure 2-2, *Proposed Project f*or proposed access road locations. The construction

activities described above associated with rehabilitation to existing roads would be the same for new access roads. Additionally, for new access roads, road gradients would be leveled so that any sustained grade does not exceed 12 percent. All curves would have a curvature radius of not less than 50 feet measured at the center line of the usable road surface. Roads typically would have turnaround areas near the structure locations.

For the Project, the following types and lengths of new roads would need to be constructed at the following locations:

- New stub roads, approximately 475 feet in length, would be constructed east of Etiwanda Avenue near the Etiwanda Substation to access the proposed 66 kV subtransmission structures. These roads would extend from existing SCE access roads.

- A new access road approximately 1,100 feet in length would be constructed between 6th Street and Napa Street extending east from Etiwanda Avenue and follow the 66 kV subtransmission line to Napa Street within SCE's existing transmission ROW.

- A new access road approximately 700 feet in length would be constructed extending from Napa Street east of Etiwanda Avenue.

- A new access road approximately 425 feet in length would be constructed south of Whittram Avenue extending east from Etiwanda Avenue.

- Approximately 1,400 feet of new stub roads in length would be constructed north of Arrow Route. Access would be provided via an existing concrete driveway located east of Etiwanda Avenue along Arrow Route. The stub roads would extend from existing access roads.

- A new access road approximately 2,025 feet in length would be constructed along the 66 kV subtransmission structures from Foothill Avenue to East Avenue.

- A new access road approximately 500 feet in length would be constructed within SCE's existing transmission ROW east of the San Bernardino County Flood Control Channel to provide access for the 66 kV subtransmission structures. This road would extend from an existing SCE access road accessed via Heritage Parkway.

- A new access road approximately 850 feet in length would be constructed within SCE's existing transmission ROW northeast from Del Norte Street to provide access for the 66 kV subtransmission structures. This road would extend from an existing access point along Del Norte Street east of Wake Court.

- A new access road approximately 2,000 feet in length would be constructed from Victoria Street to the southwest along the 66 kV subtransmission structures.

- A new access road approximately 1,800 feet in length would be constructed from Victoria Street to the Northeast along the 66 kV subtransmission structures and within SCE's existing transmission ROW to Cherry Avenue. Another access road would proceed within SCE's existing transmission ROW from Cherry Avenue to South Highland Avenue approximately 250 feet in length.

- A new access road approximately 2,500 feet in length would be constructed north of South Highland Avenue from an existing SCE access road east to San Sevaine Road.

- A new access road approximately 4,000 feet in length would be constructed within SCE's existing transmission ROW from an existing SCE access road at San Sevaine Road to provide access for the 66 kV subtransmission structures.

- A new access road approximately 1,500 feet in length would be constructed within SCE's existing transmission ROW from an existing access road at Beech Avenue to the northeast The road would run along the 66 kV subtransmission structures.

- A new access road approximately 1,200 feet in length would be constructed within SCE's existing transmission ROW from an existing access road from Lytle Creek Road to provide access to the 66 kV subtransmission structures running east of the 500 kV transmission line. The area within Sports Park Lawn would be a typical unpaved SCE access road.

- A new access road approximately 250 feet in length would be constructed from the existing access road along SCE's existing transmission ROW from Knox Avenue heading west to provide access to the 66 kV subtransmission line structures. These stub roads would be perpendicular to the existing access road.

- New stub roads, approximately 1,000 feet in length would be constructed from the existing access road along SCE's existing transmission ROW from Parkside Way heading west to provide access to the 66 kV subtransmission line structures. These stub roads would be perpendicular to the existing access road.

- A new access road approximately 2,500 feet in length would be constructed within SCE's existing transmission ROW from an existing access road from Parkside Way to Citrus Avenue to provide access to the 66 kV subtransmission structures running south of the existing 500kV transmission line.

- A new access road approximately 5,000 feet in length would be constructed from Citrus Avenue to Sierra Avenue to provide access to the 66 kV subtransmission structures running south of the existing 500kV transmission line.

- A new 24-foot wide paved access road accessed via a concrete driveway along Sierra Avenue would be utilized for both substation and subtransmission line access. It is described in Section 3.1.1 Falcon Ridge Substation Description, subsection Substation Access. New 14-foot stub roads extending from this paved access road would be constructed in order to provide access to any subtransmission structures between Sierra Avenue and Mango Avenue ROW. These stub roads would be approximately 1,100 feet in length.

- A new access road would extend to Summit Avenue behind the westerly future curb along Mango Avenue to provide access to the subtransmission structures. From the Summit Avenue intersection another access road would extend south along the Mango Avenue ROW approximately 2,700 feet to Bohnert Avenue. The access road would continue south from Bohnert Avenue along the Mango Avenue ROW for approximately 1,500 feet. The access road would then curve southwest for approximately 400 feet and intersect West Casmalia Street perpendicularly where a concrete driveway would be installed for access.

- A concrete driveway would be provided for all access roads extending from major roads.

- Any excess excavated material from grading the access roads would be properly disposed of at an approved facility in accordance with all applicable laws.

2.9.2 Staging Area/Laydown Areas

Construction staging for the Project would require temporary staging areas. The following locations are expected to be used as staging areas for the Project: south of Foothill Boulevard at Pepper Avenue, Rialto; the Etiwanda Substation; the Falcon Ridge Substation; northwest corner of Etiwanda Avenue at Foothill Boulevard; northeast corner of South Highland Avenue at San Sevaine Road; and the Foothill Service Center (see **Figure 2-6**, *Potential Staging Area Locations*). The potential staging area locations offer up to 5 acres of space. One staging area, located adjacent to the proposed Falcon Ridge Substation, would be an undisturbed site (**Table 2-2**). Staging areas would be used as a reporting location for workers, vehicle and equipment parking and material storage. Preparation of the marshalling yards would include the application of road base or crushed rock, depending on existing ground conditions, and installation of perimeter fencing. Land disturbed at the marshalling yard would be restored to preconstruction conditions or the landowner's requirements following completion of construction for the Project.

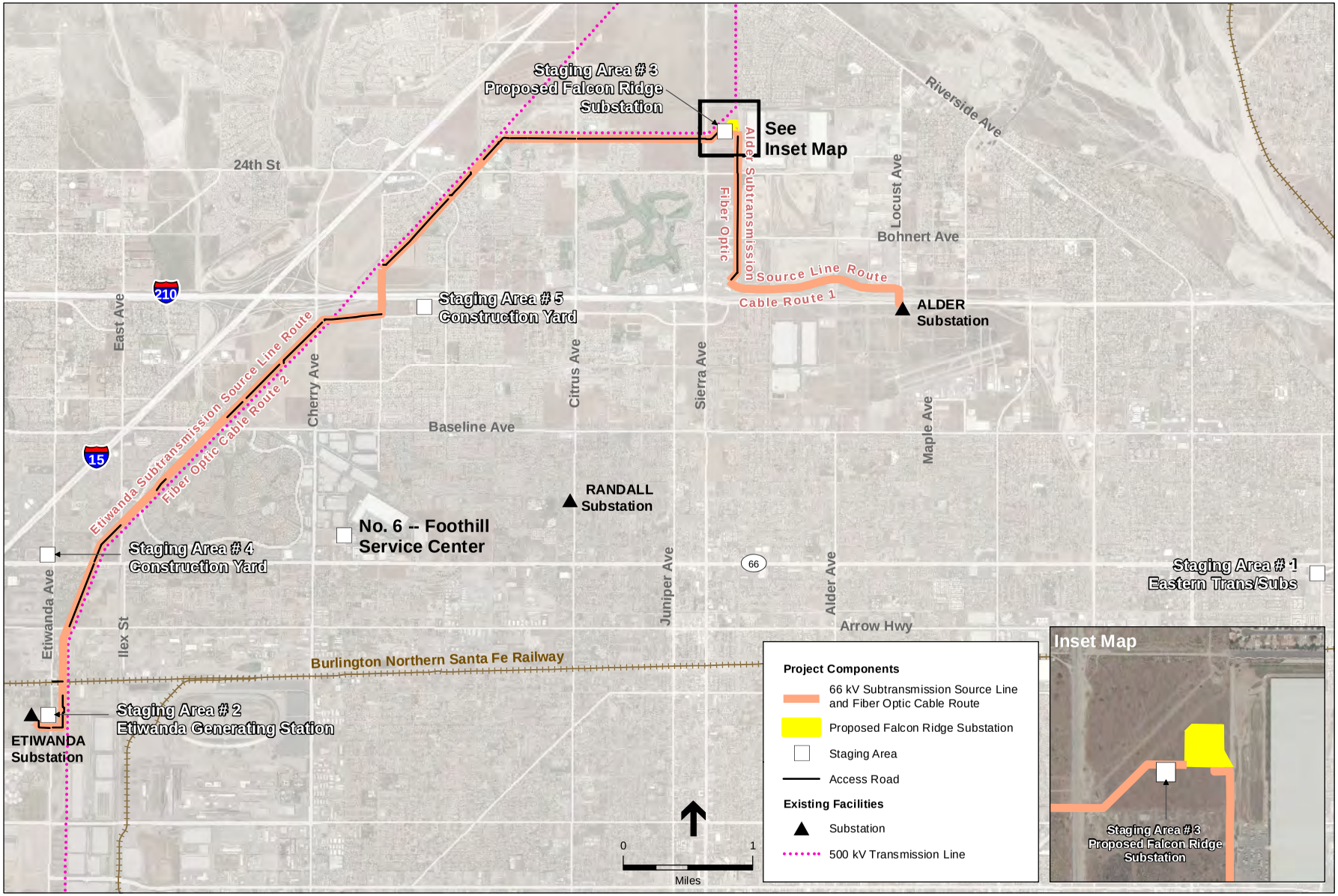
TABLE 2-2
POTENTIAL STAGING AREA LOCATIONS

Name	Location	Condition	Approximate Area	Project Component
No. 1	South of Foothill Boulevard at Pepper Avenue, Rialto	Previously Disturbed	0.5 acre	Subtransmission
No. 2	Etiwanda Substation, Rancho Cucamonga	Previously Disturbed	3 acres	Subtransmission/ Telecommunications
No. 3	Proposed Falcon Ridge Substation, Fontana	Undisturbed	2 acres	Substation
No. 4	Northwest corner of Etiwanda Avenue at Foothill Boulevard, Rancho Cucamonga	Previously Disturbed	4 acres	Subtransmission
No. 5	Northeast corner of South Highland Avenue at San Sevaine Road, Fontana	Previously Disturbed	5 acres	Subtransmission
No. 6	Foothill Service Center, Fontana	Previously Disturbed	0.5 acre	Telecommunications

SOURCE: SCE, 2010a

Materials and equipment typically staged at the Falcon Ridge Substation staging area would include, but not be limited to, portable sanitation facilities, electrical equipment such as circuit breakers, disconnect switches, lightning arresters, transformers, capacitor banks, reactor banks, and vacuum switches, steel beams, rebar, foundation cages, conduit and grounding, insulators, conductor and cable reels, pull boxes, and line hardware.

Materials commonly stored at the subtransmission construction staging area would include, but not be limited to, construction trailers, construction equipment, portable sanitation facilities, steel/wood poles, conductor/cable reels, overhead ground wire (OHGW) reels, hardware, insulators, cross arms signage, consumables (such as fuel and filler compound), waste materials



SOURCE: SCE, 2011

Falcon Ridge Substation Project . 207584.09

Figure 2-6

Potential Staging Area Locations

for salvaging, recycling, or disposal, and BMP materials (straw wattles, gravel, and silt fences). Fuel stored at the site is generally used for small engine generators for power tool usage and is usually less than 25 gallons. A majority of materials associated with the construction efforts would be delivered by truck to designated staging areas, while some materials may be delivered directly to the structure locations. Delivery of materials and equipment by truck would occur during off-peak commute hours.

Laydown areas serve as temporary working areas for crews and where Project-related equipment and/or materials are placed at or near each structure location, and would be located within the SCE ROW. Seven laydown areas would be required between the sizes of 3,750 square feet (75 feet by 50 feet) and 40,000 square feet (400 feet by 100 feet) (**Table 2-3**).

TABLE 2-3
APPROXIMATE LAYDOWN AREA DIMENSIONS

Laydown Area Feature	Preferred Size (L x W)
Guard Structures	75' x 50'
TSPs	200' x 100'
LWS Poles	150' x 75'
Wood Guy Poles	150' x 75'
Underground Vaults	175' x 100'
Stringing Setup Area Puller	300' x 100'
Stringing Setup Area Tensioner	400' x 100'

2.9.3 Construction of the Falcon Ridge Substation

2.9.3.1 Substation Site Preparation and Grading

The Falcon Ridge Substation site would be prepared by clearing existing vegetation within its boundaries. Existing vegetation would be graded down 2 to 3 inches to remove all roots of the vegetation by a skip loader (small tractor) or a motor grader (earth moving tractor). Once vegetation clearance is completed, the site would be graded in accordance with approved grading plans and geotechnical recommendations, and a temporary chain link fence would be installed around the perimeter. **Table 2-4** includes the materials and volume for ground improvement and distribution getaways.

2.9.3.2 Below-Grade Construction

After the Falcon Ridge Substation site is graded, below-grade facilities would be installed. Below-grade facilities include a ground grid, cable trenches, equipment foundations, conduits, duct banks, distribution getaways, utilities, potential water quality management system, and footings for the substation perimeter wall. The design of the ground grid would be based on soil resistivity measurements collected during the geotechnical investigation.

TABLE 2-4
MATERIALS AND VOLUMES FOR
SUBSTATION GROUND IMPROVEMENT AND DISTRIBUTION GETAWAYS

Element	Material	Approximate Surface Area (ft^2)	Approximate Volume (yd^3)
Falcon Ridge Substation			
Site Cut	Soil	120,000	10,000
Site Fill	Soil	120,000	13,000
Import	Soil	120,000	5,000
Waste Removal (export)	Soil/Vegetation	120,000	2,000
Substation Equipment Foundations	Concrete	2,000	180
Cable Trenches	Concrete	1,900	15
66 kV Bus Enclosures	Asphalt Concrete	5,000	60
Internal Driveway	Asphalt Concrete	8,600	105
	Class II Aggregate Base	8,600	160
External Driveway	Asphalt Concrete	24,000	300
	Class II Aggregate Base	24,000	450
Substation Rock Surfacing	Rock, nominal 1 to 1½ inch per SCE standard	100,000	1,230
Block Wall Foundation	Concrete	4,620	260
Distribution Getaway/Vaults	Soil	10,200	470
Distribution Duct Banks	Soil	99,100	865

SOURCE: SCE, 2011

2.9.3.3 Above-Grade Construction

After the below-grade structures are installed, above-grade equipment (e.g., buses, capacitors, switchracks, disconnect switches, circuit breakers, transformers, steel support structures, perimeter wall, restroom facilities, and the MEER) would be installed.

2.9.4 Subtransmission 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: pole installation, conductor and telecommunication line stringing, transfer of existing distribution and telecommunication lines to new poles, removal of existing wood poles, and subtransmission source line energizing.

2.9.4.1 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 and capable of supporting heavy vehicles.

Wood and Light Weight Steel Poles

The Project would require the installation of approximately 6 wood and 244 LWS poles. Wood poles would be installed directly into the soil within bored holes that would be approximately 1 to 2 feet in diameter and 8 to 10 feet deep. LWS poles would be installed into bored holes that would be approximately 2 to 3 feet in diameter and 8 to 11 feet deep. Each pole hole would be drilled to individual pole specifications as required. Due to site-specific conditions, a backhoe could be used to dig the pole holes as well. Once the poles are set in place, excavated materials would be used to backfill the hole. If the excavated materials are not suitable for backfill, imported fill material, such as clean fill or crushed rock, would be used. Excess excavated materials would be distributed at each pole site, used as backfill for the holes left after removal of nearby poles (if any), or disposed of off-site in accordance with all applicable laws.

Wood poles are single units while LWS poles consist of separate base and top sections. Poles would be hauled from a material yard to the structure site and, where feasible, a line truck would then unload the individual poles on the ground in the temporary laydown area at or near pole locations. While on the ground, the poles could be configured with the necessary cross arms, insulators, and wire-stringing hardware before being set in place.

A line truck with an attached boom would be used to set the poles into previously prepared holes. For LWS poles, after the base section is secured, the top section would be placed onto the base section and the two sections would be bolted together. The two sections may also be spot welded together for additional stability. The pole sections could also be assembled into a complete structure and set by jacking both sections together while on the ground, but this would depend largely on the terrain and available equipment.

Tubular Steel Poles

The Project would require the installation of approximately 50 TSPs. TSP installation would be conducted in two phases: foundation installation and structure assembly/erection. Each TSP location would require a temporary laydown area that could be cleared and/or graded to provide a reasonably level surface free of vegetation for footing construction, assembly, and erection of the TSPs. If existing terrain around the structure is not suitable to support crane activities, a temporary crane pad would be constructed within the laydown area.

Construction of each TSP would require a single drilled, poured-in-place concrete footing that would form the structure foundation. The foundation process would start by drilling the hole for each structure using a truck or track-mounted excavators with various diameter augers to match

the diameter requirements of the structure. Actual footing diameters and depths for each of the structure foundations would depend on the soil conditions and topography at each site and would be determined during final engineering. Due to site-specific conditions, a backhoe could be used to dig the pole holes as well. The excavated material would be distributed at each structure site, used to backfill excavations from the removal of nearby structures (if any), or used in the rehabilitation of existing access roads. Alternatively, the excavated soil may be disposed of at an approved disposal facility in accordance with all applicable laws.

Following excavation of the foundation footing, a steel reinforced rebar cage would be set, anchor bolts would be positioned, survey verified, and concrete would then be poured. Steel reinforced rebar cages would be assembled off-site and delivered to each structure location by flatbed truck. Typically TSP structures would require approximately 25 to 40 cubic yards of concrete delivered to each structure location. TSP footings in residential areas could project approximately 0 to 2 feet above ground level. In uninhabited areas, TSP footings could project approximately 1 to 4 feet above ground level.

In the event that the foundations would be placed in soft or loose soil and that extend below the groundwater level, the foundations may be stabilized with drilling mud slurry. Mud slurry would be placed in the hole after drilling to prevent the sidewalls from sloughing. The concrete for the foundation would then be pumped to the bottom of the hole, displacing the mud slurry. The mud slurry brought to the surface would typically be collected in a pit adjacent to the foundation, and then pumped out of the pit to be reused or discarded at an approved disposal facility.

During construction, existing concrete supply facilities would be used where feasible. Concrete samples would be drawn at time of pour and tested to ensure engineered strengths were achieved. A normally specified SCE concrete mix typically takes approximately 20 working days to cure to an engineered strength. This strength is verified by controlled testing of sampled concrete. Once this strength has been achieved, crews would be permitted to commence erection of the structure.

TSPs consist of a separate base and top section. TSP sections would be hauled from a staging area to the structure site and, where feasible, a crane would unload the individual pole sections on the ground within the designated laydown area. While on the ground, the top section would be configured with the necessary cross arms, insulators, and wire stringing hardware before being set in place.

A crane would be set up approximately 60 feet from the centerline of each structure to set each base section on top of previously prepared foundations. When the base section is secured, the top section of the TSP would be set into place onto the base section and the two sections would be bolted together. The two sections may also be spot welded together for additional stability.

2.9.4.2 Underground Subtransmission Source Line Installation

The following sections describe the construction activities associated with installing the underground 66 kV subtransmission lines for the Project.

Trenching

The Project includes a total of approximately 1,800 feet of new underground 66 kV subtransmission lines and associated transition and support structures. A 20-inch wide by 60-inch deep trench would be required to place the 66 kV subtransmission line underground. This depth is required to meet the minimum 36 inches of cover above the duct bank. Trenching may be performed by using the following general steps, including but not limited to: mark the location and applicable underground utilities, lay out trench line, saw cut asphalt or concrete pavement as necessary, dig to appropriate depth with a backhoe or similar equipment, and install duct bank. Once the duct bank has been installed, the trench would be backfilled with a two-sack sand slurry mix. Excavated materials (approximately 600 cubic yards) would be disposed of at an approved disposal facility in accordance with all applicable laws. Should groundwater be encountered, it would be pumped into a tank and disposed of at an approved disposal facility.

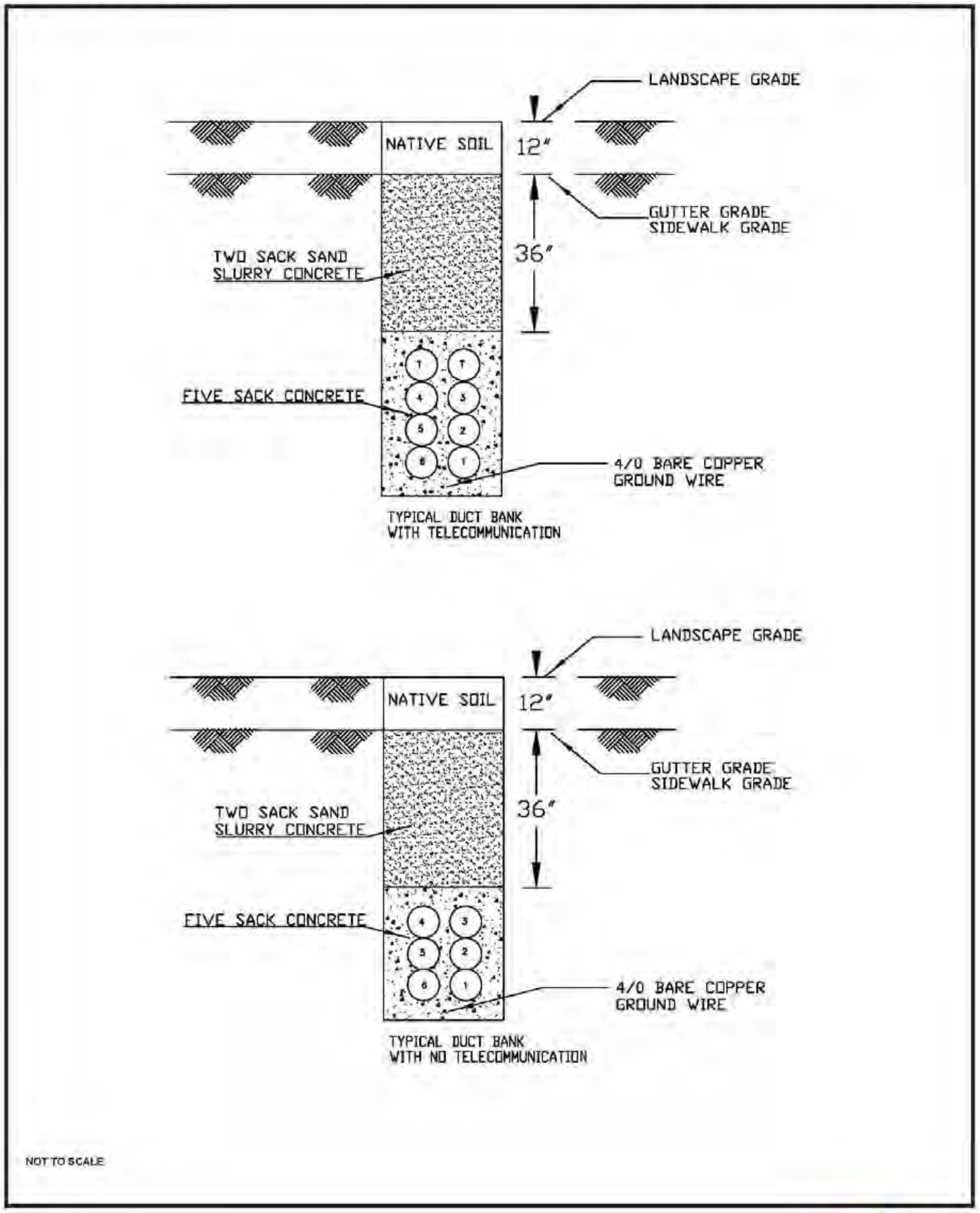
The trench for underground construction would be widened and shored where appropriate to meet California Occupation and Safety Health Administration (Cal OSHA) requirements. Trenching would be staged so that open trench lengths would not exceed that which is required to install the duct banks. Where needed, open trench sections would have steel plates placed over them in order to maintain vehicular and pedestrian traffic. Provisions for emergency vehicle access would be arranged with local jurisdictions in advance of construction activities.

Duct Bank Installation

As trenching for the underground 66 kV subtransmission line is completed, SCE would begin to install the underground duct bank. Collectively, the duct bank is comprised of cable conduit, spacers, ground wire, and concrete encasement. The duct bank typically consists of six five-inch diameter polyvinyl chloride (PVC) conduits fully encased with a minimum of 3 inches of concrete all around. Typical 66 kV subtransmission duct bank installations would accommodate six cables. The Project would utilize three cable conduits and leave three spare cable conduits for any potential future circuit pursuant to SCE's current standards for 66 kV underground construction. See **Figure 2-7**, *Typical Subtransmission Duct Bank*.

The majority of the 66 kV duct banks would be installed in a vertically stacked configuration. Each duct bank would be approximately 21 inches high by 20 inches wide.

In instances where a subtransmission duct bank would cross or run parallel to other substructures that operate at normal soil temperature (i.e., gas lines, telephone lines, water mains, storm drains, sewer lines), a minimal radial clearance of 6 inches for crossing and 12 inches for paralleling these substructures would be required, respectively. Where duct banks cross or run parallel to substructures that operate at temperatures significantly exceeding normal soil temperature (i.e., other underground transmission circuits, primary distribution cables, steam lines, heated oil lines), additional radial clearance may be required. Clearances and depths would meet requirements set forth within Rule 41.4 of CPUC General Order 128.



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SOURCE: SCE, 2011

Figure 2-7
Typical Subtransmission Duct Bank

Vault Installation

Vaults are below-grade concrete enclosures where the duct banks terminate. The vaults are constructed of prefabricated steel-reinforced concrete and designed to withstand heavy truck traffic loading. The inside dimensions of the underground vaults would be approximately 20 feet long by 10 feet wide by 9.5 feet high. The vaults would be placed approximately 200 to 1,000 feet apart along the underground segments of the subtransmission source line.

Initially, the vaults would be used as pulling locations to pull cable through the conduits. After the cable is installed, the vaults would be utilized to splice the cables together. During operation, the vaults would provide access to the underground cables for maintenance, inspections, and repairs.

Installation of each vault would typically take place over a 1 week period depending on soil conditions. First, the vault pit would be excavated and shored, a minimum of 6 inches of mechanically compacted aggregate base would be placed to cover the entire bottom of the pit, followed by delivery and installation of the vault. Once the vault is set, grade rings and the vault casting would be added and set to match the existing grade. The excavated area would be backfilled with a sand slurry mix to a point just below the top of the vault roof. Excavated materials, if suitable, would be used to backfill the remainder of the excavation and any excess spoils would be disposed of at an approved disposal facility in accordance with all applicable laws. Finally, the excavated area would be restored as required. See **Figure 2-8**, *Typical Subtransmission Vault*.

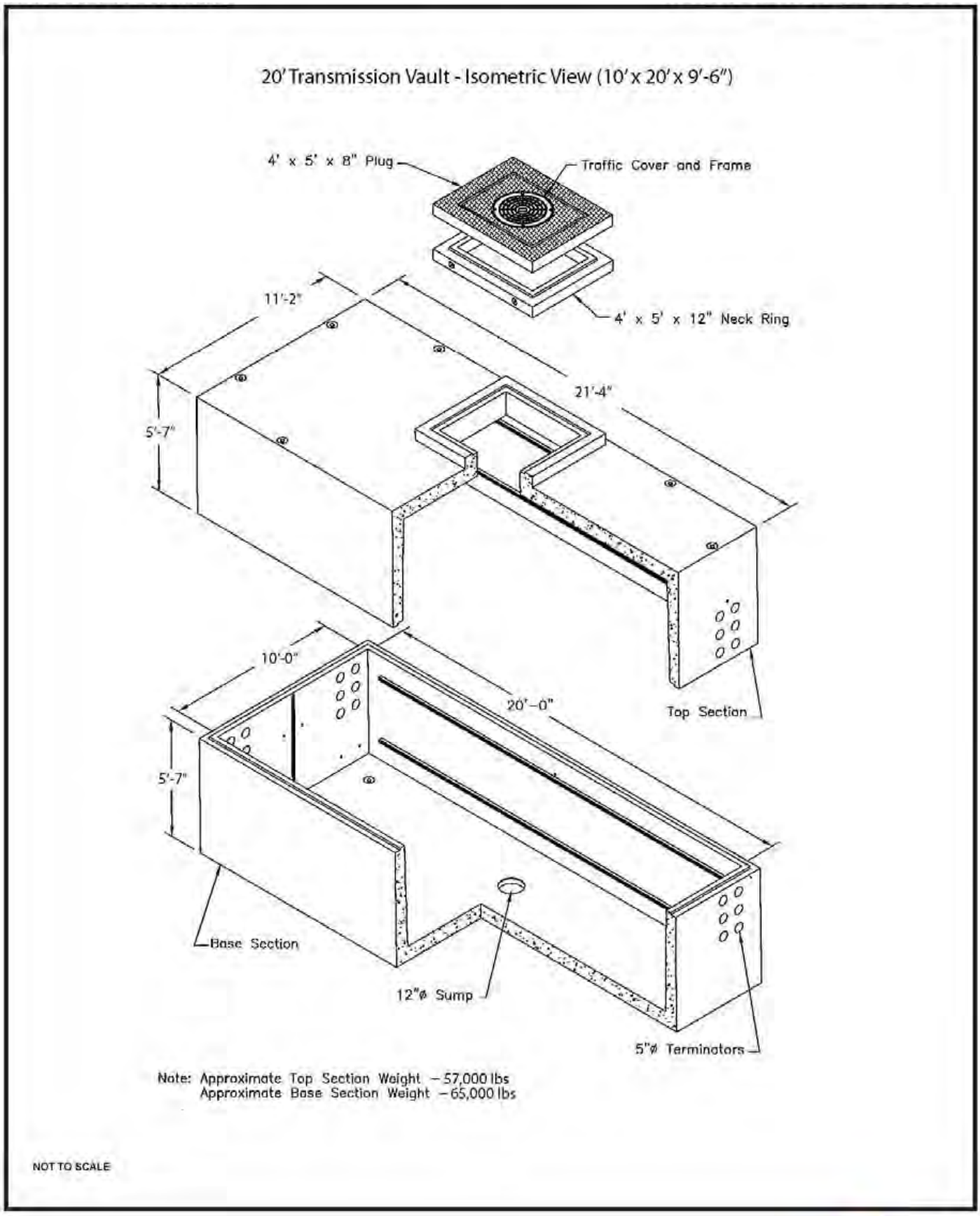
Cable Pulling, Splicing, and Termination

Following vault and duct bank installation, SCE would pull the electrical cables through the duct banks, splice the cable segments at each vault, and terminate cables at the transition structures where the subtransmission line would transition from underground to overhead. To pull the cables through the duct banks, a cable reel would be placed at one end of the conduit segment, and a pulling rig would be placed at the opposite end. The cable from the cable reel would be attached to a rope in the duct bank, and the rope linked to the pulling rig, which would pull the rope and the attached cable through the duct banks. A lubricant would be applied as the cable enters the ducts to decrease friction and facilitate travel through the PVC conduits. The electrical cables for the 66 kV subtransmission line circuit would be pulled through the individual conduits in the duct bank at a rate of two to three segments between vaults per day.

After cable pulling is completed, the electrical cables would be spliced together. A splice crew would conduct splicing operations at each vault location and continue until all splicing is completed.

Transition Structure Construction

At each end of an underground segment, the cables would rise out of the ground at transition structures, which accommodate the transition from underground to overhead subtransmission lines. Transition structures constructed as part of the Project would consist of engineered TSP



SOURCE: SCE, 2011

Falcon Ridge Substation Project . 207584.09

Figure 2-8
Typical Subtransmission Vault

structures. The transition structure would support cable terminations, lightning arresters, and dead-end hardware for overhead conductors. Construction methods for these structures would be substantially similar to those described in Section 2.8.4.1, *Pole Installation*.

2.9.5 Guard Structures

Guard structures are temporary facilities that would typically be installed at transportation, flood control and utility crossings. These structures are designed to stop the movement of a conductor should it momentarily drop below a conventional stringing height. Typical guard structures are standard wood poles 60 to 80 feet tall, however temporary netting could be installed to protect some types of under-built infrastructure or specifically equipped boom type trucks with heavy outriggers may be used. Typically two to four guard poles are installed on either side of a crossing to prevent the conductor from dropping. SCE estimates 56 guard structures would be required to construct the Project.

2.9.6 Conductor/Wire Stringing

Safety devices such as traveling grounds, guard structures, and radio-equipped public safety vehicles would be utilized during conductor stringing activities.

Conductor stringing includes all activities associated with the installation of the wire onto the wood poles, LWS poles, and TSPs. Conductors would be installed on the 115 kV polymer insulator assemblies attached directly to the pole or attached to each cross arm. These activities typically include the installation of primary conductors, vibration dampeners, weights, and post, suspension and dead-end hardware assemblies for the entire length of the subtransmission line routes. Insulators and stringing sheaves (rollers or travelers) are also attached as part of the conductor installation efforts during conductor stringing activities.

Each stringing operation consists of a puller set-up positioned at one end and a tensioner set-up with wire reel stand truck positioned at the other end. Pulling and wire tensioning locations may also be utilized for splicing and field snubbing of the conductors. Splicing set-up locations are used to remove temporary pulling splices and install permanent splices once the conductor is strung through the rollers located on each structure. Temporary splices are necessary since permanent splices that join the conductor together cannot travel through the rollers. Field snubs (i.e., anchoring and dead-end hardware) would be temporarily installed to sag conductor wire to the correct tension at locations where stringing equipment cannot be positioned in back of a dead-end structure.

The puller, tensioner, and splicing set-up locations associated with the Project would be temporary and the land would be restored to its pre-construction condition following completion of pulling and splicing activities. Figure 2-2 illustrates the anticipated pull and tension sites based on current preliminary design. The following five steps describe typical wire-stringing activities:

- ***Step 1*:** Determine the locations of wire pulls and wire-pull equipment set-up positions.
- ***Step 2*:** Sock Line, Threading: A bucket truck/manlift would be used to install a lightweight sock line. The sock line would be threaded through the wire rollers in order to engage a

camlock device that would secure the pulling sock in the roller. This threading process would continue between all structures through the rollers of a particular set of spans selected for a wire pull.

- ***Step 3*:** Pulling: The sock line would be used to pull in the wire-pulling rope. The wire-pulling rope would be attached to the conductor using a swivel joint to prevent damage to the conductor and to allow the conductor to rotate freely to prevent complications from twisting as the conductor unwinds off the reel.

- ***Step 4*:** Splicing, Sagging, and Dead-ending: After the conductor is pulled in, any required mid-span splicing would be performed. Once the splicing has been completed, the conductor would be sagged to proper tension and dead-ended to structures.

- ***Step 5*:** Clipping-in: After the wire is dead-ended, the wire would be attached to all tangent structures.

Wire pulls are the length of any given continuous wire installation process between two selected points along the line. Wire pulls are selected based on availability of dead-end structures, geometry of the line as affected by points of inflection, terrain, and suitability of stringing and splicing equipment set-up locations. Typically, wire pulls are located approximately every 6,000 to 8,000 feet in flat terrain or less in rugged terrain. Generally, pulling locations and equipment set-ups would be in direct line with the direction of the overhead conductors and established approximately a distance of three times the height away from the adjacent structure. Final pulling sites would be determined during final engineering. The dimensions of the area needed for the wire stringing set-ups associated with wire installation are variable and depend upon terrain. These activities generally require an area of approximately 50 feet wide by 100 feet in length.

2.9.7 Telecommunication Installation

The fiber optic system construction would include the installation of overhead facilities, underground facilities, and new or upgraded telecommunications equipment.

Overhead telecommunications facilities would be installed by attaching cable to structures in a manner similar to that described above for wire stringing (Section 2.8.6). Figure 2-2 provides locations for proposed pull and tension sites for the overhead portions of the telecommunications route. Final pulling sites would be determined during final engineering.

Underground telecommunication facilities would be installed in new duct banks. The new duct banks would be installed by backhoe-excavated trench approximately 12 inches wide and 36 inches deep. Five-inch PVC conduit would be placed in the open trench, encased with slurry, covered with back-fill material, and then compacted. Each underground section (maximum 1,000 feet) would have a manhole installed at each terminus and the cable from one section would be spliced to the fiber strands from the next section.

Typical excavation would encompass construction of a trench approximately 12 inches wide and 36 inches deep. The ground disturbance area for the trenching would be approximately 15 feet wide by the specific length of the excavation. The ground disturbance area for the manhole

installation is approximately 50 feet long by 40 feet wide. The disturbance is due to activities associated with the conduit and structure installation and concrete encasement. Construction activities would typically include the use of a backhoe, dump trucks, crew trucks, and concrete trucks. The trench would be backfilled with slurry and soil. Excess soil would be hauled to an approved disposal facility in accordance will all applicable laws.

2.9.8 Removal of Existing Poles

The existing subtransmission lines, distribution lines (where applicable), and telecommunication lines (where applicable) and the associated hardware would be transferred to the new poles. All remaining subtransmission, distribution and telecommunication lines that are not reused by SCE would be removed and delivered to a facility for recycling. Depending on the type, condition and original chemical treatment, the wood poles removed could be reused by SCE for other purposes, disposed of in a Class I hazardous waste landfill, or disposed of in the lined portion of a Regional Water Quality Control Board (RWQCB) certified municipal landfill.

Each structure would require a line truck or rough terrain crane to support the structure during dismantle and removal. If the existing terrain is not suitable to support crane activities, a temporary 50 feet by 50 feet (0.06 acres) crane pad would be constructed within the laydown area. The existing poles would be completely removed and structure footings, if any, would be removed to a depth of approximately two feet below ground level. Holes would be backfilled with excavated material, compacted, and the area would be smoothed to match surrounding grade.

2.9.9 Energizing Subtransmission Source Lines

The existing Etiwanda-Alder-Randall 66 kV subtransmission line would be de-energized in order to install three TSPs and reconfigure three existing poles to allow for a double circuit configuration. The existing Etiwanda-Declez #1 66 kV subtransmission line and the Etiwanda-Randall 66 kV subtransmission line would be de-energized to install one TSP in order to accommodate a perpendicular cross-over of one of the proposed 66 kV subtransmission source lines. To reduce the need for electric service outages, deenergizing and reconnecting the existing subtransmission lines to the new poles may occur at night when electrical demand is low. Once the work referenced above to the existing subtransmission lines is complete, the existing subtransmission lines would be returned to service (re-energized).

2.9.9.1 Distribution Getaway and Relocation of Existing Distribution Facilities

Construction of the three distribution getaways would include construction activities in both unpaved and paved areas as described below:

- Getaway 1 would exit west from the Falcon Ridge Substation and include approximately 1,120 feet of construction within unpaved areas as well as approximately 10 feet within the existing paved Sierra Avenue. It would include one vault located approximately 600 feet from the Falcon Ridge Substation and it would terminate in a second vault located within Sierra Avenue.

- Getaway 2 would exit west from the Falcon Ridge Substation and include approximately 1,235 feet of construction entirely within unpaved areas. It would include one vault located approximately 600 feet from the Falcon Ridge Substation and it would terminate by being capped for future use.

- Getaway 3 would exit north from the Falcon Ridge Substation and include approximately 740 feet of construction entirely within unpaved areas. It would have one vault located approximately 200 feet from the substation and terminate in a second vault located within the future Casa Grande Avenue.

Typical excavation in unpaved areas would encompass construction of a trench approximately 20 inches wide and 54 inches deep. The ground disturbance area for the trenching would be approximately 30 feet wide by the specific length of the excavation. The ground disturbance area for the vault installation would be approximately 40 feet wide by 50 feet long. The disturbance is due to activities associated with the conduit and structure installation and concrete encasement. Construction activities would typically include the use of a backhoe, dump trucks, crew trucks, and concrete trucks. Soil excavated would be used to refill the trench and area surrounding the vaults with excess soil trucked to an approved disposal facility in accordance with all applicable laws.

Typically excavation in paved streets would encompass construction of a trench approximately 20 inches wide by 54 inches deep. The ground disturbance area for the trenching would be approximately 20 inches wide by the specific length of the excavation. The ground disturbance area for the vault installation is approximately 10 feet wide by 20 feet long. The disturbance is due to activities associated with the conduit and structure installation and concrete encasement. Construction activities would typically include the use of a backhoe, dump trucks, crew trucks, and concrete trucks. Soil excavated would be used to refill the trench and area surrounding the vaults with excess soil trucked to an approved disposal facility.

For the relocation of existing distribution facilities as described in Section 2.5.3.4, the following would occur:

- For those portions of the subtransmission route where existing distribution facilities would be relocated to new subtransmission poles, access to the site would be via the existing paved streets. Removal of these poles is further described in Section 2.8.8, *Removal of Existing Poles.*

- Approximately 800 feet of existing overhead distribution facilities is anticipated to be placed underground in an unpaved area along the north side of Foothill Boulevard. The trench would be approximately 800 feet long, 20 inches wide and 54 inches deep. The ground disturbance area for the trenching would be approximately 15 feet wide by 800 feet long. There would be approximately 22,000 square feet of ground disturbance for the trench and required equipment laydown area. Construction activities would typically include the use of a backhoe, dump trucks, crew trucks, and concrete trucks. Excavated soils would be used to refill the trench and area surrounding the vaults with excess soil trucked to an approved disposal facility. Once the underground infrastructure is in place, the crews would install cable in the conduits, energize and then remove the existing poles as described in Section 2.8.8, *Removal of Existing Poles.*

- For the relocation of an existing distribution riser pole (i.e., pole where the transition from underground to overhead occurs) at the intersection of West Casmalia Street and Locust Avenue, there would be approximately 100 square feet of ground disturbance. Excavation of the street would occur to intercept an existing empty conduit and then extend it to a new proposed riser pole located nearby. Construction activities would typically include the use of a backhoe, dump trucks, crew trucks, and concrete trucks. Soil excavated would be used to refill the trench with excess soil trucked to an approved disposal facility. Once the underground infrastructure is in place, the crews would install cable in the conduit to the new riser pole. After the new cable is installed and energized the existing pole would be removed as explained in Section 2.8.8, *Removal of Existing Poles*.

2.9.10 Land Disturbance

Land disturbance for the Project would include surface modifications for the installation of access roads, 66 kV subtransmission lines, telecommunication lines, and the Falcon Ridge Substation. It is estimated that the total permanent land disturbance for the Project would be 27.26 acres. The estimated amount of land disturbance for each project component is summarized below in **Table 2-5**.

2.9.11 Site Cleanup and Waste Disposal

SCE would restore all areas that are temporarily disturbed by the Project activities once construction is complete. Restoration areas could be inclusive of, but not limited to, some access roads, material staging areas, pull tension, and splicing sites, and pull box locations. Any land that may be disturbed would be restored to the extent practicable to preconstruction conditions following the completion of construction for the Project. All construction materials and debris would be removed from the Project site and recycled or properly disposed of off-site.

2.9.12 Storm Water Pollution Prevention Plan

Construction of the Project would disturb a surface area greater than 1 acre; therefore, SCE would be required to obtain coverage under the Statewide Construction General Permit (Order No. 2009-0009-DWQ) from the Santa Ana RWQCB. To obtain coverage under this permit, SCE would prepare a SWPPP inclusive of project information, design features, monitoring and reporting procedures, as well as BMPs. Commonly used BMPs are stormwater runoff quality control measures (boundary protection), dewatering procedures, spill reporting, and concrete waste management. The SWPPP would be based on final engineering design and would include all project components.

2.9.13 Hazards and Hazardous Materials

Construction of the 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 applicable regulations. MSDS would be made available at the construction site for all crew workers. The SWPPP prepared for the Project would require locations for storage of hazardous materials during construction as well as best management practices, notifications, and cleanup requirements for incidental spills or other potential releases of hazardous materials.

TABLE 2-5
ESTIMATED LAND DISTURBANCE

Project Feature	Site Quantity	Disturbed Acreage Calculation (L x W)	Acres Disturbed During Construction	Acres to be Restored	Acres Permanently Disturbed
Substation Construction					
Substation (including approx. 1 acre staging area)	1	800 x 800 x 1,130	7.5	1	6.5
66 kV Subtransmission Source Line Construction					
Guard Structures	56	50' x 75'	5	5	0
Remove Existing 66 kV LWS Pole & Replace w/ TSP[1]	1	200' x 100'	0.5	0.5	0
Remove Existing Wood Pole & Replace w/ LWS Pole[1]	3	150' x 75'	0.8	0.8	0
Install New 66 kV TSP[2]	49	200' x 100'	22.5	19.6	2.9
Install New 66 kV LWS Pole	241	150' x 75'	62.2	59.8	2.4
Install New 66 kV Wood Guy Pole[2]	6	150' x 75'	1.5	1.5	0.06
Install New U.G. 66 kV Vault[3]	4	175' x 100'	2	2	0.1
Install New U.G. 66 kV Duct Bank	1,800	linear feet x 15' wide	1	1	0
66 kV Conductor / OHGW Stringing Setup Area – Puller[4]	19	300' x 100'	13	13	0
66 kV Conductor / OHGW Stringing Setup Area – Tensioner[4]	19	400' x 100'	17	17	
New Access/Spur Roads	7	linear miles x 18' wide	15.3	0	15.3
Material & Equipment Staging Area (TBD)	2	Approx. 5 acres	10	10	10
Telecommunication Construction					
Manhole Installation	6	40' x 50'	.28	0	<0.1
Conduit Installation	5	4,825' x 15'	1.66	1.66	0
Distribution Construction					
Gateway	3	1,200' x 35'	1	1	0
Vault	5	55' x 40'	<0.1	0	<0.1
Undergrounding	1	800' x 15'	0.5	0.5	0
Pole Removal	25	5' x 5'	<0.1	<0.1	0
Total			**161.74**	**134.36**	**27.27**

1 Includes the removal and/or transfer of existing conductor, teardown, and removal of existing structure.
2 Includes foundation installation, structure assembly and erection, conductor & OHGW installation. Area to be restored after construction: Portion of ROW within 25 feet of a TSP or 10 feet of a LWS or wood pole to remain cleared of vegetation and would be permanently disturbed (approximately 0.1 acres per TSP and <0.01 acres per LWS and wood pole).
3 Includes all underground civil construction activities associated with vault, duct bank, and cable installations. Area to be restored and/or repaved after construction.
4 Based on 6,000 foot conductor reel lengths, number of circuits, and route design. The disturbed acreage calculations are estimates based upon SCE's preferred area of use for the described project feature, the width of the existing ROW, and the width of the proposed ROW. The calculations are subject to revision based upon final engineering.

2.9.14 Waste Management

Construction of the Project would result in the generation of various waste materials that could be recycled and salvaged. Waste items and materials would be collected by construction crews and separated into roll-off boxes at the staging area. All waste materials that are not recycled would be categorized by SCE in order to assure appropriate final disposal. Non-hazardous waste would be transported to local waste management facilities. Waste materials from the Project when possible would be delivered to the closest waste management facility which is located within 1 mile of the Falcon Ridge Substation site. Soil excavated for the Project would either be used as fill or disposed of off-site at an approved disposal facility. The Mid-Valley Landfill, located at 2390 N. Alder Avenue in the City of Rialto, is located approximately 0.50 mile south of the Falcon Ridge Substation site. The landfill has an annual disposal capacity of approximately 762,729 tons and is expected to reach capacity in 2033 (CalRecycle, 2010).

2.9.15 Construction Related Water Use

During construction, water trucks would be used to minimize the quantity of airborne dust created by construction activities, per SCAQMD Rule 403-Fugitive Dust. The use of water for dust suppression, clean up, drinking and hand washing during construction would be minimal, most likely brought to the site by water trucks. Restroom facilities for the Project would be portable and would not require connection to local water supply system.

2.10 Project Operation and Maintenance

Falcon Ridge Substation would be unattended and electrical equipment within the substation would be remotely monitored and controlled by an automated system from SCE's Vista Switching Center. SCE personnel would visit for electrical switching and routine maintenance purposes. Routine maintenance would include equipment testing, monitoring, and repair. SCE personnel would generally visit the substation three to four times per month.

The new 66 kV subtransmission lines would be maintained in a manner consistent with CPUC General Order 165 which established minimum requirements for electric distribution facilities, regarding inspections, record-keeping, and reporting. Normal operation of the 66 kV subtransmission lines would be controlled remotely through SCE control systems. SCE maintains an inspection frequency of the energized subtransmission overhead facilities a minimum of once per year via ground and/or aerial observation. The frequency of inspection and maintenance activities would depend upon weather effects and any unique problems that may arise due to such variables as substantial storm damage or vandalism. Maintenance activities include repairing conductors, replacing insulators, replacing poles, and access road maintenance.

2.11 Construction Workforce and Equipment

The estimated elements, materials and number of personnel and equipment required for construction of the Project are summarized in **Table 2-6**, *Construction Equipment and Workforce Estimates.*

TABLE 2-6
CONSTRUCTION EQUIPMENT AND WORKFORCE ESTIMATES

Activity and Number of Personnel	Number of Work Days	Quantity and Equipment Type	Duration of Use (Hours/Day)	Fuel Type
Substation Construction				
Survey (4 people)	6	2 Survey Trucks	4	Gas
Grading (8 people)	40	1 Dozer	4	Diesel
		2 Loader	4	Diesel
		1 Scraper	4	Diesel
		1 Grader	6	Diesel
		1 Water Truck	5	Diesel
		2 4X4 Backhoe	2	Diesel
		1 4X4 Tamper	2	Diesel
		1 Tool Truck	2	Gas
		1 Pickup 4X4	2	Gas
Soil Import/Export (1 person per truck)	8	7 Dump Trucks	8	Diesel
Fencing (6 people)	14	1 Bobcat 1 Flatbed Truck 1 Crewcab Truck	4 2 2	Diesel Diesel Gas
Temporary Power – Pole Installation (2 people)	4	1 Work Truck with attached Auger	4	Gas
Civil Work (10 people)	60	1 Excavator	4	Diesel
		1 Foundation Auger	4	Diesel
		1 Backhoe	4	Diesel
		1 Dump truck	4	Diesel
		1 Skip Loader	4	Diesel
		1 Water Truck	2	Diesel
		2 Bobcat Skid Steer	4	Diesel
		1 Forklift	2	Diesel
		1 17- ton Crane	2	Diesel
		1 Tool Truck 1 Concrete Truck	2 2	Gas Diesel
MEER (6 people)	30	1 Carry-all Truck	2	Gas
		1 Stake Truck	2	Gas
Electrical (10 people)	80	1 Scissor Lifts	3	Propane
		2 Manlifts	3	Diesel
		1 Reach Manlift	3	Diesel
		1 15-ton Crane	2	Diesel
		1 Tool Trailer	2	
		2 Crew Trucks	2	Gas
Wiring (6 people)	40	1 Manlift	1	Diesel
		1 Tool Trailer	2	

TABLE 2-6 (Continued)
CONSTRUCTION EQUIPMENT AND WORKFORCE ESTIMATES

Activity and Number of Personnel	Number of Work Days	Quantity and Equipment Type	Duration of Use (Hours/Day)	Fuel Type
Substation Construction (cont.)				
Transformers (4 people)	30	1 Crane	4	Diesel
		1 Forklift	3	Diesel
		2 Crew Trucks	2	Gas
		1 Low Bed Truck	2	Diesel
Maintenance Crew Equipment Check (4 people)	30	2 Maintenance Trucks	4	Gas
Testing (2 people)	80	1 Crew Truck	2	Gas
Asphalting (8 people)	10	2 Paving Roller	4	Diesel
		1 Asphalt Paver	4	Diesel
		1 Stake Truck	2	Diesel
		1 Tractor	4	Diesel
		1 Dump Truck	4	Diesel
		2 Crew Trucks	2	Gas
		1 Asphalt Curb Machine	4	Diesel
Landscaping (8 people)	30	1 Tractor 1 Dump Truck	3 3	Diesel Diesel
Alder Substation Work to Accommodate 66 kV Subtransmission Source Line				
Fencing (2 people)	3	1 Bobcat	4	Diesel
		1 Flatbed Truck	2	Diesel
		1 Crewcab Truck	2	Gas
Civil (4 people)	15	1 Excavator	4	Diesel
		1 Foundation Auger	4	Diesel
		1 Backhoe 1 Dump Truck 1 Skip Loader 1 Water Truck 2 Bobcat Skid Steer 1 Forklift 1 Tool Truck 1 Concrete Truck	4 4 4 2 4 2 2 2	Diesel Diesel Diesel Diesel Diesel Diesel Gas Diesel
Electrical (4 people)	15	1 Scissor Lift	3	Propane
		2 Manlifts	3	Diesel
		1 Reach Manlift	3	Diesel
		1 15-ton Crane 1 Tool Trailer	2 2 2	Diesel Diesel Gas
Wiring (2 people)	5	1 Tool Trailer	1	
Maintenance Crew Equipment Check (2 people)	5	2 Maintenance Trucks	4	Gas
Testing (2 people)	10	1 Crew Truck	2	Diesel
Asphalting (5 people)	1	2 Paving Roller 1 Asphalt Paver 1 Stake Truck 1 Tractor 1 Dump Truck 2 Crew Trucks 1 Asphalt Curb Machine	4 4 2 4 4 2 4	Diesel Diesel Diesel Diesel Diesel Gas Diesel

TABLE 2-6 (Continued)
CONSTRUCTION EQUIPMENT AND WORKFORCE ESTIMATES

Activity and Number of Personnel	Number of Work Days	Quantity and Equipment Type	Duration of Use (Hours/Day)	Fuel Type
Etiwanda Substation Work to Accommodate 66 kV Subtransmission Source Line				
Civil (4 people)	20	1 Excavator	4	Diesel
		1 Foundation Auger	4	Diesel
		1 Backhoe 1 Dump Truck 1 Skip Loader 1 Water Truck 2 Bobcat Skid Steer 1 Forklift 1 Tool Truck 1 Concrete Truck	4 4 4 2 4 2 2 2	Diesel Diesel Diesel Diesel Diesel Diesel Gas Diesel
Electrical (4 people)	15	1 Scissor Lift	3	Propane
		2 Manlifts	3	Diesel
		1 Reach Manlift	3	Diesel
		1 15-ton Crane 1 Tool Trailer 2 Crew Trucks	2 2 2	Diesel Gas
Wiring (2 people)	10	1 Tool Trailer	1	
Maintenance Crew Equipment Check (2 people)	8	2 Maintenance Trucks	4	Gas
Testing (2 people)	15	1 Crew Truck	2	Gas
66 kV Subtransmission Construction				
Survey (4 people)	11	2 1-ton Truck, 4x4	8	Gas
Staging Area (4 people)	Duration	1 Ton Crew Cab, 4x4	4	Diesel
		1 Boom/Crane Truck 1 Rough Terrain Forklift 1 Truck, Semi Tractor	2 6 2	Diesel Diesel Diesel
Road Work (5 people)	4	1 Ton Crew Cab, 4x4	8	Diesel
		1 Road Grader	6	Diesel
		1 Water Truck	8	Diesel
		1 Backhoe/Front Loader 1 Drum Type Compactor 1 Track Type Dozer 1 Lowboy Truck/Trailer	4 4 4 3	Diesel Diesel Diesel Diesel
Guard Structure Installation (6 people)	12	1 ¾-Ton Truck, 4x4	6	Gas
		1 1-Ton Crew Cab, 4x4 1 Bucket Truck 1 Boom/Crane Truck 1 Auger Truck 1 Compressor Trailer 1 Extendable Flat Bed Pole Truck	6 4 6 4 4 8	Diesel Diesel Diesel Diesel Diesel Diesel
Wood/LWS Pole Removal (6 people)	6	2 1-Ton Crew Cab, 4x4 1 Bucket Truck 1 Boom/Crane Truck 1 Compressor Trailer 1 Flat Bed Pole Truck	8 4 6 4 8	Diesel Diesel Diesel Diesel Diesel
Install TSP Foundations (7 people)	90	1 1-Ton Crew Cab, 4x4 1 Boom/Crane Truck 1 Auger Truck 1 Water Truck 1 Dump Truck 1 Backhoe/Front Loader 3 Concrete Mixer Truck	4 4 6 8 4 4 2	Diesel Diesel Diesel Diesel Diesel Diesel Diesel

TABLE 2-6 (Continued)
CONSTRUCTION EQUIPMENT AND WORKFORCE ESTIMATES

Activity and Number of Personnel	Number of Work Days	Quantity and Equipment Type	Duration of Use (Hours/Day)	Fuel Type
66 kV Subtransmission Construction (cont.)				
TSP Haul (4 people)	12	1 ¾-Ton Truck, 4x4 1 Boom/Crane Truck 1 Flat Bed Pole Truck	4 6 8	Gas Diesel Diesel
TSP Assembly (15 people)	45	2 ¾-Ton Truck, 4x4 2 1-Ton Crew Cab, 4x4 1 Compressor Trailer 1 30-Ton Rough Terrain Crane	4 4 4 6	Gas Diesel Diesel Diesel
TSP Erection (15 people)	45	2 ¾-Ton Truck, 4x4 2 1-Ton Crew Cab, 4x4 1 Compressor Trailer 1 30-Ton Rough Terrain Crane	4 4 4 6	Gas Diesel Diesel Diesel
Install Wood/LWS Poles (15 people)	61	1 1-Ton Crew Cab, 4x4 1 Bucket Truck 1 Boom/Crane Truck 1 Auger Truck 1 Backhoe/Front Loader 1 Extendable Flat Bed Pole Truck	6 4 6 4 6 8	Diesel Diesel Diesel Diesel Diesel Diesel
Install Conductor (20 people)	50	3 1-Ton Crew Cabs, 4x4 4 Bucket Trucks 1 Boom/Crane Truck 2 Wire Trucks/Trailers 1 Dump Truck 1 3-Drum Sock Line Puller 1 Bull Wheel Puller 1 Static Truck/Tensioner 1 Backhoe/Front Loader 2 Lowboy Trucks/Trailers	4 8 8 6 2 6 6 6 2 4	Diesel Diesel Diesel Diesel Diesel Diesel Diesel Diesel Diesel Diesel
Guard Structure Removal (6 people)	8	1 ¾-Ton Truck, 4x4 1 1-Ton Crew Cab, 4x4 1 Bucket Truck 1 Boom/Crane Truck 1 Compressor Trailer 1 Extendable Flat Bed Pole Truck	6 6 4 6 4 8	Gas Diesel Diesel Diesel Diesel Diesel
Restoration (7 people)	11	2 1-Ton Crew Cab, 4x4 1 Road Grader 1 Water Truck 1 Backhoe/Front Loader 1 Drum Type Compactor 1 Lowboy Truck/Trailer	4 6 8 2 4 3	Diesel Diesel Diesel Diesel Diesel Diesel
Vault Installation (6 people)	12	2 1-Ton Crew Cab, 4x4 1 Backhoe/Front Loader 1 Excavator 1 Dump Truck 1 Water Truck 1 165-Ton Crane 3 Concrete Mixer Trucks 1 Lowboy Truck/Trailer 3 Flat Bed Trucks/Trailers	6 6 6 6 8 6 2 4 4	Diesel Diesel Diesel Diesel Diesel Diesel Diesel Diesel Diesel
Duct Bank Installation (6 people)	8	2 1-Ton Crew Cab, 4x4 1 Backhoe/Front Loader 1 Dump Truck 1 Pipe Truck/Trailer 1 Water Truck 3 Concrete Mixer Tricks 1 Compressor Trailer 1 Lowboy Truck/Trailer	4 6 6 6 8 2 6 4	Diesel Diesel Diesel Diesel Diesel Diesel Diesel Diesel

TABLE 2-6 (Continued)
CONSTRUCTION EQUIPMENT AND WORKFORCE ESTIMATES

Activity and Number of Personnel	Number of Work Days	Quantity and Equipment Type	Duration of Use (Hours/Day)	Fuel Type
Telecommunications Construction				
Cable Construction (5 people)	23	2 Bucket Trucks 1 Pick-Up Truck 2 Splicing Trucks 2 Cable Dollies 1 2-Axle Trailers	7 7 7 7 7	Diesel Diesel Diesel
Vault and Duct Bank Installation (6 people)	20	1 Foreman Truck 1 Crew Cab Truck 1 Dump Truck 1 Backhoe/Front Loader 1 Water Truck 1 Compressor Trailer 3 Concrete Mixer Truck	8 8 8 8 8 8 4	Diesel Diesel Diesel Diesel Diesel Diesel Diesel
Distribution Construction - Getaways				
Vault Installation (5 people)	5 10 3 3 10	1 Backhoe 1 Dumptruck 1 Precaster Boom Trick 1 Concrete Truck 1 Crew Pick-Up Truck	8 8 7 7 4	Diesel Diesel Diesel Diesel Gasoline
Trench (9 people)	20 10 20 20 3 4 6 20	1 Backhoe 1 Dump Truck 1 Water Truck 1 Gang Truck 1 Stomper 1 Conduit Vendor Truck 1 Concrete Truck 1 Crew Pickup Truck	8 8 8 8 8 4 8 4	Diesel Diesel Diesel Diesel Gasoline Diesel Diesel Gasoline
Distribution Construction – Relocation of Existing Facilities				
Location 1 (4 people)	1 1	1 Line Truck 1 Pickup Truck	6 6	Diesel Diesel
Location 2 (4 people)	1 1	1 Line Truck 1 Pickup Truck	8 8	Diesel Diesel
Location 3 (8 people)	3 3	2 Line Truck 2 Pickup Truck	7 7	Diesel Diesel
Location 4 (4 people)	1 1	1 Line Truck 1 Pickup Truck	6 6	Diesel Diesel
Location 5 (5 people)	2 2 2 2 2	1 Rodder Truck 1 Cable Dolley 1 Reel Truck 2 Line Trucks 3 Pickup Trucks	4 4 4 8 3	Diesel Diesel Diesel Diesel
Location 6 (7 people)	1 1 1 2 2 2 2 2	1 Rodder Truck 1 Cable Dolley 1 Reel Truck 2 Line Trucks 2 Pickup Trucks 1 Concrete Truck 1 Dump Truck 1 Backhoe	6 6 6 4 6 4 6 8	Diesel Diesel Diesel Diesel Diesel Diesel Diesel

SOURCE: SCE, 2010b

Construction would be performed by either SCE construction crews or contractors. Contractor construction personnel would be managed by SCE construction management personnel. Based on the anticipated construction phasing, the maximum number of construction workers that would be required on a single day would be 26 for the Falcon Ridge Substation site, 13 for modifications to the Alder Substation, six for modifications to the Etiwanda Substation and 14 for the proposed Distribution Getaways. The anticipated maximum number of construction workers that would be required at a single location on a single day would be 20 for the proposed subtransmission source line routes and 11 for the proposed telecommunication facilities. SCE anticipates that crews would work concurrently whenever possible; however, the estimated deployment and number of crew members would be dependent upon local jurisdiction permitting, material availability, and construction scheduling. If all crews described above were to work concurrently, the anticipated maximum number of construction workers Project-wide on a single day would be 90.

2.12 Construction Schedule

SCE anticipates that construction of the Project would take approximately 12 months. Construction would commence following CPUC approval, final engineering, and procurement activities. Work hours would be in accordance with local noise ordinance (**Table 2-7**) with variances to be obtained from the local jurisdiction as necessary in the event construction activities would occur on days or hours outside of what is specified by ordinance

TABLE 2-7
HOURS FOR CONSTRUCTION WORK

City/County	Permitted Hours		
	Monday-Friday	Saturday	Sunday and Holidays
San Bernardino County	7:00 a.m. - 7:00 p.m.	7:00 a.m. - 7:00 p.m.	None
City of Fontana	7:00 a.m. - 6:00 p.m.	8:00 a.m. - 5:00 p.m.	None
City of Rialto (Oct.-Apr) City of Rialto (May-Sep)	7:00 a.m. - 5:30 p.m. 6:00 a.m. - 7:00 p.m.	8:00 a.m. - 5:00 p.m. 8:00 a.m.- 5:00 p.m.	None None
City of Rancho Cucamonga	6:30 a.m. - 8:00 p.m.	6:30 a.m. - 8:00 p.m.	None

2.13 Applicant Proposed Measures

SCE identified a number of applicant proposed measures (APMs) that would avoid or reduce potential impacts of the Project related to aesthetics, biological resources and paleontological resources. All APMs would be implemented as part of the Project, and are not considered “mitigation measures” in this EIR. If the EIR is certified and the Project is approved, SCE’s implementation of and compliance with these APMs would be monitored and enforced by the CPUC.

APM-BIO-01 Migratory Bird Treaty Act (MBTA) and Nesting Raptors: In order to avoid impacts on nesting birds and raptors (common or special status), Project initiation shall be scheduled outside the breeding season (i.e., March 15–September 15 for nesting birds; February 1–June 30 for nesting raptors). If Project timing requires that work be initiated during this time period, a pre-construction survey shall be conducted by a qualified Biologist for nesting birds and/or raptors within 7 days prior to clearing of any vegetation or any work within 500 feet of construction areas. If the Biologist does not find any active nests within the impact area, the vegetation clearing/construction work shall be allowed to proceed.

If the Biologist finds an active nest within the construction area and determines that the nest may be impacted or breeding activities substantially disrupted, the Biologist will delineate an appropriate buffer zone around the nest depending on the sensitivity of the species and the nature of the construction activity. The active site will be protected until nesting activity has ended to ensure compliance with the MBTA and California Fish and Game Code. Encroachment into the buffer area around a known nest shall only be allowed if the Biologist determines that the proposed activity would not disturb the nest occupants. APM-BIO-02: Riversidean Alluvial Fan Sage Scrub, Disturbed Riversidean Alluvial Fan Sage Scrub, Disturbed Riversidean Sage Scrub, and Annual Grassland/Disturbed Riversidean Alluvial Fan Sage Scrub Project impacts on sage scrub vegetation.

APM-BIO-02 Riversidean Alluvial Fan Sage Scrub, Disturbed Riversidean Alluvial Fan Sage Scrub, Disturbed Riversidean Sage Scrub, and Annual Grassland/Disturbed Riversidean Alluvial Fan Sage Scrub: Project impacts on sage scrub vegetation types would be avoided and/or minimized to the maximum extent practicable. Permanent impacts to disturbed Riversidean alluvial fan sage scrub, disturbed Riversidean sage scrub, and annual grassland/disturbed Riversidean alluvial fan sage scrub vegetation would be mitigated at a minimum replacement ratio of 1:1. Residual temporary impacts on undisturbed/disturbed Riversidean alluvial fan sage scrub would be restored on site and/or mitigated at a replacement ratio of 1:1. Permanent impacts on undisturbed Riversidean alluvial fan sage scrub would be mitigated at a replacement ratio of up to 3:1. Final compensation ratios for impacts to Riversidean alluvial fan sage scrub would be determined in consultation with USFWS and CDFG.

A detailed restoration program shall be prepared for approval by SCE and the appropriate resource agencies. Restoration shall consist of seeding and planting containers of appropriate Riversidean alluvial fan sage scrub species. The program shall include, at a minimum, the following items:

- Responsibilities and qualifications of the personnel to implement and supervise the plan.
- Site selection.
- Site preparation and planting implementation.
- Schedule.
- Maintenance plan/guidelines.
- Monitoring plan.
- Long-term preservation.

Additionally, the grading limits shall be clearly marked, and temporary fencing or other appropriate markers shall be placed around any sage scrub vegetation adjacent to work areas prior to the commencement of any ground-disturbing activity or native vegetation removal. No construction access, parking, or storage of equipment or materials shall be allowed within the marked areas. SCE shall be fully responsible for implementing the Riversidean Alluvial Fan Sage Scrub Revegetation Program until the restoration areas have met the success criteria outlined in the program. SCE and the appropriate resource agencies shall have final authority over mitigation area sign-off. The site shall be monitored and maintained for a suitable number of years to ensure successful establishment of Riversidean alluvial fan sage scrub habitat within the restored and created areas, as determined by the resource agencies.

APM- PA-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 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- PA-02 Paleontological Monitoring for the Project: A paleontological monitor shall be on site to spot check ground-disturbing activities at depths greater than 5 feet during installation of the Project. 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.

References – Project Description

SCE. 2010a. Proponents Environmental Assessment. Falcon Ridge Substation Project. December 29, 2010.

SCE. 2010b. Application of Southern California Edison Company (U 338-E) for a Permit to Construct Electrical Facilities with Voltages between 50 KV and 200 KV. Falcon Ridge Substation Project. December 29, 2010.

CHAPTER 3
Alternatives Analysis

CEQA requires a lead agency to analyze a reasonable range of alternatives to a proposed project that feasibly could attain most of the basic objectives of the project while substantially reducing or eliminating its significant environmental effects. CEQA also requires an EIR to evaluate a "no project" alternative. This chapter describes the process that was used to identify and screen alternatives for consideration, provides the rationale for why some alternatives were eliminated from further consideration, and describes those alternatives that were carried forward for analysis in this EIR. The potential environmental impacts of the alternatives carried forward are analyzed relative to the impacts of the proposed Project in Chapter 4. The results of the comparative analysis are summarized in Chapter 5, which compares the conclusions of the impact analyses for each of the alternatives against the conclusions for the Project.

3.1 CEQA Context for the Consideration of Alternatives

CEQA requires that the lead agency adopt mitigation measures or alternatives, where feasible, to substantially lessen or avoid significant environmental impacts that otherwise would occur. Where a lead agency has determined that, even after adoption of all feasible mitigation measures, a project as proposed still would cause significant environmental effects that cannot be substantially lessened or avoided, the agency must determine whether, with respect to such impacts, there remain any project alternatives that are both environmentally superior and feasible within the meaning of CEQA prior to approving the project as mitigated.

The CEQA Guidelines provide the following guidance for discussing project alternatives:

- An EIR need not consider every conceivable alternative to a project. Rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation (CEQA Guidelines §15126.6(a)).
- An EIR is not required to consider alternatives that are infeasible (§15126.6(a)).
- The discussion shall focus on alternatives to the project or its location that are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly (§15126.6(b)).
- The range of alternatives shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects (§15126.6(c)).

- The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis and comparison with the proposed project (§15126.6(d)).

CEQA Guidelines §15364 defines "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors." Factors considered in addressing the feasibility of potential alternatives for this Project included site suitability; economic viability; availability of infrastructure; statutory, regulatory, and other legal limitations; jurisdictional boundaries (e.g., the Applicant's service territory), and whether the Applicant has or could obtain access to potential alternative sites. None of these factors alone established a fixed limit on the scope of alternatives (CEQA Guidelines §15126.6(f)).

CEQA requires an EIR to evaluate a "no project" alternative to allow decision-makers to compare the impacts of approving a proposed project with the impacts of not approving it (CEQA Guidelines §15126.6(e)). The "no project" analysis evaluates the existing conditions at the time the Notice of Preparation was published as well as what reasonably would be expected to occur in the foreseeable future if the proposed project were not approved, based on current plans, permits and available infrastructure and services. The No Project Alternative for the Project is described in Section 3.4.2.

3.2 Alternatives Development and Screening Process

To develop a range of alternatives for analysis, the following methodology was used:

1. Develop an understanding of the Project, identify the basic objectives of the Project, and consider the significant adverse impacts that the Project may have;

2. Consider input received during the scoping process that relates to alternatives to the Project;

3. Identify and evaluate reasonable feasible alternative locations to the proposed site, if any;

4. Identify and evaluate other solar generation technology alternatives, if any, that have the potential to avoid or substantially lessen any of the significant effects of the Project;

5. Identify and evaluate whether alternative approaches, such as conservation and demand side management or distributed generation solar, could provide a reasonable feasible alternative to the Project; and

6. Consider the scenario of not constructing the Project, i.e., the No Project Alternative.

The proposed Project is described in Chapter 2 and Project Objectives are presented in Sections 2.4 and 3.2.2. The scoping report is provided in Appendix A. The process used to identify and screen alternatives to the proposed Project is described in the following sections.

3.2.1 Alternatives Screening Methodology

The screening of alternatives to the proposed Project was completed using a process that consisted of three steps:

Step 1: Clarify the description of each alternative to allow comparative evaluation.

Step 2: Evaluate each alternative using CEQA criteria (defined below).

Step 3: Determine the suitability of each alternative for full analysis in the EIR. Infeasible alternatives and alternatives that clearly offered no potential for overall environmental advantage were removed from further analysis.

Following the three-step screening process, the advantages and disadvantages of the remaining alternatives were carefully weighed with respect to CEQA's criteria for consideration of alternatives:

- Does the alternative meet most of the basic objectives of the proposed project?
- Is the alternative feasible economically, environmentally, legally, socially, and technically?
- Does the alternative avoid or substantially lessen any significant effects of the proposed project (including consideration of whether the alternative could create significant effects potentially greater than those of the proposed project)?

3.2.2 Consistency with Project Objectives

The CEQA Guidelines §15126.6 requires an EIR to describe a range of reasonable alternatives to the project, or its location, that feasibly would attain *most of the basic objectives* of the project even if these alternatives would impede to some degree the attainment of the project objectives as stated by the Applicant. Therefore, it is not required that each alternative meet all of the Applicant's objectives. The Applicant identified the following objectives for the Project in its PEA (SCE, 2010, pp. 1-4):

- Serving long-term projected electrical demand requirements in the Electrical Needs Area beginning in June 2014
- Maintaining system reliability within the Electrical Needs Area
- Improving system operational flexibility by providing the ability to transfer load between distribution lines and substations within the Electrical Needs Area
- Meeting the Project's need while minimizing environmental impacts
- Meeting the Project's need in a cost-effective manner
- Using existing ROW to the extent feasible.

The CPUC, as CEQA Lead Agency, has distilled the Applicant's objectives into the three "basic" objectives that have been relied upon in crafting alternatives to the Project. The basic objectives of the Project are:

- Serving long-term projected electrical demand requirements in the Electrical Needs Area beginning in 2014 (Scheuerman, 2012);
- Maintaining system reliability within the Electrical Needs Area; and
- Improving system operational flexibility by providing the ability to transfer load between distribution lines and substations within the Electrical Needs Area.

3.2.3 Feasibility

CEQA Guidelines §15364 defines "feasible" as:

> *. . . capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.*

In addition, CEQA requires that the Lead Agency consider site suitability, economic viability, availability of infrastructure, general plan consistency, other regulatory limitations, jurisdictional boundaries, and proponent's control over alternative sites in determining the range of alternatives to be evaluated in the EIR (CEQA Guidelines §15126.6(f)).

In assessing the reasonableness and feasibility of alternatives to the Falcon Ridge Substation Project, the CPUC consulted with the Applicant in considering the relevant issues. If an alternative was found not to meet any one of the primary feasibility criteria, it was deemed infeasible without reviewing whether it met the other feasibility criteria. This screening analysis does not focus on relative economic factors or costs of the alternatives (as long as they are found to be potentially economically viable) because CEQA Guidelines require consideration of alternatives capable of eliminating or reducing significant environmental effects even though they may be more costly (CEQA Guidelines §15126.6(b)).

3.2.4 Potential to Eliminate Significant Environmental Effects

CEQA requires that, to be analyzed fully in an EIR, an alternative must have the potential to "avoid or substantially lessen any of the significant effects of the project" (CEQA Guidelines §15126.6(a)). At the screening stage, it is neither possible, nor legally required, to evaluate all of the impacts of the alternatives in comparison to the proposed project with absolute certainty, nor is it possible to quantify impacts. However, it is possible to identify elements of an alternative that are likely to be the sources of impact and to relate them, to the extent possible, to general conditions in the project area.

The potential significant environmental effects of the Project are summarized in **Table 3-1**. This impact summary was prepared using a liberal definition of "potentially significant" so as to avoid excluding alternatives that may provide some overall environmental benefit. Also, because this screening-level impact summary was developed prior to completion of the evaluation of Project impacts, it may identify more "potentially significant" impacts than subsequently were identified in the detailed analysis presented in Chapter 4 of this EIR.

TABLE 3-1
SUMMARY OF PRELIMINARY SIGNIFICANT ENVIRONMENTAL IMPACTS OF THE FALCON RIDGE SUBSTATION PROJECT

Issue Area	Impact
Aesthetics	• Degradation of the existing viewshed resulting from the new substation and subtransmission source line poles and line and fiber-optic cable
Air Quality	• Construction emissions, including dust and equipment exhaust, exceeding air district significance thresholds for daily emissions.
Noise	• Construction-related noise exceeding City of Rancho Cucamonga exterior noise thresholds.

Based on this methodology, each potential alternative was evaluated for its ability to meet most of the basic Project objectives, its feasibility, and its ability to avoid or substantially lessen one or more of the potential significant effects of the Project without creating significant unmitigable impacts of its own.

3.3 Summary of Screening Results

Table 3-2 provides a composite list of the alternatives considered, and the results of the screening analysis with respect to the criteria findings for consistency with Project objectives, feasibility, and environmental effectiveness. Alternatives carried forward for analysis in the EIR are listed below in Section 3.3.1. Alternatives eliminated from further consideration follow in Section 3.3.2.

3.3.1 Alternatives Evaluated in Detail in this EIR

The alternatives listed below have been selected through the alternative screening process for detailed analysis; the No Project alternative also is included as required by CEQA. Each of the identified alternatives would meet most of the basic Project objectives, would be feasible, and would avoid or substantially reduce potential environmental effects of the proposed Project. The alternatives are summarized in Table 3-2 and described in detail in Section 3.4.

- Alternative 1: Lowell Street Realignment Alternative
- No Project Alternative

3.3.2 Alternatives Eliminated from EIR Consideration

The alternatives listed below are those that have been eliminated from detailed analysis. These alternatives were not included for EIR consideration because they would not meet the basic Project objectives, would not be feasible, or would not avoid or substantially reduce potential environmental effects of the proposed Project. The rationale for elimination of each alternative is summarized in Table 3-2 and is described in greater detail in Section 3.5.

- Alternative 2: Phased Construction Alternative
- Alternative 3: Relocated Substation Alternative
- Alternative 4: New 115/12 kV Substation Project Alternative

TABLE 3-2
SUMMARY OF ALTERNATIVES SCREENING ANALYSIS – FALCON RIDGE SUBSTATION PROJECT

Alternative	Project Objectives Criteria	Feasibility Criteria	Environmental Criteria
Passes Screening			
Alternative 1: Lowell Street Realignment Alternative Would extend north from Alder Substation, spanning the 210 Freeway and paralleling Locust Avenue until Lowell Street. It then would extend west along Lowell Street and continue past the end of Lowell Street to N. Alder Avenue. It then would extend south along N. Alder Avenue to Summit Avenue and west along Summit Avenue to Mango Avenue. It then would extend north along the future Mango Avenue ROW until it reaches the proposed substation site. Three TSPs would be required, one at each of the proposed corners. Wood poles would be installed along the extension of Summit Avenue, and along N. Locust Avenue.	Meets Project objectives.	Meets feasibility criteria.	Meets environmental criteria. Air Quality: would reduce PM10 emissions by 40.3 lbs/day (i.e., approximately 16 percent) and PM2.5 emissions by 2.5 lbs/day (i.e., approximately 5 percent). Hazards: Has potential to cross areas of higher fire hazard classification and would be adjacent to three sites listed on the USEPA's CERCLIS database of contaminated sites.
Fails Screening			
Alternative 2: Phased Construction Revises the proposed construction schedule to preclude overlapping activities as necessary for construction-related air emissions to remain below SCAQMD-established significance thresholds for NO_x (100 lbs/day) and PM10 (150 lbs/day). This alternative would extend the overall construction period by 15 months and also would require: • Replacement of two 22.4 MVA transformers with two 28 MVA transformers at the Randall Substation, extension of distribution switchrack, and construction of one 1-mile 12 kV distribution circuit; and • Replacement of two 22.4 MVA transformers with two 28 MVA transformers at the Alder Substation, relocation of existing substation equipment, equipment upgrades, and construction of one 1-mile 12 kV distribution circuit.	Would not meet the objective of serving projected needs by June 2014.	Would not meet feasibility criteria due to unpredictable contractor availability and field conditions as well as other technical and economic constraints.	Meets environmental criteria. Aesthetics: no change anticipated. Noise: construction noise impacts would be similar and operational noise impacts would be the same as under the Project. Air Quality: would reduce daily construction air emissions, but would result in increased overall emissions due to construction of alternative components. New Impacts: None anticipated
Alternative 3: Relocated Substation Alternative The alternative substation site would be located on a 9.6-acre privately owned vacant parcel. The parcel is located on the southeast corner of Casa Grande Avenue and Sierra Avenue in the City of Fontana. The parcel is bounded by Casa Grande Avenue to the north, Sierra Avenue to the west, a vacant parcel owned by SCE to the south, and SCE's existing transmission ROW to the east. SCE would establish vehicular access to Alternative 3 from Sierra Avenue.	Meets most Project objectives.	Meets feasibility criteria.	Fails environmental criteria. Aesthetics: would increase visual impacts for motorists on Sierra Avenue, a City of Fontana-designated Theme Corridor, and from its associated Enhanced Intersection with Summit Avenue, which would be within the 1-mile viewshed. Views from residences on Casa Grande Drive would be similar to the Project, though on the closer side of existing structures within the SCE ROW.

TABLE 3-2 (Continued)
SUMMARY OF ALTERNATIVES SCREENING ANALYSIS – FALCON RIDGE SUBSTATION PROJECT

Alternative	Project Objectives Criteria	Feasibility Criteria	Environmental Criteria
Alternative 4: New 115/12 kV Substation Project Alternative Proposes a new 115/12 kV unattended, automated, low-profile 56 MVA substation. This project alternative would include the following elements: • Installation of a 115 kV switchrack, two 115/12 kV 28 MVA transformers, a 12 kV switchrack, and two 12 kV 4.8 MVAR capacitor banks. • Installation of two new 115 kV subtransmission source lines to connect the new substation to the Shandin 115/12 kV Substation and the Pepper 115/12 kV Substation: - One new 115 kV subtransmission line from the existing Shandin115/12 kV Substation would be approximately 11 miles in length and connect to the new 115/12 kV substation. - One new 115 kV subtransmission line from the existing Pepper 115/12 kV Substation would be approximately 9 miles in length and connect to the new 115/12 kV substation. • Construction of three new 12 kV underground distribution getaways. • Installation of telecommunications facilities at the new substation and telecommunications cable to and modification of the existing telecommunications facilities at Shandin 115/12 kV and Pepper 115/12 kV Substations, to connect the new substation to the SCE telecommunications network.	Would not meet the objective of improving operational flexibility and reliability in the Electrical Needs Area.	Meets feasibility criteria.	Meets environmental criteria, although some impacts may be similar to the Project.
Alternative 5: Partial Underground Realigned Subtransmission Source Line Route The Alder Subtransmission Source Line Route would extend north from Alder Substation, spanning the 210 Freeway and paralleling Locust Avenue until it intersects with Casa Grande Drive. It then would extend underground west along Casa Grande Drive until it intersects with North Alder Avenue, then extend aboveground south along Alder Avenue until it intersects with Summit Avenue. It then would extend west on Summit Avenue to the end of the street and extend north along the future Mango Avenue ROW until it reaches the proposed substation site. This alternative Alder Source Line route would be approximately 4 miles in length.	Meets most Project objectives.	Meets feasibility criteria.	Fails environmental criteria. Aesthetics: would lessen potential visual impacts along Casa Grande Drive but increase overall length of route, increasing potential visual impacts elsewhere. Air Quality: would decrease construction PM10 emissions by 51.2 lbs/day and PM2.5 emissions by 3.5 lbs/day, but would increase construction NOx emissions by 22.5 lbs/day. Would also locate construction activities closer to residential and other receptors.

TABLE 3-2 (Continued)
SUMMARY OF ALTERNATIVES SCREENING ANALYSIS – FALCON RIDGE SUBSTATION PROJECT

Alternative	Project Objectives Criteria	Feasibility Criteria	Environmental Criteria
Alternative 6: Overhead Summit Avenue Realigned Subtransmission Source Line Route The Alder Subtransmission Source Line Route would extend north from Alder Substation, spanning the 210 Freeway and paralleling Locust Avenue until approximately 320 feet north of Persimmon Street. It then would extend west until connection with the eastern end of Summit Avenue and west along Summit Avenue to Mango Avenue. It then would extend north along the future Mango Avenue ROW until it reaches the proposed substation site.	Meets most Project objectives.	Meets feasibility criteria.	Fails environmental criteria. Air Quality: would have the same peak daily emissions as proposed route except for a 37.2 lb/day PM10 reduction and a 1.4 lb/day PM2.5 reduction. Because this would be less beneficial to air quality than Alternative 1, it is not evaluated further.
Alternative 7: Underground Summit Avenue Realigned Subtransmission Source Line Route The Alder Subtransmission Source Line Route would extend north from Alder Substation, spanning the 210 Freeway and paralleling Locust Avenue until approximately 320 feet north of Persimmon Street. It then would extend underground west until connection with the eastern end of Summit Avenue and overhead west along Summit Avenue to Mango Avenue. It then would extend north along the future Mango Avenue ROW until it reaches the proposed substation site.	Meets most Project objectives.	Meets feasibility criteria.	Fails environmental criteria. Aesthetics: would lessen potential visual impacts between Summit Avenue and Locust Avenue. Air Quality: although it would decrease construction PM10 emissions by 28 lbs/day and PM2.5 emissions by 1.3 lbs/day, it would increase construction NOx emissions by 22.5 lbs/day and increase VOC, CO, and SOx emissions.
Alternative 8: Parallel to 500 kV Transmission Line (Overhead) The Etiwanda Subtransmission Source Line Route would not exit the existing SCE ROW in Fontana, but would continue to parallel the existing 500 kV transmission line within the SCE ROW, crossing the 210 Freeway overhead between Cherry Avenue and San Sevaine Road.	Meets Project objectives.	Would be infeasible from a regulatory standpoint because Caltrans' transverse crossing standards require utility lines to cross at a right angle to a highway, and existing SCE ROW is not at a right angle to 210.	Meets environmental criteria. Aesthetics: would avoid significant impacts associated with views from Highland Avenue in Fontana.
Alternative 9: Parallel to 500 kV Transmission Line (Underground) The Etiwanda Subtransmission Source Line Route would continue to parallel the existing 500 kV transmission line within the SCE ROW, crossing the 210 Freeway underground between Cherry Avenue and San Sevaine Road.	Meets Project objectives.	Would be technically infeasible due to the locations of existing facilities, including a flood control box culvert, water and gas lines, and freeway infrastructure.	Meets environmental criteria. Aesthetics: would avoid significant impacts associated with views from Highland Avenue in Fontana.

TABLE 3-2 (Continued)
SUMMARY OF ALTERNATIVES SCREENING ANALYSIS – FALCON RIDGE SUBSTATION PROJECT

Alternative	Project Objectives Criteria	Feasibility Criteria	Environmental Criteria
Alternative 10: Exit Etiwanda Substation to the West The Etiwanda Subtransmission Source Line Route would exit Etiwanda Substation to the west, enter a ROW traveling north and crossing I-15 and the 210 freeway, then turn east toward the proposed Falcon Ridge Substation, again crossing I-15.	Meets Project objectives.	Would be technically infeasible because existing ROW does not cross freeways at right angles and would thus require deviations from ROW in built-out residential, commercial, and industrial areas.	Fails environmental criteria: Aesthetics: would avoid significant impacts associated with views from Highland Avenue in Fontana, but would traverse more areas of residential development, creating more significant adverse visual impacts than the proposed Project. Air Quality: would be a longer route, resulting in higher criteria pollutant emissions. Noise: would construct near more residential areas in Rancho Cucamonga, creating more significant unavoidable impacts related to noise.
Alternative 11: Eastern ROW Realigned Subtransmission Source Line Route The Etiwanda Subtransmission Source Line Route would be located within the existing ROW between Arrow Route and Foothill Boulevard in Rancho Cucamonga, but would be sited along the eastern side of the existing 500 kV transmission line in this location.	Meets Project objectives.	Would be regulatorily and technically infeasible due to insufficient clearance in ROW and inability to expand ROW due to existing pipeline ROW and other structures.	Meets environmental criteria. Noise: would construct further from existing residences in Rancho Cucamonga, avoiding short-term significant impacts.
Alternative 12: Non-Wires Alternative – Conservation and Demand Management This alternative would involve replacing the need for a substation and subtransmission lines through implementation of energy conservation programs.	Fails. SCE cannot guarantee that such voluntary programs would provide either the capacity or reliability needs in the ENA.	These programs are not feasible on a scale that would be suitable to replace the Project within a reasonable period of time.	Meets environmental criteria. Complete avoidance of the Project would eliminate the potential impacts of the construction and operation of the transmission line and substation upgrade, and no new significant impacts would be created.

TABLE 3-2 (Continued)
SUMMARY OF ALTERNATIVES SCREENING ANALYSIS – FALCON RIDGE SUBSTATION PROJECT

Alternative	Project Objectives Criteria	Feasibility Criteria	Environmental Criteria
Alternative 13: Non-Wires Alternative – New Renewable or Conventional Distributed Generation Energy Resources This alternative would involve replacing the need for a substation and subtransmission lines through the construction of new distributed energy resources.	Fails. SCE cannot guarantee that measures outside SCE's control would provide either the capacity or reliability needs in the ENA.	These measures are not implementable by SCE and are not feasible on a scale that would be suitable to replace the Project within a reasonable period of time.	Meets environmental criteria. Complete avoidance of the Project would eliminate the potential impacts of the construction and operation of the transmission line and substation upgrade. Some new impacts would be associated with construction and operation of distributed generation sources.
Alternative 14: Non-Wires Alternative – Upgrade Alder and Randall Substations This alternative would involve upgrading the existing Alder and Randall substations by replacing the existing substation equipment with higher-capacity equipment to serve area load growth. The existing 66/12 kV transformers would be replaced with higher-capacity units, and additional 12kV distribution circuits would be added, or existing 12kV circuits would be upgraded to increase their rating.	Fails. This alternative would reduce system reliability and operational flexibility in the ENA.	Meets feasibility criteria.	Fails environmental criteria: Aesthetics: would avoid significant impacts associated with views from Highland Avenue in Fontana. Air Quality: would require vehicle and powered equipment use, and could require some excavation, potentially resulting in higher criteria pollutant emissions. Noise: would result in construction and/or installation activities near a greater number of residential areas along existing subtransmission routes.

- Alternative 5: Partial Underground Realigned Subtransmission Source Line Route
- Alternative 6: Overhead Summit Avenue Realigned Subtransmission Source Line Route
- Alternative 7: Underground Summit Avenue Realigned Subtransmission Source Line Route
- Alternative 8: Parallel to 500 kV Transmission Line (Overhead)
- Alternative 9: Parallel to 500 kV Transmission Line (Underground)
- Alternative 10: Exit Etiwanda Substation to the West
- Alternative 11: Eastern ROW Realigned Subtransmission Source Line Route
- Alternative 12: Non-Wires Alternative– Conservation and Demand Management
- Alternative 13: Non-Wires Alternative – Renewable or Conventional Distributed Generation Energy Resources
- Alternative 14: Non-Wires Alternative – Upgrade Alder and Randall Substations

3.4 Alternatives Evaluated in this EIR

3.4.1 Alternative 1: Lowell Street Realignment Alternative

Description

Under Alternative 1, Lowell Street Realignment Alternative, all aspects of the Project would remain as described in Chapter 2, *Project Description*, except for the alignment of the Alder Subtransmission Source Line route. This component of Alternative 1 would extend north from Alder Substation, spanning the 210 Freeway and following Locust Avenue until its intersection with Lowell Street. It then would extend west along Lowell Street and continue past the end of Lowell Street to N. Alder Avenue. It then would extend south along N. Alder Avenue to Summit Avenue and west along Summit Avenue to Mango Avenue. It then would extend north along the future Mango Avenue ROW until entering the proposed substation site.

Three TSPs would be required, one at each of the proposed corners. Wood poles would be installed along the extension of Summit Avenue, and along Locust Avenue.

Rationale for Full Analysis

Project Objectives

This alternative would meet the basic Project objectives.

Feasibility

This alternative would meet all legal, regulatory, and technical feasibility criteria.

Lessen Significant Environmental Impacts

Alternative 1 would reduce daily emissions of PM10 by approximately 40 pounds per day, which represents a decrease of approximately 16 percent compared to the Project (SCE, 2011a).

Although this impact would remain significant and unavoidable with implementation of all feasible mitigation measures proposed in Section 4.3, *Air Quality*, implementation of Alternative 1 would result in a material reduction of overall PM10 emissions compared to the Project.

Potential New Impacts Created

Alternative 1 would locate construction activities near residential and other receptors east of Locust Avenue and south of Lowell Street. It also has the potential to cross areas of higher fire hazard classification than the Project alignment and would be adjacent to three sites listed on the USEPA's CERCLIS database of contaminated sites. Therefore, Alternative 1 could create new impacts related to air quality and hazards and hazardous materials compared to the Project.

3.4.2 No Project Alternative

CEQA requires an evaluation of the No Project Alternative so that decision makers can compare the impacts of approving the project with the impacts of not approving the project. According to CEQA Guidelines §15126.6(e), the No Project Alternative must include:

(a) the assumption that conditions at the time of the Notice of Preparation (i.e., baseline environmental conditions) would not be changed since the proposed project would not be installed, and

(b) the events or actions that would be reasonably expected to occur in the foreseeable future if the project were not approved.

The first condition is described in the EIR for each environmental discipline as the "environmental baseline," since no impacts of the Project would be created. This section defines the second condition of reasonably foreseeable actions or events. The impacts of these actions are evaluated in each issue area's analysis in Chapter 4, *Environmental Analysis*.

The No Project Alternative proposes no new 66/12 kV substation in the proposed location; neither of the two new 66 kV subtransmission line segments; none of the three new underground 12 kV distribution getaways; none of the new facilities to connect the substation to SCE's existing telecommunications system; and no upgrades to existing fiber-optic equipment at the specified existing substations. None of the Project objectives would be met.

3.5 Alternatives Eliminated from Full EIR Evaluation

3.5.1 Alternative 2: Phased Construction Alternative

Description

Alternative 2 would revise the proposed construction schedule to reduce overlapping construction activities by extending the overall construction period by 15 months. The purpose of Alternative 2 is to reduce daily peak construction-related air emissions so that they remain below SCAQMD-established significance thresholds for NOx (100 pounds per day) and PM10 (150 pounds per day).

Rationale for Elimination

Although Alternative 2 would reduce air quality impacts compared to the Project, it also could create new impacts because, in order to maintain reliable electricity service in the Electrical Needs Area, SCE would need to modify existing facilities. Modifications would include:

- Replacement of two 22.4 MVA transformers with two 28 MVA transformers at the Randall Substation, extension of distribution switchrack, and construction of one 1-mile 12 kV distribution circuit; and

- Replacement of two 22.4 MVA transformers with two 28 MVA transformers at the Alder Substation, relocation of existing substation equipment, equipment upgrades, and construction of one 1-mile 12 kV distribution circuit (SCE, 2011a).

Therefore, it may not substantially lessen air quality impacts. Additionally, Alternative 2 would pose practical and economic constraints that do not meet the CEQA Guidelines feasibility criteria. Alternative 2 would reduce construction scheduling flexibility and reduce SCE's ability to manage unforeseen changes in field conditions. Because unexpected delays in contractor and materials availability would be more likely to occur when using a phased construction schedule, the total construction period could be extended further than the 15 months anticipated under this alternative, in which case SCE would be unable to meet its objective of serving existing and projected demand by June 2014 (SCE, 2011a).

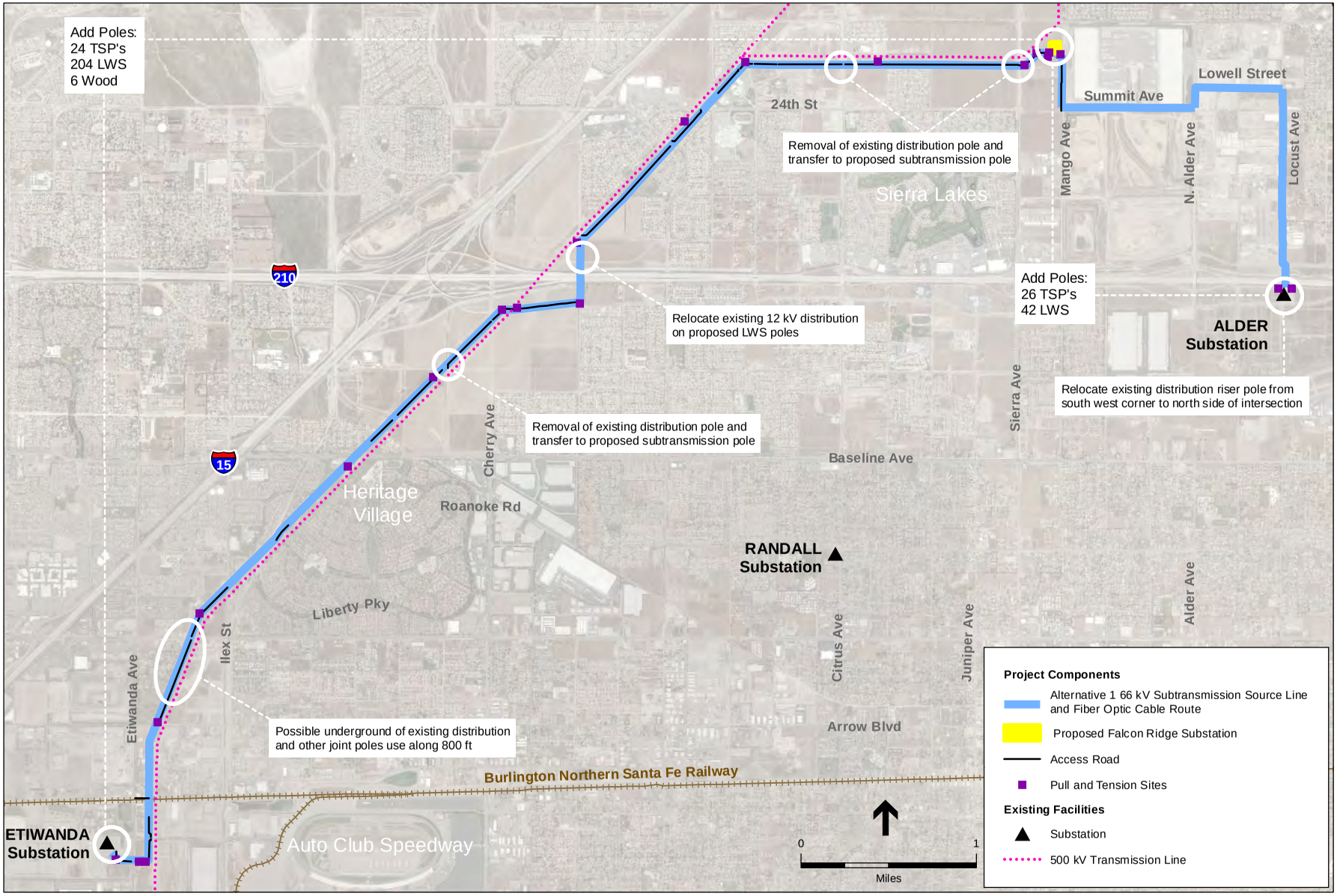
3.5.2 Alternative 3: Relocated Substation Alternative

Description

The alternative substation site would be located on a 9.6-acre privately owned vacant parcel on the southeast corner of Casa Grande Avenue and Sierra Avenue in the City of Fontana. SCE's existing transmission ROW is located to the east of this site. The subtransmission source line and fiber-optic cable routes would be the same as for the Project, but would enter the SCE ROW from this location.

Rationale for Elimination

Alternative 3 would meet the Project objectives. The alternative substation site is privately owned and not currently controlled by SCE. This site would require establishing vehicular access from Sierra Avenue, a major arterial street in the City of Fontana. This site would be closer to Sierra Avenue and Casa Grande Avenue than the proposed site, which could result in increased visual impacts for drivers on these roads (SCE, 2010). Additionally, this alternative would not substantially reduce any of the Project impacts. Therefore, because this alternative would result in greater environmental impacts than the Project, it is not evaluated further.



SOURCE: SCE, 2011

Falcon Ridge Substation Project . 207584.09

Figure 3-1

Alternative 1: Lowell Street Realignment Alternative

3.5.3 Alternative 4: New 115/12 kV Substation Project Alternative

Description

Alternative 4 would construct a new 115/12 kV unattended, automated, low-profile 56 MVA substation rather. This alternative would include:

- one 115 kV switchrack,
- two 115/12 kV 28 MVA transformers,
- one 12 kV switchrack,
- two 12 kV 4.8 MVAR capacitor banks,
- one new 11-mile-long 115 kV subtransmission line from the existing Shandin 115/12 kV Substation,
- one new 9-mile-long 115 kV subtransmission line from the existing Pepper 115/12 kV Substation,
- three new 12 kV underground distribution getaways, and
- telecommunications facilities at the new substation and telecommunications cable and modification of the existing telecommunications facilities at the Shandin and Pepper substations.

Alternative 4 would provide 56 MVA of additional transformer capacity to serve the Electrical Needs Area with the ability to serve future electrical demand through an increase to 112 MVA of capacity, and would improve the operational flexibility of the subtransmission system and increase reliability within the Electrical Needs Area.

Rationale for Elimination

SCE determined that Alternative 4 would not adequately meet the objective of improving operational flexibility and reliability in the Electrical Needs Area. The transfer of electrical demand between this substation, Randall, and Alder substations could resulting in service outages due to the incompatibility of subtransmission systems that are not at the same voltage. This alternative also could result in unsafe conditions for personnel or damage to equipment, or cause distribution circuitry to relay on overload, resulting in service outages (SCE, 2010).

Although Alternative 4 would add the required distribution transformer capacity to the Electrical Needs Area, it would result in decreased distribution reliability and system operational flexibility, and therefore would not meet the basic Project objectives.

3.5.4 Alternative 5: Partial Underground Realigned Subtransmission Source Line Route

Description

The Alder Subtransmission Line Route would extend north from Alder Substation, spanning the 210 Freeway and paralleling Locust Avenue until it intersects with Casa Grande Drive. It then would extend underground west along Casa Grande Drive until it intersects with North Alder Avenue, then extend aboveground south along Alder Avenue until it intersects with Summit Avenue. It then would extend west on Summit Avenue to the end of the street and north along the future Mango Avenue ROW until it reaches the proposed substation site. This alternative route would be approximately 4 miles in length.

Rationale for Elimination

Although this alternative would reduce potential visual impacts along Casa Grande Drive, it would increase the total length of the route, increasing potential visual impacts elsewhere. Alternative 5 would decrease construction PM10 emissions by 51.2 pounds per day and PM2.5 emissions by 3.5 pounds per day, but would increase construction NOx emissions by 22.5 pounds per day (SCE, 2011a). It also would locate construction activities closer to residential and other receptors than the Project route or Alternative 1. Therefore, this alternative would not substantially lessen the environmental impacts of the Project.

3.5.5 Alternative 6: Overhead Summit Avenue Realigned Subtransmission Source Line Route

Description

The Alternative 6 subtransmission source line route would extend north from Alder Substation, spanning the 210 Freeway and paralleling Locust Avenue until approximately 320 feet north of Persimmon Street. It then would extend west until connection with the eastern end of Summit Avenue and west along Summit Avenue to Mango Avenue. It then would extend north along the future Mango Avenue ROW until reaching the proposed substation site. This alternative would be constructed using overhead subtransmission lines.

Rationale for Elimination

Alternative 6 would have the same peak daily emissions as the Project except for reductions in PM10 and PM2.5 of 37.2 pounds per day and 1.4 pounds per day, respectively. The reductions in PM10 associated with this alternative would be less beneficial than under Alternative 1; therefore, Alternative 1 would be preferable to Alternative 6 by this comparison. Because PM2.5 emissions are not significant under the Project, this alternative's reduction in PM2.5 would not address a significant unavoidable impact associated with such emissions. Additionally, this alternative route has the potential to cross areas of higher fire hazard classification than the Project, potentially creating an increased risk of fire associated with construction activities, and would traverse the

B.F. Goodrich Superfund Site (SCE, 2011a). Although excavation for pole foundations would not have the potential to encounter contaminated groundwater associated with this site, it could increase the potential to encounter contaminated soils, exposing workers, the public, and the environment to hazardous materials. Because this alternative would not substantially lessen the significant environmental impacts of the Project and could increase the potential for other impacts, it was eliminated from further analysis.

3.5.6 Alternative 7: Underground Summit Avenue Realigned Subtransmission Source Line Route

Description

The Alternative 7 Alder subtransmission line route would extend north from Alder Substation, spanning the 210 Freeway and paralleling Locust Avenue until approximately 320 feet north of Persimmon Street. It then would extend underground west until connection with the eastern end of Summit Avenue and overhead west along Summit Avenue to Mango Avenue. It then would extend north along the future Mango Avenue ROW until it reaches the proposed substation site.

Rationale for Elimination

Although this alternative would reduce potential visual impacts between Summit Avenue and Locust Avenue and would decrease construction PM10 emissions by 28 pounds per day and PM2.5 emissions by 1.3 pounds per day, it would increase construction NOx emissions by 22.5 pounds per day as well as increase VOC, CO, and SOx emissions. The reductions in PM10 associated with this alternative would be less beneficial than under Alternative 1; therefore, Alternative 1 would be preferable to Alternative 6 by this comparison. Because PM2.5 emissions are not significant under the Project, this alternative's reduction in PM2.5 would not address a significant unavoidable impact associated with such emissions. It would also have the potential to cross areas of higher fire hazard classification, potentially creating an increased risk of fire associated with construction activities, and would traverse the B.F. Goodrich Superfund Site (SCE, 2011a). Although excavation for the underground portion of the route would not have a high potential to encounter contaminated groundwater associated with this site, it could increase the potential to encounter contaminated soils, exposing workers, the public, and the environment to hazardous materials. Because this alternative would not substantially lessen the significant air quality impacts of the Project, would increase emissions of NOx, VOC, CO, and SOx, and could increase the potential for other impacts, it was eliminated from further analysis.

3.5.7 Alternative 8: Parallel to 500 kV Transmission Line (Overhead)

Description

The Alternative 8 Etiwanda Subtransmission Source Line Route would not exit the existing SCE ROW in Fontana, but would continue to parallel the existing 500 kV transmission line within the

SCE ROW, crossing the 210 Freeway overhead between Cherry Avenue and San Sevaine Road. It would then continue within the SCE ROW to the proposed Falcon Ridge Substation similar to the proposed route.

Rationale for Elimination

Although this alternative would eliminate significant unavoidable aesthetic impacts in Fontana, it would be infeasible from a regulatory standpoint because Caltrans' transverse crossing standards require utility lines to cross at a right angle to a highway, and existing SCE ROW is not at a right angle to the 210 Freeway. Therefore, Caltrans would not permit SCE to construct a new subtransmission line within existing SCE ROW (Caltrans, 2010). Therefore, this alternative was eliminated from further consideration.

3.5.8 Alternative 9: Parallel to 500 kV Transmission Line (Underground)

Description

The Alternative 9 Etiwanda Subtransmission Source Line route would continue to parallel the existing 500 kV transmission line within the SCE ROW, crossing the 210 Freeway underground between Cherry Avenue and San Sevaine Road. It would then continue overhead within the SCE ROW to the proposed Falcon Ridge Substation similar to the proposed route.

Rationale for Elimination

Although this alternative would eliminate significant unavoidable aesthetic impacts in Fontana, it would be technically infeasible because the locations of existing facilities, including a flood control box culvert, a 144-inch Metropolitan Water District water main, a natural gas transmission line, and freeway on- and off-ramps, would make the required 1,200-foot diagonal bore infeasible (Diaz, 2011). Therefore, it was eliminated from further consideration.

3.5.9 Alternative 10: Exit Etiwanda Substation to the West

Description

The Alternative 10 Etiwanda Subtransmission Source Line Route would exit Etiwanda Substation to the west, enter a ROW traveling north and crossing I-15 and the 210 freeway, then turn east toward the proposed Falcon Ridge Substation, again crossing I-15.

Rationale for Elimination

Because existing ROW does not cross I-15 and the 210 Freeway at right angles, this alternative would require one or more deviations from the ROW to achieve normal crossings (i.e., perpendicular to the road). Although this alternative would avoid significant impacts associated with views from Highland Avenue in Fontana, it would traverse more areas of residential

development that are not currently visually defined by existing utility lines, creating more significant adverse visual impacts than the Project. Additionally, any route that would exit Etiwanda Substation to the west would be a longer route, resulting in higher construction-related criteria pollutant emissions than the Project, including PM10. The alternative would also need to construct near more residential areas in Rancho Cucamonga, creating more significant unavoidable impacts related to noise. Therefore, because it would create more significant unavoidable impacts than the Project, it was eliminated from further consideration.

3.5.10 Alternative 11: Eastern ROW Realigned Subtransmission Source Line Route

Description

The Alternative 11 Etiwanda Subtransmission Source Line Route would follow the same alignment as the proposed Etiwanda route, but within the existing ROW between Arrow Route and Foothill Boulevard in Rancho Cucamonga, it would be sited along the eastern side of the existing 500 kV transmission line, rather than on the western side as under the Project.

Rationale for Elimination

This alternative would avoid significant impacts associated with short-term, construction-related noise by relocating construction activities further from residences. However, CPUC General Order No. 95 requires that overhead transmission lines maintain appropriate clearances for safety and reliability purposes. To achieve the required clearance between the proposed subtransmission source line and existing 500 kV transmission line on the eastern side of the ROW, this alternative would require the expansion of the existing ROW, which may not be feasible due to the presence of existing underground utilities, a residential development at the southwest corner of Foothill Boulevard and East Avenue, and other obstructions (Diaz, 2011). Therefore, because it would not meet feasibility criteria, it was eliminated from further consideration.

3.5.11 Alternative 12: Non-Wires Alternative – Conservation and Demand Management

Description

Conservation and demand management programs are designed to reduce customer energy consumption. CPUC regulatory requirements dictate that supply-side and demand-side resource options should be considered on an equal basis in a utility's plan to acquire lowest-cost resources. These programs are designed to either reduce the overall use of energy or to shift the consumption of energy to off-peak times. SCE offers a number of energy efficiency and demand management programs in California, described in detail in Section 4.6, *Energy Conservation*. Additionally, the CPUC and San Bernardino County administer energy conservation programs. Both energy conservation and demand management also reduce the demand for overall and peak capacity in the transmission system, respectively. Under this alternative, the Falcon Ridge

Substation, associated Alder and Etiwanda subtransmission source line routes, and ancillary facilities would not be constructed.

Rationale for Elimination

Reductions in demand through energy conservation and demand management programs are part of SCE's future operations and are incorporated into its long-term peak load forecasts. Existing conservation and demand management programs run by SCE include rebates on energy-efficient appliances, incentives for customer-owned solar generation, a metering system that allows SCE customers with "smart" thermostats and appliances to automatically respond during critical peak pricing and reliability events, and others (SCE, 2011b). However, these programs require voluntary participation. As separate and stand-alone programs, SCE cannot guarantee that such voluntary programs would provide either the capacity or reliability needs in the ENA, as stated in the project objectives. For these reasons, this alternative was eliminated from further consideration.

3.5.12 Alternative 13: Non-Wires Alternative – New Renewable or Conventional Distributed Generation Energy Resources

Description

Distributed generation is electricity production that is on-site or close to the load center that could be interconnected at 16 kV distribution, subtransmission, or transmission system voltages. Distributed generation is generally limited to systems less than 20 MW, and can include both renewable (e.g., solar), and conventional (e.g., natural gas-fired combined heat and power) sources. Distributed generation does not included hydroelectric, geothermal, or non-combined heat and power related digester gas, landfill gas, or municipal solid waste.

In March 2007 the CEC released the staff report *Distributed Generation and Cogeneration Policy Roadmap for California* (CEC, 2007*).* The report included a vision for distributed generation and cogeneration becoming significant components of California's electrical system, meeting over 25 percent of the total peak demand. To achieve its vision, California will support incentives in the near term, transition to new market mechanisms, and reduce remaining institutional barriers.

Under this alternative, the Falcon Ridge Substation, associated Alder and Etiwanda subtransmission source lines, and ancillary facilities would not be constructed.

Rationale for Elimination

Under this alternative, local sources of electrical generation such as rooftop solar, small thermal generation, fuel cells, and micro turbines would be provided that would not require transmission or substation upgrades. Although this alternative could also meet several of the basic objectives of the project, it is considered infeasible because it is not under SCE's control to implement. Additionally, there exist economic, social, and technological reasons that inhibit the application of this alternative on a scale sufficient to meet forecasted load growth, and no mechanism to

implement the broad-based and decentralized application of the technologies on a scale sufficient to meet project objectives.

The distributed generation industry is still a nascent industry that survives despite some difficult market conditions. There are numerous institutional, industry, and market barriers that have impeded the growth and adoption of the industry to date. Although the potential is recognized, and several incentive programs exist to encourage its growth, distributed generation is not currently a significant energy resource. As of 2005, existing distributed generation represents 2.5 percent of total peak demand in California (CEC, 2007). Because the potential for and timing of distributed generation within the ENA is uncertain and additional substation capacity would likely still be required, this alternative was not carried forward for analysis.

3.5.13 Alternative 14: Non-Wires Alternative – Upgrade Alder and Randall Substations

Description

This alternative would involve upgrading the existing Alder and Randall substations by replacing the existing substation equipment with higher-capacity equipment to serve area load growth. The existing 66/12 kV transformers would be replaced with higher-capacity units, and additional 12kV distribution circuits would be added, or existing 12kV circuits would be upgraded to increase their rating. The upgrades could be carried out over a period of time matching the load growth in the substations' service area. The Falcon Ridge Substation, associated Alder and Etiwanda subtransmission source lines, and ancillary facilities would not be constructed.

Rationale for Elimination

Although it would be possible to add an additional transformer or replace existing transformers with higher-capacity units at the Alder and Randall substations, the ability to utilize the increased capacity is limited by the capacity of the 12kv distribution circuits originating from each substation, both in number and rating. Presently, there are 15 distribution circuits originating from Alder Substation and 14 circuits originating from Randall Substation, each normally loaded to approximately 9.5 MVA. SCE has indicated that the number of distribution circuits could be increased by two (one at each substation) for a total increase of 17.6 MVA. The addition of two circuits at these substations could delay the need for the proposed Falcon Ridge Substation by 1 to 2 years. The addition of more than two circuits would require the installation of new duct banks under streets that are currently congested with existing underground utilities. If relocating existing underground utilities to accommodate new duct banks were determined to be feasible, it would nevertheless result in impacts to air quality, noise, traffic, and potentially other resources that would be similar to or greater than those of the proposed Project.

Existing circuits could also be upgraded to accommodate the additional load from transformer upgrades. This would include the change-out of existing exit cables and/or aerial conductors with larger cables or aerial conductors. Removal and re-stringing of distribution circuits would result in impacts to air quality, noise, and traffic, and if new poles were required to accommodate

additional or higher-capacity lines within existing ROWs, the impacts would likely be similar to the proposed Project. Furthermore, the addition of new load to these existing substations would increase the amount of load vulnerable to a single outage if key substation elements were to fail; therefore, this alternative would not meet the basic CEQA objective of maintaining and enhancing reliability in the ENA, and larger distribution circuits offer less operating flexibility by complicating the process of load recovery if a circuit outage were to occur.

This alternative would result in additional load being served from the existing substations and would avoid some of the impacts associated with construction of the Falcon Ridge Substation, associated Alder and Etiwanda subtransmission source lines, and ancillary facilities. However, it could result in impacts to air quality, noise, traffic, and other resources. For this reason and because it would not meet the basic CEQA objectives of improving reliability and operating flexibility in the ENA, this alternative was not carried forward for analysis.

References – Alternatives

California Department of Transportation (Caltrans), 2010. Encroachment Permits Manual, Chapter 6, Utilities Permits. http://www.dot.ca.gov/hq/traffops/developserv/permits/pdf/manual/Chapter_6.pdf, accessed October 28, 2011.

California Energy Commission (CEC), 2007. Distributed Generation And Cogeneration Policy Roadmap For California. http://www.energy.ca.gov/2007publications/CEC-500-2007-021/CEC-500-2007-021.PDF, accessed November 16, 2011.

Thomas Diaz, Southern California Edison Regulatory Affairs, email communication to John Boccio, California Public Utilities Commission, and Janna Scott, Environmental Science Associates. November 10, 2011.

Scheuerman, Paul, Transmission Planning Engineer, email communication to Janna Scott, Environmental Science Associates. January 12, 2012.

Southern California Edison (SCE), 2010. Proponent's Environmental Assessment Falcon Ridge Substation Project, Volume 1 (December 29, 2010)

SCE, 2011a. Falcon Ridge Substation Project – Response to CPUC alternatives. September 28, 2011.

SCE, 2011b. Southern California Edison, Environment: Committed to Environmental Protection, www.sce.com/PowerandEnvironment/default.htm, accessed November 21, 2011.

CHAPTER 4
Environmental Analysis

Introduction to Environmental Analysis

This chapter provides discussion and full public disclosure of the significant environmental impacts of the Project and alternatives, including the No Project Alternative. This chapter examines the potential environmental impacts associated with the Project and alternatives as they relate to the following 18 areas of environmental analysis:

4.1 Aesthetics
4.2 Agriculture and Forestry Resources
4.3 Air Quality
4.4 Biological Resources
4.5 Cultural Resources
4.6 Energy Conservation
4.7 Geology and Soils
4.8 Greenhouse Gas Emissions
4.9 Hazards and Hazardous Materials
4.10 Hydrology and Water Quality
4.11 Land Use and Planning
4.12 Minerals
4.13 Noise
4.14 Population and Housing
4.15 Public Services
4.16 Recreation
4.17 Transportation/Traffic
4.18 Utilities and Service Systems

Analysis within each issue area includes consideration of the following Project components:

- Construction of an unmanned, automated 66/12 kV low-profile substation (Falcon Ridge Substation)
- Installation of two approximately 3-mile-long 66 kV subtransmission source line segments to connect the Falcon Ridge Substation to the existing Alder and Etiwanda Substation, respectively
- Construction of three new underground 12 kV distribution getaways
- Installation of new telecommunications facilities at the Falcon Ridge Substation, including fiber-optic communication cable to connect the Falcon Ridge Substation to SCE's telecommunications network, and upgrades to telecommunications equipment at Etiwanda and Alder Substations.

Within each of the environmental areas listed above, the discussion of Project impacts is provided in the following format:

- Environmental Setting

- Regulatory Context (i.e., applicable regulations, plans, and standards)
- Significance Criteria
- Applicant Proposed Measures
- Impacts and Mitigation Measures
- Cumulative Impacts
- Alternatives

In addition to the No Project Alternative, the following alternatives are fully analyzed in this EIR (refer to Chapter 3 for a description of each alternative):

- Alternative 1: Lowell Street Realignment Alternative

Each environmental issue area analyzed in this document provides background information and describes the environmental setting (baseline conditions) to help the reader understand the conditions that would cause an impact to occur. In addition, each section describes how an impact is determined to be "significant" or "less than significant." Finally, the individual sections recommend mitigation measures to reduce significant impacts. Throughout Chapter 4, both impacts and the corresponding mitigation measures are identified by a bold letter-number designation (e.g., **Impact 4.1-1** and **Mitigation Measure 4.1-1**).

In performing the analysis for this EIR, the EIR preparers relied on available published studies and reports and conducted independent investigations as needed. Information provided by SCE in its application, accompanying environmental documentation, and responses to data requests were also considered in the EIR analysis after independent review and assessment by the EIR preparers. The specific documents considered and relied upon are cited for each issue area in Sections 4.1 through 4.18.

Environmental Assessment Methodology

Environmental Baseline

The analysis of each issue area begins with an examination of the existing physical setting (baseline conditions as determined pursuant to CEQA Guidelines §15125[a]) that may be affected by the Project and alternatives. The effects of the Project and alternatives are defined as changes to the environmental setting that are attributable to project components or operation. Pursuant to CEQA Guidelines §15125(a), the environmental setting used to determine the impacts associated with the Project and alternatives is based on the environmental conditions that existed in the study area in March 2011 at the time the NOP was published.

Impact Significance Criteria

Significance criteria are identified for each environmental issue area. The significance criteria serve as benchmarks for determining if a component action would result in a significant adverse environmental impact when evaluated against the baseline. According to the CEQA Guidelines

§15382, a significant effect on the environment means "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project."

Applicant Proposed Measures

In the Proponent's Environmental Assessment (SCE, 2010), SCE identified the following APMs that would be implemented to avoid or reduce Project impacts.

APM-BIO-01 Migratory Bird Treaty Act (MBTA) and Nesting Raptors: In order to avoid impacts on nesting birds and raptors (common or special status), Project initiation shall be scheduled outside the breeding season (i.e., March 15–September 15 for nesting birds; February 1–June 30 for nesting raptors). If Project timing requires that work be initiated during this time period, a pre-construction survey shall be conducted by a qualified Biologist for nesting birds and/or raptors within 7 days prior to clearing of any vegetation or any work within 500 feet of construction areas. If the Biologist does not find any active nests within the impact area, the vegetation clearing/construction work shall be allowed to proceed.

If the Biologist finds an active nest within the construction area and determines that the nest may be impacted or breeding activities substantially disrupted, the Biologist will delineate an appropriate buffer zone around the nest depending on the sensitivity of the species and the nature of the construction activity. The active site will be protected until nesting activity has ended to ensure compliance with the MBTA and California Fish and Game Code. Encroachment into the buffer area around a known nest shall only be allowed if the Biologist determines that the proposed activity would not disturb the nest occupants. APM-BIO-02: Riversidean Alluvial Fan Sage Scrub, Disturbed Riversidean Alluvial Fan Sage Scrub, Disturbed Riversidean Sage Scrub, and Annual Grassland/Disturbed Riversidean Alluvial Fan Sage Scrub Project impacts on sage scrub vegetation.

APM-BIO-02 Riversidean Alluvial Fan Sage Scrub, Disturbed Riversidean Alluvial Fan Sage Scrub, Disturbed Riversidean Sage Scrub, and Annual Grassland/Disturbed Riversidean Alluvial Fan Sage Scrub: Project impacts on sage scrub vegetation types would be avoided and/or minimized to the maximum extent practicable. Permanent impacts to disturbed Riversidean alluvial fan sage scrub, disturbed Riversidean sage scrub, and annual grassland/disturbed Riversidean alluvial fan sage scrub vegetation would be mitigated at a minimum replacement ratio of 1:1. Residual temporary impacts on undisturbed/disturbed Riversidean alluvial fan sage scrub would be restored on site and/or mitigated at a replacement ratio of 1:1. Permanent impacts on undisturbed Riversidean alluvial fan sage scrub would be mitigated at a replacement ratio of up to 3:1. Final compensation ratios for impacts to Riversidean alluvial fan sage scrub would be determined in consultation with USFWS and CDFG.

A detailed restoration program shall be prepared for approval by SCE and the appropriate resource agencies. Restoration shall consist of seeding and planting containers of appropriate Riversidean alluvial fan sage scrub species. The program shall include, at a minimum, the following items:

- Responsibilities and qualifications of the personnel to implement and supervise the plan.
- Site selection.
- Site preparation and planting implementation.
- Schedule.
- Maintenance plan/guidelines.
- Monitoring plan.
- Long-term preservation.

Additionally, the grading limits shall be clearly marked, and temporary fencing or other appropriate markers shall be placed around any sage scrub vegetation adjacent to work areas prior to the commencement of any ground-disturbing activity or native vegetation removal. No construction access, parking, or storage of equipment or materials shall be allowed within the marked areas. SCE shall be fully responsible for implementing the Riversidean Alluvial Fan Sage Scrub Revegetation Program until the restoration areas have met the success criteria outlined in the program. SCE and the appropriate resource agencies shall have final authority over mitigation area sign-off. The site shall be monitored and maintained for a suitable number of years to ensure successful establishment of Riversidean alluvial fan sage scrub habitat within the restored and created areas, as determined by the resource agencies.

APM-PA-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 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-PA-02 Paleontological Monitoring for the Project: A paleontological monitor shall be on site to spot check ground-disturbing activities at depths greater than 5 feet during installation of the Project. 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.

Environmental Consequences

The EIR evaluates the environmental consequences and potential impacts that the Project and the alternatives would create. The impacts identified were compared with predetermined, specific significance criteria, and were classified according to significance categories listed in each issue area. The same methodology was applied systematically to each alternative. The cumulative impacts of the Project taken together with the related cumulative projects (listed in Section 6.1) were assessed, and mitigation measures for each impact were identified, if applicable. The focus in the cumulative impact analyses was to identify those Project impacts that might not be

significant when considered alone, but contribute to a significant impact when viewed in conjunction with past, current, and reasonably foreseeable future projects. A comparative analysis of the Project and the alternatives is provided in Chapter 5 of this document.

Impact Analysis

The EIR evaluates the potential environmental impacts that the Project and alternatives would create. Impacts are classified as:

Class I: Significant; cannot be mitigated to a level that is less than significant
Class II: Significant; can be mitigated to a level that is less than significant
Class III: Less than significant, no mitigation required
Class IV: No impact identified.

When significant impacts are identified, feasible mitigation measures are formulated to eliminate or reduce the intensity of the impacts and focus on the protection of sensitive resources. The effectiveness of a mitigation measure is subsequently determined by evaluating the impact remaining after its application. Those impacts meeting or exceeding the impact significance criteria after mitigation are considered residual impacts that remain significant (Class I). Implementation of more than one mitigation measure may be needed to reduce an impact below a level of significance. The mitigation measures recommended in this document are identified within each issue area section (Sections 4.1 through 4.18) and are presented in the Mitigation Monitoring, Reporting, and Compliance Program in Chapter 9 of this document.

Cumulative Projects Impact Analysis

Section 6.4 presents the cumulative impact scenario. The focus in the cumulative impact analysis was to identify those Project impacts that might not be significant when considered alone, but may contribute to a significant impact when viewed in conjunction with past, current, and reasonably foreseeable future projects.

Impacts of Alternatives

Chapter 3 provides a list, description, and map that identify alternatives to the Project. Each issue area section (Sections 4.1 through 4.18) presents the impact analysis for each alternative, while Chapter 5 provides a summary of the collective impacts of each alternative in comparison with the impacts of the Project.

References – Environmental Analysis

Southern California Edison (SCE), 2010a. Proponent's Environmental Assessment Falcon Ridge Substation Project, Volume 1 (December 29, 2010), pp. xviii

4.1 Aesthetics

This section describes the visual resources in the vicinity of the Project and alternatives and the associated regulatory framework. The impact analysis presents the significance criteria used to evaluate impacts on identified resources as a consequence of implementing the Project or alternatives, the methods used in evaluating these impacts, and the results of the impact assessment based on the applied significance criteria.

4.1.1 Setting

Definitions Related to Visual Resources

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, a visual or aesthetic impact may occur. Familiarity with the following terms and concepts will aid the reader in understanding the content of this chapter.

Visual Quality is defined as 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. The attributes of line, form and color combine in various ways to create landscape characteristics whose variety, vividness, coherence, uniqueness, harmony, and pattern contribute to the overall visual quality of an area. For the purposes of this EIR, visual quality is defined according to three levels:

- *Indistinctive, or industrial*: generally lacking in natural or cultural visual resource amenities typical of the region
- *Representative*: typical or characteristic of the region's natural and/or cultural visual amenities
- *Distinctive*: unique or exemplary of the region's natural or cultural scenic amenities

Viewer Exposure addresses the variables that affect viewing conditions from potentially sensitive areas. Viewer exposure considers the following factors:

- Landscape visibility (i.e., the ability to see the landscape)
- Viewing distance (i.e., the proximity of viewers to the Project)
- Viewing angle – whether the Project would be viewed from above (superior), below (inferior) or from a level (normal) line of sight
- Extent of visibility – whether the line of sight is open and panoramic to the Project area or restricted by terrain, vegetation and/or structures
- Duration of view

Viewer Types and Volumes of use pertain to the types of use (i.e., public viewers including recreationalist and motorist) and amounts of use (i.e., number of recreational users or motorists) that various land uses receive.

Visual Sensitivity is the overall measure of an existing landscape's susceptibility to adverse visual changes. People in different visual settings, typically characterized by different land uses surrounding a project, have varying degrees of sensitivity to changes in visual conditions depending on the overall visual characteristics of the place. In areas of more distinctive visual quality, such as designated scenic highways, designated scenic roads, parks, and recreation and natural areas, visual sensitivity is characteristically more pronounced. In areas of more indistinctive or representative visual quality, sensitivity to change tends to be less pronounced, depending on the level of visual exposure. This analysis of visual sensitivity is based on the combined factors of visual quality, viewer types and volumes, and visual exposure to the Project. Visual sensitivity is reflected according to high, moderate, and low visual sensitivity ranges.

Scenic Vista: A scenic vista is generally considered to be a location from which the public can experience unique and exemplary high-quality views—typically from elevated vantage points that offer panoramic views of great breadth and depth.

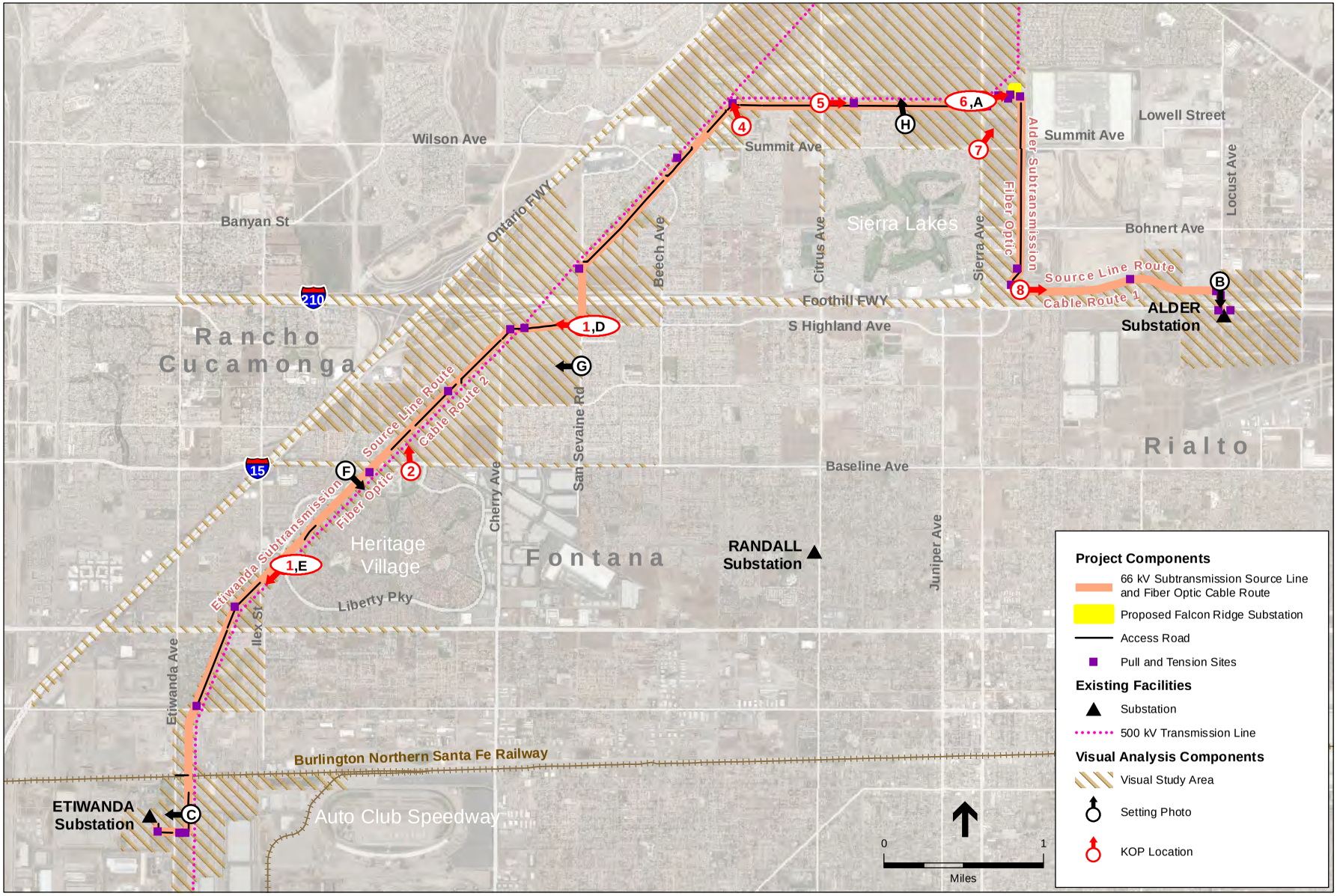
Visual Study Area

The visual study area for the Project is the area from which proposed SCE facilities would come into view. The visual study area, shown in **Figure 4.1-1**, was delineated based on a site visit conducted by ESA on August 18, 2010 (ESA, 2010). During this site visit, ESA staff surveyed locations from which the Project area would be visible. In most locations the Project area's visibility was limited to adjacent roadways, due to the presence of urban development and intervening structures or vegetation. However, other locations provide a wider viewshed with views of the Project area from relatively greater distances, including from locations characterized by agriculture, vacant land, or parks. Due to the elevated position of the freeways in the vicinity of the Project (i.e., Highway 210 and Interstate 15), the Project may also be visible from more distant locations along these freeways. The purpose of establishing the visual study area is to identify the quantity and type of viewers potentially affected by the Project, which is further discussed below.

Regional and Local Setting

The following subsections describe the existing visual quality of the areas in which the Project and alternatives would be constructed. In conjunction with the descriptions, a series of photographs taken from representative public vantage points portray the existing visual character of these locations. Figure 4.1-1 is a viewpoint map that depicts, by photograph numbers, the location and directions from which these setting photographs were taken.[1] **Figures 4.1-2a** and **4.1-2b** present the setting photographs, which were assigned numbers by order of mention in

[1] Locations and directional arrows on the map are approximate.



SOURCE: SCE, 2011

Falcon Ridge Substation Project . 207584.09

Figure 4.1-1

Location of Setting Photos and Key Observation Points (KOP)

Photo A. Sierra Avenue north of Summit Avenue looking east

Photo B. Alder Substation at intersection of West Casmalia Street and North Locust Avenue

Photo C. Industrial area near Etiwanda Substation

Photo D. San Sevaine Road facing north towards State Route 210

SOURCE: AECOM, 2010

Falcon Ridge Substation Project. 207584.09

Figure 4.1-2a

Setting Photos A, B, C and D

Photo E. Existing right-of-way near West Liberty Parkway (church overflow parking lot)

Photo F. View of existing right-of-way along South Heritage Circle near Kindercare center

Photo G. Existing right-of-way from San Sevaine Road

Photo H. Existing right-of-way from end of Cypress Street and north of Summit Avenue

SOURCE: AECOM, 2010

Falcon Ridge Substation Project. 207584.09

Figure 4.1-2b

Setting Photos E, F, G and H

following subsections. The photographs depicting viewsheds are limited in the sense that they provide only fixed viewpoints and cannot demonstrate all views of or from the Project area or along a site's perimeter.

Topography/Landform

The dominant topographic landforms in the study area are the visually distinctive San Bernardino and San Gabriel Mountains, which rise steeply to the north of the Project area; and the Jurupa Hills, which are at a greater distance to the south and more subdued in form. The San Bernardino and San Gabriel Mountains form the primary backdrop in views from most places on the valley floor that do not have foreground or middleground view obstacles (e.g., large trees, tall buildings, elevated freeways, etc.). The Project area itself is located on the valley floor, atop alluvial fan deposits from Lytle Creek, San Sevaine Creek, and Etiwanda Creek. In any one place, the topography appears flat; however, the ground elevation decreases gradually towards the south and away from the base of the mountains. The elevation near the proposed substation is approximately 1,730 feet above mean sea level (amsl), gradually descending to an elevation of approximately 1,000 feet amsl near the Etiwanda Substation.

Land Use and Development Pattern

Proposed Falcon Ridge Substation

The proposed Falcon Ridge Substation site is on the northeastern edge of the City of Fontana, east of Sierra Avenue near the border of the City of Rialto. The visual quality of the site is representative and characteristic of vacant and agricultural land in the study area. The proposed Falcon Ridge Substation would be built on land that is presently undeveloped and adjacent to SCE's existing ROW, and would encompass approximately 2.7 acres of an approximately 7.5-acre parcel. (The remaining 4.8 acres would include allowances for future street improvements and widening, street setbacks, safety buffers, and landscaping.) Surface terrain is characterized by undeveloped agricultural and open space land covered with grass and brush (see Figure 4.1-2a, Photo A). Existing transmission towers, distribution poles, and utility lines are established features within the landscape setting, as are a series of industrial buildings to the east associated with a Target distribution center, and the San Bernardino and San Gabriel Mountains to the north.

Views of the proposed Falcon Ridge Substation would be limited to motorists traveling on Sierra Road, a north-south local roadway west of the substation site. Figure 4.1-2a, Photo A represents the view of a motorist on Sierra Road heading north or south, with his/her head turned east towards the proposed Falcon Ridge Substation site. Sierra Road has two lanes and no sidewalks or bike lanes. Views of the substation from this roadway would be unobstructed for approximately 1 mile.

Proposed Subtransmission Source Line Routes

The proposed Alder Subtransmission Source Line would connect the existing Alder Substation in the City of Rialto (Figure 4.1-2a, Photo B) to the proposed Falcon Ridge Substation, via new ROW. The proposed Etiwanda Subtransmission Source Line would connect the existing Etiwanda

Substation in the City of Fontana (Figure 4.1-2a, Photo C) to the Falcon Ridge Substation, via predominantly existing SCE transmission ROW, and some new ROW.

As mentioned above, the visual quality of a site is typically judged within the context of the surrounding environment and the general visual character of the vicinity. For portions of the Project within existing ROW, the visual quality of the Project area is representative of a utility ROW, with cleared vegetation along a 500-foot wide corridor containing tall lattice structures and numerous wire strings of the Lugo-Mira Loma Nos. 2 and 3 500 kV transmission line.

The areas surrounding the proposed subtransmission source line segments are characterized by a mix of developments, including suburban residential areas, industrial uses, commercial and retail establishments, and public utility infrastructure. The viewsheds are visually dominated by a built environment consisting of large tracts of single family homes, warehouses, and utility infrastructure; however, views are interspersed with some large tracts of vacant and/or agricultural land that open up middleground and background views of the distant mountains from adjacent public roadways and recreational areas. The visual character of areas surrounding the subtransmission source line routes can be generally characterized as falling within one of two distinct visual contexts: urban/developed and vacant/open space/agricultural, as discussed below. Figure 4.1-1 delineates the locations of these visual contexts, which were determined during the August 18, 2010 site visit.

Urban/developed areas of the cities of Rialto, Fontana, and Rancho Cucamonga impart a visual impression and aesthetic style that is generally representative to industrial, depending on area-specific land uses. The visual pattern and aesthetic quality of urban/developed areas are highly variable, ranging from industrial development and utility infrastructure with a high degree of visual clutter (i.e., straight, geometric, and complex forms and lines), to well-landscaped residential subdivisions built according to modern aesthetic and urban design guidelines (see Figure 4.1-2a, Photo D).

In developed neighborhoods and landscaped subdivisions, such as Heritage Village and Summit Heights, the existing utility ROW is an established component in the existing viewshed (see Figure 4.1-2b, Photos E and F). In many places where the utility ROW crosses residential areas, the Project area has aesthetic elements that are relatively unappealing and perceptibly uncharacteristic of the surrounding area due to the lack of landscaping and urban design elements that typically accompany modern subdivisions. However, in other locations along the ROW, parks with pedestrian paths and large maintained lawns have replaced or flanked the Project area and have thus markedly improved the visual quality of the ROW. In these places, such as Fontana, Rosena, and Heritage parks, the Project area is representative of the region's natural or cultural visual amenities.

Vacant/open space/agricultural land in the vicinity of the Project is generally disturbed by human influence, including the presence of overhead electrical lines, transportation infrastructure, graded or disturbed areas, and agricultural activity (see Figure 4.1-2b, Photos G and H). Vacant/open space/agricultural areas, however, provide greater opportunity for long-range middleground and background views of the distinctive San Bernardino Mountains and

San Gabriel Mountains, which form the character-defining backdrop for the region. While uncommon, northeasterly to northwesterly views of agricultural land that are unencumbered by visual disturbances (e.g., transmission towers, construction grading, highway overpasses and adjacent development) represent the most unique and high-quality views in the study area due to their bucolic nature. Generally, these areas are representative of undeveloped areas or agricultural development in the Project area, with distinct views from select locations.

In summary, the visual study area as a whole has a discontinuous visual pattern of development without a discernable unifying architectural or aesthetic theme. While there are isolated locations that provide aesthetically pleasing views, the majority of the study area is characterized by a typical urban/suburban visual setting of representative or industrial quality. Views of the subtransmission source lines would be seen by motorists on local roadways and users of recreational facilities, discussed below.

Nighttime Light Environment

Light sources currently within the Project area include sources typical of a suburban environment, including street lamps, signage, and residential, commercial, and industrial uses. Even in vacant or agricultural land uses within the study area, nighttime lighting is likely to be intense due to the close proximity of existing light sources.

Viewer Types and Exposures

Public viewer groups evaluated include motorists along major or scenic roadways, visitors to parks and recreational areas, and visitors to scenic vistas. For each of the viewer groups identified in the study area, viewer exposure conditions were determined based on knowledge of the Project area and a site visit conducted on August 18, 2010. Variables considered include the angle of view, the extent to which views are screened or open, duration of view, and viewing distance.

Viewing angle and extent of visibility consider the relative location of the Project components to the viewer and whether visibility conditions would be open or panoramic, or limited by intervening vegetation, structures, or terrain. Duration of view pertains to the amount of time the Project facilities or area would typically be seen from a sensitive viewpoint. In general, duration of view would be shorter in instances where the Project component would be seen for short or intermittent periods (such as from major travel routes and recreation destination roads) and greater in instances where the Project component would be seen regularly and repeatedly (such as from public use areas). Viewing distances are described according to whether the Project activities would be viewed within a foreground (within 0.5 mile or 2,640 feet), middleground (0.5 mile to 2 miles), or background (beyond 2 miles) zone. However, as shown in the visual study area depicted in Figure 4.1-1, views of the Project are generally limited to foreground distances because of screening from intervening structures and vegetation, except from elevated freeways.

Motorists on Major or Scenic Travel Routes

There are no state-designated or eligible scenic highways in the study area, nor are there any county-designated scenic routes in the study area (Caltrans, 2011; San Bernardino County, 2007).

However, the General Plans for the cities of Fontana, Rancho Cucamonga, and Rialto identify scenic corridors for special design treatment (City of Fontana, 2003; City of Rancho Cucamonga, 2010; City of Rialto, 2010). The following scenic corridors are located in the visual study area:

- North-south routes: Beech, Sierra, Citrus, Cherry, and Etiwanda Avenues
- East-west routes: Foothill Boulevard; Wilson, Baseline, and Highland Avenues
- Major freeways: Interstate (I)-15 and State Route (SR) 210

Although these corridors provide views of scenic mountains in the background, the visual quality of landscape surrounding the scenic corridors is generally representative, as they are surrounded by the suburban, developed, and/or agricultural development described above under *Land Use and Development Pattern*.

Due to the topography and land use patterns discussed above, the duration of views of the Project from major freeways and local roadways would generally be short because the proposed subtransmission source lines would be visible only briefly from roads that cross the route at oblique or right angles. I-15, SR 210, Etiwanda Avenue, Summit Avenue, and Sierra Avenue parallel portions of the proposed subtransmission source line route, and views of the Project from these roadways would therefore be relatively more prolonged, and would be of short to medium duration. Views of the Project would range from open and panoramic while driving underneath the proposed subtransmission source line, to fully obscured by intervening vegetation and structures at further distances. Motorist views would be almost exclusively within foreground range, with the exception of I-15 and SR 20 which provide middleground views of the Project area (see visual study area in Figure 4.1-1).

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). As discussed in Section 4.17, *Transportation and Traffic* and according to the City of Fontana General Plan (2003), traffic volumes on local roadways range from low (Summit Avenue), to moderate (Alder Avenue, Cherry Avenue, Sierra Lakes Parkway), to moderate-high (South Highland Avenue) to high (I-15, SR 210, Baseline Avenue, Citrus Avenue, Etiwanda Avenue, and Sierra Avenue).

Park and Recreational Areas

There are four active regional recreational trails within San Bernardino County: the Pacific Electric Inland Empire Trail, the Jurupa Hills Trail, the Frontline Trail, and the Baseline Trail. However, none of these trails would provide views of the Project because of distance, topography, and trail orientation. Therefore, viewer exposure is low due to the lack of visibility.

There are several community parks and recreational facilities within the Project's visual study area. These include (alphabetically) Fontana Park, Garcia Park, Heritage Common Areas,

Heritage Park, Heritage Pool/Heritage Neighborhood Center, North McDermott Sports Complex & McDermott Park West, Patricia Murray Park, Rosena Park East, and Rosena Park West. (For specifics on location and amenities, see Section 4.16, *Recreation*). Visitors to these parks would have views that range from open and panoramic at parks adjacent to the proposed subtransmission source line route, to partially and fully obscured by intervening vegetation and structures. Views of Project activities would be viewed primarily within a foreground zone, and view duration would range from short to long, depending on the length of the park user's stay.

Scenic Vistas

As described above under *Definitions Related to Visual Resources*, scenic vistas are generally considered to be a location from which the public can experience unique and exemplary high-quality views—typically from elevated vantage points that offer panoramic views of great breadth and depth. In the visual study area, there are no elevated vantage points that offer panoramic views of great breadth and depth.

Nevertheless, San Bernardino County and the cities of Fontana, Rialto, and Rancho Cucamonga consider the San Gabriel and San Bernardino Mountains as important scenic and character-defining backdrops. Unencumbered views of the mountains are valued by the general public, and are considered as a scenic resource for the purpose of land use planning and community design (San Bernardino County, 2007; City of Rialto, 2010; City of Fontana, 2003; City of Rancho Cucamonga, 2010). Further, the cities of Fontana, Rialto, and Rancho Cucamonga generally define major north-south arterial roads as view corridors, reflecting the importance and value of northerly views of the mountains. As such, scenic vistas in the study area include those scenic view corridors discussed above under *Motorists on Major or Scenic Travel Routes*. Views for pedestrians and bicyclists on these scenic corridors would be similar to those discussed for motorists, though of longer duration.

Visual Sensitivity

Key observation points (KOPs) were established to provide a representative cross-section of affected landscapes in the visual study area. KOPs were selected based on the Project's viewshed, visual exposure, and important viewer groups (as described above). The locations of the KOPs are shown in Figure 4.1-1. Side-by-side photographs from the KOPs of the existing view and of the Project simulated in the view are provided in Figures 4.1-3 through 4.1-10. These KOPs provide the basis for showing the visual character and quality of views towards the Project area (analysis of the visual changes introduced by the Project is provided in impact analysis, Section 4.1-4).

As defined above, visual sensitivity 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. **Table 4.1-1** summarizes the visual sensitivity of the major viewer types that would be affected by the Project.

TABLE 4.1-1
SUMMARY OF VISUAL SENSITIVITY FINDINGS:
VIEWER TYPES, VISUAL EXPOSURES, AND VISUAL QUALITY

Primary Viewer Type	Visual Quality	View Exposure	Visual Sensitivity	Visible Project Elements
Local Motorists				
West Liberty Parkway, (near Heritage Village neighborhood Parks) (KOP 1)	Representative	Foreground Distance Partially Obstructed View Moderate Number of Viewers Short View Duration	Moderate	Etiwanda Subtransmission Source Line Route
South Highland Avenue and San Sevaine Road (KOP 3)	Representative to Distinct	Foreground Distance Unobstructed View Moderate to High Number of Viewers Short View Duration	Moderate to High	Etiwanda Subtransmission Source Line Route
Citrus Avenue (KOP 5)	Representative	Foreground Distance Unobstructed View High Number of Viewers Short View Duration	Moderate	Etiwanda Subtransmission Source Line Route
Sierra Avenue (KOP 6)	Representative to Distinct	Foreground Distance Unobstructed View High Number of Viewers Short to Medium View Duration	Moderate to High	Proposed Substation and Etiwanda Subtransmission Source Line Route
Sierra Avenue at Summit Avenue (KOP 7)	Representative	Foreground Distance Partially Obstructed View High Number of Viewers Short to Medium View Duration	Moderate	Proposed Substation and Alder Subtransmission Source Line Route
Sierra Lakes Parkway at Mango Avenue (KOP 8)	Representative	Foreground Distance Unobstructed View Moderate Number of Viewers Short View Duration	Moderate	Alder Subtransmission Source Line Route
Park/Recreation Areas				
Baseline Avenue near North Heritage Park and Heritage Common Area (KOP 2)	Representative	Foreground Distance Partially Obstructed View High Number of Viewers Short to Long View Duration	Moderate	Etiwanda Subtransmission Source Line Route
Fontana Park (KOP 4)	Representative	Foreground Distance Partially Obstructed View High Number of Viewers Short to Long View Duration	Moderate	Etiwanda Subtransmission Source Line Route

SOURCES: ESA, 2010; City of Fontana, 2003; Wolf, 2011; Cloke, 2011.

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 visual 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, §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 Project would be visible from a Designated or Eligible State Scenic Highway (Caltrans, 2011).

Local

CPUC General Order No. 131-D explains that local land use regulations would not apply to the Project. However, CPUC staff considered the following policies identified in the general plans for San Bernardino County and the cities of Fontana, Rialto, and Rancho Cucamonga to identify visual resources and inform the determination of significance thresholds in the study area.

San Bernardino County General Plan

The following goals and policies identified in the San Bernardino County General Plan are relevant to the Project (San Bernardino County, 2007):

Open Space Element

- ***Policy OS 1.9*:** Ensure that open space and recreation areas are both preserved and provided to contribute to the overall balance of land uses and quality of life.
- ***Policy OS 3.6*:** Consistent with safety and operational considerations, support the use of channels, levees, aqueduct alignments, and similar linear spaces for open space and/or trail use.
- ***Goal OS 4:*** The County will preserve and protect cultural resources throughout the County, including parks, areas of regional significance, and scenic, cultural and historic sites that contribute to a distinctive visual experience for visitors and quality of life for County residents.
- ***Policy OS 5.1*:** Features meeting the following criteria will be considered for designation as scenic resources:
    a. A roadway, vista point, or area that provides a vista of undisturbed natural areas
    b. Includes a unique or unusual feature that comprises an important or dominant portion of the viewshed (the area within the field of view of the observer)
    c. Offers a distant vista that provides relief from less attractive views of nearby features (such as views of mountain backdrops from urban areas)
- ***Policy OS 7.3*:** Because open space can promote neighborhood and civic identity by providing a clear definition to districts and neighborhoods, the County supports the use of open space and landscaping to define neighborhoods and district boundaries and to delineate edges between the natural and built environment.

City of Fontana General Plan

The following City of Fontana General Plan goals and policies are relevant to the Project (City of Fontana, 2003):

Land Use Element

- ***Goal #2*:** Quality of life in our community is supported by development that avoids negative impacts on residents and businesses and is compatible with, and enhances, our natural and built environment.

  4. Hillside development and development adjacent to natural areas at northern and southern edges of the City shall be designed to preserve natural features and habitat.

Community Design Element

- ***Goal #2:*** We preserve and use our open spaces as recreational amenities, visual boundaries and view corridors.

  5. Preservation of open space near the periphery of City boundaries provides important visual contrast to the built environment.

- ***Goal #6:*** Conflict and spillover effects at the interface of differing land uses are minimized with appropriate design standards.

  1. Specialized design standards and regulations shall be applied to those areas where conflicting land uses meet.

  3. One or more techniques for reducing land use conflicts may be applied in any particular situation.

City of Rialto General Plan

The following City of Rialto General Plan goal and policy are relevant to the Project (City of Rialto, 2010):

Community Design

- ***Goal 2-14:*** Protect scenic vistas and scenic resources.
- ***Policy 2-14.3*:** Ensure use of building materials that do not produce glare, such as polished metals or reflective windows.

City of Rancho Cucamonga General Plan

The following City of Rancho Cucamonga General Plan policies are relevant to the Project (City of Rancho Cucamonga, 2010):

Chapter 2: Managing Land Use, Community Design, and Historic Resources

- ***Policy LU-1.1*:** Protect neighborhoods from the encroachment of incompatible activities or land uses that may have a negative impact on the residential living environment.
- ***Goal LU-9:*** Foster a cohesive, healthy community through appropriate patterns and scales of development, including complementary transitions between districts, neighborhoods, and land uses.

- ***Policy LU-9.1:*** Preserve and enhance the special qualities of existing districts and neighborhoods through focused attention on land use, community design, and economic development.
- ***Policy LU-9.6*****:** Maintain the rural development pattern and character of the Etiwanda area through the Etiwanda Specific Plan.
- ***Policy LU-11.2*****:** Continue to require the undergrounding of utility lines and facilities wherever feasible to minimize the unsightly appearance of overhead utility lines and utility enclosures.
- ***Goal LU-13:*** Take full advantage of view lines and vista points with carefully designed development.
- ***Policy LU-13.1*****:** On north-south roadways, open space corridors, and other locations where there are views of scenic resources, trees, and structures, encourage framing and orientation of such views at key locations, and endeavor to keep obstruction of views to a minimum.

Chapter 6: Resource Conservation

- ***Policy RC-1.2*****:** Develop measures to preserve and enhance important views along north-south roadways, open space corridors, and at other key locations where there are significant views of scenic resources.

4.1.2 Significance Criteria

According to Appendix G of the CEQA Guidelines, significant aesthetic effects on the environment would occur if implementation of the Project would:

a) Have a substantial, demonstrable negative aesthetic effect on a scenic vista;

b) Substantially damage scenic resources including, but not limited to, scenic waterways, trees, rock outcroppings, and historic buildings within a State scenic highway;

c) Substantially degrade the existing visual character or quality of the site and its surroundings; or

d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

Definition and Use of Significance Criteria

An adverse visual impact may occur when: (1) an action perceptibly changes the existing physical features of the landscape that are characteristic of the region or locale; (2) an action introduces new features to the physical landscape that are perceptibly uncharacteristic of the region or locale, or become visually dominant in the viewshed; or (3) an action blocks or totally obscures aesthetic features of the landscape. The degree of visual impact depends on how noticeable the adverse change is, in conjunction with the visual sensitivity of the site. The noticeability of a visual impact is a function of the Project features, context, and viewing conditions (angle of view, distance, and

primary viewing directions). The key factors in determining the degree of visual change are visual contrast, Project dominance, and view blockage.

Visual Contrast

Visual contrast is a measure of the degree of change in line, form, color, and texture that the Project would create, when compared to the existing landscape. Visual contrast ranges from none to strong, and is defined as:

- None –The element contrast is not visible or perceived
- Weak –The element contrast can be seen but does not attract attention
- Moderate –The element contrast begins to attract attention and begins to dominate the characteristic landscape
- Strong – The element contrast demands the viewer's attention and cannot be overlooked

Project Dominance

Visual dominance is a measure of the Project feature's apparent size relative to other visible landscape features in the viewshed, or seen area.

View Blockage or Impairment

View blockage or impairment is a measure of the degree to which Project features would obstruct or block views of aesthetic features due to the Project's position and/or scale.

Overall Adverse Visual Impact

Overall adverse visual impact reflects the composite visual changes to both the directly affected landscape and from sensitive viewing locations (**Table 4.1-2**).

Visual Simulations

Visual simulations, presented as part of this aesthetic analysis, illustrate representative "before" and "after" visual conditions in the study area. In the text below, the evaluation of potential impacts associated with the Project is based, in part, on comparing the "before" and "after" visual conditions as portrayed in the set of simulations and assessing the degree of visual change that the Project would bring about. The significance determination is based on the evaluation criteria described above.

The simulations presented in this section illustrate the location, scale, and conceptual appearance of the Project as seen from eight KOPs. Figure 4.1-1 depicts the KOP locations for the visual simulations in **Figures 4.1-3** through **4.1-10**.

The visual simulations are presented in color, two images per page, with the existing visual condition photograph on top of the page and a photo rendering visual simulation depicting the Project on the bottom of the page. Images were photographed in 2010 using two digital cameras:

TABLE 4.1-2
GUIDELINES FOR DETERMINING ADVERSE VISUAL IMPACT SIGNIFICANCE

	Overall Visual Change				
Overall Visual Sensitivity	**Low**	**Low to Moderate**	**Moderate**	**Moderate-to-high**	**High**
Low	Not Significant	Not Significant	Adverse, but Not Significant	Adverse, but Not Significant	Adverse, but Not Significant
Low to Moderate	Not Significant	Adverse, but Not Significant	Adverse, but Not Significant	Adverse, but Not Significant	Adverse, but Not Significant
Moderate	Adverse, but Not Significant	Adverse, but Not Significant	Adverse, but Not Significant	Adverse and Potentially Significant	Adverse and Potentially Significant
Moderate-to-high	Adverse, but Not Significant	Adverse, but Not Significant	Adverse and Potentially Significant	Adverse and Potentially Significant	Significant
High	Adverse, but Not Significant	Adverse and Potentially Significant	Adverse and Potentially Significant	Significant	Significant

Not Significant impacts may or may not be perceptible but are considered minor in the context of existing landscape characteristics and view opportunity.

Adverse but Not Significant Impacts are perceived as negative but do not exceed environmental thresholds.

Adverse and Potentially Significant Impacts are perceived as negative and may exceed environmental thresholds depending on project- and site-specific circumstances.

Significant impacts with feasible mitigation may be reduced to less than significant levels or avoided all together. Without mitigation or avoidance measures, significant impacts would exceed environmental thresholds.

a Canon PowerShot SD780 and a Canon PowerShot SD800 IS. For each of the cameras and existing-conditions photos, the digital focal length was noted, and then converted to a corresponding film focal length (SCE, 2010).

No Impact Significance Determinations

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

As indicated in the visual setting, there are no officially designated or eligible state scenic highways in the vicinity of the Project; therefore, the Project would not affect scenic resources within a state scenic highway (No Impact, Class IV).

Impacts to city-designated scenic corridors are analyzed under criterion a), impacts to scenic vistas.

KOP 7. Existing view from Sierra Avenue at Summit Avenue looking northeast

KOP 7. Simulated view from Sierra Avenue at Summit Avenue looking northeast

SOURCE: AECOM, 2010

Figure 4.1-3
Project Simulation from KOP 7

KOP 6. Existing view from Sierra Avenue looking east

KOP 6. Simulated view from Sierra Avenue looking east

SOURCE: AECOM, 2010

Figure 4.1-4
Project Simulation from KOP 6

KOP 5. Existing view from Citrus Avenue looking east

KOP 5. Simulated view from Citrus Avenue looking east

SOURCE: AECOM, 2010

Figure 4.1-5
Project Simulation from KOP 5

KOP 2. Existing view from Baseline Avenue near Heritage Intermediate School looking northwest

KOP 2. Simulated view from Baseline Avenue near Heritage Intermediate School looking northwest

SOURCE: AECOM, 2010

Figure 4.1-6
Project Simulation from KOP 2

KOP 3. Existing view from South Highland Avenue at San Sevaine Road looking northwest

KOP 3. Simulated view from South Highland Avenue at San Sevaine Road looking northwest

SOURCE: AECOM, 2010

Figure 4.1-7
Project Simulation from KOP 3

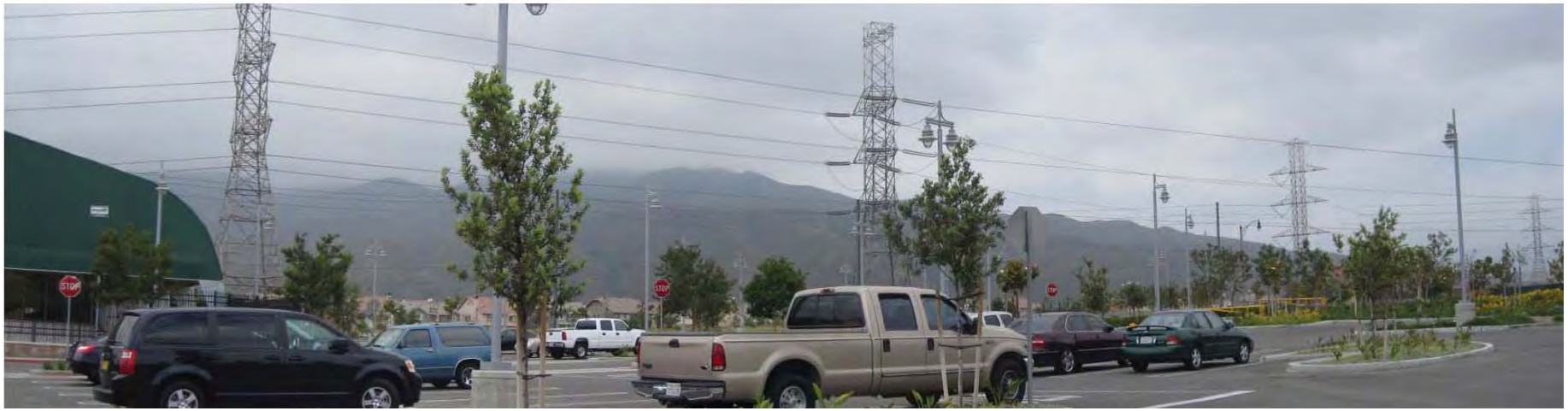
KOP 1. Existing view from West Liberty Parkway looking northeast

KOP 1. Simulated view from West Liberty Parkway looking northeast

SOURCE: AECOM, 2010

Figure 4.1-8
Project Simulation from KOP 1

KOP 4. Existing view from Fontana Park



KOP 4. Simulated view from Fontana Park

SOURCE: AECOM, 2010

Figure 4.1-9
Project Simulation from KOP 4

KOP 8. Existing view from Sierra Lakes Parkway and Mango Avenue intersection looking east

KOP 8. Simulated view from Sierra Lakes Parkway and Mango Avenue intersection looking east

SOURCE: AECOM, 2010

Figure 4.1-10
Project Simulation from KOP 8

4.1.3 Applicant Proposed Measures

No APMs have been identified by SCE to reduce Project impacts on aesthetic resources.

4.1.4 Impacts Analysis

a) Have a substantial adverse effect on a scenic vista.

Impact 4.1-1: The Project would have an adverse effect on a scenic vista. *Significant Unavoidable* (Class I)

As described in the *Setting*, the cities of Fontana, Rialto, and Rancho Cucamonga consider the San Gabriel and San Bernardino Mountains as important scenic and character-defining backdrops. Although not "scenic vistas" per the definition provided under *Definitions Related to Visual Resources*, this analysis includes the scenic view corridors identified by the cities of Fontana, Rialto and Rancho Cucamonga, because unencumbered views of the mountains are considered as a scenic resource by all three cities for the purpose of land use planning and community design (City of Rialto, 2010; City of Fontana, 2003; City of Rancho Cucamonga, 2010). Therefore, scenic view corridors (i.e., roadways from which scenic vistas are visible) in the visual study area include Beech, Sierra, Citrus, Cherry, and Etiwanda avenues (north-south routes); Foothill Boulevard, Wilson, Baseline, and Highland avenues (east-west routes); and I-15 and SR 210 (major freeways). This impact discussion is based on KOPs 2, 3, 5, 6 and 7, which show views towards the Project area from several vantage points along and near the scenic corridors (see Figures 4.1-3 through 4.1-7). The section of each scenic corridor from which Project activities would be visible is limited by intervening structures and vegetation, and is portrayed as the visual study area in Figure 4.1-1.

Visual disturbances associated with construction activity would include the presence of vehicles, heavy equipment, and workers at facility construction sites, staging/laydown areas, and marshalling yards (see Table 2-4 for a list of construction-related equipment). Site preparation and grading during Project construction would also cause visual disturbance through the removal of existing vegetation and the creation of a visual contrast with the surrounding area. As stated in the Chapter 2, *Project Description*, water trucks would be used to minimize the quantity of airborne dust created by construction activities, which would avoid or minimize the presence of visible dust plumes. Project construction would last approximately 12 months.

Construction activity would be temporary, and would be dispersed and intermittent over the whole Project area. Moreover, because the finished Project would involve visual changes that are equal or greater in magnitude than during construction, this analysis focuses on potential adverse visual effects of Project operation and maintenance on the existing visual character or quality of the site and its surroundings.

Sierra Avenue

Figure 4.1-3 (KOP 7) shows an existing and simulated view from Sierra Avenue at the intersection with Summit Avenue, looking northeast approximately 0.5 mile from the proposed

substation, capturing the perspective of a driver, bicyclist, or pedestrian traveling north. This vantage point shows views of the proposed Alder Subtransmission Source Line Route, which would add new TSP and LWS poles east of the road ranging in height from 65 to 100 feet ags, each having a dulled galvanized finish. Each structure would support polymer post insulators and dead-end insulators, 954 kcmil stranded aluminum conductor (SAC), and 4/0 ACSR fault return conductor, as well as fiber-optic cable. In addition, this vantage point provides views of the proposed Falcon Ridge Substation to the northeast, consisting of an 8-foot-high perimeter wall typically constructed of light-colored decorative blocks, as well as substation equipment visible above the wall including two 28 MVA, 66/12 kV transformers; one 12 kV switchrack; two capacitor banks; one MEER; and one restroom. 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. Landscaping (which is not portrayed in the simulation in Figure 4.1-3) and irrigation would be established around the full perimeter of the substation after the perimeter wall is constructed and water service is established. Project components would appear behind utility and road infrastructure in the foreground, including subtransmission and distribution lines, transmission towers and lines, stoplights, and road signs. In the far background are the San Bernardino Mountains. As shown in the simulation in Figure 4.1-3, the new poles, overhead conductor, and substation would cause a nearly imperceptible increase in structure prominence and industrial character within the landscape, and would not attract attention. Therefore, the resulting visual contrast would be weak. The new features would not dominate the viewshed, nor would they obstruct or block views of the aesthetic features in the landscape. Overall visual change would be low. Per Table 4.1-2, the visual impact of the Project to scenic views at this KOP would be adverse but not significant because the visual sensitivity of the site is moderate and the visual change is low.

Figure 4.1-4 (KOP 6) shows an existing and simulated view from Sierra Avenue north of Summit Avenue, looking due east at the proposed substation. This view captures the perspective of a driver, bicyclist, or pedestrian traveling north or south on Sierra Avenue, approximately 0.2 mile from the proposed substation. Like the view described above, the Project would add new TSPs, LWS poles, polymer insulators, conductor, and fiber-optic cable to the viewshed. The location of this KOP is the closest public location to the proposed Falcon Ridge Substation, although viewers would have to turn their head due east to see the substation. From this location, the light-colored perimeter wall would be clearly visible within the foreground, behind an expanse of open space with sparse vegetation, against a backdrop of mountains. Landscaping (which is not portrayed in the simulation in Figure 4.1-4) around the perimeter of the substation would aid in blending the substation into the surrounding open space. An existing SCE transmission line and lattice towers are visible in the foreground, so although the Project would visibly increase the industrial character within the landscape, it would add to an existing site characteristic. Although not visible in the simulation, from this KOP viewers would also see the Etiwanda Subtransmission Source Line Route as it crossed Sierra Avenue and headed west within existing ROW. Overall visual contrast would be weak to moderate, as the Project would begin to attract attention but would not dominate the landscape. The Project would co-dominate the landscape with other industrial features (i.e., SCE's existing transmission line and lattice structures, and the Target distribution center) and natural features (i.e., the scenic San Bernardino Mountains). The short height of the proposed substation and the narrowness of the proposed subtransmission poles would prevent

Project features from obstructing views of the aesthetic features in the landscape. After establishment of landscaping around the perimeter of the substation, and with implementation of Mitigation Measure 4.1-1, the visual change would be low to moderate. Taking into account Sierra Avenue's moderate-to-high visual sensitivity, per Table 4.1-2 the resulting visual impact to scenic views at this KOP would be adverse but not significant.

> **Mitigation Measure 4.1-1:** SCE and/or its contractors shall use subtransmission line conductors that are non-specular and non-reflective and insulators that are non-reflective and non-refractive.

Significance after Mitigation: Less than Significant.

Cherry, Beech, Citrus, and Etiwanda Avenues

Motorists, pedestrians, and bicyclists on Cherry, Beech, and Citrus avenues would have views of the Etiwanda Subtransmission Source Line when traveling underneath the route. Figure 4.1-5 (KOP 5) shows the perspective of a motorist on Citrus Avenue, which is representative of north-south scenic corridors in the visual study area. Specifically, the Project would add new TSP and LWS poles east-west across the avenue ranging in height from 65 to 100 feet ags, each having a dulled galvanized finish, in existing SCE transmission ROW. Each structure would support polymer post insulators and dead-end insulators, 954 kcmil SAC, and 4/0 ACSR fault return conductor, as well as fiber-optic cable. Figure 4.1-5 shows an existing and simulated view of the Project from Citrus Avenue looking east, where the proposed subtransmission source line would cross the avenue. As seen in the simulation, to motorists on Citrus Avenue the Project would appear against a backdrop of sky and open space. Existing transmission lines and lattice towers run parallel to the proposed subtransmission source line in the foreground. The new poles and overhead conductors would cause a noticeable increase in structure prominence and industrial character within the landscape. The presence of the poles and conductors would begin to attract attention creating a moderate visual contrast. Project components would be subordinate to the much taller and bulkier existing transmission lattice structures and conductors. Overall visual change would be moderate. Per Table 4.1-2, the visual impact of the Project to scenic views at this KOP would be adverse but not significant because the visual sensitivity of the site is moderate and the visual change is moderate. Visual changes to scenic views from the Beech Avenue and Cherry Avenue scenic corridors would be similar to those described for Citrus Avenue (i.e., the Project would create a moderate visual change to the viewshed), and impacts would similarly be adverse but less than significant with implementation of Mitigation Measure 4.1-1, given the moderate visual sensitivity of these roadways.

Motorists, pedestrians, and bicyclists on Etiwanda Avenue would also have views of the Etiwanda Subtransmission Source Line Route when traveling underneath the line, as the line connects to the Etiwanda Substation. However, the portion of Etiwanda Avenue where the Project would be visible to motorists is at a junction where numerous utility lines converge to enter and exit the Etiwanda Substation. The visual quality of this portion of Etiwanda Avenue is industrial, and despite views of the scenic San Bernardino Mountains in the far background, the overall

visual sensitivity would be low to moderate. Given the presence of extensive utility infrastructure in the viewshed including structures that are both taller and larger than the proposed subtransmission source line components, the new poles and conductor associated with the Project would incrementally increase the presence of industrial character. Project components would not dominate the landscape, and visual contrast would be weak as components could be seen but would not attract attention. Furthermore, the new features would not block views of the aesthetic features (San Bernardino Mountains) in the background to the north. Overall visual change would be low; therefore, impacts would be less than significant.

Foothill Boulevard, Baseline Avenue, and Highland Avenue

The Etiwanda Subtransmission Source Line Route would traverse Foothill Boulevard, Baseline Avenue, and Highland Avenue. The Project would add industrial components to the viewsheds, including TSP and LWS poles ranging in height from 65 to 100 feet ags, each having a dulled galvanized finish. Each structure would support polymer post insulators and dead-end insulators, 954 kcmil SAC, and 4/0 ACSR fault return conductor, as well as fiber-optic cable. Figure 4.1-6 (KOP 2) shows an existing and simulated view of the Project from Baseline Avenue looking north/northwest. As seen from the simulation, to viewers on Baseline Avenue the Project would appear against a backdrop of mountains and sky. Grass, trees, a metal fence, light poles, a local distribution line, and residences are in the foreground. This portion of the proposed subtransmission source line route would be within existing SCE ROW, and transmission lattice towers and line parallel Project lines in the foreground, in front of the Project subtransmission source line. The addition of new subtransmission poles and conductor would cause a slight increase in structure prominence and industrial character within the landscape. However, the increase would not be enough to attract attention, and visual contrast would be weak. Other features in the viewshed would dominate views, including fencing, light poles, transmission lattice structures, and conductor. While the new features would slightly add to the number of structures visible in the foreground, due to their narrow shape and lack of bulk, they would not block views of the aesthetic features (San Bernardino Mountains) in the background to the north. The overall visual change would be low. Per Table 4.1-2, the visual impact at this KOP would be adverse but not significant in consideration of Baseline Avenue's moderate sensitivity and the low visual change. The visual change to viewers on Foothill Boulevard and Wilson Avenue would be similar to those described for Baseline Avenue, resulting in a low visual change. Given the moderate visual sensitivity of these scenic corridors, impacts would also be adverse but not significant (i.e., less than significant).

Figure 4.1-7 (KOP 3) shows an existing and simulated view of the Project from South Highland Avenue at San Sevaine Road, looking west. At this location the proposed subtransmission source line route turns from an east-west direction to a north-south direction. As seen from the simulation, to viewers on South Highland Avenue the Project would appear against a backdrop of trees and open space in the foreground, and distant mountains and sky in the background. Unlike other portions of the Etiwanda Subtransmission Source Line Route, this portion of the route is in new ROW. The addition of new subtransmission poles and conductor would cause a substantial increase in structure prominence and industrial character within the landscape, degrading the natural open space quality and character of the site. As Project components would begin to dominate the characteristic landscape and could not be overlooked, visual contrast would be

moderate to strong. Furthermore, the new features would partially obstruct views of the San Bernardino and San Gabriel Mountains in the background to the north. The overall visual change would be moderate to high. Per Table 4.1-2, given Highland Avenue's moderate to high visual sensitivity, the resulting visual impact would be adverse and potentially significant. Scenic views such as the one offered at this KOP are becoming increasingly rare in the study area as the City of Fontana becomes more urbanized. Despite the limited duration of time that a motorist would view the Project, and even with implementation of Mitigation Measure 4.1-1, impacts would be significant and unavoidable.

> **Mitigation Measure 4.1-1:** SCE and/or its contractors shall use subtransmission line conductors that are non-specular and non-reflective and insulators that are non-reflective and non-refractive.

Significance after Mitigation: Significant and unavoidable (Class I).

SR 210 and I-15

Both SR 210 and I-15 provide scenic views of the San Gabriel Mountains to the north and the San Bernardino Mountains to the north and east. The Etiwanda Subtransmission Source Line Route would traverse SR 210 twice at perpendicular angles, once east of Cherry Avenue and once north of the Alder Substation. The Project would add the same industrial components to the viewshed discussed above, including TSP and LWS poles ranging in height from 65 to 100 feet ags, each having a dulled galvanized finish. Each structure would support polymer post insulators and dead-end insulators, 954 kcmil SAC, and 4/0 ACSR fault return conductor, as well as fiber-optic cable. Both SR 210 crossings would be within new ROW. However, for the eastern crossing of SR 210, the existing SCE transmission line and lattice towers are existing features in the viewshed and traverse SR 210 just west of the proposed Project crossing. To viewers looking north on SR 210, the Project would appear against a backdrop of distinct San Bernardino and San Gabriel Mountains and sky. Foreground features include open space, agricultural areas, and highway structures such as light poles and signage. Middleground zones include residential developments. The addition of new subtransmission poles and conductor would cause a small but perceptible increase in structure prominence and industrial character within the landscape, as motorists approach and drive under the proposed subtransmission source line. Other features in the viewshed would co-dominate or dominate views, including transmission lattice structures and conductor. The narrowness of poles and conductor would prevent the Project from blocking scenic vistas in the background. The overall visual change at both crossings of SR 210 would be moderate. In consideration of SR 210's high visual sensitivity, the resulting visual impact would be adverse and potentially significant. However, per the definition of "adverse and potentially significant" in Table 4.1-2, site-specific circumstances determine whether the impacts are perceived as negative and exceed environmental thresholds. In the case of views from SR 210, because the highway is oriented east-west, the viewer would experience the change in an urbanized context of surrounding development. For viewers looking north towards the mountains (i.e., the scenic views), the visual change would be experienced only very briefly, while

approaching and crossing under the subtransmission source line. Actual impacts at this KOP would be adverse but less than significant.

The Etiwanda Subtransmission Source Line Route would run parallel to I-15 for approximately 4.5 miles, at a distance of roughly 0.5 mile, predominately in existing SCE ROW. The Project would add the same industrial components described in the preceding paragraph, but within middleground distance. Visual contrast with the surrounding landscape would be weak; the element contrast could be seen, but would not attract attention or dominate the landscape. The subtransmission source line route would be subordinate to the SCE transmission line and lattice towers, as well as other dominant features in the landscape including scenic mountains to the north. As Project components would be to the east of the viewer, and scenic elements would be northerly, the Project would not obstruct or mar scenic vistas visible from the freeway. The overall visual change would be low to moderate. Given I-15's high visual sensitivity, the overall visual impact would be adverse but not significant (i.e., less than significant).

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c) Substantially degrade the existing visual character or quality of the site and its surroundings.

Impact 4.1-2: Use of temporary staging areas/marshalling yards during the construction period could result in adverse impacts to visual quality. *Less than Significant* (Class III)

Construction staging for the Project would require staging areas at the following locations: south of Foothill Boulevard at Pepper Avenue, Rialto; the Etiwanda Substation; the proposed Falcon Ridge Substation; northwest corner of Etiwanda Avenue at Foothill Boulevard; northeast corner of South Highland Avenue at San Sevaine Road; and the Foothill Service Center (see Figure 2-6, *Potential Staging Area Locations*). The potential staging area locations would include up to 5 acres to be used as a reporting location for workers, vehicle and equipment parking and material storage. Preparation of the marshalling yards would include the application of road base or crushed rock, depending on existing ground conditions, and installation of perimeter fencing. Land disturbed at the marshalling yard would be restored to preconstruction conditions or the landowner's requirements following completion of construction for the Project.

Materials and equipment typically staged at the Falcon Ridge Substation staging area would include, but not be limited to, portable sanitation facilities, electrical equipment such as circuit breakers, disconnect switches, lightning arresters, transformers, capacitor banks, reactor banks, and vacuum switches, steel beams, rebar, foundation cages, conduit and grounding, insulators, conductor and cable reels, pull boxes, and line hardware. Materials commonly stored at the subtransmission construction staging area would include, but not be limited to, construction trailers, construction equipment, portable sanitation facilities, steel/wood poles, conductor/cable reels, overhead ground wire reels, hardware, insulators, cross arms signage, consumables (such as fuel and filler compound), waste materials for salvaging, recycling, or disposal, and BMP materials (straw wattles, gravel, and silt fences). Fuel stored at the site is generally used for small engine generators for power tool usage and is usually less than 25 gallons.

Given the temporary nature of Project construction, and the representative/industrial nature of the staging area locations, impacts would be less than significant.

Mitigation: None required.

Impact 4.1-3: Use of construction conductor/wire stringing set-up locations during the approximately 12-month construction period could result in temporary adverse impacts to visual quality. *Less than Significant with Mitigation* (Class II)

Conductor/wire stringing set-up locations would be approximately 50 feet by 100 feet in size, and require level areas to allow for the maneuvering of the equipment. Generally, pulling locations and equipment set-ups would be in direct line with the direction of the overhead conductors and established approximately a distance of three times the height away from the adjacent structure. Final pulling sites would be determined during final engineering. The dimensions of the area needed for the wire stringing set-ups associated with wire installation are variable and depend upon terrain. Typically, wire pulls are located approximately every 6,000 to 8,000 feet in flat terrain or less in rugged terrain. Implementation of Mitigation Measure 4.1-3 would reduce impacts associated with use of these temporary sites to less than significant.

> **Mitigation Measure 4.1-3:** SCE and/or its contractors shall not place equipment at the conductor/wire stringing set-up locations more than 2 weeks prior to the required use.

Significant after Mitigation: Less than Significant.

Impact 4.1-4: Construction of proposed upgrades to existing substations could result in temporary adverse impacts to visual quality. *Less than Significant* (Class III)

Upgrades to existing optical communications equipment would occur at Etiwanda, Alder, and Randall substations. All upgrades at the existing substations would occur within the existing MEER; therefore, no additional ground disturbance is associated with the proposed telecommunications work. All construction activities would take place within the existing substation fences or walls, within an area that is currently occupied by existing facilities and where maintenance and repair equipment routinely operate. Therefore, the impact to the existing visual character in the substations' vicinity would be less than significant.

Mitigation: None required.

Impact 4.1-5: The Project could substantially degrade the existing visual character or quality of the site and its surroundings. *Less than Significant* (Class III)

The effects of Project construction, operation, and maintenance on views from scenic corridors in the study area have been addressed in Impact 4.1-1, which concludes that adverse visual effects to scenic vistas would range from less than significant with mitigation (Baseline, Beech, Cherry, Citrus, Etiwanda, Sierra, and Wilson avenues; Foothill Boulevard; I-210; and SR 15), to significant and unavoidable (Highland Boulevard). Visual impacts from the construction, operation, and maintenance of the proposed Falcon Ridge Substation are captured by the analysis of impacts to viewers on Sierra Avenue, under Impact 4.1-1.

This impact discussion focuses on KOPs 1, 4 and 8 (Figures 4.1-8 through 4.1-10), which provide simulations of the Project's appearance during operation and maintenance from vantage points that represent views for motorists on major (non-scenic) local roadways and recreationalists. Because construction activity within these viewsheds would be temporary, and because the finished Project would involve visual changes that are equal or greater in magnitude than during construction, this analysis focuses on potential adverse visual effects of Project operation and maintenance on the existing visual character or quality of the site and its surroundings.

West Liberty Parkway

Figure 4.1-8 (KOP 1) presents an existing and simulated view of the Project from West Liberty Parkway, a local roadway in the vicinity of several local parks in the Heritage Village neighborhood in the City of Fontana. From this vantage point the proposed Etiwanda Subtransmission Source Line Route would appear parallel to the existing SCE transmission line and lattice structures, which dominate the viewshed. The proposed subtransmission source line would appear within foreground range, with a weak to moderate visual contrast as Project elements would begin to attract attention but would not dominate the characteristic landscape. Project elements would contribute to an already existing industrial element in an otherwise suburban landscape, as the proposed subtransmission source line would be located in an area that currently features visual clutter (i.e., straight, geometric, and complex forms and lines). The proposed subtransmission source line would not block or obscure views of attractive landscape elements, and would represent a low to moderate degree of visual change to the existing character and visual quality of the site. Given the moderate to high visual sensitivity of West Liberty Parkway and adjacent recreational areas, impacts would be adverse but not significant.

Fontana Park

Figure 4.1-9 (KOP 4) presents an existing and simulated view of the proposed subtransmission source line from Fontana Park, just north of Summit Road in the City of Fontana. This location represents views for recreational users in the study area. The TSPs, LWS poles, and conductors would have a similar visual effect as described above for West Liberty Parkway. However, in the context of this KOP, the adverse effect is less pronounced due to the increased dominance of existing transmission lines and other visual clutter including light poles, vehicles, and the parking lot. Existing trees, the SCE transmission line, and the San Bernardino Mountains in the background remain the dominant visual elements from this viewpoint. The proposed

subtransmission source line would represent a low degree of visual change to the existing character and visual quality of the site because it would not block, obscure, or substantially diminish the aesthetic value of the scenic elements of the view, and it has a low visual contrast within the existing view. Despite the moderate-high visual quality of the site, the effect of the Project on the visual character and quality is adverse, but not significant.

Sierra Lakes Parkway

Figure 4.1-10 (KOP 8) presents an existing and simulated view of the Alder Subtransmission Source Line from Sierra Lakes Parkway at the Mango Avenue Intersection, in the City of Rialto. This location represents views that would be experienced by local motorists. The view from this location is characterized by an undeveloped grassy hillside (obscuring views of an adjacent landfill), trees, and roadway infrastructure including streetlights, light poles, and road signs. Roadway infrastructure features are existing visual elements that detract from the quality and coherence of the view. The Project elements, including TSPs, LWS poles, and conductor would have the effect of adding visual clutter in the landscape, further detracting from the integrity, simplicity, and coherence of the view. Overall, the Project elements would have weak to moderate visual contrast, as they would begin to attract attention, but would not dominate the characteristic landscape. Furthermore, the proposed subtransmission source line route would not block or impair scenic features in the viewshed. Therefore, the overall visual change to the existing character and visual quality of the site would be low to moderate. In conjunction with the parkway's moderate visual sensitivity, impacts to the viewshed would be adverse but not significant.

Mitigation: None required.

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d) The Project could create a new source of light and glare that could adversely affect views in the area.

Impact 4.1-6: The Project would introduce new sources of substantial light or glare that would adversely affect day or nighttime views in the area. ***Less than Significant with Mitigation*** **(Class II)**

Construction

Under normal circumstances, Project construction would occur during daylight hours over the course of approximately 12 months. However, there is a possibility that construction would occur at night and that temporary artificial illumination would be required. Lighting would be used to protect the safety of the construction workers, but lights would be oriented to minimize their effect on any nearby receptors. Extensive nighttime lighting is not anticipated or proposed during construction, and impacts would be less than significant.

Operation and Maintenance

The subtransmission source lines would not require lighting, and therefore, would not cause impacts from light. Lighting at the proposed Falcon Ridge Substation would consist of shielded, down-directed, high-pressure sodium lights located in the switchyards, around the transformer banks, and in areas of the yard where operating and maintenance activities may take place during evening hours for emergency and scheduled work. Maintenance lights would be controlled by a manual switch and would normally be in the "off" position. A beacon light, indicating the operation of the rolling gate, would automatically turn on once the gate opens and turn off when the gate is closed. Given that the proposed Falcon Ridge Substation would be an unstaffed facility (i.e., no permanent on-site personnel), lighting at the site during operation would be minimal, if any, and would be directed downward and shielded to reduce glare outside the facility. During occasional maintenance or emergencies at night, maintenance lights would manually be turned on, but would be used only temporarily.

Thus, Project operation would not create a new source of substantial light. Implementation of Mitigation Measure 4.1-6 would ensure that potential impacts from glare would be reduced to less than significant.

Mitigation Measure 4.1-6: Implement Mitigation Measure 4.1-1.

Significance after mitigation: Less than Significant.

4.1.5 Alternatives

Alternative 1: Lowell Street Realignment Alternative

Impacts from the construction, operation, and maintenance of the proposed Falcon Ridge Substation and Etiwanda Subtransmission Source Line Route portions of Alternative 1 would be the same as the Project. Adverse visual impacts to scenic vistas would range from less than significant with mitigation (Baseline, Beech, Cherry, Citrus, Etiwanda, Sierra, and Wilson avenues; Foothill Boulevard; I-210; and SR 15), to significant and unavoidable (Highland Boulevard). These portions of Alternative 1 would not substantially degrade the existing visual character or quality of the site and its surroundings (less than significant), nor would Alternative 1 introduce new sources of substantial light or glare that would adversely affect day or nighttime views in the area (less than significant).

Like the Project, Alternative 1 would not be within the viewshed of a state- or county-designated scenic highway. Alternative 1 would differ from the Project in that the Alternative Alder Subtransmission Source Line Route would extend north from Alder Substation, span the 210 Freeway and follow Locust Avenue, then extend west along Lowell Street, turn south along N. Alder Avenue to Summit Avenue, travel west along Summit Avenue, and finally turn north along the future Mango Avenue ROW until entering the proposed substation site. Impacts to viewers on SR 210 would be the same as the Project (adverse and potentially significant). The visual character

of Locust Avenue, Lowell Street, and Summit Avenue range from industrial to representative, as existing utility infrastructure, commercial developments, and residential neighborhoods are located adjacent to the roadways. Project components would contribute to existing utility infrastructure in the viewshed, and impacts to viewers would be less than significant. In addition, the alternative subtransmission source line route would be located next to Alec Fergusson Park. The visual character of the park is representative, since views from the park include residential and commercial development, including the Target Distribution Center to the south. The TSPs, LWS poles, conductor, and fiber-optic cables associated with the Alternative Alder Subtransmission Source Line Route would create a low to moderate visual change for viewers in the Project area. Impacts to viewers along the Alternative Alder Subtransmission Source Line Route would be adverse but less than significant. Overall, impacts would be similar to the Project.

No Project Alternative

Under the No Project Alternative, the Project would not be implemented; therefore there would be no impact related to visual resources.

References-Aesthetics

AECOM, Simulations contained in Southern California Edison's Proponents Environmental Assessment, December 29, 2010.

California Department of Transportation (Caltrans), *Officially Designated and Eligible State Scenic Highways in Riverside County*, accessed at http://www.dot.ca.gov/hq/LandArch/scenic_highways/sberna.htm on August 11, 2011.

City of Fontana, *City of Fontana General Plan,* October, 2003.

City of Rancho Cucamonga, *City of Rancho Cucamonga General Plan, Community Design,* May 2010.

City of Rialto, *City of Rialto General Plan*, *Community Design,* March, 2010.

Cloke, 2011. Telephone conversation between Tara Cloke, Community Services Coordinator, Fontana Park, and Claire Myers, Environmental Science Associates. October 26, 2011.

Environmental Science Associates, site visit by Dylan Duverge (ESA Staff), August 18, 2010.

San Bernardino County, *San Bernardino County County General Plan*, Adopted March 13, 2007, Effective April 12, 2007.

Southern California Edison (SCE), *Proponents Environmental Assessment,* Appendix G, Visual Simulation Methodology for Falcon Ridge Substation Project, August 26, 2010.

Wolf, 2011. Telephone conversation between Megan Wolf, Community Services Coordinator, Aquatic Center at Fontana Park, and Claire Myers, Environmental Science Associates, October 25, 2011.

4.2 Agriculture and Forestry Resources

This section identifies and evaluates issues related to agriculture and forestry resources in the context of the Project and alternatives. It includes a description of existing land use conditions in relation to farmland designations, Williamson Act contracts, forest and timberland zoning, and related uses. This section further provides a discussion of applicable state, regional, and local plans and/or programs, and an evaluation of potential impacts associated with implementation of the Project and alternatives.

4.2.1 Environmental Setting

Existing Agriculture Resources

Agriculture has historically been and continues to be an important part of San Bernardino County's economy. However, urban development results in the conversion of agricultural land to non-agricultural uses. In 2009, the county's gross agricultural production was valued at $355,379,500, a decrease of $192,054,440 from 2008. According to the county's Department of Agriculture/Weights and Measures, this 35 percent decrease is the greatest year-to-year percentage decrease in agricultural production value in the county since 1938, primarily due to a decline in the county's dairy industry. The county's top agricultural commodities by gross value include milk, eggs, cattle and calves, replacement heifers, trees and shrubs, alfalfa, bok choi, oranges, indoor decorative plants, and ground cover (San Bernardino County Department of Agriculture/Weights and Measures, 2009).

The City of Fontana has undergone rapid development, and as a result, the contribution of agricultural products to the local economy has declined. The primary agricultural products in Fontana have historically included citrus orchards, vineyards, livestock, and poultry. Most of the undeveloped land within the city that may be suitable for agricultural cultivation is planned for a variety of urbanized uses, including residential, commercial, and industrial development, through the city's general plan and a number of specific plans. Thus, the general plan does not include agricultural resources as a component of the Open Space and Conservation Element (City of Fontana, 2003a).

The City of Rialto began as a citrus-growing town, but in the 1950s experienced rapid population growth, and residential development displaced orange groves. One orange grove remains under a Historic Agriculture overlay zone that ensures its conservation. Agriculture and forestry represents just 0.4 percent of employment within the City of Rialto (City of Rialto, 2010).

The City of Rancho Cucamonga also has an agricultural past, with remnant vineyards, citrus groves, and olive groves in the Alta Loma, Cucamonga, and Etiwanda areas of the City that have been retained through development agreements with housing subdivisions (City of Rancho Cucamonga, 2010).

Regulatory Setting

State

California Farmland Mapping and Monitoring Program

The CDC, under the Division of Land Resource Protection, has set up the Farmland Mapping and Monitoring Program (FMMP), which provides a classification system based on technical soil ratings and current land use. The FMMP is an informational service only and does not have a regulatory bearing on local land use decisions. The minimum land use mapping unit is 10 acres unless specified; smaller units of land are incorporated into the surrounding map classifications. For the purpose of this environmental analysis and consistency with CEQA Appendix G and the Farmland Policy Act of 1981, Farmland includes FMMP map categories *Prime Farmland*, *Unique Farmland*, and *Farmland of Statewide Importance* (hereafter collectively referred to as Farmland), and any conversion of land within these categories is typically considered to be an adverse impact. These map categories are defined by the Department of Conservation's FMMP as follows (CDC, 2011):

> ***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.
>
> ***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 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.

Table 4.2-1 shows the acres of Farmland in San Bernardino County in 2006 and 2008, as well as the amount of recent Farmland conversions.

TABLE 4.2-1
FARMLAND CONVERSION FROM 2006–2008 IN SAN BERNARDINO COUNTY

	Total Acres Inventoried		2006–2008 Acreage Changes		
Land Use Category	**2006**	**2008**	**Acres Lost**	**Acres Gained**	**Net Change**
Prime Farmland	17,046	14,089	3,085	128	-2,957
Unique Farmland	3,150	2,661	545	56	-489
Farmland of Statewide Importance	7,938	6,747	1,362	171	-1,191
Agricultural Land Subtotal	**28,134**	**23,497**	**4,992**	**355**	**-4,637**

SOURCE: CDC, 2009

Figure 4.2-1 illustrates the FMMP classifications for the Project area and vicinity. As shown in the figure, the proposed Etiwanda Subtransmission Source Line and Fiber-Optic Cable route would traverse *Unique Farmland*.

California Public Resource Code

The California Public Resources Code governs forestry, forests, and forest resources, as well as range and forage lands, within the state. "Forest land" is defined by Public Resources Code §12220(g) as "land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits." Relatedly, "timberland" is defined by Public Resources Code §4526 as, "land, other than land owned by the federal government..., which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees."

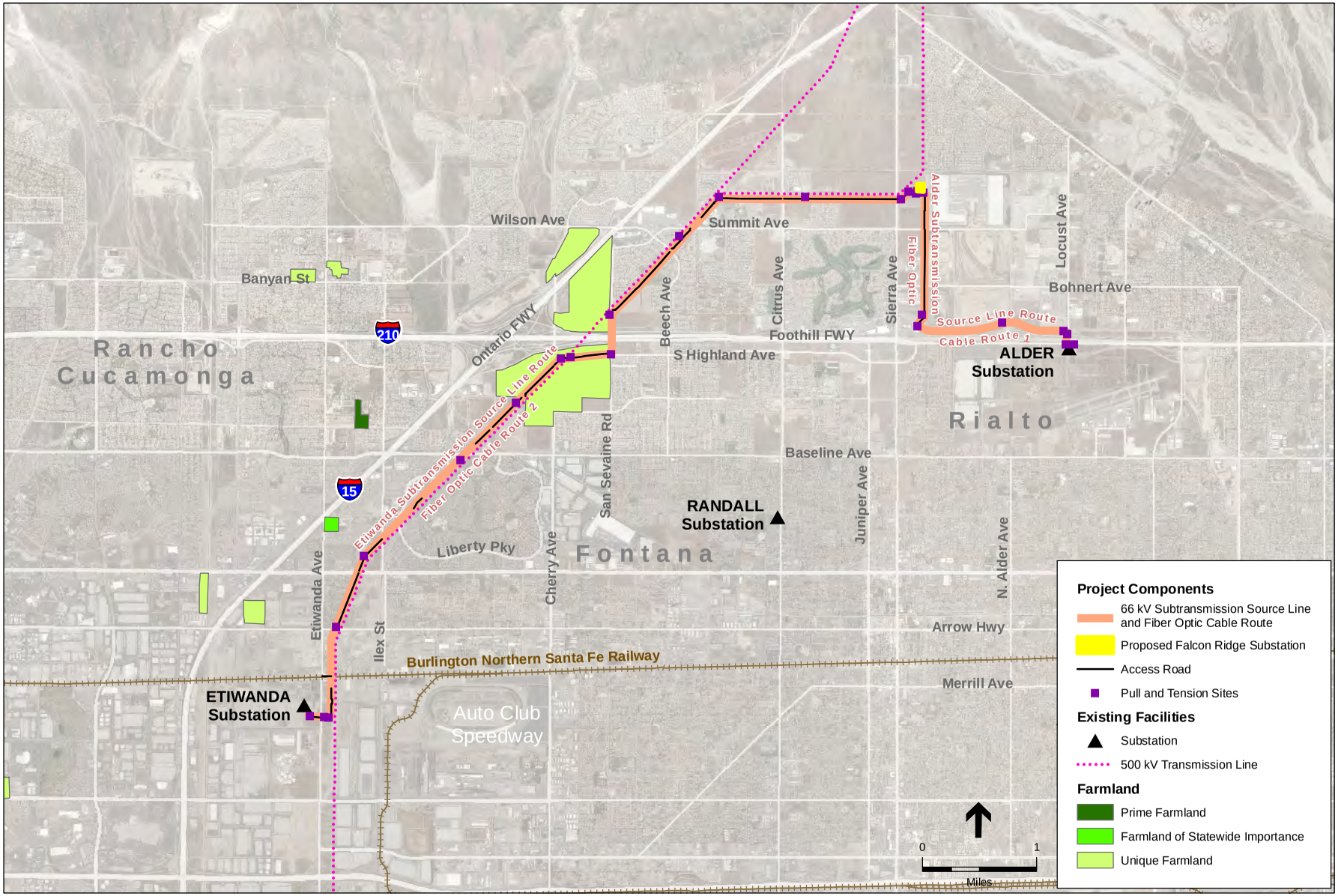
California Government Code

Chapter 6.7 of the California Government Code (§§51100-51155) regulates timberlands within the state. "Timberland production zone" is defined in §51104(g) as an area that has been zoned pursuant to Government Code §51112 or 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses. In this context, "compatible uses" include any use that "does not significantly detract from the use of the property for, or inhibit, growing and harvesting timber" (Government Code §51104(h)). Watershed management, grazing, and the erection, construction, alteration, or maintenance of electric transmission facilities are examples of compatible uses. With respect to the general plans of cities and counties, 'timberland preserve zone' means 'timberland production zone.'"

California Land Conservation Act of 1965 (Williamson Act)

The California Land Conservation Act of 1965 (Williamson Act) preserves open spaces and agricultural land in exchange for property tax breaks (Government Code §51200 et seq.). 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 implemented at the county level that allows agricultural landowners to contractually agree to retain land included in an agricultural preserve[1] in agricultural or and open space uses for a period of 10 years and, in return, to pay reduced property taxes. The term of the contract automatically renews each year unless not renewed or cancelled, so that the contract always has a 10-year period left. As portrayed in Figure 4.2-1, the Project would not be located on lands subject to a Williamson Act contract.

[1] An agricultural preserve defines the boundary of an area within which a city or county will enter into Williamson Act contracts with landowners: The boundary is designated by resolution of the board or city council having jurisdiction. Agricultural preserves must generally be at least 100 acres in size.



SOURCE: SCE, 2011; FMMP, 2008

Falcon Ridge Substation Project . 207584.09

Figure 4.2-1
Farmland in the Project Vicinity

Local

CPUC General Order No. 131-D explains that local land use regulations would not apply to the Project and alternatives. However, for information purposes, the following goals and policies included in the general plans for San Bernardino County and the cities of Rialto and Rancho Cucamonga would otherwise be relevant to the Project and alternatives. As described above, the City of Fontana General Plan does not include goals and policies for the management of agriculture or forestry resources.

San Bernardino County

The San Bernardino County General Plan Conservation, Open Space, and Economic Development elements govern the land use and agricultural resources of the county. The following policies contained within these elements are relevant to agricultural resources (San Bernardino County, 2007):

- ***CO 6.1:*** Protect prime agricultural lands from the adverse effects of urban encroachment, particularly increased erosion and sedimentation, trespass, and non-agricultural land development.
- ***CO 6.2:*** The County will allow the development of areas of prime agriculture lands supporting commercially valuable agriculture to urban intensity when it can be demonstrated that there is no long-term viability of the agricultural uses due to encroaching urbanization, creating incompatible land uses in close proximity to each other.
- ***CO 6.3:*** Preservation of prime and statewide important soils types, as well as areas exhibiting viable agricultural operations, will be considered as an integral portion of the Open Space element when reviewing development proposals.
- ***CO 6.4:*** Provide and maintain a viable and diverse agricultural industry in San Bernardino County.
- ***OS 1.1:*** Provide for uses that respect open space values by utilizing appropriate land use categories on the Land Use maps. Land use zoning districts appropriate for various types of open space preservation include: Agriculture (AG), Floodway (FW), Resource Conservation (RC), and Open Space (OS).
- ***OS 1.2:*** Support retention of open space lands by requiring large lot sizes, high percentage of open space or agricultural uses, and clustering within the AG, FW, RC, and OS Land Use Zoning Districts.
- ***ED 6.1:*** Retain areas of the County that have long-term agricultural potential to contribute value to the overall economy.
- ***ED 6.2:*** Encourage residential and commercial land use planning that respects agricultural production and encourages its continuation.

City of Rialto

The Cultural and Historical Resources Element of the Rialto General Plan provides direction for protecting agricultural resources in Rialto as follows (City of Rialto, 2010):

- ***Policy 7-1.1:*** Protect the architectural, historical, agricultural, open space, environmental, and archaeological resources in Rialto.

City of Rancho Cucamonga

The Land Use Element ensures that land uses throughout the City of Rancho Cucamonga are located in proximity to each other to achieve economic efficiencies while minimizing incompatibilities. The Resource Conservation Element focuses on preserving, protecting, conserving, reusing, replenishing, and efficiently using Rancho Cucamonga's limited natural resources that include water, open space, sensitive habitat, agricultural lands plus flora and fauna. The following policies contained within the Land Use and Resource Conservation elements of the City of Rancho Cucamonga General Plan are relevant to agricultural resources (City of Rancho Cucamonga, 2010):

- ***LU-6.3:*** Protect and preserve historical sites that reflect the area's long-standing agricultural heritage.
- ***LU-17.1:*** Allow for use of the Williamson Act.
- ***LU-18.4:*** Continue to rebuild agricultural landscapes.
- ***RC-1.4:*** Evaluate the conservation of economically viable agriculture on lands that are designated by the State as important farmland.

4.2.2 Significance Criteria

The significance criteria for this analysis were developed from criteria presented in Appendix G of the *CEQA Guidelines*. The project would result in a significant impact to agricultural resources if it would:

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;

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract;

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code §12220(g)), timberland (as defined in Public Resources Code §4526) or timberland zoned Timberland Production (as defined by Government Code §51104(g));

d) Result in the loss of forest land or conversion of forest land to non-forest use; or

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.

4.2.3 Applicant Proposed Measures

No APMs are included to reduce agriculture and forestry impacts associated with the Project.

4.2.4 Impacts and Mitigation Measures

Based on the *CEQA Guidelines*, the analysis considers whether the Project would result in impacts to *Prime Farmland, Unique Farmland,* and *Farmland of Statewide Importance* (hereafter collectively referred to as Farmland). This impact analysis considers the potential agricultural effects of activities associated with the construction, operation, and maintenance of the Project, including modification of the existing Etiwanda and Alder substations. The proposed modifications at the Etiwanda and Alder substations consist solely of upgrades to the subtransmission and telecommunications systems. All substation work would occur on previously disturbed areas within the existing footprint of the substations, and the associated construction, operation, and maintenance activities would have no impact to agricultural resources.

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.

A portion of the proposed Etiwanda Subtransmission Source Line Route would cross land designated as *Unique Farmland*, resulting in the temporary disturbance of approximately 1.6 acres and the permanent conversion of approximately 3.39 acres of *Unique Farmland* to non-agricultural use. Temporary disturbance would result from construction of pull-and-tension site and underground subtransmission source line work, while permanent conversion would result from construction of new poles and access roads along the Etiwanda Subtransmission Source Line Route.

The area currently mapped as *Unique Farmland* within the Project site currently contains degraded and abandoned grape vineyards surrounded by urban development. As described in Section 4.4, *Biological Resources*, vineyards that occur within the Project site are not actively farmed and are likely only present due to the heavy rain season of 2009-2010. This small patch of vineyards is currently bisected by the 210 Freeway and bordered to the west and south by residential development.

While the California Resources Agency has mapped this area as *Unique Farmland*, the City of Fontana's General Plan designates this area as *Regional Mixed Use* (*RMU*) and *Residential Planned Community* (*R-PC*). The proposed Etiwanda Subtransmission Source Line and Fiber-Optic Cable route would be within the existing SCE ROW, delineated as *Public Utility Corridor* (*P-UC*) on the general plan land use map and not included in the specific plan areas, with the exception of the portion that would divert from SCE's ROW and extend east parallel to South Highland Avenue to San Sevaine Road, then extend north paralleling San Sevaine Road and spanning the 210 Freeway until reentering SCE's ROW. This portion would be located within areas of *RMU* and *R-PC* designation within the West Gate Specific Plan (City of Fontana, 1996, 2011a-f). The *P-UC* land use designation identifies locations in the planning areas which contain ROWs for utilities such as SCE transmission lines and easements held by other quasi-public agencies (see Section 4.10, *Land Use and Planning*). Thus, the Project within this area would be compatible with the City of Fontana's General Plan and the West Gate Specific Plan.

Furthermore, the City of Fontana has previously analyzed the impact related to the conversion of Unique Farmland within the General Plan area, including that which would occur within the Project site. The General Plan Update Environmental Impact Report (EIR) prepared by the City of Fontana considered the conversion of 610 acres of Unique Farmland within the General Plan area, of which 3.39 acres would be converted to non-agricultural use as a result of the Project (City of Fontana, 2003b). The General Plan Update EIR concluded that conversion of this mapped farmland would result in a significant and unavoidable impact. As a result, the City of Fontana adopted a Statement of Overriding Considerations for the loss of agricultural land.

Public Resources Code §21083.3 and CEQA Guidelines §15183 limit CEQA review of certain projects to environmental effects that are "peculiar" to the parcel or to the project and that were not addressed as significant effects in a prior EIR, or which new information shows will be more significant than described in the prior EIR. The Project is a qualified project pursuant to §21083.3, which provides in part:

(a) If a parcel has been zoned to accommodate a particular density of development or has been designated in a community plan to accommodate a particular density of development and an environmental impact report was certified for that zoning or planning action, the application of this division to the approval of any subdivision map or other project that is consistent with the zoning or community plan shall be limited to effects upon the environment which are peculiar to the parcel or to the project and which were not addressed as significant effects in the prior environmental impact report, or which substantial new information shows will be more significant than described in the prior environmental impact report.

(b) If a development project is consistent with the general plan of a local agency and an environmental impact report was certified with respect to that general plan, the application of this division to the approval of that development project shall be limited to effects on the environment which are peculiar to the parcel or to the project and which were not addressed as significant effects in the prior environmental impact report, or which substantial new information shows will be more significant than described in the prior environmental impact report.

As described above, the portion of the Project site in question was zoned for non-agricultural uses with the adoption of the City of Fontana General Plan and the West Gate Specific Plan, and therefore accommodates the Project. An EIR was prepared for the certified general plan, which incorporated the land use designations for the Project site, integrated the concepts contained in the West Gate Specific Plan, and adequately and completely evaluated the significance of the conversion of the 3.39 acres of *Unique Farmland* that would occur with implementation of the Project. Accordingly, the Project is a qualified project within the meaning of §21083.3, both under subsections (a) and (b), and CEQA Guidelines §15183. Therefore, the Project would have no impact with respect to the conversion of *Prime Farmland*, *Unique Farmland*, or *Farmland of Statewide Importance* (Farmland), as shown on the maps prepared pursuant to the FMMP, to non-agricultural use (No Impact, Class IV).

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract.

As discussed above in *Regulatory Setting*, the Project would not be located on lands subject to a Williamson Act contract. Therefore, there would be no impact (No Impact, Class IV).

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c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC §12220[g]), timberland (as defined by PRC §4526), or timberland zoned Timberland Production (as defined by Government Code §51104[g]).

The Project would not be located on land zoned specifically as either forest land or timberland. As discussed in Section 4.11, *Land Use and Planning*, the Project would be located primarily on land zoned for public utility corridors, residential mixed use, and industrial activity. The majority of the Project would be located in existing SCE ROW. The land is highly developed and could not support 10 percent native tree cover. Therefore, the Project site does not meet the definition of "forest land." The same land is not considered timberland because the land is not zoned *Timberland Production Zone* (*TPZ*).

Consequently, the 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 Project on forest land or timberland zoning (No Impact, Class IV).

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d) Result in the loss of forest land or conversion of forest land to non-forest use.

Because none of the land within the Project site meets the definition of forest land, the Project would neither result in the loss nor convert any forest land to non-forest use and no impact would occur (No Impact, Class IV).

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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.

The purpose of the Project is to ensure the availability of safe and reliable electric service to meet projected customer demand in the Electrical Needs Area that existing facilities would not be able to meet. The Project would not induce growth, but instead is designed to respond to currently projected growth and demand trends, and therefore would not be expected to substantially induce or exacerbate conversion of Farmland to non-agricultural uses or forest land to non-forest uses (No Impact, Class IV).

4.2.5 Alternatives

Alternative 1: Lowell Street Realignment Alternative

The portion of Alternative 1 that differs from the Project would not cross lands designated as *Prime Farmland*, *Unique Farmland*, or *Farmland of Statewide Importance*, lands under a Williamson Act contract, lands zoned *Timberland Production Zone*, or forest lands. However, since the proposed Etiwanda Subtransmission Source Line Route, which would cross and permanently disturb Unique Farmland, would be the same as for the Project, impacts to agricultural resources under Alternative 1 would be similar to those for the Project. Therefore, Alternative 1 would have no impact with respect to agriculture and forestry resources.

No Project Alternative

Under the No Project Alternative, the Project would not be implemented; therefore there would be no impact related to agriculture and forestry resources.

References – Agriculture and Forestry Resources

California Department of Conservation (CDC). 2009. Table A-28, San Bernardino County 2006-2008 Land Use Conversion. <http://redirect.conservation.ca.gov/dlrp/fmmp/pubs/2006-2008/conversion_tables/sbdcon08.xls> Accessed October 20, 2011.

California Department of Conservation (CDC). 2011. FMMP - Important Farmland Map Categories <http://www.conservation.ca.gov/dlrp/fmmp/mccu/Pages/map_categories.aspx> Accessed October 20, 2011.

City of Fontana. 1996. Westgate Specific Plan.

City of Fontana. 2003. City of Fontana General Plan.

City of Fontana. 2003b. Draft Environmental Impact Report for Fontana General Plan Update. State Clearinghouse No. 2003031083.

City of Rancho Cucamonga. 2010. City of Rancho Cucamonga General Plan.

City of Rialto. 2010. City of Rialto General Plan.

San Bernardino County Department of Agriculture/Weights and Measures, 2010. County of San Bernardino 2009 Crop and Livestock Report. <http://www.sbcounty.gov/awm/docs/2009CropReport.pdf> Accessed October 20, 2011.

San Bernardino County. 2007. San Bernardino County General Plan.

4.3 Air Quality

This section evaluates whether construction, operation, and maintenance of the Project and alternatives would result in potential adverse impacts related to air quality. Both short-term and long-term Project effects are analyzed to determine their significance under CEQA. When Project impacts are determined to be significant or potentially significant, mitigation measures to avoid or reduce those impacts are identified.

4.3.1 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 affect air quality.

Regional Topography, Meteorology, and Climate

The study area, which includes the Project and Alternative 1 areas, is located in southwestern San Bernardino County within the South Coast Air Basin (SCAB), which includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. Air quality conditions in the SCAB are under the jurisdiction of the South Coast Air Quality Management District (SCAQMD).

According to the SCAQMD, the worst air quality problem in the nation occurs in the SCAB. With very light average wind speeds, the basin atmosphere has a limited capability to disperse air contaminants horizontally. The dominant daily wind pattern is a daytime sea breeze (on-shore breeze) and a nighttime land breeze (off-shore breeze), broken only occasionally by winter storms and infrequent strong Santa Ana winds from the Great Basin and Mojave deserts to the north. On virtually all spring and early summer days, most of the pollution produced during an individual day is moved out of the basin through mountain passes, or is lifted by the warm, vertical currents produced by the heating of mountain slopes. In those seasons, the basin can be “flushed” of pollutants by a transport of ocean air during the afternoon. From late summer through the winter months, the flushing is less pronounced because of lower wind speeds and the earlier appearance of off-shore winds. With extremely stagnant wind flows, the drainage winds may begin near the mountains by late afternoon. Remaining pollutants are trapped and begin to accumulate during the night and the following morning. A low average morning wind speed in pollution source areas is an important indicator of air stagnation potential.

The vertical dispersion of air pollutants in the SCAB is hampered by the presence of a temperature inversion in the layers of the atmosphere near the surface of the Earth. In a normal situation, as temperatures decrease with altitude, air continues to rise as it remains warmer than the surrounding air. With an inversion layer, air cannot continue to expand upwards, as it is trapped by the warmer air above. However, as the day progresses and the sun warms the ground,

the surface layer of air approaches a temperature equal to that of the inversion layer. When these temperatures become equal, the inversion layer begins to erode at its lower edge. If enough warming takes place, the inversion layer becomes weaker and weaker and finally "breaks." The surface air layers can then mix upward without limit. This phenomenon is frequently observed in the middle of late afternoon on hot summer days when the smog appears to clear up suddenly. Winter inversions frequently break by mid-morning, thereby preventing contaminant build-up. The combination of low wind speeds and low-level inversions produces the greatest concentration of pollutants. On high wind days other air pollutants, including particulate matter such as dust and soil, are swept and carried in the air. On days of no inversion or on days of winds averaging over 15 miles per hour, there will be no important smog effects, during either summer or winter.

In the winter, the greatest pollution problems are carbon monoxide and oxides of nitrogen because of extremely low-level inversions and air stagnation during the night and early morning hours. Smog levels are much lower during this season due to the lack of strong inversion during the daylight hours and the lack of intense sunlight, which is needed to produce photochemical reactions. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and oxides of nitrogen to form more smog. Carbon monoxide is not as great a problem in summer because inversions are not as low and intense in the surface boundary layer (within 100 feet of the ground) as in winter and because horizontal ventilation is better in summer. The basin-wide average occurrence of inversion at the ground surface is 11 days per month; the averages vary from 2 days in June to 22 days in December and January. The potential for high concentration varies seasonally for many contaminants. During late spring, summer, and early fall, light winds, low mixing heights, and brilliant sunshine combine to produce conditions favorable for the maximum production of photochemical oxidants, mainly ozone.

The study area typically has average maximum and minimum winter (i.e., January) temperatures of 67 and 44 ºF, respectively, while average summer (i.e., July) maximum and minimum temperatures are 95 and 62 ºF, respectively. Precipitation in the study area averages approximately 15 inches per year (WRCC, 2011).

Criteria Air Pollutants

The U.S. Environmental Protection Agency (USEPA) has identified criteria air pollutants that are a threat to public health and welfare. These pollutants are called "criteria" air pollutants because standards have been established for each of them to meet specific public health and welfare criteria (see *Regulatory Context* discussion below). The following criteria pollutants are a concern in the study area.

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 reactive organic compounds (ROC) and

nitrogen oxides (NO_x). ROC 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 3 hours.

Ozone is a regional air pollutant because it is not emitted directly by sources, but is formed downwind of sources of ROC 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.

Nitrogen Dioxide

Nitrogen dioxide (NO_2) is an air quality pollutant of concern because it acts as a respiratory irritant. NO_2 is a major component of the group of gaseous nitrogen compounds commonly referred to as NO_x. A precursor to ozone formation, NO_x is produced by fuel combustion in motor vehicles, industrial stationary sources (such as industrial activities), ships, aircraft, and rail transit. Typically, NO_x emitted from fuel combustion is in the form of nitric oxide (NO) and NO_2. NO is often converted to NO_2 when it reacts with ozone or undergoes photochemical reactions in the atmosphere.

Carbon Monoxide

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.

Particulate Matter

Particulate matter less than 10 microns in diameter (PM10) and particulate matter less than 2.5 microns in diameter (PM2.5) 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 adsorbed gases (e.g., chlorides or ammonium) that may be injurious to health. According to a study prepared by the California Air Resources Board (CARB), exposure to ambient PM2.5, particularly diesel particulate matter (DPM), can be associated with approximately 14,000 to 24,000 premature annual deaths statewide (CARB, 2009). Particulates also can damage materials and reduce visibility.

Toxic Air Contaminants

Toxic Air Contaminants (TACs) are airborne substances that are capable of causing short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer-causing) adverse human health effects (i.e., injury or illness). TACs include both organic and inorganic chemical substances. They may be emitted from a variety of common sources including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. The current California list of TACs includes approximately 200 compounds, including DPM emissions from diesel-fueled engines (CARB, 2011a).

Existing Air Quality

The SCAQMD's regional monitoring network measures the ambient concentrations of criteria pollutants. Existing levels of air quality in the study area can be inferred from ambient air quality measurements conducted by SCAQMD at its closest station to the Project. The closest air quality monitoring station is the Fontana – Arrow Highway monitoring station, located approximately 5 miles southwest of the proposed Falcon Ridge Substation site. **Table 4.3-1** shows a 5-year (2006 through 2010) summary of ozone, PM10, PM2.5, NO_2, and CO data monitored at the Fontana station. The data are compared to the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS).

As shown in Table 4.3-1, the state 1-hour ozone standard was exceeded between 28 and 55 times per year from 2006 to 2010, and the state and national 8-hour ozone standards were exceeded between 52 and 81 times and 33 and 58 times, respectively, between 2006 and 2010. The 24-hour state PM10 standard was exceeded between 11 and 33 times each year from 2006 to 2009 (insufficient data are available for 2010), while there were only two exceedances of the national 24-hour PM10 standard during that same time period. The PM10 annual average concentration exceeded the state standard during each of the 4 years with available data. The 24-hour state PM-2.5 standard was exceeded between 2 and 10 times each year from 2006 to 2010, and the PM2.5 annual average concentration exceeded the state standard in 2009, which was the only year with available PM2.5 annual average concentration data. There were no recorded exceedances of the state NO_2 standard during the 5-year period and there were no recorded exceedances of the state CO standard between 2008 and 2010 (there are CO data available for 2006 and 2007).

Sensitive Receptors

For the purposes of this air quality analysis, sensitive receptors are defined as facilities and land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples include schools, hospitals, and daycare centers. The reasons for greater-than-average sensitivity include pre-existing health problems, proximity to emissions sources, and/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

TABLE 4.3-1
AIR QUALITY DATA SUMMARY (2006–2010) FOR THE STUDY AREA

Pollutant	Standard	Monitoring Data by Year				
		2006	2007	2008	2009	2010
Ozone						
Highest 1-Hour Average (ppm)		0.159	0.144	0.162	0.142	0.143
Days over State Standard	0.09	48	40	55	45	28
Highest 8-Hour Average (ppm)		0.124	0.123	0.125	0.129	0.101
Days over State Standard	0.070	67	58	81	65	52
Days over National Standard	0.075	46	41	58	48	33
Respirable Particulate Matter (PM10)						
Highest 24-Hour Average (µg/m^3)		135.0	264.0	72.0	72.0	--
Measured Days over State Standard	50	29	33	12	11	--
Measured Days over National Standard	150	0	2	0	0	--
State Annual Average (µg/m^3)	20	51.1	58.1	38.3	38.1	--
Fine Particulate Matter (PM2.5)						
Highest 24-Hour Average (µg/m^3)		52.6	77.5	49.0	46.4	42.6
Measured Days over National Standard	35	8	10	6	2	2
State Annual Average (µg/m^3)	12	--	--	--	14.2	--
Nitrogen Dioxide (NO_2)						
Highest Hourly Average (ppm)		0.094	0.093	0.101	0.106	0.072
Measured Days over State Standard	0.18	0	0	0	0	0
Carbon Monoxide (CO)						
Highest 1-Hour Average (ppm)		--	--	1.69	1.45	1.44
Days over State Standard	9.0	--	--	0	0	0

NOTES: -- = There was insufficient (or no) data available to determine the value; ppm = parts per million; µg/m^3 = micrograms per cubic meter.

Data are from the Fontana – Arrow Highway Monitoring Station.

SOURCE: CARB, 2011b.

considered sensitive to poor air quality because people usually stay home for extended periods of time, which results in greater exposure to ambient air quality. Below are descriptions of the sensitive receptors in the vicinity of the Project and Alternative 1.

Project

There is a residential development north of West Casa Grande Drive, with several residences that would be as close as 650 feet from the northeast boundary of the Falcon Ridge Substation site. The Alder Subtransmission Source Line Route would exit Alder Substation approximately 1,840 feet southwest of a residential development. The Alder Subtransmission Source Line Route would be approximately 600 feet north of a residential area that is south of SR 210 and Highland Avenue, and the Sierra Lakes residential development that is approximately 1,400 feet to the west

of the source line route, across Sierra Avenue. The northern extent of the Alder Subtransmission Source Line Route would be approximately 1,070 feet south of the residential area north of West Casa Grande Drive.

The Etiwanda Subtransmission Source Line Route would exit Etiwanda Substation approximately 1,800 feet north of a juvenile detention facility. Along Whittram Avenue there are four residences that would be near the Etiwanda Subtransmission Source Line Route, the closest of which would be approximately 160 feet from the source line route. North of Arrow Route and south of Foothill Boulevard, the Etiwanda Subtransmission Source Line Route would parallel the eastern border of a large residential area at distances as close as approximately 50 feet. North of Foothill Boulevard, the route would be approximately 150 feet southeast of a park, approximately 370 feet from residences to the north, and approximately 450 feet southeast of a preschool and elementary school. North of East Avenue, the route would extend through a dense residential area for approximately 1.2 miles with residences at distances as close as 50 feet.

South of Baseline Road is a childcare facility and an intermediate school that would be approximately 150 feet northwest and 600 feet southeast, respectively, of the Etiwanda Subtransmission Source Line Route. Near Victoria Avenue, the source line route would be as close as 1,600 feet from a residential development at Cherry Avenue and Walnut Street. At the corner of South Highland Avenue and San Sevaine Road, the source line route would be approximately 150 feet north of a condominium complex, and between San Sevaine Road and Knox Avenue, the source line route would be within 100 to 350 feet of residences, within 100 feet of two parks, and within approximately 800 feet of the nearest building associated with Summit High School. East of Knox Avenue, the Etiwanda Subtransmission Source Line Route would be approximately 100 feet north of a residential area south of Fan Palm Street, and east of Citrus Avenue the source line route would pass approximately 650 feet south of a residential area. West of Cypress Avenue, the Etiwanda Subtransmission Source Line Route would pass approximately 30 feet north of a residential development.

Alternative 1: Lowell Street Realignment Alternative

The sensitive receptors identified above for the Etiwanda Subtransmission Source Line Route also apply to that segment of Alternative 1. Regarding the Alder Subtransmission Source Line Route of Alternative 1, south of West Bohnert Avenue is a residence that would be approximately 100 feet to the east. North of West Bohnert Avenue and south of Persimmon Avenue, Alternative 1 would range between 350 to 650 feet west of residences. The portion of Alternative 1 along Locust Avenue north of Persimmon Avenue would be approximately 650 feet west of a residential development.

Regulatory Setting

Air quality within the SCAB 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 SCAB 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, NO_2, sulfur dioxide (SO_2), particulate matter (i.e., PM10, PM2.5), 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 the criteria pollutants. Primary thresholds were set to protect human health, particularly 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 (i.e., CAAQS) for most of the criteria air pollutants. **Table 4.3-2** presents both sets of ambient air quality standards (i.e., national and state) and provides a brief discussion of the related health effects and principal sources for each pollutant. California has also established CAAQS for sulfates, hydrogen sulfide, and vinyl chloride; however, air emissions of these pollutants are not expected to be generated by the Project or Alternative 1; thus, they are not mentioned further in this EIR. The SCAB is classified as nonattainment of state and federal air quality standards for ozone, PM10, and PM2.5, and classified as nonattainment of the CAAQS for NO_2 (CARB, 2011c).

Federal

The USEPA is responsible for implementing the programs established under the federal Clean Air Act, such as establishing and reviewing the NAAQS and judging the adequacy of State Implementation Plans (SIPs), but 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.

State

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. CARB also regulates mobile sources of emissions in California, such as construction equipment, trucks, and automobiles, and oversees the activities of California's air districts, which are organized at the regional or county level. The air districts are

TABLE 4.3-2
STATE AND NATIONAL CRITERIA AIR POLLUTANT STANDARDS, EFFECTS, AND SOURCES

Pollutant	Averaging Time	State Standard	National Standard	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone	1 Hour 8 Hour	0.09 ppm 0.070 ppm	– 0.075 ppm	High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue.	Formed when ROC and NO_x react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
Carbon Monoxide	1 Hour 8 Hour	20 ppm 9.0 ppm	35 ppm 9 ppm	Classified as a chemical asphyxiant, CO interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Incomplete combustion of fuels; primarily from internal combustion engines, primarily gasoline-powered motor vehicles.
Nitrogen Dioxide	1 Hour Annual	0.18 ppm 0.030 ppm	0.100 ppm 0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
Sulfur Dioxide	1 Hour 24 Hour Annual	0.25 ppm 0.04 ppm –	0.075 ppm 0.14 ppm 0.030 ppm	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
Respirable Particulate Matter (PM10)	24 Hour Annual	50 µg/m^3 20 µg/m^3	150 µg/m^3 –	May irritate eyes and respiratory tract, decreases in lung capacity, cancer and increased mortality. Produces haze and limits visibility.	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
Fine Particulate Matter (PM2.5)	24 Hour Annual	– 12 µg/m^3	35 µg/m^3 15.0 µg/m^3	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including NO_x, SO_2, and organics.
Lead	Monthly Rolling 3-month Average Quarterly	1.5 µg/m^3 – –	– 0.15 µg/m^3 1.5 µg/m^3	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurological dysfunction.	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.

ppm = parts per million
µg/m^3 = micrograms per cubic meter

SOURCE: CARB 2010, SCAQMD, 2000.

primarily responsible for regulating stationary sources at industrial and commercial facilities within their geographic areas and for preparing the air quality plans that are required under the federal Clean Air Act and California Clean Air Act.

California's Diesel Risk Reduction Plan and Diesel Fuel Regulations

As part of California's Diesel Risk Reduction Plan, CARB has passed numerous regulations to reduce diesel emissions from vehicles and equipment that are already in use. Combining these retrofit regulations with new engine standards for diesel-fueled vehicles and equipment, CARB intends to reduce DPM emissions by 85 percent from year 2000 levels by 2020. California Diesel Fuel Regulations (13 Cal. Code Regs. §§2281-2285; 17 Cal. Code Regs. §93114) provide standards for motor vehicle fuels and diesel fuel.

CARB has also adopted a regulation for in-use off-road diesel vehicles that is designed to reduce emissions from diesel-powered construction and mining vehicles by imposing idling limitations on owners, operators, renters, or lessees of off-road diesel vehicles. The regulation requires an operator of applicable off-road vehicles (self-propelled diesel-fueled vehicles 25 horsepower and up that were not designed to be driven on-road) to limit idling to no more than 5 minutes.

South Coast Air Quality Management District

The study area is within the jurisdiction of the SCAQMD. The SCAQMD regulates air pollutant emissions for all sources throughout southwestern San Bernardino County other than motor vehicles. The SCAQMD enforces regulations and administers permits governing stationary sources. The following rules and plan would apply to the Project.

Regulation IV – Prohibitions, Rule 402 – Nuisance

This rule prohibits the discharge of air contaminants or other material in quantities that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public.

Regulation IV – Prohibitions, Rule 403 – Fugitive Dust

This rule limits the emissions of fugitive dust or particulate matter from a variety of activities and sources such as construction sites, bulk material hauling, unpaved parking lots, and disturbed soil in open areas and vacant lots. It includes a visible emissions property line standard, requirement to implement Best Available Control Measures (BACM), upwind/downwind PM10 concentrations standards, prevention of track-out onto paved public roads, and special control requirements for large operations.

Pursuant to Rule 403 §(d)(2), no person shall conduct active operations without utilizing the applicable best available control measures included in Table 1 (identified here as **Table 4.3-3**) to minimize fugitive dust emissions from each fugitive dust source type within the active operation.

2007 Air Quality Management Plan

As required by the federal Clean Air Act and the California Clean Air Act, air basins or portions thereof have been classified as in either "attainment" or "nonattainment" of each criteria air

TABLE 4.3-3
SCAQMD FUGITIVE DUST BACM FOR ALL CONSTRUCTION ACTIVITY SOURCES

Source Category	No.	Control Measure
Backfilling	01-1	Stabilize backfill material when not actively handling.
	01-2	Stabilize backfill material during handling.
	01-3	Stabilize soil at completion of activity.
Clearing and Grubbing	02-1	Maintain stability of soil through pre-watering of site prior to clearing and grubbing.
	02-2	Stabilize soil during clearing and grubbing activities.
	02-3	Stabilize soil immediately after clearing and grubbing activities.
Clearing forms	03-1	Use water spray to clear forms.
	03-2	Use sweeping and water spray to clear forms
	03-3	Use vacuum system to clear forms.
Crushing	04-1	Stabilize surface soils prior to operation of support equipment.
	04-2	Stabilize material after crushing
Cut and fill	05-1	Pre-water soils prior to cut and fill activities.
	05-2	Stabilize soil during and after cut and fill activities.
Demolition – mechanical/manual	06-1	Stabilize wind erodible surfaces to reduce dust.
	06-2	Stabilize surface soil where support equipment and vehicles will operate.
	06-3	Stabilize loose soil and demolition debris.
	06-4	Comply with AQMD Rule 1403.
Disturbed soil	07-1	Stabilize disturbed soil throughout the construction.
	07-2	Stabilize disturbed soil between structures.
Earth-moving Activities	08-1	Pre-apply water to depth of proposed cuts.
	08-2	Re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction
	08-3	Stabilize soils once earth-moving activities are complete
Importing/ exporting of bulk materials	09-1	Stabilize material while loading to reduce fugitive dust emissions.
	09-2	Maintain at least six inches of freeboard on haul vehicles.
	09-3	Stabilize material while transporting to reduce fugitive dust emissions.
	09-4	Stabilize material while unloading to reduce fugitive dust emissions.
	09-5	Comply with Vehicle Code §23114.
Landscaping	10-1	Stabilize soils, materials, slopes.
Road Shoulder Maintenance	11-1	Apply water to unpaved shoulders prior to clearing.
	11-2	Apply chemical dust suppressants and/or washed gravel to maintain a stabilized surface after completing road shoulder maintenance.
Screening	12-1	Pre-water material prior to screening.
	12-2	Limit fugitive dust emissions to opacity and plume length standards.
	12-3	Stabilize material immediately after screening.
Staging Areas	13-1	Stabilize staging areas during use.
	13-2	Stabilize staging area soils at project completion.
Stockpiles/ Bulk Material Handling	14-1	Stabilize stockpiled materials.
	14-2	Stockpiles within 100 yards of off-site occupied buildings must not be greater than eight feet in height; or must have a road bladed to the top to allow water truck access or must have an operational water irrigation system that is capable of complete stockpile coverage.

TABLE 4.3-3 (Continued)
SCAQMD FUGITIVE DUST BACM FOR ALL CONSTRUCTION ACTIVITY SOURCES

Source Category	No.	Control Measure
Traffic areas for construction activities	15-1	Stabilize all off-road traffic and parking areas.
	15-2	Stabilize all haul routes.
	15-3	Direct construction traffic over established haul routes.
Trenching	16-1	Stabilize surface soils where trencher or excavator and support equipment will operate.
	16-2	Stabilize soils at the completion of trenching activities.
Truck loading	17-1	Pre-water material prior to loading.
	17-2	Ensure that freeboard exceeds six inches (CVC 23114)
Turf overseeding	18-1	Apply sufficient water immediately prior to conducting turf vacuuming activities to meet opacity and plume length standards.
	18-2	Cover haul vehicles prior to exiting the site.
Unpaved road/parking lots	19-1	Stabilize soils to meet the applicable performance Standards.
	19-2	Limit vehicular travel to established unpaved roads (haul routes) and unpaved parking lots.
Vacant Land	20-1	In instances where vacant lots are 0.10 acre or larger and have a cumulative area of 500 square feet or more that are driven over and/or used by motor vehicles and/or off-road vehicles, prevent motor vehicle and/or off-road vehicle trespassing, parking and/or access by installing barriers, curbs, fences, gates, posts, signs, shrubs, trees or other effective control measures.

SOURCE: SCAQMD, 2005.

pollutant, based on whether or not the standards have been achieved. Jurisdictions of nonattainment areas are also required to prepare an air quality management plan (AQMP) that includes strategies for achieving attainment. The SCAQMD's most recent AQMP was adopted on June 1, 2007. The purpose of the 2007 AQMP is to set forth a comprehensive program that will lead the region into compliance with federal 8-hour ozone and PM2.5 air quality standards.

Local

CPUC General Order No. 131-D explains that local land use regulations would not apply to the Project. However, for information purposes, the following policies identified in the San Bernardino County, City of Fontana, City of Rialto, and City of Rancho Cucamonga general plans would otherwise be relevant to the Project.

San Bernardino County General Plan

The San Bernardino County General Plan includes the following policy from the Land Use and Conservation elements (San Bernardino County, 2007):

- ***Policy CO 4.1*:** Because developments can add to the wind hazard (due to increased dust, the removal of wind breaks, and other factors), the County will require either as mitigation measures in the appropriate environmental analysis required by the County for the development proposal or as conditions of approval if no environmental document is required, that developments in areas identified as susceptible to wind hazards to address site-specific analysis of:

a. Grading restrictions and/or controls on the basis of soil types, topography, or season.

b. Landscaping methods, plant varieties, and scheduling to maximize successful revegetation.

c. Dust-control measures during grading, heavy truck travel, and other dust generating activities.

City of Fontana General Plan

The City of Fontana General Plan includes the following policies from the Air Quality Element (City of Fontana, 2003):

- ***Policy 1*:** Particulate emissions from roads, parking lots, construction sites, and agricultural lands shall be kept at the minimum feasible level.
- ***Policy 2*:** Emissions from building materials and construction methods that generate excessive pollutants shall be kept at the minimum feasible level.
- ***Policy 10*:** Any project that exceeds allowable emissions, as established by the SCAQMD, shall mitigate its anticipated emissions to the extent reasonably feasible.
- ***Policy 14*:** Heavy trucks shall be discouraged from excessive idling both at the roadside and during unloading/loading operations.

City of Rialto General Plan

The City of Rialto General Plan includes the following policies from the Land Use, Community Design, Open Space, and Conservation Element (City of Rialto, 2010):

- ***Policy 2-36.2*:** Support programs and policies of the South Coast Air Quality Management District regarding restrictions on grading operations at construction projects.
- ***Policy 2-36.3*:** Enforce regulations that do not allow vehicles to transport aggregate or similar material upon a roadway unless the material is stabilized or covered.

City of Rancho Cucamonga General Plan

The City of Rancho Cucamonga General Plan includes the following policy from the Public Health and Safety Element (City of Rancho Cucamonga, 2010):

- ***Policy PS-10.4*:** Require projects that generate potentially significant levels of air pollutants to incorporate the best available air quality mitigation into the project design, as appropriate.

4.3.2 Significance Criteria

According to Appendix G of the CEQA *Guidelines*, a project would result in a significant impact if it would:

a) Conflict with or obstruct implementation of the applicable air quality plan;

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation;

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);

d) Expose sensitive receptors to substantial pollutant concentrations; or

e) Create objectionable odors affecting a substantial number of people.

CEQA allows for the significance criteria established by the applicable air district to be used to assess the impact of a project on air quality. Therefore, the SCAQMD air pollution significance thresholds are used in this analysis to determine the significance of Project-related construction and operational impacts (see **Table 4.3-4**).

TABLE 4.3-4
SCAQMD AIR QUALITY SIGNIFICANCE THRESHOLDS

Mass Daily Thresholds		
Pollutant	**Construction**	**Operation**
NO_x	100 lbs/day	55 lbs/day
VOC[a]	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
PM2.5	55 lbs/day	55 lbs/day
SO_x	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs) and Odor Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic and Acute Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality for Criteria Pollutants[b]		
Nitrogen Dioxide 1-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state)	
PM10 24-hour average	10.4 $\mu g/m^3$ (recommended for construction)[c] 2.5 $\mu g/m^3$ (operation)	
PM2.5 24-hour average	10.4 $\mu g/m^3$ (recommended for construction)[c] 2.5 $\mu g/m^3$ (operation)	
CO 1-hour average 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) 9.0 ppm (state/federal)	

lbs/day = pounds per day
ppm = parts per million
$\mu g/m^3$ = micrograms per cubic meter
≥ = greater than or equal to

[a] For purposes of this analysis, VOC is equivalent to ROG.
[b] Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.
[c] Ambient air quality threshold based SCAQMD Rule 403.

SOURCE: SCAQMD, 2011.

To assist agencies in determining whether a project may generate significant adverse localized air quality impacts at sensitive receptor locations, the SCAQMD has developed mass rate look-up tables by source receptor areas (SRAs). These tables are intended to be used as screening tables to determine if construction or operation of a project may result in a violation of an applicable air quality standard. Mass rate thresholds for 1- and 2-acre sites in the Central San Bernardino Valley (SRA #34) are shown in **Table 4.3-5**. These thresholds are expressed in pounds per day and are intended for comparison to on-site emissions only.

TABLE 4.3-5
SCAQMD LOCALIZED SIGNIFICANCE THRESHOLDS FOR CENTRAL SAN BERNARDINO VALLEY

Distance to Receptor (meters)	NO_x (lbs/day)	CO (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)
1-Acre Sites				
25	118	667	4	3
50	148	1,059	13	5
100	211	2,141	33	9
250	334	5,356	74	23
500	652	21,708	196	98
2-Acre Sites				
25	170	972	7	4
50	200	1,463	22	6
100	263	2,738	42	12
250	378	6,346	83	26
500	648	23,304	205	104

lbs/day = pounds per day

SOURCE: SCAQMD, 2009.

4.3.3 Applicant Proposed Measures

There are no APMs included to address issues related to air quality impacts.

4.3.4 Impacts and Mitigation Measures

Approach to Analysis

This section presents an analysis of the potential air quality impacts associated with Project construction, operation, and maintenance. Criteria pollutant emissions from construction equipment exhaust and generation of particulate matter (fugitive dust) are the primary concerns in evaluating short-term air quality impacts. Long-term impacts associated with criteria pollutants, however, would be negligible since emission-related activities associated with Project operation and maintenance would be limited to periodic maintenance and inspection trips.

Project construction would require a variety of construction and earth-moving equipment. Pollutant exhaust emissions would be generated during construction activities from motor-driven

construction equipment, haul trucks, and workers' vehicles, and fugitive dust would be generated by ground disturbing activities as well as from vehicle travel on paved and unpaved roads.

As part of the CPUC's permit application process, SCE provided air pollutant emissions estimates for construction and operational activities that would be associated with the Project (SCE, 2010). The emission estimates were independently reviewed by the CPUC's consultant, Environmental Science Associates (ESA), and are summarized below. Emissions from construction of Project components that would be expected to occur simultaneously were combined to determine the "worst-case" scenario for daily emissions. Off-road and on-road mobile source emission factors obtained from the SCAQMD were used to estimate gasoline and diesel exhaust emissions. The SCAQMD emission factors for off-road vehicles were determined using CARB's OFFROAD Model and emission factors for on-road trucks and worker vehicles were derived using CARB's EMFAC2007 Model to estimate the pounds of pollution emitted per mile of travel. In addition, the USEPA document AP-42 was used to calculate fugitive dust emissions from construction activities (see Appendix C, *Air Quality Calculations*, for details of data, calculations, and assumptions used to estimate Project-related emissions).

a) Conflict with or obstruct implementation of the applicable air quality plan.

The SCAQMD's most recent AQMP was adopted in June of 2007. The purpose of the 2007 AQMP is to set forth a comprehensive program to lead the region into compliance with federal 8-hour ozone and 24-hour PM2.5 air quality standards. To achieve compliance with applicable standards, the 2007 AQMP outlines stationary and mobile source control measures and also relies on state and federal standards to help achieve compliance with applicable standards. Growth projections from local general plans adopted by cities and counties in the SCAB and vehicle-miles-traveled (VMT) projections developed by the Southern California Association of Governments (SCAG) are some of the inputs that were used to develop the 2007 AQMP.

Project construction would be conducted in compliance with applicable federal, state, and local requirements. Project operation and maintenance would involve negligible emissions from infrequent vehicle trips made to inspect and maintain the Project (see Table 4.3-7 later in this section). Furthermore, the Project would not induce or cause long-term population growth, and therefore would not affect population growth assumptions that were considered when the 2007 AQMP was developed (also see Section 4.14, *Population and Housing*). Therefore, the Project would not obstruct the implementation of the currently approved AQMP (No Impact, Class IV).

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b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Impact 4.3-1: Project construction activities would generate NO_x and PM10 emissions that could contribute substantially to violations of ozone and PM10 air quality standards. *Significant Unavoidable* (Class I)

Peak daily emissions from on-site and off-site construction sources were calculated for comparison with the SCAQMD's CEQA mass daily emissions significance thresholds to evaluate whether construction activities could cause or contribute to regional violations of air quality standards. The calculations applied pollutant emission factors developed for the SCAQMD with Project construction activity information presented in Chapter 2, *Project Description* (see Appendix C, *Air Quality Calculations*, for emission estimate details and assumptions).

The maximum daily emissions that would be generated during construction of each of the Project components (i.e., proposed Falcon Ridge Substation, Alder Substation modifications, Etiwanda Substation modifications, subtransmission source lines, telecommunication facilities, distribution getaways, and existing distribution facilities relocation) were calculated taking into account the overlap of construction phases. Since construction of all of the components could occur at the same time, the maximum daily emissions during construction of each of the components were added together to calculate total maximum daily emissions that would be associated with the Project.

Table 4.3-6 compares the total peak daily construction emissions with the SCAQMD's CEQA mass daily emissions significance thresholds. The estimated peak daily construction emissions of NO_x and PM10 would exceed corresponding SCAQMD mass daily significance thresholds, indicating that the emissions of these pollutants could contribute to regional air quality violations during Project construction, which would result in a significant impact. The majority of NO_x and PM10 emissions would be associated with the installation of the proposed subtransmission source lines. The NO_x emissions would primarily be associated with on-site diesel construction equipment and the majority of PM10 emissions would be associated with fugitive dust from ground disturbance and vehicle travel on unpaved roads and surfaces.

TABLE 4.3-6
PEAK DAILY CONSTRUCTION EMISSIONS

Project Component	Maximum Daily Emissions (lbs/day)					
	VOC	CO	NO_x	SO_x	PM10	PM2.5
Proposed Falcon Ridge Substation	7.3	34.8	62.9	0.1	52.6	11.2
Alder Substation Modifications	3.7	23.6	17.6	<0.1	2.3	1.0
Etiwanda Substation Modifications	2.0	12.6	15.5	<0.1	1.3	0.9
Subtransmission Source Lines	15.3	79.1	114.4	0.2	126.4	16.4
Telecommunication Facilities	3.6	19.3	33.4	0.1	40.5	5.0
Distribution Getaways	6.4	30.4	60.2	0.1	32.3	5.5
Existing Facilities Relocation	3.7	23.8	20.4	<0.1	3.6	1.0
Construction Total	**42.0**	**223.6**	**324.4**	**0.6**	**259.0**	**41.0**
SCAQMD CEQA Significance Threshold	75	550	100	150	150	55
Significant?	No	No	Yes	No	Yes	No

SOURCE: SCE, 2010

To reduce construction-related equipment exhaust emissions, implementation of Mitigation Measure 4.3-1a shall be required, which would result in a 20 percent reduction in NO_x emission levels and a 45 percent reduction in PM10 exhaust emissions compared to the most recent CARB fleet average. Regarding PM10 in the form of fugitive dust, SCE and its construction contractor(s) would be required to implement SCAQMD Rule 403 fugitive dust BACMs (see Table 4.3-3). It should be noted that the PM10 emissions estimates presented in Table 4.3-6 factor in the effect of emission reductions that would be achieved by implementing the BACMs, which are general in nature to offer flexibility in implementation. To ensure that the applicable SCAQMD Rule 403 fugitive dust BACMs are properly implemented during Project construction activities in a manner that reduces fugitive dust emissions to the extent feasible, SCE shall implement Mitigation Measure 4.3-1b, which would require SCE to develop a Fugitive Dust Control Plan that would specifically describe how implementation of each of the applicable SCAQMD Rule 403 fugitive dust BACMs would be successfully achieved in the field.

> **Mitigation Measure 4.3-1a:** For off-road construction equipment of more than 50 horsepower and on-road diesel fueled vehicles, SCE shall ensure achievement of a Project-wide fleet-average 20 percent NO_x reduction and 45 percent PM10 exhaust reduction compared to the most recent CARB fleet average. An Exhaust Emissions Control Plan to achieve these reductions shall be submitted to the CPUC for review and approval at least 30 days prior to commencement of construction activities. Construction activities cannot commence until the plan has been approved. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as such become available.
>
> **Mitigation Measure 4.3-1b:** SCE and/or its contractors shall develop a Fugitive Dust Control Plan that specifically describes how compliance with each of SCAQMD Rule 403 Best Available Control Measures (BACMs) shall be achieved. If it is determined that any of the BACMs are not applicable to construction of the Project, the plan shall present rationale as to why the BACMs are not applicable and would not be implemented. This plan shall be submitted to the CPUC for review and approval at least 30 days prior to commencement of construction activities, and the approved plan shall be distributed to all employees and construction contractors working on the Project.

Significance after Mitigation: While Mitigation Measure 4.3-1a (Exhaust Emissions Control Plan) would reduce emissions of NO_x and PM10 during construction, it would not reduce emissions to a level that would be considered less than significant. As noted above, implementation of the BAAQMD fugitive dust BACMs have been factored into the emission estimates presented in Table 4.3-6; therefore, further reductions in PM10 emissions through implementation of Mitigation Measure 4.3-1b (Fugitive Dust Control Plan) would be unlikely to reduce emissions to a level that would be considered less than significant. Impacts from Project construction would therefore cause a temporary significant and unavoidable impact to regional air quality (Class I).

Impact 4.3-2: Operation and maintenance activities would generate emissions of criteria pollutants. *Less than Significant* (Class III)

Peak daily emissions that would be generated during Project operation and maintenance were calculated for comparison with the SCAQMD's CEQA mass daily emissions significance thresholds to evaluate whether the operation and maintenance activities could cause or contribute to regional violations of air quality standards. **Table 4.3-7** compares peak daily operation and maintenance emissions with the SCAQMD's mass daily CEQA significance thresholds (see Appendix C, *Air Quality Calculations*, for emission estimate details and assumptions).

TABLE 4.3-7
PEAK DAILY OPERATION AND MAINTENANCE EMISSION ESTIMATES

Emission Source	Maximum Daily Emissions (lbs/day)					
	VOC	CO	NO_x	SO_x	PM10	PM2.5
Motor Vehicle Exhaust	0.1	0.9	0.1	< 0.05	< 0.05	< 0.05
Particulate Matter from Paved and Unpaved Roads	--	--	--	--	5.3	0.5
Total[a]	**0.1**	**0.9**	**0.1**	**< 0.05**	**5.3**	**0.5**
SCAQMD CEQA Significance Threshold	55	550	55	150	150	55
Significant?	No	No	No	No	No	No

SOURCE: SCE, 2010.

As shown in Table 4.3-7, the estimated peak daily emissions that would be associated with long-term Project operation and maintenance activities would be much less than the corresponding SCAQMD mass daily significance thresholds. Emissions of these pollutants would not contribute to regional air quality violations. Impacts would be less than significant.

Mitigation: None required.

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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).

Impact 4.3-3: Construction activities would generate emissions of criteria pollutants that would be cumulatively considerable. *Significant Unavoidable* (Class I)

The SCAB portion of San Bernardino County is designated as non-attainment of ozone, NO_2, PM10, and PM2.5 standards. Long-term Project operation and maintenance would result in negligible emissions, which would not be cumulatively considerable. Construction activities associated with the Project, as described in this section, could have a temporary impact on regional

air quality through short-term increases in criteria pollutant exhaust emissions and fugitive dust, which could be cumulatively significant when combined with other projects described in Section 6.1, *Projects Considered in the Cumulative Analysis*. Mitigation Measures 4.3-1a (Exhaust Emissions Control Plan) and 4.3-1b (Fugitive Dust Control Plan) would reduce emissions of criteria pollutants during construction activities, but impacts would remain significant and unavoidable. Therefore, the Project would be cumulatively considerable and cumulative impacts on regional and localized air quality from overlapping activities during construction of the Project and other projects would be significant and unavoidable.

> **Mitigation Measure 4.3-3:** Implement Mitigation Measures 4.3-1a (Exhaust Emissions Control Plan) and 4.3-1b (Fugitive Dust Control Plan).

Significance after Mitigation: Implementation of Mitigation Measure 4.3-3 would reduce emissions of criteria pollutants to the extent feasible; however, not all potential impacts from construction emissions would be mitigated. Therefore, when considered with other projects, Project construction would result in a cumulatively considerable net increase in criteria pollutants. Impacts would be significant and unavoidable (Class I).

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d) Expose sensitive receptors to substantial pollutant concentrations.

Impact 4.3-4: The Project would generate emissions of criteria pollutants, exposing sensitive receptors to pollutant concentrations. *Less than Significant* (Class III)

The SCAQMD has developed look-up tables that can be used to evaluate the potential for emissions during construction to cause localized exceedances of the ambient air quality standards at sensitive receptor locations (see Table 4.3-5). This localized significance thresholds (LST) analysis consists of comparing maximum daily on-site CO, NO_x, PM10, and PM2.5 emissions at individual locations with maximum allowable emissions based on the location within the SCAB, the area of the construction site, and the distance to the nearest sensitive receptor locations. It should be noted that in addition to accounting for the distances to sensitive receptors, the LST analysis prepared by SCE (SCE, 2010) also included evaluation for commercial facilities relative to CO and NO_x emissions. However, for the purposes of this CEQA review, the LST analysis is used to evaluate the potential for the Project to result in exposure of sensitive receptors to substantial criteria pollutant concentrations. Therefore, SCE's LST analysis has been revised to include review of only sensitive receptors. In addition, the distances used for residential receptors relative to the Falcon Ridge Substation site and the distribution getaway vault sites were adjusted to more accurately represent the distances from those Project components to the nearest residences (see Appendix C, *Air Quality Calculations*, for details on these revisions).

As indicated in **Table 4.3-8**, the maximum daily on-site emissions for construction of the various components of the Project would not exceed the maximum allowable emissions for CO, NO_x, PM10, or PM2.5. Therefore, the Project would generate criteria pollutant emissions that would not expose sensitive receptors to harmful pollutant concentrations. Impacts would be less than significant.

TABLE 4.3-8
CONSTRUCTION LOCALIZED SIGNIFICANCE THRESHOLD ANALYSIS

Project Component	CO	NO_x	PM10	PM2.5
Falcon Ridge Substation Construction Emissions (lbs/day)	20	36	50	10
Maximum Allowable Emissions (lbs/day)[a]	5,143	340	69	21
Exceedance?	No	No	No	No
Alder Substation Modification Emissions (lbs/day)	17	15	1	1
Maximum Allowable Emissions (lbs/day)[b]	21,708	652	196	98
Exceedance?	No	No	No	No
Etiwanda Substation Modification Emissions (lbs/day)	10	12	1	1
Maximum Allowable Emissions (lbs/day) [b]	21,708	652	196	98
Exceedance?	No	No	No	No
Subtransmission Source Line Emissions (lbs/day)	9	22	2	1
Maximum Allowable Emissions (lbs/day) [c]	667	118	4	3
Exceedance?	No	No	No	No
Telecommunications Emissions (lbs/day)	10	26	2	1
Maximum Allowable Emissions (lbs/day)[c]	667	118	4	3
Exceedance?	No	No	No	No
Distribution Getaways Emissions (lbs/day)	10	17	1	1
Maximum Allowable Emissions (lbs/day)[c]	1,275	161	17	6
Exceedance?	No	No	No	No
Existing Distribution Relocation Emissions (lbs/day)	3	7	1	<0.5
Maximum Allowable Emissions (lbs/day)[b]	667	118	4	3
Exceedance?	No	No	No	No

* SCE's LST emission estimates for construction of the Project included consideration of commercial facilities for evaluation of CO and NO_x emissions. However, SCE's analysis has been revised to include only consideration of sensitive receptors (i.e., residences; see Appendix C, *Air Quality Calculations*).

[a] Maximum allowable emissions based on a 2-acre site and linear interpolation to actual receptor distance using values for Central San Bernardino Valley source/receptor area. The distance to the nearest sensitive receptor was revised from 152 meters to 200 meters to more accurately reflect the conditions in the study area.

[b] Maximum allowable emissions based on 1-acre site using values for Central San Bernardino Valley source/receptor area.

[c] Maximum allowable emissions based on 1-acre site using values for Central San Bernardino Valley source/receptor area. The distances from receptors listed in the PEA air quality analysis were 25 meters for the subtransmission source line construction and for the telecommunication construction; however, the closest sensitive receptor to these activities would be at a distance of approximately 9 meters (approximately 30 feet) associated with residences west of Cypress Avenue. Because SCAQMD does not have LSTs for distances less than 25 meters, it is impossible to estimate an LST level for 9 meters using linear interpolation, Therefore, LST levels at 25 meters where used for the maximum allowable emissions for these construction activities.

SOURCE: SCE, 2010.

Mitigation: None required.

Impact 4.3-5: The Project would generate emissions of TACs, potentially exposing sensitive receptors to harmful pollutant concentrations. *Less than Significant* (Class III)

Project construction would result in temporary and short-term diesel exhaust emissions from on-site heavy-duty equipment and from heavy-duty truck trips required to import and export materials to the various Project component sites. Particulate exhaust emissions from diesel-fueled engines (i.e., diesel particulate matter, or DPM) were identified as a TAC by CARB in 1998. Project construction would result in the short-term generation of DPM emissions from the use of off-road diesel equipment required for site grading and excavation and other construction activities, and from on-road heavy-duty trucks. There would be no long-term mobile or stationary sources of DPM emissions associated with operation and maintenance of the Project.

The dose to which receptors are exposed is the primary factor affecting health risk from TACs. Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-year exposure period when assessing TACs (such as DPM) that have only cancer or chronic non-cancer health effects (OEHHA, 2003). However, such health risk assessments should be limited to the duration of the emission-producing activities associated with the project. For the Project, DPM emissions would occur only over the 12-month construction period.

Table 4.3-8 (above) shows that the maximum PM2.5 emissions from on-site equipment would be up to 10 pounds per day associated with construction of the proposed Falcon Ridge Substation.[1] Because these daily emissions are miniscule and would occur for a total of only 12 months compared to the 70-year exposure used in health risk assessments, DPM emissions would not result in an exceedance of SCAQMD TAC significance thresholds (i.e., the Maximum Incremental Cancer Risk would be less than 10 in 1 million; the Cancer Burden would be less than 0.5 excess cancer cases, and the Chronic and Acute Hazard Index would be less than 1.0). Therefore, the health risk from short-term Project DPM emissions would be negligible and this impact would be less than significant.

Mitigation: None required.

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e) Create objectionable odors affecting a substantial number of people.

Impact 4.3-6: Construction, operation and maintenance of the Project would not create objectionable odors. *Less than Significant* (Class III)

Project operation and maintenance would not create odorous emissions. However, Project construction would include sources, such as diesel equipment, which could result in the creation of objectionable odors. Since the construction activities would be temporary and spatially

[1] PM2.5 exhaust emissions are conservatively used here as a surrogate for DPM.

dispersed, and generally take place in rural areas, these activities would not affect a substantial number of people. Therefore, impacts from odors generated by Project construction would be less than significant.

Mitigation: None required.

4.3.5 Alternatives

Alternative 1: Lowell Street Realignment Alternative

Alternative 1 would be expected to have the same peak daily emissions of ROC, CO, NO_x, and SO_x as the Project; however, peak daily emissions of PM10 and PM2.5 under this alternative would be reduced by approximately 16 percent (i.e., PM10 would be reduced by approximately 40 pounds and PM2.5 would be reduced by approximately 2.5 pounds) compared to the Project (SCE, 2011). Although Alternative 1 would have lower peak emissions of PM10 and PM2.5 than would the Project, regional impacts under Alternative 1 would continue to be significant and unavoidable (Class I) with implementation of Mitigation Measures 4.3-1a and 4.3-1b.

No Project Alternative

Under the No Project Alternative, the Project would not occur; therefore, there would be no impacts to air quality under the No Project Alternative.

References – Air Quality

California Air Resources Board (CARB), 2009. *Methodology for Estimating Premature Deaths Associated with Long-Term Exposure to Fine Airborne Particulate Matter in California*, Draft Staff Report, December 7, 2009.

CARB, 2010. *Ambient Air Quality Standards*, last updated September 8, 2010.

CARB. 2011a. *Toxic Air Contaminant Identification List*. Available at: (http://www.arb.ca.gov/toxics/id/taclist.htm) Accessed April 22, 2011.

CARB, 2011b. *iADAM Air Quality Data Statistics,* http://www.arb.ca.gov/adam/index.html, obtained online on June 23 and October 17, 2011.

CARB. 2011c. Area Designations Maps / State and National webpage (http://www.arb.ca.gov/desig/adm/adm.htm) last updated September 13, 2011.

City of Fontana, 2003. City of Fontana General Plan (October 21, 2003).

City of Rancho Cucamonga, 2010. Rancho Cucamonga General Plan (May 19, 2010).

City of Rialto, 2010. Rialto General Plan (December, 2010).

San Bernardino County, 2007. San Bernardino County 2007 General Plan (March 13, 2007).

Office of Environmental Health Hazard Assessment (OEHHA). 2003. *Air Toxics Hot Spots Program Risk Assessment Guidelines: The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. August, 2003.

Southern California Edison (SCE), 2010. *Proponent's Environmental Assessment, Falcon Ridge Substation Project* Volume 2, Appendix C, *Air Quality Calculations*. December 29, 2010.

SCE, 2011. *Falcon Ridge Substation Project, Response to CPUC Alternatives*, September 28, 2011.

South Coast Air Quality Management District (SCAQMD), 2000. *The Health Effects of Air Pollution on Children*, Fall 2000.

SCAQMD, 2005. Rule 302, *Fugitive Dust*, Amended June 3, 2005.

SCAQMD, 2009. *Localized Significance Threshold Methodology, Appendix C – Mass Rate LST Look-up Table*, last revised October 2009.

SCAQMD, 2011. *SCAQMD Air Quality Significance Thresholds,* accessed online (http://www.aqmd.gov/ceqa/handbook/signthres.pdf) September 19, 2011, last revised March 2011.

Western Regional Climate Center (WRCC), 2011. *Period of Record Monthly Climate Summaries for Fontana, California*, website (http://www.wrcc.dri.edu/summary) accessed on October 17, 2011.

4.4 Biological Resources

This section evaluates whether construction, operation, and maintenance of the Project and alternatives would result in potential adverse impacts on biological resources. Both short-term and long-term Project effects are analyzed to determine their significance under CEQA. When Project impacts are determined to be significant or potentially significant, mitigation measures to avoid or reduce those impacts are identified.

4.4.1 Setting

Introduction

This section describes the existing environment for wildlife, botanical, and wetland resources for the Project and alternatives. In addition to proposed facilities, the setting also describes the larger area, including adjacent habitat, that could reasonably be affected by Project activities (the study area). The Project area is shown in Figure 2-2, *Substation Sites, Subtransmission Source Line Route, and Telecommunication Route*. This section identifies potential impacts to sensitive wetland and biological resources and proposes mitigation measures to reduce potential Project impacts.

The setting information presented herein was compiled from available scientific literature and database searches, coordination with resource experts, in-house staff expertise, and multi-year field surveys. Sources used to analyze the distribution of biological resources and assess potential impacts of the Project are cited below and include the following:

- California Department of Fish and Game (CDFG) California Natural Diversity Database (CNDDB) (CDFG, 2011) and the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Vascular Plants of California (CNPS, 2011);
- Proponent's Environmental Assessment (PEA) (Southern California Edison [SCE], 2010);
- BonTerra's (2010a) Biological Technical Report that was prepared for the Project, and;
- Focused surveys and accompanying biological reports that considered the potential presence or absence, and distribution of sensitive resources in the study area, including:
    - special-status plants (BonTerra, 2010b; 2011);
    - burrowing owl (BonTerra, 2010c);
    - coastal California gnatcatcher (BonTerra, 2010d);
    - Delhi sands flower-loving fly (EnviroPlus, 2010; 2011);
    - San Bernardino kangaroo rat and Los Angeles pocket mouse (SJM Biological Consultants, 2010), and;
    - jurisdictional wetlands (BonTerra, 2010e)

These reports examined biological resources within the "study area" for the Project, which for the purposes of this section is defined as the proposed Falcon Ridge Substation, the existing

Etiwanda and Alder substations, staging areas, and a 50-foot buffer on either side of the proposed and alternative subtransmission source line and fiber-optic cable routes.[1]

In addition to biological resource surveys performed by SCE and their contractors, a field reconnaissance survey was conducted for the Project and alternatives on August 18, 2010, by ESA wildlife biologist B. Pittman to review biological conditions.

Regional

The study area is located in the southwestern portion of San Bernardino County in the cities of Fontana, Rialto, and Rancho Cucamonga, and an unincorporated portion of the county. The area is on the floor of the San Bernardino Valley at the base of the San Gabriel and San Bernardino Mountains. Cajon Canyon separates these two mountain ranges and is located north of the study area. This area is located on the U.S. Geological Survey Devore, Guasti, and Fontana 7.5-minute quadrangle maps. The study area is within the California Floristic Province, Southwestern California Region, and the South Coast subregion,[2] which extends from coastal areas to the Inland Empire (Hickman, 1993).

Topography in the study area is mostly flat with an approximate elevation range of 1,400 feet to 2,200 feet above mean sea level (amsl). Land uses in and adjacent to the study area include industrial, commercial, and residential development, and open space. Existing easements for SCE powerlines occur within the study area and comprise much of the areas that are characterized as open space. These land uses are described in greater detail in Section 4.11, *Land Use*.

Soils vary in the study area, where the general soil classification includes relatively flat, moderately well-drained stony and gravelly loamy sand, sandy loam, and fine sand soils (USDA NRCS, 2011; SCE, 2010, pg. 4.4-62 et seq.; see also Section 4.7, *Geology and Soils*). Average annual precipitation ranges from 18 inches per year on the valley floor to 40 inches or more per year in the nearby San Bernardino Mountains, with precipitation mainly occurring during the months of November to April (SAWPA, 2010).

Natural Communities and Wildlife Habitat

Natural communities in the study area were characterized and mapped by SCE's consultant, BonTerra Consulting (BonTerra, 2010a), and were generally field-verified on behalf of the CPUC by ESA biologist B. Pittman on August 18, 2010. The types and distribution of vegetation communities in the study area were accurately described and mapped in the PEA (SCE, 2010, pp. 4.4-3 to 4.4-6; BonTerra, 2010a) and are summarized below.

1 Note that the PEA did not analyze impacts to biological resources at the 6 proposed staging areas; however, focused biological surveys considered all or portions of the Etiwanda staging area and Falcon Ridge staging area. Other potential staging areas include 4 previously distrubed sites (SCE, 2010, pg. 3-24).

2 Geographic subdivisions are used to describe and predict features of the natural landscape. The system of geographic units is four-tiered: provinces, regions, subregions, and districts. The State of California is covered by three floristic provinces: California Floristic Province, Great Basin, and Desert. The California Floristic Province is the largest, includes most of the State and small portions of Oregon, Nevada, and Baja California, Mexico and is made up of six regions.

The vegetation classification system used in this EIR is based on the CDFG's (2003) *Vegetation Classification and Mapping Program List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database*. This system is based on the classification put forth in the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland, 1986).

Common Plant Communities

The PEA (SCE, 2010, pg. 4.4-4) and Biological Technical Report (BonTerra, 2010a) identified 14 vegetation associations and habitat types (i.e., ruderal, disturbed, developed) in the study area (**Table 4.4-1**). Vegetation types and other areas mapped in the study area consist of Riversidean alluvial fan sage scrub, disturbed Riversidean alluvial fan sage scrub, disturbed Riversidean sage scrub, disturbed mule fat scrub, annual grassland, annual grassland/disturbed Riversidean alluvial fan sage scrub, vineyards, ruderal, ornamental, disturbed, developed, developed/ornamental, developed/ruderal, and flood control channel. A brief description of each plant community and habitat type in the study area is provided below.

Riversidean Sage Scrub

Three Riversidian sage scrub communities were characterized and mapped by BonTerra (2010a) in the study area. These are Riversidean alluvial fan sage scrub, disturbed Riversidean alluvial fan sage scrub, and disturbed Riversidean sage scrub. These vegetation communities are described below.

Riversidean alluvial fan sage scrub occurs in small to large patches along the proposed subtransmission source line routes and at the existing Etiwanda Substation (SCE, 2010a, pg. 4.4-4; BonTerra, 2010a). This vegetation community is dominated by chamise (*Adenostoma fasciculatum*), California buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), and white sage (*Salvia apiana*) with our Lord's candle (*Yucca whipplei*), cane cholla (*Opuntia parryi*), and California sagebrush (*Artemisia californica*).

Sage scrub communities were characterized as disturbed Riversidean alluvial fan sage scrub in areas where non-native grasses were abundant within sage scrub communities. This community occurs in all portions of the study area except the Etiwanda Substation. It has the same dominant species as Riversidean alluvial fan sage scrub, but these areas have a higher density of non-native grasses including wild oats (Avena spp.), foxtail chess (*Bromus madritensis* ssp. *rubens*), soft chess (*Bromus hordeaceus*), foxtail fescue (*Vulpia myuros*), Mediterranean grass (*Schismus barbatus*), and goldentop grass (*Lamarckia aurea*) (SCE, 2010a, pp. 4.4-4 to 4.4-5; BonTerra, 2010a). Disturbed Riversidean sage scrub occurs along the proposed subtransmission source line routes. It is composed of hydroseeded areas or areas that have only a few sage scrub species scattered in vacant lots. The plant species that dominate these areas include deerweed (*Lotus scoparius*), California buckwheat, black mustard (*Brassica nigra*), and foxtail chess (SCE, 2010a, pp. 4.4-4 to 4.4-5; BonTerra, 2010a).

TABLE 4.4-1
VEGETATION COMMUNITIES IN THE STUDY AREA

Project Component	Vegetation Type	Area (acres)[a]
Falcon Ridge Substation	Disturbed Riversidean Alluvial Fan Sage Scrub	4.60
	Ruderal	0.04
	Subtotal Area	**4.64**
Etiwanda and Alder Subtransmission Source Line and Fiber-Optic Cable Routes	Riversidean Alluvial Fan Sage Scrub	1.40
	Disturbed Riversidean Alluvial Fan Sage Scrub	10.09
	Disturbed Riversidean Sage Scrub	0.30
	Disturbed Mule Fat Scrub	0.42
	Annual Grassland	8.63
	Annual Grassland/Disturbed/Riversidean Alluvial Sage Scrub	9.98
	Vineyards	6.41
	Ruderal	72.76
	Ornamental	3.73
	Disturbed	2.38
	Developed	19.49
	Developed/Ornamental	3.18
	Developed/Ruderal	3.00
	Flood-Control Channel	0.72
	Subtotal Area	**142.49**
Etiwanda Substation Upgrades	Riversidean Alluvial Fan Sage Scrub	13.46
	Disturbed Mule Fat Scrub	0.61
	Ruderal	17.45
	Ornamental	0.37
	Disturbed	2.69
	Developed	17.01
	Subtotal Area	**51.59**
	Study Area Total Area	**198.72**
Alternative Subtransmission Source Line and Fiber-Optic Cable Route	Riversidean Alluvial Fan Sage Scrub	1.43
	Disturbed Riversidean Alluvial Fan Sage Scrub	9.05
	Disturbed Riversidean Sage Scrub	0.70
	Disturbed Mule Fat Scrub	0.42
	Annual Grassland	8.63
	Annual Grassland/Disturbed/Riversidean Alluvial Sage Scrub	9.98
	Vineyards	6.41
	Ruderal	68.66
	Ornamental	3.73
	Disturbed	2.38
	Developed	26.71
	Developed/Ornamental	16.54
	Developed/Ruderal	2.07
	Flood-Control Channel	0.72
	Subtotal Area	**157.43**

[a] Acreage figures presented in Figure 4.4-1 include a 50-foot study buffer on linear facilities such as proposed subtransmission source line and fiber-optic cable routes. The acreage figures for the proposed substation site and existing substation sites corresponds to the footprint of proposed facilities.

SOURCE: SCE, 2010, pg. 4.4-4

Disturbed Mule Fat Scrub

Disturbed mule fat scrub occurs along the proposed subtransmission source line routes and at the Etiwanda Substation. These areas receive limited urban runoff from surrounding development. They occur in depressions and vegetation consists mainly of mule fat (*Baccharis salicifolia*) with scattered non-native grasses and Douglas' nightshade (*Solanum douglasii*) (SCE, 2010a, pg. 4.4-5; BonTerra, 2010a).

Annual Grassland

Annual grassland occurs along the proposed subtransmission source line routes. This habitat type is dominated by foxtail chess, California buckwheat, vinegar weed (*Trichostema lanceolatum*), rancher's fiddleneck (*Amsinckia menziesii*), ripgut brome (*Bromus diandrus*), and long-beaked filaree (*Erodium botrys*) (SCE, 2010a, pg. 4.4-5; BonTerra, 2010a).

Vineyards

Historic vineyard lands occur along the proposed subtransmission source line routes. Though these areas are no longer cultivated, the abandoned vineyards support grape vines and are being recolonized by non-native grasses and several native herbaceous species (SCE, 2010a, pg. 4.4-5; BonTerra, 2010a).

Ruderal, Ornamental, and Disturbed

Due to the long history of land disturbance in the study area, ruderal vegetation is present in patches throughout the area. These areas are dominated by wild oats, western sunflower (*Helianthus annuus*), long-beaked filaree, black locust (*Robinia psuedoacacia*), ripgut brome, prickly lettuce (*Lactuca serriola*), lamb's quarters (*Chenopodium album*), common eucrypta (*Eucrypta chrysanthemifolia*), and Peruvian pepper tree (*Schinus molle*). Ruderal areas also support scattered California buckwheat, rancher's fiddleneck, and deerweed (SCE, 2010a, pg. 4.4-5; BonTerra, 2010a).

Ornamental vegetation occurs along the proposed subtransmission source line routes and at the Etiwanda Substation. While not a natural vegetation community, ornamental vegetation can provide important habitat benefits for wildlife species, such as providing nesting sites, forage, and cover. The following non-native plant species were identified within ornamental vegetation stands: gum trees (*Eucalyptus* sp.), myoporum (*Myoporum laetum*), lantana (*Lantana* sp.), day lily (*Hemerocallis* spp.), crape myrtle (*Lagerstoemia indica*), rose (*Rosa* spp.), and turf grass (SCE, 2010a, pg. 4.4-5; BonTerra, 2010a).

Disturbed areas occur along the proposed subtransmission source line routes and at the Etiwanda Substation. Most disturbed areas in the study area, such as dirt roads, are devoid of vegetation. Where vegetation is present, such as along road edges, non-native annual grasses and herbs provide sparse ground coverage (SCE, 2010a, pg. 4.4-5; BonTerra, 2010a).

Developed

Developed areas occur along the proposed subtransmission source line routes and at the Etiwanda Substation. These areas include paved roads and other hardscape features that lack vegetation.

Developed/ornamental areas occur along the proposed subtransmission source line routes consist of landscaped developed areas and dirt lots. Ornamental vegetation in these areas includes Aleppo pine (*Pinus halepensis*), cherry tree (*Prunus* sp.), Indian fig (*Opuntia ficus-indica*), photinia (*Photinia* sp.), fortnight lily (*Dietes iridioides*), false heather (*Cuphea hyssopifolia*), geranium (*Pelargonium* sp.), prickly lettuce, telegraph weed (*Heterotheca grandiflora*), and yucca (*Yucca* sp.) (SCE, 2010a, pg. 4.4-6; BonTerra, 2010a).

Developed/ruderal areas occur along the proposed subtransmission source line routes. These areas are composed of poorly maintained developed areas that support the sparse growth of ruderal species such as non-native grasses and invasive forbs.

Flood Control Channel

A concrete-lined flood control channel occurs along the proposed subtransmission source line routes. While this feature conveys flood waters during storm events, it lacks vegetation and provides low habitat benefits similar to developed areas.

Special-Status Plant Communities

The CDFG recognizes several plant communities that are of limited distribution statewide and are often vulnerable to environmental effects of projects. These special-status plant communities may or may not contain special-status species or their habitat. Impacts to special-status plant communities identified in local or regional plans, policies, regulations, or by the CDFG or USFWS, must be considered and evaluated under CEQA.

Special-status plant communities that have been identified in the study area include Riversidean alluvial fan sage scrub, disturbed Riversidean alluvial fan sage scrub, and disturbed Riversidean sage scrub, as described above (SCE, 2010a, pg. 4.4-4; CDFG, 2011). These plant communities occur at the proposed Falcon Ridge Substation, the Etiwanda Substation, and along the proposed subtransmission source line routes (Table 4.4-1). Their distribution in the study area is presented in the PEA (SCE, 2010, pp., 4.4-4 to 4.4-6) and Biological Technical Report (BonTerra, 2010a).

Jurisdictional Waters, Including Wetlands

Wetlands are ecologically productive habitats that support a rich variety of both plant and animal life. They are recognized as important natural systems because of their value to fish and wildlife, and their functions as storage areas for flood flows, groundwater recharge, nutrient recycling, and water quality improvement. Wetlands are defined as areas that are periodically or permanently inundated by surface or groundwater and support vegetation adapted to saturated soils. Waters of the U.S. are regulated by the Corps; whereas streams and lakes are regulated by the CDFG, and waters of the state fall under the jurisdiction of the State Water Resources Control Board (SWRCB). The jurisdiction of these agencies is discussed in the *Regulatory Setting*, below.

Multiple features within and adjacent to the study area may be under the jurisdiction of the Corps, CDFG, or SWRCB (**Table 4.4-2**). These features include Etiwanda Creek and flood control channels that traverse the study area (SCE, 2010, pg. 4.4-9; BonTerra, 2010e). A jurisdictional determination identified potential jurisdictional wetlands in the study areas for the proposed subtransmission source line routes, and at the Etiwanda Substation; however, wetland resources would not necessarily be affected in these areas.

TABLE 4.4-2
PORTIONS THE STUDY AREA CONTAINING POTENTIALLY JURISDICATIONAL WETLANDS

Project Component	Corps	Agency with Jurisdiction CDFG	RWQCB
Falcon Ridge Substation			
Proposed Subtransmission Source Line and Fiber-Optic Cable Route	X	X	X
Etiwanda Substation Upgrades	X	X	X
Alternative Subtransmission Source Line and Fiber-Optic Cable Route	X	X	X

SOURCE: SCE, 2010, pg. 4.4-10

Wildlife Movement and Urban/Wildlands Interface

The concept of wildlife corridors addresses the linkage between large blocks of habitat that allow safe movement of wildlife species from one habitat area to another. Definitions of a wildlife corridor vary but corridors may include large elements such as refuge systems or natural parks as well as small elements such as underpasses, or greenbelts within otherwise urbanized areas. In general, a wildlife corridor is described as a linear habitat, embedded in a dissimilar matrix that connects two or more large blocks of habitat (Beier and Noss, 1998). Such corridors are critical for the survivorship of ecological systems for several reasons. They can connect water, food, and cover sources, spatially linking these three resources with wildlife in different areas. In addition, wildlife movement between habitat areas provides for the potential of genetic exchange between wildlife species populations, thereby maintaining genetic variability and adaptability to maximize the success of wildlife responses to changing environmental conditions. This is especially critical for small populations subject to loss of variability from genetic drift and effects of inbreeding. The nature of corridor use and wildlife movement patterns varies greatly among species and geographic regions.

The Project is partly proposed within existing utility corridors that are beneficial to wildlife corridor functions. In much of the study area these utility corridors constitute much of the remaining open space for wildlife, with urbanization extending to the edges of the corridor. The northern and northwestern portions of the study area are relatively open. Although there are no major open space areas in the study area, the utility corridors may provide limited connectivity to larger open space areas to the north and east.

Creeks and drainages in the study area, particularly Lytle Creek and Cajon Wash, may provide connectivity between the Project area and the Angeles National Forest and San Bernardino National Forest, located just over 1 mile upstream (north) of the study area. The southern portion of the study area is relatively urbanized and the connection to the Santa Ana River to the south is highly constrained. Lytle Creek is channelized downstream of Foothill Boulevard; therefore, only urban-tolerant wildlife (e.g., coyote, skunk, and raccoon) and some bird species are expected to traverse the unvegetated channel to the Santa Ana River.

A portion of Etiwanda Creek traverses the study area and provides limited wildlife opportunities. A portion of downstream Etiwanda Creek between Foothill Boulevard I-10 may provide some wildlife movement benefits where the natural creek parallels the constructed channel; however, this creek segment is highly constrained by adjacent development. Wildlife may use this creek segment for local movement, but where the creek becomes channelized (both upstream and downstream of this segment), wildlife would be forced to use patches of undeveloped upland habitat (including agricultural areas) interspersed with developed areas for several miles to make the connection to larger open space areas such as the Angeles National Forest and the Santa Ana River. As described above, only urban tolerant wildlife and some bird species would be expected to traverse the unvegetated channel and developed areas.

Overall, wildlife are expected to move between open space habitats in the study area north to habitat in the Angeles and San Bernardino National Forests, concentrating along Lytle and Cajon Creeks. Wildlife movement from these areas through the study area to the Santa Ana River corridor would be limited due to extensive urbanization and stream channelization.

Special-Status Species

Several species that occur in the study area are accorded "special-status" because of their recognized rarity or vulnerability to various causes of habitat loss or population decline. Some of these receive specific protection defined in federal or state endangered species legislation. Others have been designated as "sensitive" on the basis of adopted policies and expertise of state resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives. These species are referred to collectively as "special-status species" in this EIR. The various categories encompassed by the term, and the legal status of each, are discussed in the *Regulatory Setting* below.

Special-status wildlife and plant species that are known to or have potential to occur in the study area are discussed below. A list of special-status species reported or expected to occur within the study area as well as information pertaining to natural communities of special concern was compiled on the basis of data in the CNDDB (CDFG, 2011), California Native Plant Society (CNPS) online database, the PEA (SCE, 2010), and BonTerra's (2010a) biological study. The list is intended to be comprehensive. The "Potential for Occurrence" designations apply to species and habitats in the study area that would not necessarily be affected by the Project or alternatives. Data gathered during focused surveys was used to assess the potential presence of conditions that could support special-status species and/or natural communities of special concern.

Special-Status Wildlife

The analysis of special-status wildlife species in the region produced an inventory of animals that have at least a moderate to high potential for occurrence within the study area and could be exposed to Project-related impacts (i.e., species or habitat that either is known to occur in the study area or has a high potential to occur there).

Focused protocol-level surveys were performed for the following federally and/or state-listed endangered or threatened wildlife species, with negative findings in the study area: Delhi sands flower-loving fly (*Rhaphiomidas terminates abdominalis*) (EnviroPlus, 2010; 2011), coastal California gnatcatcher (*Polioptila californica californica*) (BonTerra, 2010d), and San Bernardino kangaroo rat (*Dipodomys merriami parvus*) (SJM Biological, 2010).

Focused surveys were not performed for the following for the following federally and/or state-listed endangered or threatened species because the study area either does not provide suitable habitat, or is outside the species' known or described range: Santa Ana sucker (*Catostomus santaanae*), arroyo toad (*Anaxyrus californicus*), California red-legged frog (*Rana draytonii*), Sierra Madre yellow-legged frog (*Rana muscosa*), southern rubber boa (*Charina umbratica*), Swainson's hawk (*Buteo swainsoni*), bald eagle (*Haliaeetus leucocephalus*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), southwestern willow flycatcher (*Empidonax traillii extimus*), least Bell's vireo (*Vireo bellii pusillus*), and Stephen's kangaroo rat (*Dipodomys stephensi*) (BonTerra, 2010a, pg. 4.4-20 to 4.4-21; SCE, 2010).

In addition to species formally listed by the resource agencies, multiple species reported in the study area are granted protection as "special-status species" under §15380 of the CEQA Guidelines (see the *Regulatory Setting* section). Suitable habitat for the following non-listed special-status wildlife species occurs in the study area: western spadefoot (*Spea hammondii*), coast horned lizard (*Phrynosoma coronatum [blainvillii population]*), coast patch-nosed snake (*Salvadora hexalepis virgultea*), golden eagle (*Aquila chrysaetos*)(foraging), burrowing owl (*Athene cunicularia*), loggerhead shrike (*Lanius ludovicianus*), grasshopper sparrow (*Ammodramus savannarum*), Oregon vesper sparrow (*Pooecetes gramineus affinis*), tricolored blackbird (*Agelaius tricolor*), pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), western yellow bat (*Lasiurus xathinus*), western mastiff bat (*Eumops perotis californicus*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), San Diego black tailed jackrabbit (*Lepus californicus bennettii*), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), Los Angeles pocket mouse (*Perognathus longimembris brevinasus*), San Diego desert woodrat (*Neotoma lepida intermedia*), southern grasshopper mouse (*Onychomys torridus ramona*), and American badger (*Taxidea taxus*). Focused burrowing owl surveys were completed in 2010 and this species was not identified in the study area (BonTerra, 2010c). Coast horned lizard, loggerhead shrike, San Diego black-tailed jackrabbit, northwestern San Diego pocket mouse, Los Angeles pocket mouse, and San Diego desert woodrat were observed in the study area.

Table 4.4-3 identifies those special-status plant that have been reported or may potentially occur in the study area based on known species distribution and/or the presence of suitable habitat. The potential for occurrence for each species is characterized in Table 4.4-3 as absent, low, moderate, high, or present. In this context, these terms mean the following:

- **Absent** means that the species was not identified following full protocol-level surveys, the project does not provide suitable habitat, or is outside the species' known range;
- **Low** means the species was not observed or there was no suitable habitat;

TABLE 4.4-3
SPECIAL-STATUS SPECIES REPORTED OR POTENTIALLY OCCURRING IN THE STUDY AREA

Scientific Name Common Name	Listing Status: Fed/State	Occurrence Reported in Area/ Potential for Occurrence			
		Proposed Falcon Ridge Substation	Proposed Subtransmission Source Line / Fiber-Optic Cable Routes	Etiwanda Substation Upgrades	Alternative Subtransmission Source Line / Fiber-Optic Cable Route
Invertebrates					
FEDERAL OR STATE THREATENED AND ENDANGERED SPECIES					
Delhi sands flower-loving fly *Rhaphiomidas terminatus abdominalis*	FE/	Absent. Surveys negative within suitable habitat	Absent. Surveys negative within suitable habitat	Absent. Surveys negative within suitable habitat	Absent. Surveys negative within suitable habitat
Fish					
FEDERAL OR STATE THREATENED AND ENDANGERED SPECIES					
Santa Ana sucker *Catostomus santaanae*	FT/CSC	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area
SPECIES OF SPECIAL CONCERN					
Arroyo chub *Gila orcuttii*	--/CSC	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area
Santa Ana speckled dace *Rhinichthys osculus* ssp. 3	--/CSC	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area
Amphibians					
FEDERAL OR STATE THREATENED AND ENDANGERED SPECIES					
Arroyo toad *Anaxyrus californicus*	FE/CSC	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area
California red-legged frog *Rana draytonii*	FT/CSC	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area
Sierra Madre yellow-legged frog *Rana muscosa*	FE/CSC	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area
SPECIES OF SPECIAL CONCERN					
Western spadefoot *Spea hammondii*	--/CSC	Absent. No habitat in study area	Low Potential. Breeding habitat is limited; upland habitat is potentially present	Low Potential. Breeding habitat is limited; upland habitat is potentially present	Low Potential. Breeding habitat is limited; upland habitat is potentially present

TABLE 4.4-3 (Continued)
SPECIAL-STATUS SPECIES REPORTED OR POTENTIALLY OCCURRING IN THE STUDY AREA

Scientific Name Common Name	Listing Status: Fed/State	Occurrence Reported in Area/ Potential for Occurrence			
		Proposed Falcon Ridge Substation	Proposed Subtransmission Source Line / Fiber-Optic Cable Routes	Etiwanda Substation Upgrades	Alternative Subtransmission Source Line / Fiber-Optic Cable Route
Reptiles					
FEDERAL OR STATE THREATENED AND ENDANGERED SPECIES					
Southern rubber boa *Charina umbratica*	--/ST	Absent. No habitat in study area; out of species' range	Absent. No habitat in study area; out of species' range	Absent. No habitat in study area; out of species' range	Absent. No habitat in study area; out of species' range
SPECIES OF SPECIAL CONCERN					
Western pond turtle *Actinemys marmorata*	--/CSC	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area
Orange-throated whiptail *Aspidoscelis hyperytha*	--/CSC	Absent. Outside species' known range	Absent. Outside species' known range	Absent. Outside species' known range	Absent. Outside species' known range
Northern red-diamond rattlesnake *Crotalus ruber ruber*	--/CSC	Absent. Outside species' known range	Absent. Outside species' known range	Absent. Outside species' known range	Absent. Outside species' known range
Coast horned lizard *Phrynosoma coronatum* [*blainvillii* population]	--/CSC	High Potential. Observed in study area; high quality habitat in grassland and scrub	Present. Observed in study area; high quality habitat in grassland and scrub	High Potential. Observed in study area; high quality habitat in grassland and scrub	High Potential. Observed in study area; high quality habitat in grassland and scrub
Coast patch-nosed snake *Salvadora hexalepis virgultea*	--/CSC	Moderate Potential. high quality habitat in grassland and scrub	Moderate Potential. high quality habitat in grassland and scrub	Moderate Potential. high quality habitat in grassland and scrub	Moderate Potential. high quality habitat in grassland and scrub
Amphibians					
SPECIES OF SPECIAL CONCERN					
Two-striped garter snake *Thamnophis hammondii*	--/CSC	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area
Birds					
FEDERAL OR STATE THREATENED AND ENDANGERED SPECIES					
Swainson's hawk *Buteo swainsoni*	FT/CSC	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FC/SE	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area
Southwestern willow flycatcher *Empidonax traillii extimus*	FE/SE	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area

TABLE 4.4-3 (Continued)
SPECIAL-STATUS SPECIES REPORTED OR POTENTIALLY OCCURRING IN THE STUDY AREA

Scientific Name Common Name	Listing Status: Fed/State	Occurrence Reported in Area/ Potential for Occurrence			
		Proposed Falcon Ridge Substation	Proposed Subtransmission Source Line / Fiber-Optic Cable Routes	Etiwanda Substation Upgrades	Alternative Subtransmission Source Line / Fiber-Optic Cable Route
Birds (cont.)					
FEDERAL OR STATE THREATENED AND ENDANGERED SPECIES (cont.)					
Bald eagle *Haliaeetus leucocephalus*	--/SE & FP	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area
Coastal California gnatcatcher *Polioptila californica californica*	FT/CSC	Low Potential. Not observed during protocol-level surveys; suitable habitat present	Low Potential. Not observed during protocol-level surveys; suitable habitat present	Low Potential. Not observed during protocol-level surveys; suitable habitat present	Low Potential. Not observed during protocol-level surveys; suitable habitat present
Least Bell's vireo *Vireo bellii pusillus*	FE/SE	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area
SPECIES OF SPECIAL CONCERN					
Tricolored blackbird *Agelaius tricolor*	--/CSC	Low Potential. Minimal breeding habitat available	Low Potential. Minimal breeding habitat available	Low Potential. Minimal breeding habitat available	Low Potential. Minimal breeding habitat available
Grasshopper sparrow *Ammodramus savannarum*	--/CSC	High Potential. May nest in scrub or grasslands	High Potential. May nest in scrub or grasslands	High Potential. May nest in scrub or grasslands	High Potential. May nest in scrub or grasslands
Golden eagle *Aquila chrysaetos*	--/CSC & FP	Moderate Potential (foraging). No nesting habitat in study area	Moderate Potential (foraging). No nesting habitat in study area	Moderate Potential (foraging). No nesting habitat in study area	Moderate Potential (foraging). No nesting habitat in study area
Long-eared owl *Asio otus*	--/CSC	Low Potential. No habitat in study area	Low Potential. No habitat in study area	Low Potential. No habitat in study area	Low Potential. No habitat in study area
Burrowing owl *Athene cunicularia*	--/CSC	Moderate Potential (foraging). Not observed during focused surveys	Moderate Potential (foraging). Not observed during focused surveys	Low Potential. Not observed during focused surveys	Low Potential. Not observed during focused surveys
Northern harrier *Circus cyaneus*	--/CSC	High Potential (foraging). Foraging habitat present in grasslands and sparse scrub	High Potential (foraging). Foraging habitat present in grasslands and sparse scrub	High Potential (foraging). Foraging habitat present in grasslands and sparse scrub	High Potential (foraging). Foraging habitat present in grasslands and sparse scrub
Mountain plover *Charadrius montanus*	--/CSC	Low Potential. No wintering locations known near study area	Low Potential. No wintering locations known near study area	Low Potential No wintering locations known near study area	Low Potential. No wintering locations known near study area
Yellow warbler *Dendroica petechia brewsteri*	--/CSC	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area

TABLE 4.4-3 (Continued)
SPECIAL-STATUS SPECIES REPORTED OR POTENTIALLY OCCURRING IN THE STUDY AREA

Scientific Name Common Name	Listing Status: Fed/State	Occurrence Reported in Area/ Potential for Occurrence			
		Proposed Falcon Ridge Substation	Proposed Subtransmission Source Line / Fiber-Optic Cable Routes	Etiwanda Substation Upgrades	Alternative Subtransmission Source Line / Fiber-Optic Cable Route
Birds (cont.)					
SPECIES OF SPECIAL CONCERN (cont.)					
White-tailed kite *Elanus leucurus*	--/FP	High Potential (foraging). Foraging habitat present in grasslands and sparse scrub	High Potential (foraging). Foraging habitat present in grasslands and sparse scrub	High Potential (foraging). Foraging habitat present in grasslands and sparse scrub	High Potential (foraging). Foraging habitat present in grasslands and sparse scrub
Yellow-breasted chat *Icteria virens*	--/CSC	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area
Loggerhead shrike *Lanius ludovicianus*	--/CSC	High Potential. Suitable habitat present.	Present. Observed in association with scrub habitat.	High Potential. Suitable habitat present.	High Potential. Suitable habitat present.
Vermilion flycatcher *Pyrocephalus rubinus*	--/CSC	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area
Mammals					
FEDERAL OR STATE THREATENED AND ENDANGERED SPECIES					
San Bernardino kangaroo rat *Dipodomys merriami parvus*	FE/CSC	Low Potential. Not identified during focused surveys; suitable habitat present	Low Potential. Not identified during focused surveys; suitable habitat present	Low Potential. Not identified during focused surveys; suitable habitat present	Low Potential. Not identified during focused surveys; suitable habitat present
Stephens' kangaroo rat *Dipodomys stephensi*	FE/ST	Low Potential. Outside of described species range	Low Potential. Outside of described species range	Low Potential. Outside of described species range	Low Potential. Outside of described species range
SPECIES OF SPECIAL CONCERN					
Pallid bat *Antrozous pallidus*	--/CSC	Low Potential. Limited foraging and roosting habitat	Low Potential. Limited foraging and roosting habitat	Low Potential. Limited foraging and roosting habitat	Low Potential. Limited foraging and roosting habitat
Northwestern San Diego pocket mouse *Chaetodipus fallax fallax*	--/CSC	High Potential. Suitable habitat present	High Potential. Suitable habitat present	High Potential. Suitable habitat present	High Potential. Suitable habitat present
Pallid San Diego pocket mouse *Chaetodipus fallax pallidus*	--/CSC	Absent. Outside of described species range	Absent. Outside of described species range	Absent. Outside of described species range	Absent. Outside of described species range
Townsend's big-eared bat *Corynorhinus townsendii*	--/CSC	Low Potential. Limited foraging and roosting habitat	Low Potential. Limited foraging and roosting habitat	Low Potential. Limited foraging and roosting habitat	Low Potential. Limited foraging and roosting habitat

TABLE 4.4-3 (Continued)
SPECIAL-STATUS SPECIES REPORTED OR POTENTIALLY OCCURRING IN THE STUDY AREA

Scientific Name Common Name	Listing Status: Fed/State	Occurrence Reported in Area/ Potential for Occurrence			
		Proposed Falcon Ridge Substation	Proposed Subtransmission Source Line / Fiber-Optic Cable Routes	Etiwanda Substation Upgrades	Alternative Subtransmission Source Line / Fiber-Optic Cable Route
Mammals (cont.)					
SPECIES OF SPECIAL CONCERN (cont.)					
Western mastiff bat *Eumops perotis californicus*	--/CSC	Low Potential. Limited foraging habitat; no roosting habitat	Low Potential. Limited foraging habitat; no roosting habitat	Low Potential. Limited foraging habitat; no roosting habitat	Low Potential. Limited foraging habitat; no roosting habitat
San Bernardino flying squirrel *Glaucomys sabrinus californicus*	--/CSC	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area	Absent. No habitat in study area
Western yellow bat *Lasiurus xathinus*	--/CSC	Low Potential. Limited foraging habitat; no roosting habitat	Low Potential. Limited foraging habitat; no roosting habitat	Low Potential. Limited foraging habitat; no roosting habitat	Low Potential. Limited foraging habitat; no roosting habitat
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	--/CSC	High Potential. Suitable habitat present.	Present. Observed in study area with habitat throughout alignment	High Potential. Suitable habitat present	High Potential. Suitable habitat present
San Diego desert woodrat *Neotoma lepida intermedia*	--/CSC	High Potential. Suitable habitat present	Present. Identified during surveys	High Potential. Suitable habitat present	High Potential. Suitable habitat present
Pocketed free-tailed bat *Nyctinomops femorosaccus*	--/CSC	Low Potential. Limited foraging habitat; no roosting habitat	Low Potential. Limited foraging habitat; no roosting habitat	Low Potential. Limited foraging habitat; no roosting habitat	Low Potential. Limited foraging habitat; no roosting habitat
Southern grasshopper mouse *Onychomys torridus ramona*	--/CSC	High Potential. Suitable habitat present, not observed during mammal surveys	High Potential. Suitable habitat present, not observed during mammal surveys	High Potential. Suitable habitat present, not observed during mammal surveys	High Potential. Suitable habitat present, not observed during mammal surveys
Los Angeles pocket mouse *Perognathus longimembris brevinasus*	--/CSC	Low Potential. Suitable habitat present, but not found during focused trapping surveys	Present on alignment within ¼ mile of the Etiwanda Substation; not identified elsewhere during focused trapping surveys	Present. Identified throughout the existing Etiwanda Substation site	Low Potential. Suitable habitat present, but not found during focused trapping surveys
American badger *Taxidea taxus*	--/CSC	High Potential. Suitable habitat present, though not observed during mammal surveys	High Potential. Suitable habitat present, though not observed during mammal surveys	High Potential. Suitable habitat present, though not observed during mammal surveys	High Potential. Suitable habitat present, though not observed during mammal surveys

TABLE 4.4-3 (Continued)
SPECIAL-STATUS SPECIES REPORTED OR POTENTIALLY OCCURRING IN THE STUDY AREA

Scientific Name Common Name	Listing Status: Fed/State	Occurrence Reported in Area/ Potential for Occurrence			
		Proposed Falcon Ridge Substation	Proposed Subtransmission Source Line / Fiber-Optic Cable Routes	Etiwanda Substation Upgrades	Alternative Subtransmission Source Line / Fiber-Optic Cable Route
Plants					
SPECIES OF SPECIAL CONCERN					
Plummer's mariposa lily *Calochortus plummerae*	--/--/1B.2	Present. Several isolated populations found on site during surveys	Present. Present in northern areas in grassland and Riversidean sage scrub habitat	Low Potential. Not identified during focused surveys	Present. Several isolated populations found on site during surveys
Parry's spineflower *Chorizanthe parryi* var. *parryi*	--/--/1B.1	Low Potential. Not identified during focused surveys	Present. One population totaling 47 plants identified in alignment	Low Potential. Not identified during focused surveys	Low Potential. Not identified during focused surveys

STATUS CODES:

Federal (U.S. Fish and Wildlife Service):
BEPA = Bald and Golden Eagle Protection Act
FE = Listed as Endangered by the Federal Government
FT = Listed as Threatened by the Federal Government

State (California Department of Fish and Game):
SE = Listed as Endangered by the State of California
ST = Listed as Threatened by the State of California
SR = Considered Rare by the State of California (plants only)
SC = Candidate for listing as threatened or endangered by the State of California
CSC = California species of special concern
FP = California fully protected species
WL = CDFG Watch List species

California Native Plant Society (CNPS):
List 1A = Plants believed extinct
List 1B = Plants rare, threatened, or endangered in California and elsewhere
List 2 = Plants rare, threatened, or endangered in California but more common elsewhere
List 3 = A "review" list of plants for which more information is needed; plants included in analysis if identified by the MSHCP (i.e., vernal barley)

SOURCES: CDFG, 2011 ; SCE, 2010 ; SJM Biological, 2010 ; BonTerra, 2010a ; 2010b; 2010c ; 2010d ; EnviroPlus, 2010 ; 2011

- **Moderate** means the species was not observed, marginal habitat was observed, or occurrences were documented nearby;
- **High** means the species was detected during one or more surveys or is likely to occur based on known distribution or presence of suitable habitat; and
- **Present** means the species was documented in the study area, either as a resident or migrant.

This analysis evaluates potential impacts of the Project on listed and other special-status species determined to have moderate or high potential and species known to be present in the study area.

Several birds described in Table 4.4-3 may forage or otherwise move through the study area, but are not expected to nest in the study area. These include: golden eagle, white-tailed kite, Oregon vesper sparrow, and tricolored blackbird. Those wildlife species with at least a moderate potential to occur in the study area as described in Table 4.4-3 are described below in the order in which they appear in the table, i.e., invertebrates, amphibians, birds, and then mammals. Special-status plants are discussed in the following section.

Delhi Sands Flower-loving Fly

The Delhi sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*) is a federally listed endangered species. This species is restricted (endemic) to the Colton Dunes (Delhi soil series) that once covered over approximately 40 square miles in northwestern Riverside and southwestern San Bernardino Counties (USFWS, 1997). A portion of the study area is within the Delhi sands flower-loving fly Recovery Area (Ontario Recovery Unit) (USFWS, 1997); therefore, SCE and its contractors performed a single year of presence/absence surveys for this species in 2010, reporting that the species was not detected, no Delhi series soils occur in the study area, and additional surveys were unwarranted (EnviroPlus, 2010). Because the USFWS survey protocol requires two consecutive years of survyes with no species observations to establish absence, a second year survey for Delhi sands flower-loving fly was perfomed in 2011 (EnviroPlus, 2011). Based on negative survey findings, Delhi sands flower-loving fly is not expected to occur in the study area.

No critical habitat has been proposed by the USFWS for this species.

Western Spadefoot

The western spadefoot (*Spea hammondii*) is a California Species of Special Concern that occurs in valley grassland and foothill habitats. The species requires quiet streams, ponds, or vernal pool habitats for successful breeding and is therefore susceptible to land uses such as agriculture and development. Breeding habitat for this species has not been reported or detected in or near the study area. The PEA (SCE, 2010, pg. 4.4-20) concluded that non-breeding habitat for western spadefoot may be present along the proposed Etiwanda Subtransmission Source Line and Fiber-Optic Cable Route, most likely in the open space segment near Etiwanda Creek between Foothill Boulevard and the southern boundary of the study area. However, the likelihood of encountering this species in the study area is considered low due to the lack of nearby potential breeding pools and lack of documented spadefoot populations in the surrounding region (CDFG, 2011).

Coast Horned Lizard

Coast horned lizard (*Phrynosoma coronatum* [*blainvillii* population]) is a California Species of Special Concern. This small, spiny, somewhat rounded lizard occurs in several habitat types, including areas with an exposed gravelly-sandy substrate containing scattered shrubs, clearings in riparian woodlands, dry uniform chamise chaparral, and annual grassland with scattered perennial seepweed or saltbush (Stebbins, 2003). The coast horned lizard occurs throughout much of California, west of the desert and Cascade-Sierra highlands south to Baja California, Mexico (Stebbins 2003). This species has been reported from two locations within the proposed Etiwanda Subtransmission Source Line and Fiber-Optic Cable Route, and from locations near Etiwanda, Cajon Canyon, Lytle Creek, Silverwood Lake, and Devore (CDFG, 2011). Suitable habitat for the coast horned lizard is present in the study area.

Coast Patch-nosed Snake

Coast patch-nosed snake (*Salvadora hexalepis virgultea*) is a California Species of Special Concern. The coast patch-nosed snake ranges along the coast of California from San Luis Obispo County southward into Baja California, Mexico (Jennings and Hayes, 1994). This species inhabits open sandy areas and rocky outcrops in scrub, chaparral, grassland, and woodland vegetation types. There are no documented occurrences of this species in the study area; however, suitable low shrub habitat is present throughout the area and the coast patch-nosed snake is presumed present within scrub and grassland habitat in the study area.

Coastal California Gnatcatcher

The coastal California gnatcatcher is a federally listed threatened species and California Species of Special Concern. This subspecies is an obligate resident of coastal sage scrub vegetation types (CDFG, 2011). Focused surveys performed in 2010 did not detect this species in the study area (BonTerra, 2010d).

Designated critical habitat for this species does not occur in the study area for the Project or alternatives.

Grasshopper Sparrow

The grasshopper sparrow (*Ammodramus savannarum*) is a California Species of Special Concern. This species is a year-round resident in the western states and occurs in association with moderately open grasslands and prairies with patchy bare ground (Dudek, 2003). The grasshopper sparrow typically avoids grasslands with extensive shrub cover, although some level of shrub cover is important for birds in the western regions. It is an uncommon and local, summer resident and breeder in foothills and lowlands west of the Cascade-Sierra Nevada crest from Mendocino and Trinity counties south to San Diego County (Zeiner et al., 1990a). Grasslands in the study area may provide suitable habitat for grasshopper sparrow; therefore, this species may be present in the study area.

Golden Eagle

The golden eagle (*Aquila chrysaetos*) is federally protected under the Bald and Golden Eagle Protection Act, identified as a California Species of Special Concern and is a California Fully Protected Species. Golden eagles nest in open areas on cliffs and in large trees, often constructing multiple nests in one breeding territory (Zeiner et al., 1990a). They prefer open habitats such as rolling grasslands, deserts, savannahs, and early successional forest and shrub habitats, with cliffs or large trees for nesting and cover (Zeiner et al., 1990a). Golden eagles are uncommon residents in coastal southern California. Suitable foraging habitat, but no suitable nesting habitat occurs in the study area.

Burrowing Owl

The burrowing owl (*Athene cunicularia*) is a California Species of Special Concern. Western burrowing owls are relatively small, semicolonial owls, and are mostly residents of open dry grasslands and desert areas. These owls use burrows excavated by ground squirrels and other small mammals during the breeding and non-breeding season. This species has not been reported within the study area; however, sightings are reported near Colton, Fontana, Ontario, Rancho Cucamonga, and Rialto (CDFG, 2011; BonTerra, 2010a). Focused surveys for this species identified suitable burrows and open habitat; however, no burrowing owls were detected during surveys (BonTerra, 2010c). Based on survey findings, there is a low potential that burrowing owl may occur in the study area.

Northern Harrier

The northern harrier (*Circus cyaneus*) is a California Species of Special Concern. Northern harriers are found in a wide variety of habitats from annual grasslands up to lodgepole pines and alpine meadow habitats. They are known to frequent meadows, grasslands, open rangelands, desert sinks, and freshwater and saltwater emergent wetlands. They may also nest in grasslands, grain fields, or sagebrush flats several miles from water (Zeiner et al., 1990a). Northern harriers are commonly observed foraging over croplands, marshlands, or grasslands and may forage in the study area (SCE, 2010, pg. 4.4-21); however, nesting habitat is not available in the study area.

White-tailed Kite

The white-tailed kite (*Elanus leucurus*) is a California Fully Protected Species. White-tailed kites forage in open grasslands, meadows, farmlands, and emergent wetlands. They typically nest in oak woodlands or trees, especially along marsh or river margins, although they will nest in any suitable tree or shrub that is of moderate height. They are rarely found far from agricultural areas (Zeiner et al., 1990a) and may forage in the study area (SCE, 2010, pg. 4.4-21). Nesting habitat is not available in the study area.

Loggerhead Shrike

The loggerhead shrike (*Lanius ludovicianus*) is a California Species of Special Concern. Loggerhead shrikes are a semipermanent resident species that occurs in abundance in the Central Valley and Central Coast where shrub habitats and open woodlands are available. Shrikes generally forage on the fringes of open habitats where suitable hunting perches are available. It was

considered to be a fairly common year-round resident in Southern California, though absent from urban populations, but has recently shown declines in the south coast region (Shuford and Gardali, 2008). Suitable breeding and foraging habitat for loggerhead shrike is present in the study area for the Project or alternatives, and this species was observed within the study area (BonTerra, 2010a).

San Bernardino Kangaroo Rat

The San Bernardino kangaroo rat (*Dipodomys merriami parvus*) is a federally listed endangered species and California Species of Special Concern. It is typically is found in Riversidean alluvial fan sage scrub and sandy loam soils, alluvial fans and flood plains, and along washes with nearby sage scrub. Soil texture is a primary factor in this subspecies' occurrence. Sandy loam substrates allow for the digging of simple, shallow burrows (USFWS, 2002). The San Bernardino kangaroo rat was reported in 2002 from a parcel located about 200 feet north of the proposed Etiwanda Subtransmission Source Line and Fiber-Optic Cable Route and 900 feet west of the proposed Falcon Ridge Substation (CDFG, 2011).

Suitable habitat for this species is present in the study area. However, protocol-level trapping surveys within suitable habitat in the study area failed to detect this species (SJM Biological, 2010). San Bernardino kangaroo rat is not expected to occur in the study area because it was not observed during protocol-level surveys.

On October 17, 2008, the USFWS published a final rule revising critical habitat for the San Bernardino kangaroo rat. The revised critical habitat designates 7,779 acres of land in San Bernardino and Riverside Counties, California (USFWS, 2008b). Portions of the proposed subtransmission source line and fiber-optic cable routes are within designated critical habitat for the San Bernardino kangaroo rat (**Figure 4.4-1**).

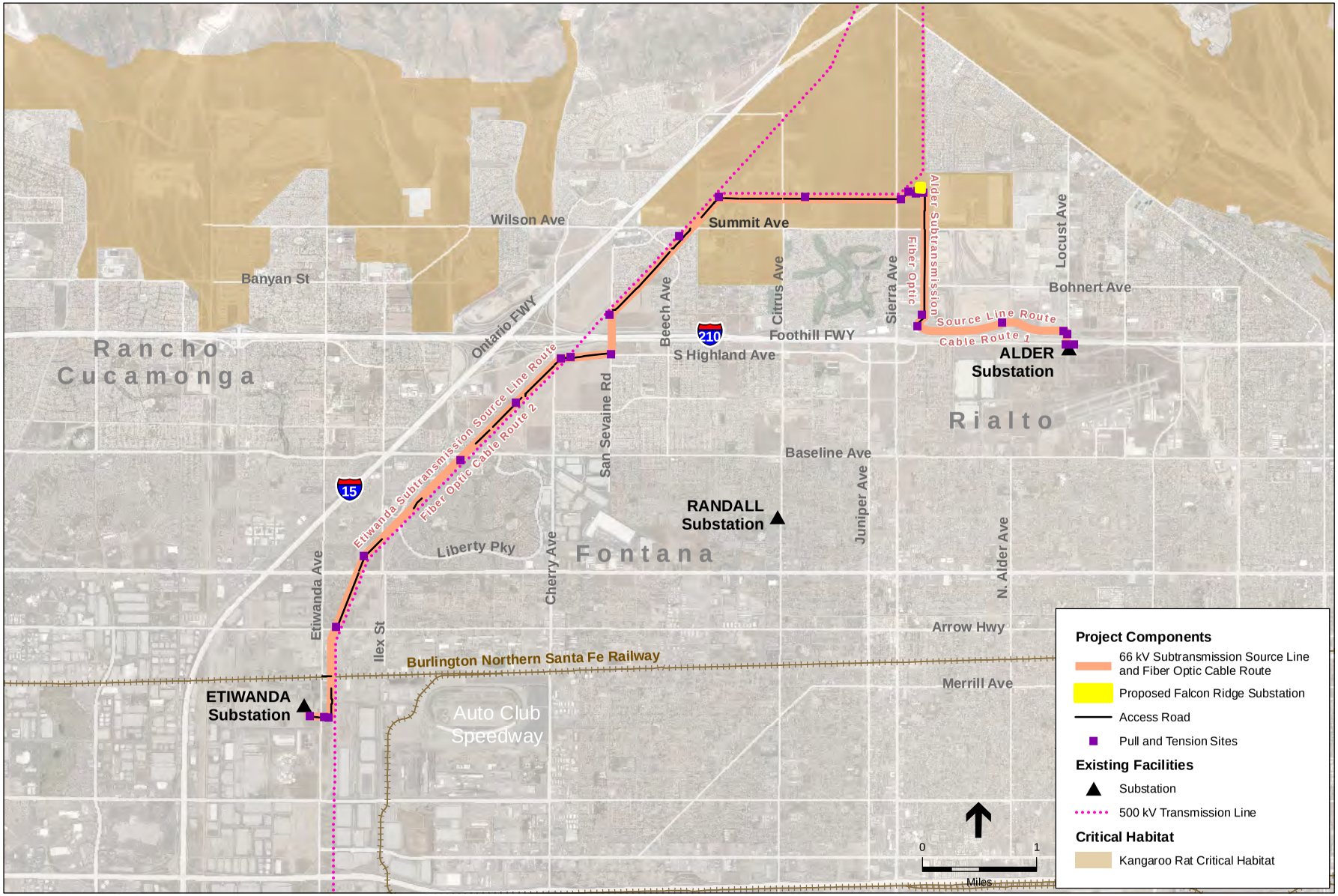
Northwestern San Diego Pocket Mouse

The northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*) is a California Species of Special Concern. Found in coastal sage scrub, sage scrub/grassland ecotones, and chaparral communities, this subspecies inhabits open, sandy areas of both the Upper and Lower Sonoran life-zones of southwestern California and northern Baja California (Dudek, 2003). They range from southwest San Bernardino County south to northern Baja California, Mexico.

In 2002, the northwestern San Diego pocket mouse was identified in the proposed Etiwanda Subtransmission Source Line and Fiber-Optic Cable Route, about 900 feet west of the proposed Falcon Ridge Substation (CDFG, 2011). Suitable habitat for the San Diego pocket mouse is present elsewhere in the study area, and they area presumed present in portions of the study area that support scrub vegetation communities.

San Diego Black-Tailed Jackrabbit

The San Diego black-tailed jackrabbit (*Lepus californicus bennettii*) is a California Species of Special Concern. This subspecies occupies many diverse habitats, but primarily is found in arid regions supporting short-grass habitats and open coastal sage scrub habitats in Southern



SOURCE: SCE, 2011; USFWS, 2011

Falcon Ridge Substation Project . 207584.09

Figure 4.4-1
Designated Critical Habitat
for the San Bernardino Kangaroo Rat
in the Project Vicinity

California. While the black-tailed jackrabbit is widespread throughout the western United States, the San Diego subspecies is restricted to Southern California, with records ranging from Santa Barbara County south to northwestern Baja California, Mexico.

In the study area, the San Diego black-tailed jackrabbit is reported in the central portion of the proposed Etiwanda Subtransmission Source Line and Fiber-Optic Cable Route, about 1.2 miles northeast of the junction of I-15 and Highway 210 (CDFG, 2011). Suitable habitat for this species is present throughout the study area.

San Diego Desert Woodrat

San Diego desert woodrat (*Neotoma lepida intermedia*) is a California Species of Special Concern. This subspecies occurs in a variety of shrub and desert habitats, primarily associated with rock outcroppings, boulders, cacti, or areas of dense undergrowth. The San Diego desert woodrat is widespread in Riversidean and coastal sage scrub and chaparral throughout central and southern California and the Great Basin, Mojave, and Colorado deserts. In the vicinity of the study area, this species has been reported from the confluence of Lytle and Cajon Creeks, Etiwanda Creek, Alta Loma, and Day Creek in Rancho Cucamonga (CDFG 2011). The nearest of these occurrences is a 2002 record from about 5,000 feet north of the existing Etiwanda Substation (CDFG, 2011). Suitable habitat for this species is present in the study area.

Southern Grasshopper Mouse

The southern grasshopper mouse (*Onychomys torridus ramona*) is a California Species of Special Concern. This carnivorous species occurs in sparse desert scrub habitats including coastal scrub and mixed chaparral areas. Typical prey includes grasshoppers, crickets, moths and beetles.

The range of this species includes inland portions of California, from eastern Los Angeles County to Nevada, and south to northwestern Baja California, Mexico (Zeiner et al., 1990b). This species is reported from Reche Canyon, about 9 miles southeast of the study area (CDFG, 2011). The study area is within the range of this species and suitable habitat is available. Therefore, southern grasshopper mouse is presumed present within scrub habitats in the study area.

Los Angeles Pocket Mouse

The Los Angeles pocket mouse (*Perognathus longimembris brevinasus*) is a California Species of Special Concern. This species occurs in lower elevation grasslands and coastal sage scrub vegetation (CDFG 2010a) in areas with fine, sandy soils, which it uses for burrowing (Jameson and Peters, 1988).

The range of the Los Angeles pocket mouse is from Burbank and San Fernando in Los Angeles County east to the City of San Bernardino, San Bernardino County (Dudek, 2003). Multiple occurrences of this species area reported in Colton, Fontana, Etiwanda, and Lytle Creek (CDFG 2011), and this species was found extensively in the study area during trapping performed for this Project. Los Angeles pocket mice were observed primarily in alluvial habitat near Etiwanda Avenue and within the existing Etiwanda Substation in the southern portion of the study area (SJM Biological, 2010; SCE, 2010, Figure 4.4-11a).

American Badger

American badger (*Taxidea taxus*) is a California Species of Special Concern. This species occupies a wide variety of habitats and ranges throughout the state except for the coastal redwood forests of the extreme northwest. The principal requirements for this species seem to be sufficient food, friable soils, and relatively open, uncultivated ground (Zeiner et al., 1990b). In the regional area, this species has been reported from Silverwood Lake, Reche Canyon near Colton, and San Bernardino (CDFG, 2011). Potentially suitable habitat is present in the study area. Therefore, badgers are expected to occur in low densities in grassland habitats throughout the study area.

Special-Status Bats

Special-status bats occur throughout most of Southern California and may use any portion of the study area as foraging habitat. The availability of protected roosting habitat, however, is limited in the study area due to the general absence of trees and structures. As a result, bat roosting by such species as pallid bat ((*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), western yellow bat (*Lasiurus xathinus*), western mastiff bat (*Eumops perotis* californicus), and pocketed free-tailed bat (*Nyctinomops femorosaccus*) is not expected in the study area.

Special-Status Plants

Focused surveys considered the potential presence of 54 special-status plant species in the regional vicinity of the study area. Of these, 42 species were not expected to occur in the study area due to lack of suitable habitat (BonTerra, 2010b; 2011). These include the following federally or state listed endangered or threatened species: marsh sandwort (*Arenaria paludicola*), thread-leaved brodiaea (*Brodiaea filifolia*), salt marsh bird's-beak (*Cordylanthus maritimus* ssp. *maritimus*), slender-horned spineflower (*Dodecahema leptoceras*), and Gambel's water cress (*Nasturtium gabmelii*).

Suitable habitat for the following specialstatus plant species was identified in the study area: singlewhorl burrobrush (*Ambrosia monogyra*), Nevin's barberry (*Berberis nevinii*), Plummer's mariposa lily (*Calochortus plummerae*), smooth tarplant (Centromadia pungens ssp. laevis), Parry's spineflower (*Chorizanthe parryi* var. *parryi*), white-bracted spineflower (*Chorizanthe xanti* var. *leucotheca*), slender-horned spineflower (*Dodecahema leptoceras*), Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*), California satintail (*Imperata brevifolia*), Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*), Parish's desert-thorn (*Lycium parishii*), and Rock Creek broomrape (*Orobanche valida* ssp. *valida*).

Following comprehensive botanical surveys, two non-listed special-status plants were identified in the study area: Plummer's mariposa lily and Parry's spineflower, and are discussed below (BonTerra, 2010b; 2011). No other special-status plant species were observed during focused plant surveys.

Plummer's Mariposa Lily

Plummer's mariposa lily is a CNPS List 1B.2 species with no federal or state status. This perennial bulbiferous herb occurs in coastal sage scrub; dry, rocky chaparral; and yellow-pine

forest at elevations between 0 and approximately 5,580 feet amsl (Hickman, 1993). This species is known from Ventura, Los Angeles, San Bernardino, and Riverside counties (CNPS, 2011). A total of 69 individuals of Plummer's mariposa lily were observed in the study area (SCE, 2010; pg. 4.4-11; BonTerra, 2011, pg. 7).

Parry's Spineflower

Parry's spineflower is a CNPS List 1B.1 species that has no federal or state listing status. This annual herb occurs in open, sandy sites, often on gravelly slopes in coastal or desert scrub at elevations between approximately 980 and 3,940 feet amsl (Hickman, 1993). It is known from the east-central South Coast, the eastern Transverse Ranges, and the northwestern edge of the Sonoran Desert (Jepson Flora Project, 2009). Thirteen populations of Parry's spineflower totaling 15,804 individuals were observed during focused botanical surveys (BonTerra, 2011), of which one population totaling 47 individuals occurs within the study area (SCE, 2010; pg. 4.4-11; BonTerra, 2011).

Regulatory Setting

Biological resources in California are protected and regulated by a variety of laws and policies administered by federal, state, and local agencies. This section summarizes the biological resource-related agencies, regulations, and policies relevant to the Project.

Federal

U.S. Fish and Wildlife Service

The USFWS administers the Federal Endangered Species Act (FESA) (16 U.S. Code [USC] 153 et seq.), the Migratory Bird Treaty Act (MBTA) (16 USC 703–711), and the Bald Eagle Protection Act (16 USC 668).

Federal Endangered Species Act

Listing and Critical Habitat – FESA §4. Under FESA §4, the Secretary of the Interior and the Secretary of Commerce have joint authority to list a species as threatened or endangered. Two federal agencies oversee FESA: the USFWS has jurisdiction over plants, wildlife, and resident fish, and the National Oceanic and Atmospheric Administration's Fisheries Service (NOAA Fisheries Service or NMFS) has jurisdiction over anadromous fish, and marine fish and mammals. Section 4 requires USFWS and/or NMFS to designate critical habitat for any species listed under FESA. Critical habitat designations indicate specific geographic areas that are determined to be essential for the conservation of a listed species and that may require special management and protection. Critical habitat may include areas that are not currently occupied by the species but that will be needed for its recovery.

Portions of the proposed subtransmission source line routes traverse designated critical habitat for San Bernardino kangaroo rat (Figure 4.4-1). Within designated critical habitat, the USFWS protects areas that provide the primary constituent elements (PCEs) for the survival and conservation of the subject listed species. PCEs are the physical and biological attributes considered

essential to species conservation that require special management considerations or protection. The stated PCEs for San Bernardino kangaroo rat include areas that contain space for individual and population growth and normal behavior, food, and cover and shelter (USFWS, 2007; 2008a; 2008b). Note that portions of proposed subtransmission source line routes may provide PCEs for San Bernardino kangaroo rat, even though this species is not present in the study area.

Consultation and Incidental Take Authorization – FESA §§7 and 10. FESA §7 requires all federal agencies to consult with USFWS and/or NMFS (as appropriate) to ensure that the actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of a threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species. Under FESA §7(b)(3), the appropriate wildlife agency provides a written statement setting forth the agency's opinion, and a summary of the information on which the opinion is based detailing how the proposed action affects the species or its critical habitat. If jeopardy or adverse modification is found, the agency suggests reasonable and prudent alternatives that can be taken in implementing the agency action. This written statement is called a Biological Opinion.

FESA §9 lists actions that are prohibited under the Act. The "take" of a listed species without prior authorization is prohibited. "Take" is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct of any listed species." Take that is incidental to an otherwise lawful activity may be allowed in either of two ways: §7 provides for the issuance of an incidental take statement for federal agency actions and, for non-federal actions, §10 provides for the incidental take of a listed species pursuant to an incidental take permit.

FESA §10 requires the issuance of an incidental take permit before any non-federal public or private action may be undertaken that would potentially result in the take of an endangered or threatened species. FESA §10(a)(2)(A) requires an applicant for an incidental take permit to submit a habitat conservation plan that specifies, among other things, the impact that is likely to result from the taking and what steps the applicant would take to minimize and mitigate such impacts.

Migratory Bird Treaty Act. Among other things, the MBTA (16 United States Code §703 Supp. I, 1989) makes it "unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill" migratory birds, bird parts, eggs, or nests, except in accordance with regulations prescribed by the Secretary of the Interior (50 CFR Part 21). The MBTA prohibits direct and indirect acts, though harassment and habitat modification are not included unless they result in direct loss of birds, eggs, or nests. The list of birds covered by MBTA essentially includes all native birds.

Bald and Golden Eagle Protection Act. Under the Bald and Golden Eagle Protection Act, it is illegal to import, export, take (which includes molest or disturb), sell, purchase, or barter any bald eagle or golden eagle or part thereof. The USFWS oversees enforcement of this act. The Secretary of the Interior is authorized to permit the take of golden eagle nests that interfere with resource development or recovery operations subject to new regulations that became effective November 10, 2009 (50 CFR 22.26, 22.27). Although the permit program is under development, interim

guidelines suggest using the best available information and risk analysis tools to assess project impacts; at the earliest opportunity collecting data on home ranges, nesting locations, and foraging and migration behavior; full disclosure of risks to eagles; full disclosure of data and analysis limitations; and maximum consideration of impact-reduction measures and mitigation to reduce take.

U.S. Army Corps of Engineers

Clean Water Act, §404. The Corps administers §404 of the Clean Water Act (CWA). Section 404 regulates activities in wetlands and "other waters of the United States." Wetlands are a subset of "waters of the United States" that are defined in the Code of Federal Regulations (CFR) (33 CFR 328.3[a]; 40 CFR 230.3[s]) as:

1. All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide.

2. All interstate waters including interstate wetlands. (Wetlands are defined by the federal government [33 CFR 328.3(b), 1991] as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances support, a prevalence of vegetation typically adapted for life in saturated soil conditions.)

3. All other waters—such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds—the use, degradation, or destruction of which could affect interstate or foreign commerce. This includes any waters with the following current or potential uses:

    - That are or could be used by interstate or foreign travelers for recreational or other purposes,
    - From which fish or shellfish are or could be taken and sold in interstate or foreign commerce, or
    - That are used or could be used for industrial purposes by industries in interstate commerce.

4. All impoundments of waters otherwise defined as waters of the United States under the definition.

5. Tributaries of waters identified in paragraphs (1) through (4).

6. Territorial seas.

7. Wetlands next to waters identified in paragraphs (1) through (6).

8. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding the Clean Water Act jurisdiction remains with the U. S. Environmental Protection Agency (328.3[a][8] added 58 CFR 45035, August 25, 1993).

State

California Department of Fish and Game

The CDFG administers a number of laws and programs designed to protect fish and wildlife resources under the Fish and Game Code (FGC), such as the California Endangered Species Act (FGC §2050, et seq.), Fully Protected Species (FGC §3511), Native Plant Protection Act (FGC §§1900 to 1913), and Lake or Streambed Alteration Agreement Program (FGC §§1600 to 1616).

California Endangered Species Act. In 1984, the State of California implemented the California Endangered Species Act (CESA) which prohibits the take of state-listed endangered and threatened species; although habitat destruction is not included in the state's definition of take. Section 2090 requires state agencies to comply with endangered species protection and recovery and to promote conservation of these species. The CDFG administers the act and authorizes take through California Fish and Game Code §2081 agreements (except for designated "fully protected species," see below). Unlike its federal counterpart, CESA protections apply to candidate species that have been petitioned for listing.

Regarding listed rare and endangered plant species, CESA defers to the California Native Plant Protection Act (see below).

Fish and Game Code §3503. California Fish and Game Code §3503.5 provides that it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto. Construction activities that result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment and/or reproductive failure are considered a "take" by CDFG. Any loss of eggs, nests, or young or any activities resulting in nest abandonment would constitute a significant project impact.

Native Plant Protection Act. California Fish and Game Code §§1900–1913, also known as the Native Plant Protection Act, is intended to preserve, protect, and enhance endangered or rare native plants in California. The act directs CDFG to establish criteria for determining what native plants are rare or endangered. Under §1901, a species is endangered when its prospects for survival and reproduction are in immediate jeopardy from one or more cause. A species is rare when, although not threatened with immediate extinction, it is in such small numbers throughout its range that it may become endangered. The act also directs the California Fish and Game Commission to adopt regulations governing the taking, possessing, propagation, or sale of any endangered or rare native plant.

Vascular plants that are identified as rare by the CNPS, but which may have no designated status or protection under federal or state endangered species legislation, are defined as follows:

- **List 1A:** Plants Presumed Extinct.
- **List 1B:** Plants Rare, Threatened, or Endangered in California and elsewhere.
- **List 2:** Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere.

- **List 3:** Plants about Which More Information is Needed – A Review List.
- **List 4:** Plants of Limited Distribution – A Watch List.

In general, plants appearing on CNPS List 1A, 1B, or 2 are considered to meet the criteria of CEQA Guidelines §15380 and effects to these species are considered "significant" in this EIR. Additionally, plants listed on CNPS List 1A, 1B or 2 meet the definition of §1901, Chapter 10 (Native Plant Protection Act) and §§2062 and 2067 (CESA) of the California Fish and Game Code.

Lake or Streambed Alteration Agreement Program. The CDFG regulates activities that would interfere with the natural flow of, or substantially alter, the channel, bed, or bank of a lake, river, or stream. Section 1602 of the California Fish and Game Code requires notification of the CDFG for lake or stream alteration activities. If, after notification is complete, the CDFG determines that the activity may substantially adversely affect an existing fish and wildlife resource, the CDFG has authority to issue a Streambed Alteration Agreement under §1603 of the California Fish and Game Code. Requirements to protect the integrity of biological resources and water quality are often conditions of Streambed Alteration Agreements. These may include avoidance or minimization of heavy equipment use within stream zones, limitations on work periods to avoid impacts to wildlife and fisheries resources, and measures to restore degraded sites or compensate for permanent habitat losses.

Species of Special Concern. CDFG maintains lists for candidate-endangered species and candidate-threatened species. California candidate species are afforded the same level of protection as listed species. California also designates Species of Special Concern, which are species of limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. These species do not have the same legal protection as listed species or fully protected species, but may be added to official lists in the future. CDFG intends the Species of Special Concern list to be a management tool for consideration in future land use decisions.

State Water Resources Control Board

Porter-Cologne Water Quality Act. The SWRCB, through its nine Regional Water Quality Control Boards (RWQCBs), regulates waters of the state through the California Clean Water Act (i.e., Porter-Cologne Act). If the Corps determines wetlands or other waters to be isolated waters and not subject to regulation under the federal CWA, the RWQCB may choose to exert jurisdiction over these waters under the Porter-Cologne Act as waters of the state.

CEQA Guidelines §15380

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines §15380(b) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specific criteria. These criteria have been modeled after the definition of FESA and the section of FGC discussing rare or endangered plants or animals. This section was included in the CEQA Guidelines primarily for situations in which a public agency is reviewing a project that

may have a significant effect on a candidate species that has not yet been listed by CDFG or USFWS. CEQA provides the ability to protect species from potential project impacts until the respective agencies have the opportunity to designate the species protection.

CEQA also specifies the protection of other locally or regionally significant resources, including natural communities or habitats. Although natural communities do not presently have legal protection, CEQA requires an assessment of such communities and potential project impacts. Natural communities that are identified as sensitive in the CNDDB are considered by CDFG to be significant resources and fall under the CEQA Guidelines for addressing impacts. Local planning documents such as general and area plans often identify natural communities.

Local

CPUC General Order No. 131-D explains that local land use regulations would not apply to the Project. However, CPUC staff considered the following local policies to inform the significance determination related to the protection of biological resources in the study area. No relevant policies were found in the municipal codes of the cities of Rialto and Rancho Cucamonga.

San Bernardino County

The San Bernardino County Code (Division 8, Chapter 88.01) provides for the protection of plant resources in the county. This ordinance applies to all private land within the unincorporated areas of San Bernardino County and to public lands owned by the county except as specified by the provisions of this Division. The removal of any regulated native tree or desert native plant by "any public utility subject to jurisdiction of the Public Utilities Commission or any other constituted public agency, including franchised cable TV where to establish or maintain safe operation of facilities under their jurisdiction, trees are pruned, topped or braced," is exempt from this Division.

City of Fontana

Chapter 28, Article III of the City of Fontana Municipal Code protects heritage[3], significant, and/or specimen trees within the city located on both private and public property. A permit is required for removal of any heritage, significant, or specimen tree. This article applies to development projects that require a subdivision of property and/or a project requiring design advisory board review and/or a design review. Additionally, all heritage trees so designated by city council resolution, or endangered species as specified by federal or state statute are also covered by this article.

[3] Heritage tree means any tree which is of historical value, is representative of a significant period of the City's growth or development, is a protected or endangered species as specified by federal or state statute, or is deemed historically or culturally significant by the city manager or his or her designee because of size, condition, location, or aesthetic qualities.

4.4.2 Significance Criteria

Based on §15065 and Appendix G of the CEQA *Guidelines*, a project would result in a significant impact on the environment if it would:

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 CDFG or USFWS (including List 1A, 1B, and 2 plant species of the CNPS Inventory);

b) Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFG or USFWS;

c) Have a substantial adverse effect on federally protected wetlands as defined by §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;

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;

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, other approved local, regional, or state habitat conservation plan.

CEQA §15380 provides that a plant or animal species may be treated as "Rare or Endangered" even if not on one of the official lists if, for example, it is likely to become endangered in the foreseeable future. As species of plants and animals become restricted in range and limited in population numbers, species may become listed or candidates for listing as endangered or threatened and become recognized under CEQA as a significant resource. Examples of such species are Delhi sands flower-loving fly and burrowing owl; the former is listed by the federal government and the latter is considered a California Species of Special Concern.

In conducting the following impact analysis, three principal components of the CEQA Guidelines outlined above were considered:

- Magnitude of the impact (e.g., substantial/not substantial);
- Uniqueness of the affected resource (i.e., rarity of the resource); and
- Susceptibility of the affected resource to perturbation (i.e., sensitivity of the resource).

The evaluation of the significance of the following impacts considered the interrelationship of these three components. For example, a relatively small magnitude impact to a federal or state-listed species would be considered significant because the species is very rare and is believed to be very susceptible to disturbance. Conversely, a plant community such as California annual

grassland is not necessarily rare or sensitive to disturbance. Therefore, a much larger magnitude of impact would be required to result in a significant impact.

4.4.3 Applicant Proposed Measures

SCE has proposed the following Applicant Proposed Measures (APMs) to minimize impacts on biological resources from the Project. The impact analysis assumes that the applicable APM would be implemented (i.e., part of the Project) to reduce biological impacts as discussed below.

APM-BIO-01 Migratory Bird Treaty Act (MBTA) and Nesting Raptors: In order to avoid impacts on nesting birds and raptors (common or special status), Project initiation shall be scheduled outside the breeding season (i.e., March 15–September 15 for nesting birds; February 1–June 30 for nesting raptors). If Project timing requires that work be initiated during this time period, a pre-construction survey shall be conducted by a qualified Biologist for nesting birds and/or raptors within 7 days prior to clearing of any vegetation or any work within 500 feet of construction areas. If the Biologist does not find any active nests within the impact area, the vegetation clearing/construction work shall be allowed to proceed.

If the Biologist finds an active nest within the construction area and determines that the nest may be impacted or breeding activities substantially disrupted, the Biologist will delineate an appropriate buffer zone around the nest depending on the sensitivity of the species and the nature of the construction activity. The active site will be protected until nesting activity has ended to ensure compliance with the MBTA and California Fish and Game Code. Encroachment into the buffer area around a known nest shall only be allowed if the Biologist determines that the proposed activity would not disturb the nest occupants.

APM-BIO-02 Riversidean Alluvial Fan Sage Scrub, Disturbed Riversidean Alluvial Fan Sage Scrub, Disturbed Riversidean Sage Scrub, and Annual Grassland/Disturbed Riversidean Alluvial Fan Sage Scrub: Project impacts on sage scrub vegetation types would be avoided and/or minimized to the maximum extent practicable. Permanent impacts to disturbed Riversidean alluvial fan sage scrub, disturbed Riversidean sage scrub, and annual grassland/disturbed Riversidean alluvial fan sage scrub vegetation would be mitigated at a minimum replacement ratio of 1:1. Residual temporary impacts on undisturbed/disturbed Riversidean alluvial fan sage scrub would be restored on site and/or mitigated at a replacement ratio of 1:1. Permanent impacts on undisturbed Riversidean alluvial fan sage scrub would be mitigated at a replacement ratio of up to 3:1. Final compensation ratios for impacts to Riversidean alluvial fan sage scrub would be determined in consultation with USFWS and CDFG.

A detailed restoration program shall be prepared for approval by SCE and the appropriate resource agencies. Restoration shall consist of seeding and planting containers of appropriate Riversidean alluvial fan sage scrub species. The program shall include, at a minimum, the following items:

- Responsibilities and qualifications of the personnel to implement and supervise the plan.
- Site selection.

- Site preparation and planting implementation.
- Schedule.
- Maintenance plan/guidelines.
- Monitoring plan.
- Long-term preservation.

Additionally, the grading limits shall be clearly marked, and temporary fencing or other appropriate markers shall be placed around any sage scrub vegetation adjacent to work areas prior to the commencement of any ground-disturbing activity or native vegetation removal. No construction access, parking, or storage of equipment or materials shall be allowed within the marked areas. SCE shall be fully responsible for implementing the Riversidean Alluvial Fan Sage Scrub Revegetation Program until the restoration areas have met the success criteria outlined in the program. SCE and the appropriate resource agencies shall have final authority over mitigation area sign-off. The site shall be monitored and maintained for a suitable number of years to ensure successful establishment of Riversidean alluvial fan sage scrub habitat within the restored and created areas, as determined by the resource agencies.

4.4.4 Impacts Analysis

This section identifies potential impacts to the biological resources in the vicinity of the Project while Section 4.4.5, below, identifies potential impacts within the vicinity of the alternatives. For both sections, the impact analysis focuses on foreseeable changes to baseline conditions in the context of the significance criteria presented herein. This analysis includes an evaluation of the potential direct and indirect effects of the Project. Definitions and examples of these effects within the context of biological resources are provided below.

- **Direct Effects.** Direct or primary effects are those effects that are caused by the Project and occur at the same time and place (CEQA Guidelines §15358). Examples of these types of effects to biological resources include incidental take during construction or the loss of occupied habitat.

- **Indirect Effects.** Indirect or secondary effects are those effects which are caused by the Project and are later in time or farther removed in distance, but are still reasonably foreseeable (CEQA Guidelines §15358). Examples of these types of effects to biological resources include the discharge of sediment or chemicals that adversely affect water quality downstream of the Project site, an increase in human activity during Project operation, and potential growth-inducement effects.

- **Cumulative Impacts.** Cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts (CEQA Guidelines §15355). These include the effects of future projects that are reasonably certain to occur within the area of the Project, and which may cumulatively increase the magnitude of effects described previously. Examples of these types of effects to biological resources include the effects of a cumulative loss of habitat for a special-status species due to other planned projects in the area.

The Project has the potential to have direct and indirect effects on biological resources. These potential effects include disturbance of natural habitats and impacts to special-status plant and wildlife species and their habitat. Mitigation measures are presented to reduce the level of significance of potential impacts. These measures focused first on minimization and avoidance of biological resources where possible. Where impacts could not be avoided, compensation for potential impacts is proposed.

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 CDFG or USFWS (including List 1A, 1B, 2 and 3 plant species of the CNPS Inventory).

Impact 4.4-1: Construction activities could result in adverse impacts to special-status plant species. *Less than Significant* (Class III)

Following focused surveys for special-status plants, two species were identified in the study area for the Project and would be subject to impacts during construction. A total of 69 individuals of Plummer's mariposa lily and 47 individuals of Parry's spineflower were located in the study area during focused plant surveys in 2010 and 2011 (SCE, 2010, pg. 4.4-11; BonTerra, 2011, pg. 7). Of these, the following impacts are anticipated from the Project:

- The proposed Falcon Ridge Substation would impact three individuals of Plummer's mariposa lily; no Parry's spineflower populations would be impacted (SCE, 2010, pg. 4.4-28; BonTerra, 2011).

- The proposed Falcon Ridge staging area would impact up to 11 individual of Plummer's mariposa lily; no Parry's spineflower populations would be impacted within the area that has been surveyed (BonTerra, 2010b, Figure 5N; BonTerra, 2011, Figure 4J).

- The proposed Etiwanda Subtransmission Source Line and Fiber-Optic Cable would impact up to six individuals of Plummer's mariposa lily and 47 individuals of Parry's spineflower (SCE, 2010, pg. 4.4-20; BonTerra, 2010b; 2011, Figure 4I).

- The proposed Alder Subtransmission Source Line and Fiber-Optic Cable Route would impact up to two individuals of Plummer's mariposa lily and no populations of Parry's spineflower (BonTerra, 2011, Figure 4L).

- No populations of Plummer's mariposa lily or Parry's spineflower would be impacted at the existing Etiwanda Substation or Etiwanda staging area (SCE, 2010, pg. 4.4-32; BonTerra, 2010b; 2011).

Impacts to special-status plants, which are principally anticipated on the proposed Etiwanda Subtransmission Source Line and Fiber-Optic Cable Route, would be avoided and minimized, wherever possible. Through focused botanical surveys, SCE has identified the distribution of special-status plants in the Project area. Through the implementation of APM-BIO-02, SCE would avoid and minimize impacts, restore and compensate for Project-related losses to sage scrub habitat types, and monitor restoration, where Plummer's mariposa lily and Parry's spineflower may be encountered. The following measure augments and clarifies the content of the

Detailed Restoration Program (Program) to be prepared under APM-BIO-02 to compensate for Riversidean sage scrub habitat losses and related mitigation, and reduces potential impacts to special-status plants and sensitive plant communities to a less-than-significant level.

Mitigation Measure 4.4-1: Where avoidance of Riversidean sage scrub habitat is not possible, SCE shall compensate for losses through habitat creation and enhancement, and long-term preservation for temporary and permanent impacts by implementing the following measures:

- SCE shall establish buffer zones and mitigate for the loss of special-status plant species and sensitive plant communities. SCE and their contractors shall avoid and minimize impacts to special-status plant species and sensitive plant communities to the maximum extent feasible. Avoidance will be carried out by establishing a visible buffer zone around sensitive areas prior to construction in coordination with a qualified biologist, redesigning or relocating proposed disturbance areas, locating staging areas within disturbed areas when possible, or using other measures recommended by the CNPS (1998).

- SCE shall mitigate for Riversidean sage scrub vegetation losses at a minimum replacement ratio of 1:1. Residual temporary impacts on undisturbed/disturbed Riversidean sage scrub shall be restored on site and/or mitigated at a replacement ratio of 1:1. Permanent impacts on undisturbed Riversidean sage scrub shall be mitigated at a replacement ratio of up to 3:1. Final compensation ratios for impacts to Riversidean sage scrub shall be determined in consultation with the USFWS and CDFG.

- As a component of the Program, SCE shall develop and implement a five-year restoration mitigation and monitoring program. The Program will be described in a Restoration Plan that shall be subject to approval by the USFWS, CDFG, and the CPUC. The Restoration Plan shall include:

  - detailed design drawings and specifications for the mitigation site(s), including site drawings, final grade elevations, an appropriately spaced planting plan, a plant species list showing the number of each plant species, and notes on proper site preparation (including temporary erosion and sediment control);
  - a discussion of ongoing maintenance practices to protect the mitigation site, including a minimum 5-year performance monitoring program with specific, measurable performance standards to evaluate mitigation success;
  - a contingency plan indicating actions and corrective measures to be taken if monitoring indicates performance standards are not being met;
  - a statement of financial assurance that the mitigation will be constructed, maintained, monitored, and contingencies implemented, if necessary; and
  - a plan for restoring temporarily disturbed areas.

- SCE shall submit an annual vegetation monitoring report to the USFWS, CDFG, CPUC to document site compliance, advise of remedial actions that were undertaken during the previous monitoring year, and advise of restoration site management needs for the coming year. Reports shall be required for a minimum of five years following initial site restoration to document progress of mitigation areas toward attaining the minimum performance standards.

- SCE shall revegetate all natural areas temporarily disturbed by project activities. Revegetation criteria will include general restoration concepts and methods, including the use of locally native plants, protection and restoration of soil conditions, and control of aggressive non-native plant species. The planting effort shall commence in the fall following completion of construction at a given site. If the project is expected to have an extended construction timeline, revegetation shall be completed as extensively as possible during each fall season. Interim revegetation by hydroseeding or with a seeding mixture and mulch using broadcast methods shall be implemented as necessary to control erosion in disturbed areas prior to final revegetation. The plant palette will include locally native plants such as California buckwheat, black sage, white sage, cane cholla, and California sagebrush.

Significance after Mitigation: Less than Significant.

Impact 4.4-2: Construction activities associated with the Project could result in adverse impacts to Los Angeles pocket mouse and other non-listed special-status wildlife species. ***Less than Significant with Mitigation*** **(Class II)**

Focused protocol-level surveys were performed for all federal and state-listed threatened and endangered wildlife species for which suitable habitat is present in the study area, and included: Delhi sands flower-loving fly (EnviroPlus, 2010; 2011), coastal California gnatcatcher (BonTerra, 2010d), and San Bernardino kangaroo rat (SJM Biological, 2010). Habitat for the other federal and/or state-listed wildlife species identified in Table 4.4-3 does not occur in the study area. Numerous non-listed special-status wildlife species may be encountered in portions of the Project area due to the presence of suitable habitat and known or potential species presence. These species include: coast horned lizard, coast patch-nosed snake, burrowing owl, loggerhead shrike, grasshopper sparrow, San Diego black tailed jackrabbit, northwestern San Diego pocket mouse, Los Angeles pocket mouse, San Diego desert woodrat, southern grasshopper mouse, American badger, and special-status bats.

SCE would conduct preconstruction surveys for nesting birds and raptors, and implement avoidance requirements for active nests to reduce the potential for impacts to loggerhead shrike grasshopper sparrow, burrowing owl and other birds (APM-BIO-01). Project impacts on sage scrub habitat would be avoided and/or minimized to the maximum extent practicable through the implementation of APM-BIO-02, which would reduce potential impacts to northwestern San Diego pocket mouse, San Diego black-tailed jackrabbit, San Diego desert woodrat, southern grasshopper mouse, and Los Angeles pocket mouse.

Project activities at the existing Etiwanda Substation and possibly at the Etiwanda staging area would impact occupied habitat for the Los Angeles pocket mouse and would be considered potentially significant. The implementation of Mitigation Measure 4.4-2 would reduce potential impacts to Los Angeles pocket mouse and other special-status wildlife species to a less-than-significant level.

Mitigation Measure 4.4-2: SCE and/or its contractors shall avoid impacts to occupied Los Angeles pocket mouse habitat to the maximum extent feasible in the final Project design. SCE shall define Los Angeles pocket mouse habitat as "off limits" in construction plans and specifications. The presence of a Biological Monitor during Project construction would further ensure that any potential impacts to special-status wildlife species are avoided and minimized.

Significance after Mitigation: Less than Significant.

Impact 4.4-3: Construction activities may impact common or protected nesting migratory birds. *Less than Significant* (Class III)

Project construction activities, such as grading, preparation of temporary work areas, pull and tension sites, and access roads; operation of heavy equipment; installation and removal of poles; and conductor installation, could disturb nesting birds and cause nest site abandonment and/or reproductive failure through an increase in noise, human presence, and/or removal of habitat. Special-status birds that may nest in the Project area include grasshopper sparrow, burrowing owl, and loggerhead shrike, among other bird species, though the protective provisions of the MBTA also apply to common bird species.

Indirect impacts from human disturbances and construction noise could cause nest abandonment, death of young, or loss of reproductive potential at active nests located near Project sites. SCE would conduct preconstruction surveys for nesting birds and raptors, and implement avoidance requirements for active nests to reduce the potential for impacts to nesting birds (APM-BIO-01); therefore, this impact would be less than significant.

Mitigation: None required.

Impact 4.4-4: Operation of new transmission lines could impact raptors as a result of electrocution or collision. *Less than Significant with Mitigation* (Class II)

Poles and powerlines pose a danger to raptors as a result of electrocution and collision hazards, and are a recognized source of raptor mortality. Powerline electrocution is the result of two interacting factors: raptor behavior and pole design. Raptors are opportunistically attracted to powerlines because they provide perch sites for hunting, resting, feeding, and territorial defense, or are used as nesting structures. Many standard designs of electrical industry hardware place conductors and groundwires close enough together that raptors can touch them simultaneously with their wings or other body parts, causing electrocution. Raptors and other birds may also collide with powerlines, which can be difficult for birds to detect for various reasons such as during night flight or during inclement weather conditions. The type and magnitude of such impacts, and strategies to avoid conflicts between birds and new transmission lines have been

well described by the Edison Electric Institute's Avian Power Line Interaction Committee (APLIC). The APLIC (2006) characterizes potential impacts as follows:

> "Birds are generally electrocuted by transmission lines by due to environmental factors such as topography, vegetation, available prey and other, behavioral or biological factors influence avian use of power poles and inadequate separation between energized conductors or energized conductors and grounded hardware can provide two points of contact.
>
> Raptors and other large birds are opportunistic and may use power poles for a number of purposes, such as nest sites, high points from which to defend territories, and perches from which to hunt. Some structures are preferred by birds because they provide considerable elevation above the surrounding terrain, thereby offering a wide field of view. Electrocution can occur when a bird completes an electric circuit by simultaneously touching two energized parts or an energized part and a grounded part of electrical equipment. Most electrocutions occur on medium-voltage distribution lines (4-34.5 kV), in which the spacing between conductors may be small enough to be bridged by birds. Poles with energized hardware, such as transformers, can be especially hazardous, even to small birds, as they contain numerous, closely-spaced energized parts.
>
> "Avian-safe" structures are those that provide adequate clearances to accommodate a large bird between energized and/or grounded parts. Consequently, 60 inches of horizontal separation, which can accommodate the wrist-to-wrist distance of an eagle (which is approximately 54 inches), is used as the standard for raptor protection Likewise, vertical separation of at least 48 inches can accommodate the height of an eagle from its feet to the top of its head (which is approximately 31 inches). Because dry feathers act as insulation, contact must be made between fleshy parts, such as the wrists, feet, or other skin, for electrocution to occur. In spite of the best efforts to minimize avian electrocutions, some degree of mortality may always occur due to influences that cannot be controlled, e.g. weather."

The implementation of Mitigation Measure 4.4-4 would reduce potential impacts to a less-than-significant level.

> **Mitigation Measure 4.4-4:** SCE shall follow Avian Power Line Interaction Committee guidelines for avian protection on powerlines. SCE shall use current guidelines to reduce bird mortality from interactions with powerlines. The Avian Power Line Interaction Committee (APLIC, 2006) and USFWS recommend the following:
>
> - Provide 60-inch minimum horizontal separation between energized conductors or energized conductors and grounded hardware;
> - Insulate hardware or conductors against simultaneous contact if adequate spacing is not possible;
> - Use pole designs that minimize impacts to birds, and;
> - Shield wires to minimize the effects from bird collisions

Significance after Mitigation: Less than Significant.

b) Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFG or USFWS.

Impact 4.4-5: Construction of the proposed Falcon Ridge Substation and the proposed subtransmission source line and fiber-optic cable routes could impact sensitive natural communities that are regulated by CDFG. *Less than Significant* (Class III)

One CDFG sensitive natural community occurs in the study area and would be impacted by the Project. Impacts to Riversidean sage scrub include 4.60 acres at the proposed Falcon Ridge Substation, up to 2.0 acres at the Falcon Ridge staging area, up to 3.0 acres at the Etiwanda staging area, and 3.55 acres for the proposed subtransmission source line and fiber-optic cable routes (SCE, 2010, pg. 4.4-24 and 4.4-31). Proposed construction at the existing Etiwanda Substation would not impact riparian habitat or other sensitive natural communities.

Most of the Riversidean sage scrub habitat in the study area would be avoided by spanning sensitive areas. Direct impacts to sensitive natural communities shall be minimized because SCE would identify, mark, and avoid areas that support sensitive vegetation (APM-BIO-02). As proposed by APM-BIO-02 and required by Mitigation Measure 4.4-1, SCE would implement a Detailed Mitigation Program and submit a mitigation plan for review to the USFWS, CDFG, and CPUC detailing allowable activities for the mitigation site, and restoration, monitoring, and reporting requirements. Therefore, impacts to CDFG sensitive natural communities would be less than significant.

Mitigation: None required.

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c) Effect on federally protected wetlands as defined by §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.

Impact 4.4-6: Construction within the existing Etiwanda Substation could impact federally protected wetlands. *Less than Significant with Mitigation* (Class II)

The presence of wetlands and other waters of the U.S. and waters of the state in the study area were characterized in a Jurisdictional Delineation Report (BonTerra, 2010e). Jurisdictional areas were identified in the proposed Etiwanda Subtransmission Source Line and Fiber-Optic Cable Route, and at the existing Etiwanda Substation. Portions of Etiwanda Creek and flood-control channels that traverse the study area would be spanned by the proposed Etiwanda Subtransmission Source Line and Fiber-Optic Cable Route, and would not be impacted by the Project (SCE, 2010; pg. 4.4-26). A drainage potentially under the jurisdiction of the Corps and/or the CDFG occurs at the existing Etiwanda Substation (Figure 4.4-14). Construction at the existing Etiwanda Substation would temporarily impact two features totaling about 0.004 acre (180 sq. ft.) of waters of the U.S. and about 0.006 acre (260 sq. ft.) of waters of the state within the existing Etiwanda Substation (SCE, 2010, pg. 4.4-35; BonTerra, 2010e). These features appear to be channels excavated in dry land that

do not support wetland vegetation or soils; however, both convey urban runoff flows to Etiwanda Creek and meet federal and/or state criterion as jurisdictional waters.

No jurisdictional areas are present in the study areas for the proposed Falcon Ridge Substation and Alder Subtransmission Source Line and Fiber-Optic Cable Route (BonTerra, 2010e).

A CWA §401 Water Quality Certification from the RWQCB is required prior to commencement of work filling jurisdictional areas. In addition, if the feature meets the criteria established by §1600 of the California Fish and Game Code, the CDFG may require a Streambed Alternation Agreement prior to any modification of the bed, bank, or channel of streambeds.

Implementation of Mitigation Measures 4.4-6a through 6c would reduce impacts to jurisdictional waters to a less–than-significant level.

> **Mitigation Measure 4.4-6a:** SCE shall through Project design, avoid jurisdictional waters of the U.S. and waters of the state where feasible. This includes minimizing the footprint of facilities at the existing Etiwanda Substation that could impact jurisdictional areas and spanning drainages that occur in the Project area.
>
> **Mitigation Measure 4.4-6b:** In the event of any Project changes that involve ground disturbance outside the boundary of the Jurisdictional Delineation Report (BonTerra, 2010e), a new wetland delineation shall be performed.
>
> **Mitigation Measure 4.4-6c:** Where jurisdictional wetlands and other waters cannot be avoided at the Etiwanda Substation, to offset anticipated temporary impacts that would occur as a result of the Project, the original contours and character of disturbed jurisdictional areas shall be restored. A minimum replacement ratio of 1:1, or as otherwise agreed to by the resource agencies, would be required to ensure that there would be no net loss of habitat value. Disturbed portions of jurisdictional areas shall be reseeded with an appropriate mix of native species that are appropriate to the site to prevent locally abundant non-native plants such as cocklebur from colonizing disturbed areas.

Significance after Mitigation: Less than Significant.

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d) Interference 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.

Impact 4.4-7: The Project would not interfere 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 common or protected nesting migratory birds. *Less than Significant* (Class III)

The Project is located within an urbanized area with no large areas of open space adjacent to the study area. Wildlife movement corridors in the Project area include Etiwanda Creek, which is traversed by the proposed Etiwanda Subtransmission Source Line and Fiber-Optic Cable Route,

and Lytle Creek, which is about 1 mile east of the study area. The construction of Project facilities in the Etiwanda Creek corridor between Foothill Blvd. and the exsiting Etiwanda Substation may temporarily discourage the local daytime movement by some wildlife species due to human presence, dust, and noise. However, the impact would be short-lived and confined to a narrow, 18-foot wide disturbance area (SCE, 2010, pp. 4.4-17 and 4.4-27). Once constructed, powerlines would not obstruct the movement of wildlife because lines would be elevated and wildlife would be able to move within the creek and upland habitats beneath the powerlines. Most wildlife movement would occur at night and would not be affected by Project construction or operation. Additionally, wildlife in this segment of the creek is likely somewhat acclimated to noise and human activity due to the extensive urbanization and constrained nature of the creek along this segment.

Proposed activities at the Etiwanda Substation, Alder Substation and proposed Falcon Ridge Substation would not interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors. No additional operational impacts on wildlife movement would occur as a result of the Project.

There are no native wildlife nursery sites within the study area. This impact would be less than significant.

Mitigation: None required.

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e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Project construction, operation, and maintenance would not conflict with any local policies or ordinances protecting biological resources. Furthermore, the proposed Falcon Ridge Substation site does not contain any native trees; therefore, construction, operation, and maintenance of the proposed substation would result in no impact under this criterion. There are no applicable tree preservation policies or other ordinances protecting biological resources for the proposed subtransmission source line and fiber-optic cable routes (No Impact, Class IV).

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f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or state habitat conservation plan.

There is no Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan that would be applicable to this Project (No Impact, Class IV).

4.4.5 Alternatives

Alternative 1: Lowell Street Realignment Alternative

Alternative 1 would alter the route of the proposed Alder Subtransmission Source Line and Fiber-Optic Cable, but it would not substantially change the size or type of facilities to be constructed. The proposed alternative alignment has been surveyed for wetlands and special-status plants and wildlife species, and construction-related impacts associated with the alternative would be similar to those for the Project.

One rare plant was identified in the alternative alignment: four individuals of Plummer's mariposa lily were identified and would be impacted during construction (SCE, 2010, pg. 4.4-43; BonTerra, 2010b). Through APM-BIO-02 and Mitigation Measure 4.4-1, SCE would avoid and minimize impacts, restore and compensate for Project-related losses to sage scrub habitat types, and monitor restoration where Plummer's mariposa lily may be encountered; therefore, this impact would be less than significant. Impacts to special-status plant populations resulting from Alternative 1 would be similar to the Project.

Similar to the Project, Alternative 1 could affect special-status wildlife species that are all or partly dependent upon Riversidean sage scrub habitat, grasslands, and ruderal areas. Focused protocol-level surveys were performed for all federal and state-listed threatened and endangered wildlife species for which suitable habitat is present in the study area. Habitat for several federal and/or state-listed wildlife species that were identified in the regional Project area does not occur in the Alternative 1 study area. Species that were not identified in the Alternative 1 study area include: Delhi sands flower-loving fly (EnviroPlus, 2010; 2011), coastal California gnatcatcher (BonTerra, 2010d), and San Bernardino kangaroo rat (SJM Biological, 2010). Similar to the Project, habitat for other federal and/or state-listed wildlife species identified in Table 4.4-3 does not occur in the study area. Numerous non-listed special-status wildlife species may be encountered in portions of the Alternative 1 study area due to the presence of suitable habitat and known species distribution. These species include: coast horned lizard, coast patch-nosed snake, burrowing owl, loggerhead shrike, grasshopper sparrow, special-status bats, San Diego black tailed jackrabbit, northwestern San Diego pocket mouse, Los Angeles pocket mouse, San Diego desert woodrat, southern grasshopper mouse, and American badger.

Alternative 1 impacts to special-status wildlife species would be mostly avoided and/or minimized to the maximum extent practicable through the implementation of APM-BIO-02, which would reduce potential impacts to northwestern San Diego pocket mouse, San Diego black-tailed jackrabbit, San Diego desert woodrat, southern grasshopper mouse, and Los Angeles pocket mouse. Los Angeles pocket mouse was not identified within the Alternative 1 alignment; however, potential habitat is present. Therefore, additional measures are required to reduce impacts to known species habitat. The implementation of Mitigation Measure 4.4-2 would further reduce potential impacts to Los Angeles pocket mouse and other special-status wildlife species to a less-than-significant level. Following mitigation, impacts on special-status wildlife species resulting from Alternative 1 would be similar to the Project.

Suitable habitat for burrowing owls is present throughout the Alternative 1 study area (BonTerra, 2010c) and while this species was not detected during focused surveys; burrowing owls could colonize the area prior to construction. The application of APMs to identify and reduce effects to burrowing owls and other nesting birds (APM BIO-01, Preconstruction Surveys for Nesting Birds/Raptors) would minimize impacts to nesting birds. Impacts on breeding birds resulting from Alternative 1 would be similar to the Project.

Construction of Alternative 1 would result in the loss of about 3.15 acres of Riversidean alluvial fan sage scrub, disturbed Riversidean alluvial fan sage scrub, and disturbed Riversidean sage scrub, and annual grassland/scrub habitat, which are considered a sensitive natural community (Riversidean alluvial fan sage scrub) by CDFG. Direct impacts to this sensitive natural community would be minimized because SCE would identify, mark, and avoid areas that support sensitive vegetation (APM-BIO-02 and Mitigation Measure 4.4-1). If avoidance is not feasible, SCE would prepare a mitigation plan and submit the plan for review to the appropriate agencies detailing allowable activities for the mitigation site, and monitoring and reporting requirements (APM-BIO-02 and Mitigation Measure 4.4-1). Therefore, impacts to CDFG sensitive natural communities would be less than significant. Impacts on sensitive natural communities resulting from Alternative 1 would be similar to the Project.

Construction of Alternative 1 is not expected to impact any features protected under §404 of the Clean Water Act. This alternative would not conflict with any local policies or ordinances protecting biological resources.

No Project Alternative

The No Project Alternative would have no potential impacts on biological resources because no elements of the Project would be constructed.

References – Biological Resources

Avian Power Line Interaction Committee (APLIC), 2006. Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006, Edison Electric Institute and the Raptor Research Foundation, Washington, D.C., 2006.

Beier, P., and R.F. Noss, 1998. Do habitat corridors provide connectivity? Conservation Biology 12:1241–1252.

BonTerra, 2010a. Biological Technical Report: Falcon Ridge Substation Project, City of Fontana, San Bernardino County, California. Costa Mesa, CA. Prepared for Southern California Edison.

BonTerra, 2010b. Results of the Special-Status Plant Surveys for the Falcon Ridge Substation Project, Prepared for Southern California Edison, August 2010.

BonTerra, 2010c. Results of Western Burrowing Owl Surveys for the Falcon Ridge Substation Project, City of Fontana, San Bernardino County, California. Prepared for Southern California Edison, August 2010.

BonTerra, 2010d. Results of Focused Presence/Absence Surveys for the Coastal California Gnatcatcher for the Falcon Ridge Substation Project located in the City of Fontana and in unincorporated San Bernardino County, California. Prepared for Southern California Edison, November 2010.

BonTerra, 2010e. Jurisdictional Delineation Report, Falcon Ridge (Etiwanda) Substation Project, City of Fontana, San Bernardino County, California. Prepared for Southern California Edison, August 2010.

BonTerra Consulting (BonTerra), 2011. Results of 2011 Focused Plant Surveys for the Falcon Ridge Substation Project, San Bernardino County, California. Prepared for Southern California Edison, September 2011.

California Department of Fish and Game (CDFG), 2003. The Vegetation Classification and Mapping Program List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database. Wildlife and Habitat Data Analysis Branch, September 2003.

CDFG, 2011. Rarefind 4 California Natural Diversity Database, Online Version, 4.0. Accessed October 2011.

CNPS, 1998. Policy on Mitigation Guidelines Regarding Impacts to Rare, Threatened, and Endangered Plants. California Native Plant Society Rare Plant Scientific Advisory Committee. February 1991, revised April 1998.

California Native Plant Society (CNPS), 2011. Electronic Inventory of Rare and Endangered Vascular Plants of California. Nine quad search centered on the Devore, 7.5-minute quadrangle map. Sacramento, CA: Online at: http://www.cnps.org/inventory

Dudek and Associates, Inc. (Dudek), 2003. Western Riverside County Multiple Species Habitat Conservation Plan (Prepared for the Riverside County Integrated Project). Encinitas, CA. Accessed online at: http://www.wrc-rca.org/Permit_Docs/mshcp_vol1.html

EnviroPlus Consulting (EnviroPlus), 2010. Delhi Sands Flower-loving Fly (*Rhaphiomidas terminatus abdominalis*) 2010 Focused Adult Survey at Southern California Edison's Falcon Ridge Project in San Bernardino County, California. Prepared for BonTerra Consulting, October, 2010.

EnviroPlus, 2011. Delhi Sands Flower-loving Fly (*Rhaphiomidas terminatus abdominalis*) 2011 Focused Adult Survey at Southern California Edison's Falcon Ridge Project in San Bernardino County, California. Prepared for BonTerra Consulting, October, 2011.

Hickman, James C. (ed.), 1993. The Jepson Manual. Berkeley, CA: University of California Press.

Holland, R., 1986. Preliminary descriptions of the terrestrial natural communities of California. Unpublished document, California Department of Fish and Game, Natural Heritage Division. Sacramento, CA.

Jameson, E.W. and H.J. Peters, 1988. California mammals. University of California Press, Berkeley, 404 pp.

Jennings, M. R., and M. P. Hayes, 1994. Amphibian and reptile species of special concern in California. California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, California.

Santa Ana Watershed Project Authority (SAWPA), 2010, *2010 Integrated Watershed Management Plan*, available at http://www.sawpa.org/owow-generalinfo.html, 2010.

Shuford, W. D., and Gardali, T., (eds). 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.

SCE. 2010. Proponents Environmental Assessment. Falcon Ridge Substation Project. December 29, 2010.

SJM Biological Consultants, 2011. Results of a Habitat Assessment and Trapping Survey for San Bernardino Kangaroo Rat and Los Angeles Pocket Mouse on the Falcon Ridge Substation Project, City of Fontana, San Bernardino County, California. Report to Stacie Tennant, BonTerra Consulting, October 25, 2010.

Stebbins, R. C., 2003. A Field Guide to Western Reptiles and Amphibians. Third Edition. Houghton Mifflin Company, Boston. 533 pp.

U.S. Department of Agriculture, Natural Resources Conservation Service (USDA NRCS), 2011 Soil Survey Geographic Database for Orange and Western Part of Riverside Counties, California. Fort Worth, TX.

U.S. Fish and Wildlife Service (USFWS), 1997. Delhi Sands flower-loving fly *(Rhaphiomidas terminatus abdominalis*) Recovery Plan. U. S. Fish and Wildlife Service, Portland, OR. 51 pages.

USFWS, 2002 (April 23). Endangered and Threatened Wildlife and Plants: Final Designation of Critical Habitat for the San Bernardino Kangaroo Rat – Final Rule. Federal Register / Vol. 67 No. 78. Washington, D.C.: USFWS.

USFWS, 2007. Endangered and Threatened Wildlife and Plants; Revised Critical Habitat for the San Bernardino Kangaroo Rat (Dipodomys merriami parvus), Federal Register / Vol. 72, No. 117.

USFWS, 2008a. Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for the San Bernardino Kangaroo Rat (Dipodomys merriami parvus), Federal Register /Vol. 73, No. 74, Washington, D.C.: USFWS.

USFWS, 2008b. Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for the San Bernardino Kangaroo Rat (*Dipodomys merriami parvus*), Federal Register / Vol. 73, No. 202, Washington, D.C.: USFWS.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds., 1990a. California's Wildlife. Vol. II: Birds. California Department of Fish and Game, Sacramento, California (updated by CDFG, February 2005).

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds., 1990b. California's Wildlife. Vol. III: Mammals. California Department of Fish and Game, Sacramento, California.

4.5 Cultural Resources

This section is based on the following cultural resources studies conducted for the Project: *Phase I Cultural Resources Assessment Report for the Falcon Ridge Substation Project in the Cities of Fontana and Rialto, San Bernardino County, California* (Glover and Gust, 2010).

This section presents the environmental setting and impact assessment for cultural and paleontological resources. Cultural resources are defined as prehistoric and historic 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 analysis purposes, cultural resources may be categorized into three groups: archaeological resources, historic resources, and contemporary Native American resources.

Archaeological resources are places where human activity has measurably altered the earth or left deposits of physical remains. Archaeological resources may be either prehistoric-era (before the introduction of writing in a particular area) or historic-era (after the introduction of writing). The majority of such places in California are associated with either Native American or Euro-American occupation of the area. The most frequently encountered prehistoric or historic Native American archaeological sites are village settlements with residential areas and sometimes cemeteries; temporary camps where food and raw materials were collected; smaller, briefly occupied sites where tools were manufactured or repaired; and special-use areas like caves, rock shelters, and sites of rock art. Historic-era archeological sites may include foundations or features such as privies, corrals, and trash dumps.

Historic architectural resources are standing structures of historic or aesthetic significance that are generally 50 years of age or older. In California, historic resources considered for protection tend to focus on architectural sites dating from the Spanish Period (1529-1822) through the early years of the Depression (1929-1930), although there has been recent attention paid to WWII and Cold War era facilities. Earlier historic resources are often associated with archaeological deposits of the same age.

Contemporary Native American resources, also called ethnographic resources, can include archaeological resources, rock art, and the prominent topographical areas, features, habitats, plants, animals, and minerals that contemporary Native Americans value and consider essential for the preservation of their traditional values. These locations are sometimes hard to define and traditional culture often prohibits Native Americans from sharing these locations with the public.

Paleontology is a branch of geology that studies the life forms of the past, especially prehistoric life forms, through the study of plant and animal fossils. Paleontological resources represent a limited, non-renewable, and impact-sensitive scientific and educational resource. As defined in this section, paleontological resources are the fossilized remains or traces of multi-cellular invertebrate and vertebrate animals and multi-cellular plants, including their imprints from a previous geologic period. Fossil remains such as bones, teeth, shells, and leaves are found in the geologic deposits (rock formations) where they were originally buried. Paleontological resources

include not only the actual fossil remains, but also the collecting localities, and the geologic formations containing those localities.

4.5.1 Setting

Cultural Resources

Natural Setting

The Project area is located in the central part of the Upper Santa Ana River Valley, also referred to as the Fontana Plain. The San Gabriel Mountains rise sharply to the north, the eastern end of which are drained by Lytle Creek, which flows away from the mountains in a southeasterly direction, passing as close as 3 miles northeast of the Project site. In addition, San Sevaine Creek, Day Creek, and Etiwanda Creek all emanate from the steeply rising southern flanks of the Cucamonga Wilderness (part of the San Gabriel Mountains), flowing a short distance south before entering urbanized storm drainage systems and channelized canals. These washes and creeks are tributaries to the Santa Ana River located further to the south. During seasonal periods of heavy rainfall, the creeks in the Project area emerge onto the Fontana Plain from the granitic mountains to the north, depositing large quantities of sand, silt, and gravel. Due to the sharp decrease in the channel gradients as creeks leave the mountains, stream flows no longer have the power to carry much of their sediment load. Over hundreds and thousands of years, the cycle of flooding and sediment deposition repeats itself, forming gently sloping aprons of loosely consolidated sediment (i.e., *alluvial fans*) that lead away from the base of the mountains.

The Project area is primarily flat, with slopes of less than 5 percent, and is crossed by numerous washes. Prior to modern development, vegetation in the area would have consisted of desert scrub and chaparral, including grasses, sage, and manzanita. Fauna would have included deer, antelope, jackrabbit, tortoise, and many bird species.

Prehistoric Setting

The chronology of southern California is typically divided into three general time periods: the Early Holocene (11,000 to 7,600 Before Present [B.P.]), the Middle Holocene (7,600 to 3,600 B.P.), and the Late Holocene (3,600 B.P. to A.D. 1769). Within this timeframe, the archaeology of southern California is generally described in terms of cultural "complexes." A complex is a specific archaeological manifestation of a general mode of life, characterized archaeologically by technology, particular artifacts, economic systems, trade, burial practices, and other aspects of culture.

While it is not certain when humans first came to California, their presence in southern California by about 11,000 B.P. has been well documented. At Daisy Cave, on San Miguel Island, cultural remains have been radiocarbon dated to between 11,100 and 10,950 B.P. (Byrd and Raab, 2007). On the mainland, radiocarbon evidence confirms occupation of the Orange County and San Diego County coast by about 9,000 B.P. During the Early Holocene (11,000 to 7,600 B.P.), the climate of southern California became warmer and more arid and the human population, residing mainly

in coastal or inland desert areas, began exploiting a wider range of plant and animal resources (Byrd and Raab, 2007).

The primary Early Holocene cultural complex in southern California was the San Dieguito Complex, which occurred between approximately 10,000 and 8,000 B.P. The people of the San Dieguito Complex inhabited the chaparral zones of southwestern California, exploiting the plant and animal resources of these ecological zones (Warren, 1984). Leaf-shaped and large-stemmed projectile points, scraping tools, and crescentics are typical of San Dieguito Complex material culture.

During the Middle Holocene (7,600 to 3,600 B.P.), there is evidence for the processing of acorns for food and a shift toward a more generalized economy. Around 7,000 B.P., Millingstone cultures appeared, characterized by the collection and processing of plant foods, particularly acorns, and the hunting of a wider variety of game animals (Byrd and Raab, 2007; Wallace, 1955). A number of Middle Holocene sites are located in the San Bernardino Mountains and Cajon Pass, including the Sayles Complex and the Crowder Canyon sites (Brock et al., 1986).

During the Late Holocene (3,600 B.P. to A.D. 1769), native populations of southern California were becoming less mobile and populations began to gather in small sedentary villages with satellite resource-gathering camps. Evidence indicates that the overexploitation of larger, high-ranked food resources may have led to a shift in subsistence, towards a focus on acquiring greater amounts of smaller resources, such as shellfish and small-seeded plants (Byrd and Raab, 2007). Around 1,000 B.P., an episode of sustained drought, known as the Medieval Warm Period, occurred. While this climatic event did not appear to reduce the human population, it did lead to a change in subsistence strategies in order to deal with the substantial stress on resources. Although the intensity of trade had already been increasing, it now reached its zenith, with asphaltum (tar), seashells, and steatite being traded from southern California to the Great Basin. Major technological changes appeared as well, particularly with the advent of the bow and arrow, which largely replaced the use of the dart and atlatl. Small projectile points, ceramics, including Tizon brownware pottery, and obsidian from Obsidian Butte (Imperial County), are all representative artifacts of the Late Holocene.

Ethnographic Setting

The Project area is located at the eastern extreme of the territory of the native population known as the Gabrielino. Prior to European colonization, the Gabrielino occupied a diverse area that included the watersheds of the Los Angeles, San Gabriel, and Santa Ana rivers; the Los Angeles basin; and the islands of San Clemente, San Nicolas, and Santa Catalina (Bean and Smith, 1978). The Gabrielino were hunter-gatherers and lived in permanent communities located near the presence of a stable food supply and some measure of protection from flooding. Community populations generally ranged from 50-100 inhabitants, although larger settlements may have existed.

The Gabrielino are estimated to have had a population numbering around 5,000 in the pre-contact period (Kroeber, 1925). Houses were made of tule mats on a framework of poles (Bean and Smith, 1978). Basketry and steatite vessels were used rather than ceramics; ceramics became common only toward the end of the mission period in the 19th century. The Gabrielino held some

practices in common with other groups in southern California, such as the use of jimsonweed in ceremonies as did the Luiseño and Juaneño, but details of the practices and the nature of cultural interaction between the Gabrielino and other groups in southern California are unknown.

Maps produced by early explorers indicate the existence of at least 40 Gabrielino villages, but as many as 100 may have existed prior to contact with Europeans (Bean and Smith 1978; McCawley 1996). No Gabrielino villages are known to have existed within or near the Project area. The nearest Gabrielino village to the Project area was *Kuukamonga*, near present-day Rancho Cucamonga (McCawley, 1996).

Historic Setting

The first European presence in what is now southern California came in 1542, when Juan Rodriguez Cabrillo led an expedition along the coast. Europeans did not return until 1769, when the expedition of Gaspar de Portolá traveled overland from San Diego to San Francisco. The area now known as San Bernardino County was first visited in 1772 by Captain Pedro Fages and a small military contingent. Captain Juan Bautista de Anza, guided by Father Francisco Garcés, passed through the area about 10 miles south of the Project area in 1774 and 1775-76, while attempting to establish a route from Sonora, Mexico to the Missions of the California coast (Greene, 1983).

In the late 18th century, the Spanish began establishing missions along the California coast and forcibly relocating and converting native peoples. The nearest mission to the Project area was Mission San Gabriel, and the lands east of the mission, including the Project area, were under its control. Throughout California, disease and hard labor took a toll on the native populations; by 1900, the Native Californian population had declined by as much as 95 percent (Chartkoff and Chartkoff, 1984). In addition, native economies were disrupted, trade routes were interrupted, and native ways of life were significantly altered.

In 1821, Mexico, which included much of present-day California, became independent from Spain, and during the 1820s and 1830s the California Missions were secularized. Mission property, although it was supposed to have been held in trust for the Native Californians, was handed over to civil administrators and then into private ownership. After secularization, many former Mission Indians were forced to leave the Missions and seek employment as laborers, ranch hands, or domestic servants (Horne and McDougall, 2003). The Project area was not part of any Mexican land grant.

In 1848 gold was discovered in California, leading to a huge influx of people from other parts of the globe, and in 1850 California became part of the United States of America. Soon after, the Project area, like much of California, was opened to settlement under the Homestead Act. However, the Project area was not well populated before the 20th century, likely because of the paucity of natural water sources. In the late 19th and 20th centuries, the communities of Grapeland, Rialto, and Fontana were established in the Project area.

Grapeland was established in the 1880s and contained a school, post office, stores, and ranches. The town was named for the grapes that were cultivated in the area's sandy soils. The town

eventually failed and was abandoned due to the failure of local plans to obtain the water that the growing community desperately needed (Glover and Gust, 2010). The area around Grapeland, as well as the area around another failed community called Rosena, became known as Fontana.

Fontana remained a largely agricultural community until World War II, when the Kaiser Steel Mill was constructed in order to counteract the steel shortage that was hampering the production of ships needed for the war effort. The mill was the largest on the West Coast. Fontana was incorporated in 1952.

The City of Rialto was established in 1888 by the Semi-Tropic Land and Water Company, and was laid out along the Santa Fe Railroad. The town was settled by a group of Methodists from Kansas and was incorporated in 1917 (Glover and Gust, 2010).

Paleontology

One of the largest alluvial fans in the region is the Lytle Creek fan, which underlies the cities of Fontana and Rialto. Geologic mapping by Morton and Miller (2003) indicate the Lytle Creek fan is young in age, probably late Holocene, and contains substantial quantities of course sedimentary material, including cobbles and boulders, particularly within head-ward portions of the fan. Portions of the Project area located generally south of Foothill Boulevard are underlain by other alluvial fan sediments associated with Etiwanda and San Sevaine Creeks. According to mapping by Morton and Miller (2003) these sediments are late Holocene in age east of Cherry Avenue and north of Foothill Boulevard, and may range from late Holocene to early Pleistocene in age south of Foothill Boulevard. According to two paleontological studies prepared for SCE; "Paleontological Review, Proposed Horsetown and Devore Substation Project, Riverside County, California," and "Paleontological Mitigation Recommendations Addendum: Proposed Devore Substation Project"; the Lytle Creek fan sediments have low potential to contain significant nonrenewable paleontological resources (SCE, 2010). The Project area south of Foothill Boulevard crosses areas mapped as early Holocene or late Pleistocene alluvial fan deposits. The late Pleistocene alluvial fan deposit is classified as having moderate/unknown paleontological sensitivity because of its age, and the fact that finer-grained lithologies, if they occur, may contain scientifically significant fossil remains (SCE, 2010). According to the paleontological resources record review, the surface sediments throughout the Project area may overlie older Pleistocene alluvium (SCE, 2010). This older Pleistocene alluvium may have high paleontological sensitivity, as has been demonstrated elsewhere in the Inland Empire.

Identification of Existing Cultural and Paleontological Resources: Methods and Results

Cultural Resources

Archival Research

The cultural resources studies included a records search, Native American contact program, and survey of the Project area (Glover and Gust, 2010).

A records search was conducted at the San Bernardino Archaeological Information Center for the Project and alternatives. The records search included a review of previous studies conducted within a 0.5-mile radius and previously recorded sites within a 0.25-mile radius. The records search included 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, and California Historical Landmarks.

The records search indicated that 52 cultural resources investigations have been previously conducted within 0.5 mile of the Project and alternatives, of which 26 covered portions of the Project area. Forty-three cultural resources have been recorded within 0.25 miles of the Project and alternatives, including 20 historic-era archaeological sites, and 23 built environment features, of which 12 are built linear features such as roads or canals. No prehistoric resources have been recorded within 0.25 miles of the Project area.

Of the 43 resources recorded within 0.25 miles of the Project area, eight are within the Project area itself: P-36-002910, the National Old Trails Highway; P-36-004131, the site of the World War II-era Kaiser Steel Plant; P-36-00690, the Summit Avenue Ditch; P-36-009363, the remains of a circa 1939 residential complex; P-36-011510, a two-track dirt road lined with field stones; P-36-011511, a rock-lined dirt road; P-36-015497, Baseline Road; and P-36-020137, the historic route of the Pacific Electric San Bernardino Line/Pacific Electric Southern Pacific railroad alignment. Each resource is described in detail below under the section *Cultural Resources Located within the Project Area*.

Native American Contact. Contact with the Native American Heritage Commission (NAHC) and local Native American contacts also was performed by SCE in December, 2009. The NAHC responded that a check of their Sacred Lands File did not reveal the presence of Native American resources within the Project area. Letters were sent via certified mail on January 13, 2010 to seven individuals identified by the NAHC as being affiliated with the Project vicinity. No responses were received from any of the Native American contacts recommended by the NAHC as of the filing of SCE's application for a PTC.

Archaeological Survey. A pedestrian archaeological survey of the Project area, including alternatives, was conducted June, August, and December, 2010 (Glover and Gust, 2010). The entire Project area was surveyed in parallel 15-meter (50-foot) transects. Where not restricted by private property, a 60-meter (197-foot) wide corridor was surveyed for linear Project components. An approximately 165-foot segment of the Alder Source Line Route was not surveyed because of lack of access; however, this segment was within an industrial area and no visible ground was present. Staging areas 1 and 6 were not surveyed because they were completely paved. Surface visibility in the remainder of the survey area was poor to fair (0-70 percent).

As a result of the archaeological surveys, four previously recorded resources (P-36-002910, the National Old Trails Highway; P-36-011510, a two-track dirt road lined with field stones; P-36-015497, Baseline Road; and P-36-020137, the historic route of the Pacific Electric San Bernardino Line/Pacific Electric Southern Pacific railroad alignment) and one newly recorded resource (P-36-021495, Planter Site) were identified within the Project area. Four previously recorded resources (P-36-004131, the site of the World War II-era Kaiser Steel Plant;

P-36-00690, the Summit Avenue Ditch; P-36-009363, the remains of a circa 1939 residential complex; and P-36-011511, a rock-lined dirt road) were not relocated. All resources are described in detail below.

Cultural Resources Located within the Project Area

The following nine cultural resources are located within the Project area.

Previously Recorded Relocated Resources

P-36-002910: This resource, recorded in 1977, is the National Old Trails Highway, a historic-era road. The road was constructed between 1911 and 1914. The resource is a California Historical Landmark (CHL-781). The segment within the Project area is a portion of the old Route 66 and is known locally as Foothill Boulevard. The resource was relocated during survey. Within the Project area, the resource consists of a heavily travelled four- to six-lane road with a landscaped median and decorative brickwork and monuments that commemorate historic Route 66.

P-36-011510: This resource, recorded in 2002, is a two-track dirt road lined with field stones, running northeast to southwest. The resource was relocated within the Project area south of existing power lines; the portion of the road north of the power lines no longer exists. Several metal cans were also located; however, their condition was too poor to determine whether they were historic in age.

P-36-015497: This resource consists of Baseline Road, a historic-era road constructed in 1853 that runs from Highland to Azusa. The resource has not been formally recorded, but is a California Point of Historical Interest (CPHI-12). The resource was relocated within the Project area, where it consists of a wide, four- to six-lane paved road with a landscaped median.

P-36-020137: This resource, recorded in 2004, consists of the historic route of the Pacific Electric San Bernardino Line/Pacific Electric Southern Pacific railroad alignment. All railroad-related materials had been removed from the segment of the resource that crosses the Project area by 2006. The earthen berm that once held the railroad tracks was relocated during survey; however, no railroad-related materials still exist.

Previously Recorded Resources Not Relocated

P-36-004131: This resource is the site of the Kaiser Steel Plant, which was constructed in 1942 to produce steel for use in the production of ships during World War II. The plant continued to operate until 1983, when Kaiser Steel Corporation went bankrupt and the plant lay abandoned for a decade. A portion of the plant was sold a Chinese buyer and in 1993 the Steel Plant #2 was disassembled and shipped to China for reassembly there.

Although portions of the plant still exist and are still operating under new ownership, most of the plant is no longer extant. The plant was designated a California Point of Historical Interest in 1975 (CPHI-71) and recorded as a cultural resource in 1980.

The resource was not relocated within the Project area. The portion of the resource crossed by the proposed subtransmission source line is currently occupied by residences and businesses. Historic aerial photographs dating from 1938, 1948, and 1959 indicate that the portion of the resource

within the Project area was in use for agriculture prior to the construction of the Kaiser Plant and remained in use for agriculture during and after the plant's operation; therefore, it is possible that this portion of the resource was never a part of the industrial use of the Kaiser Plant (Glover and Gust, 2010; historicaerials.com).

P-36-00690: This resource is the Summit Avenue Ditch, an early 20th century irrigation ditch. It was recorded in 1991 as a concrete-lined ditch, trapezoidal in section, 1 mile in length. The resource was not relocated and appears to no longer exist as originally recorded. Summit Avenue has been expanded from two lanes to four lanes over the past two decades, and substantial development has occurred along the road, and apparently the ditch has been destroyed as a result.

P-36-009363: This resource is the Johnson/Miller Complex, recorded in 1997 as a circa 1939 residential complex that had been destroyed during grading in 1996. As recorded, it consisted of two concrete foundations, trees, pipes, and a historic refuse scatter. The site was not relocated.

P-36-011511: This resource was recorded in 2002 as a rock-lined dirt road, running northeast to southwest. The road was not relocated.

Newly Recorded Resources

P-36-021495 (Planter Site): This newly recorded resource consists of a collection of landscaping and construction features located within the former community of Grapeland. The historic-era archaeological site consists of six features, including a cobble-lined depression (Feature 1); a cobble pathway (Feature 2); a planter constructed from stacked cobbles and broken concrete slabs (Feature 3); a linear planter constructed from cobbles (Feature 4); a cobble pad with circular planters and a small wooden fence (Feature 5); and a modern fire pit composed of a circle of broken concrete (Feature 6). A scatter of concrete, brick, milled lumber, and broken glass was also recorded. No diagnostic artifacts were observed. Historic Bureau of Land Management Government Land Office documents indicate that a homestead claim was granted for this area to Elmer E. Scott (Glover and Gust, 2010). The site is not visible on historic aerial photographs. It is possible that the site is associated with the 19th century community of Grapeland.

Paleontological Resources

A literature review and a record search were conducted using the Regional Paleontological Locality Inventory (RPLI) at the San Bernardino County Museum (SCE, 2010). The results of the search indicate that no paleontological localities are recorded within the boundaries of the Project or within 1 mile of the Project. The closest localities that have yielded scientifically significant fossil resources (SBCM 5.1.8; SBCM 5.1.14-5.1.21; SBCM 5.1.11) are located between 3 and 6 miles from the Project. The remains of extinct mastodon, mammoth, bison, camel, and sabretoothed cat have been recovered from older Pleistocene alluvium at these three localities, at depths ranging from 5 feet to 20 feet below the surface. The presence of these localities in older Pleistocene alluvium demonstrates the high paleontological potential of late Pleistocene deposits in the Devore and northern Fontana area (SCE, 2010). Because the Project area is on flat land where paleontologically sensitive units are mantled by a thin layer topsoil and vegetation (or paved surfaces), potential for fossils to be found at the ground surface is negligible. Therefore, a surface survey of the Project area was not performed.

Regulatory Setting

Federal

Section 106 of the National Historic Preservation Act

Archaeological resources are protected through the National Historic Preservation Act (NHPA) of 1966, as amended (16 USC 470f), and its implementing regulation, Protection of Historic Properties (36 Code of Federal Regulations [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), §106 of the NHPA 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 properties eligible for listing in the National Register. As indicated in §101(d)(6)(A) of the NHPA, properties of traditional religious and cultural importance to a tribe are eligible for inclusion in the National Register. Under the NHPA, a resource is considered significant if it meets the National Register listing criteria at 36 CFR 60.4. The Project may require a permit from the U.S. Army Corps of Engineers under §404 of the Clean Water Act, and if so must be in compliance with §106 of the National Historic Preservation Act (NHPA).

National Register of Historic Places

The National Register was established by the NHPA of 1966, 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" (36 CFR 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 the following four established criteria (U.S. Department of the Interior, 1995):

A. Are associated with events that have made a significant contribution to the broad patterns of our history;

B. Are associated with the lives of persons significant in our past;

C. 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

D. 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

The State of California implements the NHPA through its statewide comprehensive cultural resources 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 Historic Resources Inventory. The State Historic Preservation Officer (SHPO) is an appointed official who implements historic preservation programs within the state's jurisdictions.

California Register of Historical Resources

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 historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (California PRC §5024.1[a]). The criteria for eligibility for the California Register are based upon National Register criteria (California PRC §5024.1[b]). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register.

To be eligible for the California Register, a prehistoric or historic-period property must be significant at the local, state, and/or federal level under one or more of the following four criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

2. Is associated with the lives of persons important in our past;

3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

4. Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the California Register must meet one of the criteria of significance described above, and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register, but it may still be eligible for listing in the California Register.

Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register and those formally Determined Eligible for the National Register;
- California Registered Historical Landmarks from No. 770 onward; and,
- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register.

Other resources that may be nominated to the California Register include:

- Historical resources with a significance rating of Category 3 through 5 (those properties identified as eligible for listing in the National Register, the California Register, and/or a local jurisdiction register);
- Individual historical resources;
- Historical resources contributing to historic districts; and,
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the state and is codified at PRC §21000 et seq. CEQA requires lead agencies to determine if a project would have a significant effect on the environment, including significant effects on historical or archaeological resources.

Under CEQA (§21084.1), a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. The CEQA Guidelines (Title 14 California Code of Regulations [CCR] §15064.5) recognize that an historical resource includes: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register; (2) a resource included in a local register of historical resources, as defined in PRC §5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC §5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which 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 by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record. The fact that a resource does not meet the three criteria outlined above does not preclude the lead agency from determining that the resource may be an historical resource as defined in PRC §5020.1(j) or 5024.1.

If a lead agency determines that an archaeological site is a historical resource, the provisions of §21084.1 of CEQA and §15064.5 of the CEQA Guidelines apply. If a project may cause a substantial adverse change (defined as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired) in the significance of an historical resource, the lead agency must identify potentially feasible measures to mitigate these effects (CEQA Guidelines §15064.5(b)(1), 15064.5(b)(4)).

If an archaeological site does not meet the criteria for a historical resource contained in the CEQA Guidelines, then the site may be treated in accordance with the provisions of §21083, which is a unique archaeological resource. As defined in §21083.2 of CEQA 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 following criteria:

- Contains information needed to answer important scientific research questions and 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.

If an archaeological site meets the criteria for a unique archaeological resource as defined in §21083.2, then the site is to be treated in accordance with the provisions of §21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (§21083.1(a)). If preservation in place is not feasible, mitigation measures shall be required.

The CEQA Guidelines note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (CEQA Guidelines §15064.5(c)(4)).

Local

CPUC General Order No. 131-D explains that local land use regulations would not apply to the Project and alternatives. However, for information purposes, the following goals and policies included in the general plans for San Bernardino County and the cities of Fontana, Rialto, and Rancho Cucamonga would otherwise be relevant to the Project and alternatives.

San Bernardino County General Plan

The Conservation Element of the San Bernardino County General Plan (2007) governs the natural and cultural resources of the county. The San Bernardino County General Plan has the following relevant goals and policies related to the protection of cultural resources.

Goal CO 3. The County will preserve and promote its historic and prehistoric cultural heritage.

- ***Policy CO 3.1:*** Identify and protect important archaeological and historic cultural resources in areas of the County that have been determined to have known cultural resource sensitivity.

  1. Require a cultural resources field survey and evaluation prepared by a qualified professional for Projects located within the mapped Cultural Resource Overlay area.

- ***Policy CO 3.2:*** Identify and protect important archaeological and historic cultural resources in all lands that involves disturbance of previously undisturbed ground.

  1. Require the Archaeological Information Center at the San Bernardino County Museum to conduct a preliminary cultural resource review prior to the County's application acceptance for all land use applications in planning regions lacking Cultural Resource Overlays and in lands located outside of planning regions.

  2. Should the County's preliminary review indicate the presence of known cultural resources or moderate to high sensitivity for the potential presence of cultural resources, a field survey and evaluation prepared by a qualified professional will be required with Project submittal.

- ***Policy CO 3.4:*** The County will comply with Government Code Section 65352.2 (SB 18) by consulting with tribes as identified by the California Native American Heritage Commission on all General Plan and specific plan actions.

  1. Site record forms and reports of surveys, test excavations, and data recovery programs will be filed with the Archaeological Information Center at the San Bernardino County Museum, and will be reviewed and approved in consultation with that office.

     a. Preliminary reports verifying that all necessary archaeological or historical fieldwork has been completed will be required prior to Project grading and/or building permits.

     b. Final reports will be submitted and approved prior to Project occupancy permits.

  3. When avoidance or preservation of an archaeological site or historic structure is proposed as a form of mitigation, a program detailing how such long-term avoidance or preservation is assured will be developed and approved prior to conditional approval.

- ***Policy CO 3.5:*** Ensure that important cultural resources are avoided or minimized to protect Native American beliefs and traditions.

  5.b. The concerns of the Native American community will be fully considered in the planning process.

  c. If human remains are encountered during grading and other construction excavation, work in the immediate vicinity will cease and the County Coroner will be contacted pursuant to the state Health and Safety Code.

  a. In the event that Native American cultural resources are discovered during Project development and/or construction, all work in the immediate vicinity of the find will cease and a qualified archaeologist meeting US Secretary of

Interior standards will be hired to assess the find. Work on the overall Project may continue during this assessment period.

b. If Native American cultural resources are discovered, the County will contact the local tribe. If requested by the tribe, the County will, in good faith, consult on the discovery and its disposition with the tribe.

City of Fontana General Plan

The City of Fontana's General Plan Open Space and Conservation Element (City of Fontana, 2003) contains several relevant goals, policies, and actions related to cultural resources. Goals include the inventory of all historical and archaeological resources within the city; the preservation of cultural resources; and the integration of preservation into economic development strategies.

City of Rialto General Plan

The City of Rialto's General Plan Cultural and Historic Resources Element (City of Rialto, 2010) also contains several relevant goals, policies, and actions related to cultural resources. Goals related to historical resources include the preservation of resources and public involvement. Goals related to archaeological resources include the identification, documentation, and preservation of archaeological resources through the requirement of cultural resources surveys for development projects and the avoidance of impacts to known resources.

City of Rancho Cucamonga General Plan and Historic Preservation Commission Ordinance

The City of Rancho Cucamonga adopted the Historic Preservation Ordinance in 1978, which established the Historic Preservation Commission and a Landmark Designation Program.

The City of Rancho Cucamonga General Plan Land Use Element (City of Rancho Cucamonga, 2010) also contains several relevant goals, policies, and actions related to cultural resources. Goals related to historical resources include: to maintain a local historic resources inventory; to protect historic resources; to identify and protect cultural landscape features; and to preserve and interpret Historic Route 66 and the Pacific Electric Right-of-Way

Paleontological Professional Standards

The Society of Vertebrate Paleontology (SVP) has established guidelines for the identification, assessment, and mitigation of adverse impacts on nonrenewable paleontological resources (SVP, 1995; 1996). Practicing paleontologists in the nation adhere to the SVP's assessment, mitigation, and monitoring requirements as outlined in these guidelines, which were approved through a consensus of professional paleontologists. The SVP has helped define the value of paleontological resources and in particular, states the following:

- Vertebrate fossils and fossiliferous deposits are considered significant nonrenewable paleontological resources, and are afforded protection by federal, state, and local environmental laws and guidelines.

- A paleontological resource is considered to be older than recorded history or 5,000 years before present and should not be confused with archaeological resource sites.
- Invertebrate fossils are not significant paleontological resources, unless they are present with an assemblage of vertebrate fossils or they provide undiscovered information on the origin and character of the plant species, past climatic conditions or the age of the rock unit itself.
- Certain plant or invertebrate fossils may be designated as significant by a project paleontologist, special interest group, lead agency or local government.

With these principles, the SVP (1995) has outlined criteria for screening the paleontological potential[1] of rock units and established assessment and mitigation procedures tailored to such potential. **Table 4.5-1** lists the criteria for high-potential, undetermined, and low-potential rock units.

TABLE 4.5-1
PALEONTOLOGICAL POTENTIAL CRITERIA

Paleontological Potential	Description
High	Geologic units from which vertebrate or significant invertebrate or plant fossils have been recovered in the past, or rock formations that would be lithologically and temporally suitable for the preservation of fossils. Only invertebrate fossils that provide new information on existing flora or fauna or on the age of a rock unit would be considered significant.
Undetermined	Geologic units for which little to no information is available.
Low	Geologic units that are not known to have produced a substantial body of significant paleontological material, as demonstrated by paleontological literature and prior field surveys, and which are poorly represented in institutional collections.

SOURCE: SVP, 1995.

It is important to note that while paleontological potential as defined above can provide a rough idea of whether subsurface fossils may exist, it prescribes a very low threshold for identifying a rock unit as high potential. It would include most sedimentary rock units older than recent, and any other rock type (i.e., igneous or metamorphic) that have yielded a vertebrate or significant invertebrate or plant fossils anywhere within their geographic extents. This low threshold is reasonable; however, because as largely buried resources, the uniqueness or significance of a fossil locality is unknown until it is identified to a reasonably precise level (Scott and Springer, 2003; p. 5). As such, any fossil discovery should be treated as potentially unique or significant until determined otherwise by a professional paleontologist.

[1] Paleontological potential refers to the likelihood that a rock unit will yield a unique or significant paleontological resource.

4.5.2 Significance Criteria

According to Appendix G of the CEQA *Guidelines*, an impact resulting from the Project would be considered significant if it would cause:

a) A substantial adverse change in the significance of a historical resource that is either listed or eligible for listing in the National Register of Historic Places, the California Register of Historical Resources, or a local register of historic resources;

b) A substantial adverse change in the significance of a unique archaeological resource;

c) Disturbance or destruction of a unique paleontological resource or site or unique geologic feature; or

d) Disturbance of any human remains, including those interred outside of formal cemeteries.

CEQA provides that a project may cause a significant environmental effect where the project could result in a substantial adverse change in the significance of a historical resource (PRC §21084.1). CEQA Guidelines §15064.5 defines a "substantial adverse change" in the significance of a historical resource to mean physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be "materially impaired" (CEQA Guidelines §15064.5[b][1]).

CEQA Guidelines §15064.5(b)(2), defines that the significance of a historic resources is "materially impaired" when a project:

(A) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or

(B) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to §5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of §5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

(C) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

4.5.3 Applicant Proposed Measures

The following APMs are included to address issues related to cultural resources:

> **APM-PA-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 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-PA-02 Paleontological Monitoring for the Project: A paleontological monitor shall be on site to spot check ground-disturbing activities at depths greater than 5 feet during installation of the Project. 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.

4.5.4 Impacts and Mitigation Measures

Approach to Analysis

Impacts to cultural resources could result from ground-disturbing activities and/or damage, destruction, or alteration of historic structures. Ground-disturbing activities include Project-related excavation, grading, trenching, vegetation clearance, the operation of heavy equipment, or other surface and sub-surface disturbance that could damage or destroy surficial or buried archaeological resources including prehistoric and historic remains or human burials.

a) Would project implementation result in change in the significance of a historical resource as defined in §15064.5?

Impact 4.5-1: Project construction could cause an adverse change in the significance of a historical resource [inclusive of archaeological resources] which is either listed or eligible for listing on the National Register of Historic Places, the California Register of Historical Resources, or a local register of historic resources; or to a unique archaeological resource. ***Less than Significant with Mitigation*** **(Class II)**

Construction

Known Resources. As a result of the archaeological surveys, four previously recorded cultural resources (P-36-002910, P-36-011510, P-36-015497 and P-36-020137) and one newly recorded resource (P-36-021495) were identified within the Project area. Four previously recorded resources (P-36-004131, P-36-006901, P-36-009363, and P-36-011511) were not relocated.

The resources that were not relocated within the Project area are presumed to have been destroyed and are therefore not eligible for listing in the National Register, California Register, or local register and are not considered historical resources or unique archaeological resources under CEQA.

The proposed subtransmission source line route crosses four extant historic-era linear built environment features: P-36-002910 (National Old Trails Highway), P-36-011510 (a dirt road), P-36-015497 (Baseline Road) and P-36-020137 (Pacific Electric San Bernardino Line/Pacific

Electric Southern Pacific railroad). Resource P-36-002910 is a California Historical Landmark and resource P-36-015497 is listed as a California Point of Historical Interest. Construction of the proposed subtransmission line would span resources P-36-002910 and P-36-015497 and thus avoid them; therefore, construction of the proposed subtransmission source line would not impact these two resources (SCE, 2010).

Resource P-36-011510 has been partially destroyed within the Project area, and resource P-36-020137 consists of only the berm that once supported the railroad tracks, and does not contain any other railroad-related material or structures. Both of these resources no longer possess integrity and are therefore not eligible for listing in the National Register, California Register, or local register and are not considered historical resources under CEQA.

Resource P-36-021495, the newly recorded Planter Site, is not eligible for listing in the National Register, California Register, or local register. The resource is not associated with people or events important in history (Criteria A/1 and B/2). The resource does not embody the distinctive characteristics of any period, type, or method of construction (Criterion C/3). Finally, further study of the artifacts or features at the site would yield little or no additional information that would contribute to an understanding of history (Criterion D/4).

Therefore, resource P-36-021495 is not eligible for listing in the National Register, California Register, or local register and is not considered a historical resource or unique archaeological resource under CEQA (Glover and Gust, 2010).

Consequently, the Project would not cause a substantial adverse change in the significance of a historical resource or unique archaeological resource.

Unknown Resources. None of the built historic resources or archaeological resources recorded within the Project area is likely to contain a buried archaeological component. The Kaiser Steel Plant, P-36-004131, has been largely dismantled, and it appears that the portion of the resource within the Project area was never used for industrial purposes. Therefore, it is unlikely that a subsurface component related to the industrial use of the property would be present within the Project area. The proposed Etiwanda Subtransmission Source Line Route would require underground construction in this portion of the Project area. Mitigation Measure 4.5-1 would provide for contingency mitigation in the event that potentially significant archaeological materials are encountered during Project construction.

Site P-36-009363, a former residential site circa 1939, was not relocated during survey and appears to have been destroyed; however, subsurface archaeological components related to the residential use of the site may still exist. However, the site is located within a proposed staging area; therefore, no subsurface disturbance beyond possible vegetation removal and light grading is anticipated to occur, and this shallow disturbance would be unlikely to disturb significant buried archaeological deposits, if any are present. Site P-36-021495, the Planter Site, could also contain buried archaeological deposits; however, given the lack of significance that the surface component of the site exhibits and its ineligibility for listing in the National Register, California Register, or local register it is anticipated that any subsurface component that may exist would be similarly not significant. Nevertheless, Mitigation Measure 4.5-1 would provide for contingency

mitigation in the event that potentially significant archaeological materials are encountered during Project construction.

The overall archaeological sensitivity of the Project area is low. Twenty historic-era archaeological sites have been recorded within 0.25 mile of the Project area; no prehistoric resources have been recorded within that radius. Prehistoric sites in the region tend to occur along the foothills to the north and south of the Project area and near permanent water sources, which are not present within the Project area.

Soil conditions in portions of the Project area, specifically in those areas where younger (Holocene age) alluvium is present, are favorable for buried cultural resources. Therefore, although overall there is a low probability of significant prehistoric resources existing within the Project area, there is nevertheless some possibility that buried archaeological deposits may be encountered during Project-related excavation. Since the nature of the Project would involve ground-disturbing activities that may extend into undisturbed soil, it is possible that such actions could unearth, expose, or disturb subsurface archaeological resources that were not immediately observable on the surface.

The inadvertent discovery of a previously unknown historical or unique archaeological resource would be a significant impact. However, impacts would be mitigated to less than significant with the implementation of Mitigation Measure 4.5-1.

Operation and Maintenance

Project operation and maintenance would not involve the disturbance of subsurface soils; therefore, no impact on historical or unique archaeological resources would occur.

> **Mitigation Measure 4.5-1: 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 are significant, the archaeologist shall notify the CPUC and the resource shall be avoided if feasible. If avoidance is infeasible, a Treatment Plan that documents the research approach and methods for data recovery shall be prepared and implemented in consultation with CPUC and with appropriate Native American representatives (if the resources are prehistoric or Native American in nature). Work may proceed on other parts of the Project area while treatment is being carried out.

Significance after Mitigation: Less than Significant.

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b) Would project implementation result in change in the significance of a unique archaeological resource pursuant to §15064.5?

See a) above.

c) Would project implementation directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Impact 4.5-2: Project implementation would have a potentially significant impact on a unique paleontological resource or site or unique geological feature. ***Less than Significant with Mitigation*** **(Class II)**

The Project area consists of generally flat-lying alluvium that support row crops in agricultural areas, some vacant land, as well as developed urban areas. Due to the flat-lying nature of the Project area, the geologic rock units underlying the area are not visible at the surface and therefore no unique geological features would be affected by the Project. The Project could have construction-related impacts to buried paleontological resources, however, which are described below.

Construction

Any construction activity involving subsurface soil excavation has the potential to disturb or destroy paleontological resources. As largely buried resources, the exact location or presence of fossils within undisturbed geologic units cannot be determined, but the relative likelihood of encountering fossils can be estimated based on the paleontological potential of the rock unit (see Table 4.5-1). As discussed in the setting, the Falcon Ridge Substation site and portions of the subtransmission source line route are primarily underlain by late Holocene alluvium with a low paleontological potential. However, areas south of Foothill Boulevard are underlain by early Holocene and late Pleistocene sediments with a moderate/unknown paleontological sensitivity. Construction excavations within these units, including site preparation and grading, foundation excavations, utility trenches, duct bank installation, and auger holes for wood poles and TSPs would have the potential to disturb or destroy buried fossils of unknown significance. Construction activities not involving ground excavations, including the aboveground installation of the fiber-optic cable, wire stringing along the transmission source lines, use of materials storage areas, and aboveground work at the substation site would not disturb or destroy a paleontological resource. Because the uniqueness or significance of a fossil locality is unknown until it is identified to a reasonably precise level, any fossil discovery during subgrade excavations should be treated as potentially unique or significant until determined otherwise by a professional paleontologist.

While the relative likelihood of uncovering fossil resources across the Project area varies with location and depth, any subsurface excavation into undisturbed geologic units would be considered a potentially significant impact of the Project. SCE would have a paleontologist monitor the excavation into rock units having high potential to contain significant nonrenewable paleontological resources and develop a paleontological monitoring plan describing paleontological monitoring activities (APM PA-01 and AMP PA-02). These activities, if properly performed, would adequately avoid potential impacts on paleontological resources. However, these APMs shall be supplemented, as described in Mitigation Measure 4.5-2, in order to add necessary specifics about who will approve and carry out the mitigation. With implementation of Mitigation Measure 4.5-2, construction-related impacts of the Project on paleontological resources would be less than significant.

Operation and Maintenance

Project operation and maintenance would not involve the disturbance of subsurface soils or geologic formations; therefore, no impact to paleontological resources would occur.

Mitigation Measure 4.5-2: Prior to the initiation of any site preparation or start of construction, SCE and/or its contractors shall contract with a qualified vertebrate paleontologist, who shall be responsible for preparing and implementing a paleontological monitoring plan. The paleontologist must be a practicing scientist who is recognized in the paleontologic community, and is proficient in vertebrate paleontology, as demonstrated by institutional affiliations or appropriate credentials, ability to recognize and recover vertebrate fossils in the field, local geological and biostratigraphic expertise, and publications in scientific journals. The qualified paleontologist shall be available "on-call" to SCE and/or its contractors throughout the duration of ground-disturbing activities. At a minimum, the scope of services shall include:

- *Preparation of a paleontological monitoring plan based on final project design*. The qualified professional paleontologist shall review information presented in this EIR, existing fossil localities in the region, Project grading plans and all geological/ geotechnical reports developed to date to determine with greater precision the depth and extent of geologic units of high paleontological potential (e.g. older alluvial fan deposits) within the areas to be excavated. Based on the volume, depth and extent of soil excavations and the professional judgment of the paleontologist, he or she shall prepare a paleontological monitoring plan describing the locations/phases of project construction activity where paleontological monitoring of ground-disturbing activities would be needed. The monitoring plan shall outline procedures to follow in the event of discovery of a potentially significant fossil resource and shall describe the assessment and salvage procedures to be followed. The report shall also identify a paleontological repository (i.e., a publicly supported, not-for-profit museum or university employing a permanent curator) that is willing and able to accept and curate any fossil specimens recovered from Project construction sites. Construction of the Project shall not proceed until the report has been reviewed and approved by the CPUC.

- *Active monitoring of construction sites for paleontological resources*. During construction of the Project, paleontological monitoring will consist of periodically inspecting disturbed, graded, and excavated surfaces, as well as soil stockpiles and disposal sites, as identified in the paleontological monitoring plan. The monitor (which will be the professional paleontologist or a designee) will have authority to divert grading or excavation away from exposed surfaces temporarily in order to examine disturbed areas more closely, and/or recover fossils. The monitor will coordinate with the construction manager to ensure that monitoring is thorough but does not result in unnecessary delays. If the monitor encounters a paleontological resource, he or she shall assess the fossil, and record or salvage it, as described below.

- *Assessment and salvage of potential fossil finds*. If potential fossils are discovered incidentally by construction crews, or in areas being actively monitored, all earthwork or other types of ground disturbance within 50 feet of the find shall stop immediately until the qualified professional paleontologist can assess the nature and importance of the find. Based on the scientific value or uniqueness of the find, the monitor may record the find and allow work to continue, or recommend salvage and recovery of the fossil. The monitor may also propose modifications to the stop-work radius based on the nature of the find, site geology, and the activities occurring on the site. If treatment and salvage is required, recommendations will be consistent with

SVP guidelines (SVP, 1995; SVP, 1996) and currently accepted scientific practice, and shall be subject to review and approval by the CPUC. If required, treatment for fossil remains may include preparation and recovery of fossil materials so that they can be housed in the paleontological repository, and may also include preparation of a report for publication describing the finds. SCE and/or its contractors will be responsible for ensuring that treatment is implemented and reported to the CPUC. If no report is required, SCE and/or its contractors will nonetheless ensure that information on the nature, location, and depth of all finds is readily available to the scientific community through university curation or other appropriate means.

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

Impact 4.5-3: Project construction could result in damage to previously unidentified human remains. ***Less than Significant with Mitigation*** **(Class II)**

Construction

The Project would not disturb known human remains. The land use designations for the Project components do not include cemetery uses, and no known human remains exist within the Project area. However, since the nature of the Project would involve ground-disturbing activities, it is possible that such actions could unearth, expose, or disturb previously unknown human remains. In the event that human remains are discovered during Project construction activities, the human remains could be inadvertently damaged, which could be a significant impact. However, with implementation of Mitigation Measure 4.5-2, this impact would be reduced to less than significant.

Operation and Maintenance

Project operation and maintenance would not involve the disturbance of subsurface soils; therefore, no impact on human remains would occur.

Mitigation Measure 4.5-3: If human remains are uncovered during Project construction, SCE and/or its contractors shall immediately halt all work, contact the county coroner to evaluate the remains, and follow the procedures and protocols set forth in CEQA Guidelines §15064.5 (e)(1). If the county coroner determines that the remains are Native American, SCE and/or its contractors shall contact the NAHC, in accordance with Health and Safety Code §7050.5, subdivision (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 and/or its contractor has discussed and conferred, as prescribed in this section (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.

4.5.5 Alternatives

Alternative 1: Lowell Street Realignment Alternative

Impact Alternative 1-CUL-1: Project construction could cause an adverse change in the significance of a historical resource [inclusive of archaeological resources] which is either listed or eligible for listing on the National Register of Historic Places, the California Register of Historical Resources, or a local register of historic resources, or a unique archaeological resource. ***Less than Significant with Mitigation*** **(Class II)**

Alternative 1 would alter the route of the proposed Alder Subtransmission Source Line and Fiber-Optic Cable Route, but it would not substantially change the size or type of facilities to be constructed. Therefore, the facts, analysis and significance conclusions presented for the Project generally hold true for Alternative 1, with two exceptions.

Because 0.5 mile of the Alternative 1 subtransmission source line has not been subject to archaeological survey, it is possible that there are previously undocumented cultural resources within these unsurveyed areas. However, Mitigation Measure Alternative 1-CUL-1 would require additional archaeological survey of unsurveyed areas.

Approximately 0.75 mile of the Lowell Street Realignment Alternative alignment would pass though a previously recorded cultural resource, P-36-008696, the former Rialto Ammunition Storage Point, a World War II-era military facility whose purpose was to store chemical and conventional ammunition (Glover and Gust, 2010). The site was first recorded in 1997 and consisted of explosives bunkers, berthing facilities for trains, rail spurs, building foundations, telephone lines, and a network of roads. By 2006, the majority of the site had been demolished. Pedestrian archaeological survey conducted in 2010 found no traces of the site within the Project area for Alternative 1; however, an approximately 0.5-mile segment of the alignment within the boundaries of site P-36-008696 has not yet been surveyed for cultural resources (as described above). If Alternative 1 is implemented, this segment shall be surveyed prior to any ground disturbing activity (Mitigation Measure Alternative 1-CUL-1). Furthermore, if any remnants of site P-36-008696 are identified as a result of the survey, they shall be evaluated for their eligibility for listing in the National Register, California Register, or local register as set forth in Mitigation Measure Alternative 1-CUL-1. If determined to be significant, the resource shall be avoided if feasible. If avoidance is infeasible, a Treatment Plan for the resource shall be developed.

Mitigation Measure Alternative 1-CUL-1, in conjunction with Mitigation Measure 4.5-1, which would provide contingency measures for the inadvertent discovery of cultural resources; and 4.5-2, which would provide measures for the discovery of human remains, would reduce impacts to cultural resources to a less-than-significant level (Class II).

With respect to paleontological resources, because Alternative 1 would be a short distance away from the proposed Falcon Ridge Substation site and Alder Subtransmission Source Line Route, and because Alternative 1 would be underlain by the same geologic units, Alternative 1 would result in similar, less than significant, impacts as the Project.

Similar to the Project, there would be no impacts to cultural or paleontological resources during operation and maintenance of Alternative 1.

> **Mitigation Measure Alternative 1-CUL-1: Additional Archaeological Survey**. SCE and/or its contractors shall retain a qualified archaeologist (defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology) to survey those portions of the final selected Project footprint that have not been previously subjected to systematic pedestrian cultural resources survey. After additional archaeological survey is carried out, the archaeologist shall prepare a report, for approval by the CPUC, that summarizes the survey efforts, and evaluates any identified cultural resources for their eligibility for listing in the National Register, California Register, or local register, or as a unique archaeological resource pursuant to §15064.5. Any resources determined to be significant shall be avoided if feasible. If avoidance is infeasible, a Treatment Plan that documents the research approach and methods for data recovery shall be prepared and implemented in consultation with CPUC and with appropriate Native American representatives (if the resources are prehistoric or Native American in nature).

Significance after Mitigation: Less than Significant.

No Project Alternative

Under the No Project Alternative, the Project would not be implemented; therefore there would be no impacts related to cultural and paleontological resources.

References – Cultural Resources

Bean, Lowell John and Charles R. Smith, "Gabrielino". In *California*, edited by Robert F. Heizer, pp. 538-562, Handbook of North American Indians, vol. 8, Smithsonian Institution, Washington, D.C., 1978.

Brock, James, John F. Elliott, Benjamin Resnick, and William A. Sawyer, *Santa Ana River Upstream Alternatives Cultural Resources Survey*. Prepared for U.S. Army Corps of Engineers, Los Angeles District, May 1986.

Byrd, Brian F., and L. Mark Raab, "Prehistory of the Southern Bight: Models for a New Millennium", in California Prehistory: Colonization, Culture, and Complexity, edited by Terry L. Jones and Kathryn A. Klar, pp 215-227, 2007.

Chartkoff, Joseph L., and Kerry Kona Chartkoff, The Archaeology of California, Stanford University Press, Stanford, California, 1984.

Glover, Amy, and Sherri Gust, *Phase I Cultural Resources Assessment Report for the Falcon Ridge Substation Project in the Cities of Fontana and Rialto, San Bernardino County, California,* submitted to SCE, December, 2010.

Greene, Linda W., Historic Resource Study: A History of Land Use In Joshua Tree National Monument. Performed for Branch of Cultural Resources Alaska/Pacific Northwest/Western Team, U.S. Department of the Interior National Park Service, 1983

Horne, Melinda C., and Dennis P. McDougall, Cultural Resources study for the City of Riverside General Plan 2025 Update Program EIR, Prepared for Cotton Bridges and Associates Urban and Environmental Consultants, on behalf of the City of Riverside Planning Department, Prepared by Applied Earthworks, Inc., 2003.

Kroeber, A. L., *Handbook of Indians of California*. Dover Publications, Inc., New York, 1925

McCawley, W., *The First Angelinos: The Gabrielino Indians of Los Angeles.* Malki Museum Press, Banning, 1996.

Morton, D.M., and Miller, F.K., 2006. Geologic Map of the San Bernardino and Santa Ana 30' X 60' Quadrangles, California, United States Geological Survey Open File Report 2006-1217.

Scott and Springer, 2004, CEQA and Fossil Preservation in California, AEP Spring 2004 CEQA Workshop Series, The Environmental Monitor, Fall 2004.

Society of Vertebrate Paleontology (SVP). Assessment and mitigation of adverse impacts to nonrenewable paleontologic resources: standard guidelines, Society of Vertebrate Paleontology News Bulletin, Vol. 163, p. 22-27. 1995.

Society of Vertebrate Paleontology (SVP). Conditions of Receivership for Paleontologic Salvage Collections, Society of Vertebrate Paleontology News Bulletin, Vol. 166, p. 31-323. February 1996.

Southern California Edison (SCE), 2010. Proponents Environmental Assessment, Falcon Ridge Project.

True, Delbert L. An Early Complex in San Diego County, California, American Antiquity, 23(3):225-63, 1958.

US Department of the Interior, National Park Service. National Register Bulletin: How to Apply the National Register Criteria for Evaluation. National Park Service, Washington, D.C., 1995.

Warren, Claude N., "The Desert Region", In California Archaeology, Coyote Press, Salinas, California, 1984.

4.6 Energy Conservation

This section identifies and evaluates issues related to energy conservation in the context of the Project and alternatives. Discussed are the physical and regulatory setting; the criteria used for determining the significance of environmental impacts; potential impacts associated with construction, operation, and maintenance of the Project; and mitigation measures to reduce or avoid environmental impacts determined to be potentially significant.

4.6.1 Setting

Regional and Local Setting

California's energy system includes electricity, natural gas, and crude oil. California provides 69 percent of the electricity used within the state as well as 13 percent of the natural gas[1] and 38 percent of the petroleum. The rest of the state's energy is imported. Electricity imported into California comes from the Pacific Northwest (7 percent) and the Southwestern states (24 percent). Natural gas comes from the Southwest (46 percent), the Rocky Mountain states (22 percent), and Canada (19 percent). Crude oil is imported into the state from foreign sources (48 percent) and Alaska (14 percent) (CEC, 2011a).

The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear sources. The electricity generated is distributed via a network of transmission and distribution lines commonly called the power grid.

Electricity

The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear. Of the electricity generated in-state, 53.4 percent is generated by natural gas-fired power plants, 1.7 percent is generated by coal-fired power plants, 14.6 percent comes from large hydroelectric facilities, and 15.7 percent comes from nuclear power plants. The remaining 14.6 percent of the in-state total electricity production is supplied by renewable sources, including small hydroelectric generation stations (2.2 percent), biomass (2.8 percent), geothermal (6.2 percent), solar (0.4 percent), and wind (3.0 percent) (CEC, 2011b).

SCE, the local public utility and energy supplier in the Project area, produces and purchases electricity from both renewable and nonrenewable resources, with power derived from fossil fuels, nuclear sources, and hydroelectric sources. SCE serves nearly 14 million people in 180 cities including residential, commercial, and industrial users. Their service infrastructure includes 16 utility interconnections and 4,990 transmission and distribution circuits (SCE, 2011).

[1] As the Project does not involve any direct use of natural gas, it will not be discussed further in this section.

There are currently 46,000 metered customers in the portions of the cities of Rancho Cucamonga, Fontana, Rialto, and the surrounding areas of unincorporated San Bernardino County that would be served by the Project. These customers compose the Electrical Needs Area. Currently, SCE serves the Electrical Needs Area through the existing Alder Substation and Randall 66/12 kV Substation (SCE, 2010, p. 1-2).

SCE projects that the combined capacity of the Alder and Randall substations would be exceeded in the peak season in the event of a 1-in-10 year heat storm beginning in 2014. Additionally, their combined capacity would be exceeded in the peak season normal conditions beginning in 2016 (SCE, 2010, p. 1-3). The Project is designed to meet the long-term capacity, reliability, and system operational flexibility needs and has a planned operating date of June 2014.

Petroleum

Approximately 38.1 percent of California's petroleum supply comes from in-state sources while 47.7 percent is imported from foreign sources and 14.2 percent is imported from Alaska (CEC, 2011a). In 2009, California consumed approximately 657.2 million barrels (27.6 billion gallons) of petroleum (U.S. Energy Information Administration [USEIA], 2011a). California's oil fields comprise the fourth-largest petroleum producing area in the United States, behind federal off-shore production, Texas, and Alaska. Crude oil is moved within California through a network of pipelines that carry it from both on-shore and off-shore oil wells to the refineries that are located in the San Francisco Bay Area, the Los Angeles area, and the Central Valley (USEIA, 2009).

Most petroleum fuel, or crude oil, produced in California is used in on-road motor vehicles and is refined within California to meet state-specific formulations required by the CARB. The major categories of petroleum fuels are gasoline and diesel for passenger vehicles, transit, rail vehicles, and construction equipment; and fuel oil for industry and electrical power generation. Other liquid petroleum fuels include kerosene, jet fuel, and residual fuel oil for marine vessels.

Energy Demand

Electricity

Electricity is transported to San Bernardino County through a regional transmission system and within the county by local distribution lines. SCE currently provides electricity to the Project area via overhead and underground transmission and distribution lines. The Project area is surrounded by a combination of urban and open space areas. Land uses adjacent to the Project are primarily residential, commercial, and industrial and are served by existing transmission and distribution lines. The estimated electricity consumption for San Bernardino County was 13,213 gigawatt-hours (GWh) in 2010 (CEC, 2011c).

As described in Section 4.14, *Population and Housing*, population growth in the Electrical Needs Area and surrounding communities has increased the demand for electricity in this region. In accordance with the Energy Action Plan, described below under *Regulatory Setting*, SCE has implemented several programs designed to encourage energy conservation and distributed

generation and to reduce peak demand through demand response technologies. The results of these programs are described in SCE's Annual Energy Efficiency Reports, and in 2009 included approximately 300 MW of peak demand reduction (SCE, 2010).

The California Solar Initiative (CSI) is a distributed generation incentive program overseen by the CPUC that offers rebates for home solar installations to customers in SCE and other major electrical utilities' service areas. The program has a goal to install nearly 2,000 MW of distributed solar electricity generation throughout the areas served by 2016 (CSI, 2011). Similarly, the CPUC's Self-Generation Incentive Program provides rebates for other types of distributed generation, including wind turbines, waste heat-to-power technologies, pressure reduction turbines, internal combustion engines, microturbines, gas turbines, fuel cells, and advanced energy storage systems (CPUC, 2007). San Bernardino County also operates several programs to address energy conservation, including a green building program and a variety of rebates for energy-efficient appliances and distributed wind and solar generation (San Bernardino County, 2011).

Each of these programs contributes to reductions in the demand for transmission and distribution system capacity.

Petroleum

Currently, 18 petroleum refineries operate in California (USEIA, 2011b). To meet transportation-related energy demand, the state relies almost exclusively on petroleum products. The majority of the petroleum produced is refined into gasoline or diesel for use in on-road vehicles. The CEC estimates that an additional 20 million to 48 million barrels of transportation fuels (840 and 2016 million gallons, respectively) per year will be produced by California refineries for use in the transportation sector over by 2015 (CEC, 2008, p. 14). Petroleum supplies used for fueling the Project's construction, operation, and maintenance vehicles would be purchased by the individual users at nearby fueling stations.

Regulatory Setting

Federal

Energy Policy and Conservation Act

The Energy Policy Act of 1975 was established in response to the oil crisis of 1973, which increased oil prices due to a shortage of reserves. The Act required that all vehicles sold in the U.S. to meet certain fuel economy goals. Since 1990, the fuel economy standard for new passenger cars has been 27.5 miles per gallon. Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 miles per gallon. Heavy-duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross vehicle weight) are not subject to fuel economy standards. This Act indirectly applies to the Project due to its requirements for increased fuel economy standards, particularly for the construction equipment to be used.

Energy Policy Act of 2005

The Energy Policy Act of 2005 seeks to reduce reliance on non-renewable energy resources and provide incentives to reduce current demand on these resources. For example, pursuant to the Act, consumers and businesses can attain federal tax credits for purchasing fuel-efficient appliances and products, buying hybrid vehicles, building energy-efficient buildings, and improving the energy efficiency of commercial buildings. Additionally, tax credits are available for the installation of qualified fuel cells, stationary microturbine power plants, and solar power equipment.

State

State of California Energy Action Plan

The CPUC and CEC adopted the Energy Action Plan I in 2003 and the Energy Action Plan II in 2005 and published a status update for the 2005 plan in 2008 (CPUC and CEC, 2003, 2005, 2008). The agencies' goals in adopting these plans are to "ensure that adequate, reliable, and reasonably-priced electrical power and natural gas supplies, including prudent reserves, are achieved and provided through policies, strategies, and actions that are cost-effective and environmentally sound for California's consumers and taxpayers." The plans propose to achieve this goal in part by: 1) optimizing energy conservation and resource efficiency, 2) building new generation, 3) upgrading and expanding the electricity transmission and distribution infrastructure and reducing the time to bring facilities on-line, and 4) promoting customer- and utility-owned distributed generation. The plan also establishes a "loading order" prioritizing preferred resources for managing both supply and demand. In order of both environmental and cost preference, these are: energy efficiency, demand response, renewable energy sources, and distributed generation.

Energy efficiency includes programs that require buildings and appliances to be constructed in a manner that uses less energy, that provide incentives for purchasing energy efficient equipment, and that provide information and education to encourage people to save energy. Demand response is a rate-based strategy that varies electricity prices throughout the day to encourage lower consumption during peak hours of use, when demand is high and reserves are low. Renewable energy sources include electricity generation using wind, solar, small hydroelectric, geothermal, and biomass technologies. Distributed generation is electricity that is produced by the customer or utility very near the point of use, reducing the demand on the transmission and distribution system. This may include fuel cells, rooftop solar systems, or cogeneration systems that simultaneously produce both electricity and heat or steam for on-site use.

By prioritizing these load management strategies, the Energy Action Plan seeks to implement the lowest-cost and lowest-impact measures first, followed by less cost-effective and less environmentally beneficial or neutral measures, in order to reduce and meet growing energy demand in the state. Of these four preferred electricity resources, all but new renewable energy generation would also reduce the demand for transmission and distribution system capacity.

State of California Integrated Energy Policy Report

In 2002, the California State Legislature passed Senate Bill 1389 which requires the California Energy Commission (CEC) biannually to prepare an integrated energy policy report that assesses

trends in electricity, natural gas, and transportation fuels and recommends policies "to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety" (CEC 2009). The report calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the report identifies several strategies, including assistance to public agencies and fleet operators in implementing incentive programs for Zero Emission Vehicles and their infrastructure needs, and encouragement of urban designs that reduce vehicle miles traveled and accommodate pedestrian and bicycle access.

The 2009 Integrated Energy Policy Report was adopted by the CEC on December 16, 2009. This update focuses on anticipated operational and physical changes to California's electric system through 2020, how the state's energy efficiency goals interact with electrical and natural gas demand forecasting methods, recommended changes to electricity procurement, vulnerability of the state's nuclear plants to major seismic events, and other energy issues. On January 12, 2011, the CEC adopted the 2010 Integrated Energy Policy Report Update. This update describes the CEC's economic stimulus funding programs and the goals behind their design, summarizes the various projects that have been awarded funding, and discusses expected results in terms of jobs, energy savings, and greenhouse gas emission reductions as well as the contribution to California's energy and environmental policy goals. The report also describes unique issues associated with renewable power plants under the CEC's power plant siting jurisdiction that must meet specific permitting deadlines to apply for and receive federal stimulus funding. The CEC is currently preparing the 2011 Integrated Energy Policy Report, and is due to finish by the end of 2011.

Title 24 Building Energy Efficiency Standards

Title 24, Part 6, of the California Code of Regulations is the California Building Code governing all aspects of building construction. Included in Part 6 of the Code are standards mandating energy efficiency measures in new construction. Since its establishment in 1977, the building efficiency standards (along with standards for energy efficiency in appliances) have contributed to a reduction in electricity and natural gas usage and costs in California. The standards are updated every 3 years to incorporate new energy efficiency technologies. The latest update to the Title 24 standards became effective on August 1, 2009, and reflect the California Building Standards Commission approved 2008 Building Energy Efficiency Standards. The standards regulate energy consumed in buildings for heating, cooling, ventilation, water heating, and lighting. Title 24 is implemented through the local planning and permit process.

Local

CPUC General Order No. 131-D explains that local land use regulations would not apply to the Project. However, for information purposes, the following policies identified in the San Bernardino County, Rialto, and Rancho Cucamonga general plans would otherwise be relevant to the Project and alternatives.

San Bernardino County General Plan

- ***Policy CI 18.1:*** Coordinate with Southern California Edison and other utility suppliers to make certain that adequate capacity and supply exists for current and planned development in the County.

Rialto General Plan

- ***Policy 2-30.2:*** Promote sustainable building practices that go beyond the requirements of Title 24 of the California Administrative Code, and encourage energy-efficient design elements, as appropriate.

- ***Policy 2-31.1:*** Require the incorporation of energy conservation features into the design of all new construction and site development activities.

Rancho Cucamonga General Plan

- ***Policy LU-3.4:*** Promote development that is sustainable in its use of land and that limits impacts to natural resources, energy, and air and water quality.

4.6.2 Significance Criteria

Appendix F of the CEQA *Guidelines* provides guidance for assessing energy impacts of projects. The appendix provides three goals:

- Decreasing overall per capita energy consumption
- Decreasing reliance on natural gas and oil
- Increasing reliance on renewable energy sources

Consistent with Appendix F, environmental impacts evaluated in this analysis include:

a) The Project's energy requirements by amount and fuel type for each stage of the Project including construction, operation, and maintenance;

b) The effects of the Project on local and regional energy supplies and on requirements for additional capacity;

c) The effects of the Project on peak and base period demands for electricity and other forms of energy;

d) The degree to which the Project complies with existing energy standards;

e) The effects of the Project on energy resources; and

f) The Project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

4.6.3 Applicant Proposed Measures

There are no APMs included to address issues related to energy conservation impacts.

4.6.4 Impacts and Mitigation Measures

a) Evaluate the Project's energy requirements by amount and fuel type for each stage of the Project including construction, operation, and maintenance.

Impact 4.6-1: Construction and operation of the Project would result in consumption of energy. *Less than Significant* (Class III)

Although construction-related energy consumption would occur only during the construction period (which includes construction of the new substation and new subtransmission source line and fiber-optic cable routes), it would represent irreversible consumption of finite natural energy resources. Construction-related energy expenditures would include both direct and indirect uses of energy in the form of fuel (typically diesel fuel) and electricity. Direct energy use would include the consumption of petroleum for operation of construction vehicles and the use of electricity for construction equipment, such as welding machines and power tools. Energy consumed by power equipment used during construction would be relatively minimal, as would be the energy required for lighting and operation of ancillary electrical equipment. Indirect energy use includes the energy required to make the materials and components used in Project construction. This includes energy used for extraction of raw materials, manufacturing, and transportation associated with manufacturing.

The precise amount of construction-related energy demand is uncertain. Even so, construction activities would not result in long-term depletion of non-renewable energy resources and would not permanently increase reliance on energy resources that are not renewable. Construction activities would not reduce or interrupt existing electrical or natural gas services due to insufficient supply. Because construction would not interrupt existing local SCE service and because Project-specific construction-related energy demands are not expected to have a significant adverse effect on energy resources, energy consumption by construction activities would be less than significant. Additionally, implementation of Mitigation Measure 4.3-1a which is described and analyzed in Section 4.3, *Air Quality*, would further ensure that fuel energy consumed in the construction phase would not be wasted through unnecessary idling or through the operation of poorly maintained equipment.

Energy consumption required for Project operation and maintenance would be minimal. Energy would be required for occasional use of electricity from the SCE grid for maintenance activities and fuel usage for periodic visits by inspection and maintenance vehicles on-site would be required. Impacts from operation and maintenance of the Project on the consumption of energy would be less than significant.

Mitigation: None required.

b) Evaluate the effects of the Project on local and regional energy supplies and on requirements for additional capacity.

The Project would be located within SCE's service territory and would transmit energy to the regional power grid. The Project would contribute to meeting projected local peak demand electricity needs. Consequently, the Project would have a beneficial impact on local and regional energy supplies because it would ensure that current energy needs are met and that there is capacity to met projected future energy needs in the Electrical Needs Area. No adverse impact on local or regional energy supplies or capacity would result (No Impact, Class IV).

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c) Evaluate the effects of the Project on peak and base period demands for electricity and other forms of energy.

The Project would transmit electrical energy to the grid during peak and base periods. Impacts to electricity demands would occur if significant amounts of electricity were required for construction or operation of the Project such that SCE would be required to increase their available supply or production capacity. There would be a temporary increase in use of electricity resources during construction. However, given the negligible amount of electricity required for the Project, neither construction nor operation would impact peak or base power demands. Additionally, the Project would not impact electricity generation facilities' ability to provide and maintain existing levels of service during peak and base period demands. Consequently, the Project would cause no adverse impact related to the demand for electricity or other forms of energy (No Impact, Class IV).

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d) Evaluate the degree to which the Project complies with existing energy standards.

Impact 4.6-2: Construction, operation, and maintenance of the Project would conflict with existing energy standards. *Less than Significant* (Class III)

Energy standards such as the Energy Policy Acts of 1975 and 2005, and Title 24 promote strategic planning and building standards that reduce consumption of fossil fuels, increase use of renewable resource, and enhance energy efficiency. In general, these regulations and policies specify strategies to reduce fuel consumption and increase fuel efficiencies and energy conservation. If the Project were to use energy resources in a wasteful manner, it would conflict with state energy standards.

Project construction would be short-term and would not result in the permanent, increased use of non-renewable energy resources. As described in Chapter 2, *Project Description*, the Project would reduce fuel use by locating staging and storage areas near the Project area, using a local labor force, and using local landfills for construction and demolition debris. Project construction would be consistent with the goals and strategies of state energy standards.

Project operation would include on-going maintenance activities that would require the use of trucks and equipment that use non-renewable fuels and electricity resources. The Falcon Ridge Substation would be unattended would require infrequent trips for routine and emergency maintenance. Operational activities that could also require use of electricity for lighting and operation of ancillary electrical equipment would be negligible and would only occur periodically. Energy use for Project operation would be minimal, requiring a negligible percentage of the overall energy supplied to San Bernardino County. Project operation and maintenance are not anticipated to result in an increased use of fuel or electricity. Therefore, neither construction, operation, nor maintenance would conflict with current energy conservation standards, and impacts would be less than significant.

Mitigation: None required.

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e) Evaluate the effects of the Project on energy resources.

As discussed above, the Project would increase the reliability of the local electrical distribution grid during peak demand times, reducing the likelihood of interruptions in electrical distribution due to demand on the system. Consequently, the Project would not result in adverse impacts on energy resources (No Impact, Class IV).

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f) Evaluate the Project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

Impact 4.6-3: Project construction and operation would require use of transportation energy. *Less than Significant* (Class III)

As discussed in Impact 4.6-1 above, Project construction, operation, and maintenance would consume energy (primarily though fuel usage) during transportation of labor and materials to and from the Project site. This transportation-related energy usage would be greatest during construction activities. During Project operation and maintenance, transportation-related energy use would be infrequent and minor, consisting of three to four trips per month, and these would originate from the local area because current local SCE personnel would perform this work. For the reasons discussed above, construction-related transportation energy use would be less than significant.

Mitigation: None required.

Impact 4.6-4: The Project's overall use of efficient transportation alternatives would be limited. ***Less than Significant*** **(Class III)**

The Project would be located in several suburban and urban areas that are served by alternative means of transportation, such as public transit. Because of the Project's specific needs during construction to transport labor, materials, and large pieces of equipment to and from the site, use of transportation alternatives would be limited to labor force car pooling and minimizing unnecessary trips. When the relatively short duration of the construction period (12 months) and the relatively small size of the construction workforce (a maximum of 90 persons per day) are considered, the impact would be less than significant.

While opportunities for utilizing efficient transportation alternatives would be limited, the Project also would not impede use of efficient transportation alternatives for other users. As described in Section 4.17, *Transportation and Traffic*, the increase in traffic and potential travel lane closures due to temporary construction activities would not disrupt transit service provided by Omnitrans, but could increase traffic congestion, which could delay transit service. This potential impact would be less than significant with respect to energy conservation, and implementation of Mitigation Measure 4.17-1 would further reduce the Project's effects.

Mitigation: None required.

4.6.5 Alternatives

Alternative 1: Lowell Street Realignment Alternative

Alternative 1 would construct an approximately 0.12-mile longer Alder Subtransmission Source Line route than the proposed Project. This would result in incrementally higher energy consumption for construction equipment and construction-related transportation, but because construction would not interrupt existing local SCE service and because Project-specific construction-related energy demands are not expected to have a significant adverse effect on energy resources, energy consumption by construction activities would be less than significant. Additionally, implementation of Mitigation Measure 4.3-1a would further ensure that fuel energy consumed in the construction phase would not be wasted through unnecessary idling or through the operation of poorly maintained equipment.

Like the Project, Alternative 1 would contribute to meeting projected local peak demand electricity needs and would have no impact on local or regional energy supplies or capacity, nor would it impact electricity generation facilities' ability to provide and maintain existing levels of service during peak and base period demands. Other than the slightly longer subtransmission source line route, construction, operation, and maintenance activities would be the same as the Project and therefore would not conflict with local or state energy standards, result in adverse impacts on energy resources, or impede use of efficient transportation alternatives.

No Project Alternative

The No Project Alternative would have reduced impacts compared to the Project because no energy would be consumed by Project construction activities. However, if the Project is not built, the Electrical Needs Area may experience capacity deficiencies during peak demand periods beginning in 2014. Although the lack of energy loss from construction would be beneficial, the loss of reliability in the local electrical distribution system could offset this benefit. Therefore, the No Project Alternative could have greater operational impacts than the Project with respect to energy.

References – Energy Conservation

California Energy Commission (CEC), 2005. Implementing California's Loading Order for Electricity Resources. http://www.energy.ca.gov/2005publications/CEC-400-2005-043/CEC-400-2005-043.PDF, accessed November 30, 2011.

CEC, 2008. Best Permitting Practices Guidelines for Liquid Transportation Fuels Infrastructure, Publication no. CEC-700-2008-002SF, May 2008.

CEC, 2009. 2009 Integrated Energy Policy Report, Final Commission Report, December 2009, CEC -100-2009-003-CMF. http://www.energy.ca.gov/2009publications/CEC-100-2009-003/CEC-100-2009-003-CMF.pdf, accessed October 25, 2011.

CEC, 2011a. California's Major Sources of Energy, updated April 7, 2011, http://energyalmanac.ca.gov/overview/energy_sources.html, accessed October 8, 2011.

CEC, 2011b. Total Electricity System Power, http://energyalmanac.ca.gov/electricity/total_system_power.html, accessed October 8, 2011.

CEC, 2011c. California Electricity & Natural Gas Consumption Data, http://www.ecdms.energy.ca.gov/elecbycounty.aspx, accessed October 14, 2011.

CPUC, 2007. Self-Generation Incentive Program. http://www.cpuc.ca.gov/PUC/energy/DistGen/sgip/, accessed November 30, 2011.

CPUC and CEC, 2003. Energy Action Plan. http://www.energy.ca.gov/energy_action_plan/2003-05-08_ACTION_PLAN.PDF, accessed November 30, 2011.

CPUC and CEC, 2005.Energy Action Plan II. http://www.energy.ca.gov/energy_action_plan/2005-09-21_EAP2_FINAL.PDF, accessed November 30, 2011.

CPUC and CEC, 2008. Energy Action Plan 2008 Update. http://www.energy.ca.gov/2008publications/CEC-100-2008-001/CEC-100-2008-001.PDF, accessed November 30, 2011.

California Solar Initiative (CSI), 2011. About the California Solar Initiative. http://www.gosolarcalifornia.ca.gov/about/csi.php, accessed November 30, 2011.

City of Rancho Cucamonga, 2010. Rancho Cucamonga General Plan (May 19, 2010).

City of Rialto, 2010. Rialto General Plan (December, 2010).

San Bernardino County, 2007. San Bernardino County 2007 General Plan (March 13, 2007).

San Bernardino County, 2010. Green County San Bernardino. http://www.sbcounty.gov/greencountysb/rebates/rebates.aspx, accessed November 30, 2011.

Southern California Edison (SCE), 2010. Southern California Edison Company's (U 338-E) 2010 Annual Report for 2009 Energy Efficiency Programs. http://asset.sce.com/Regulatory/Energy%20Efficiency%20Filings/2010_SCE_AnnualReport.pdf, accessed December 14, 2011.

SCE, 2011. Company Overview. http://www.sce.com/AboutSCE/CompanyOverview/default.htm, accessed September 23, 2011.

U.S Energy Information Administration (USEIA), 2009. California State Energy Profile, http://tonto.eia.doe.gov/state/state_energy_profiles.cfm?sid=CA, accessed October 8, 2011.

U.S. Energy Information Administration (USEIA), 2011a. Form EIA-820, "Annual Refinery Report". http://www.eia.gov/pub/oil_gas/petroleum/data_publications/refinery_capacity_data/current/table1.pdf, accessed October 8, 2011.

U.S. Energy Information Administration (USEIA), 2011b. California Data. http://www.eia.gov/state/state-energy-profiles-data.cfm?sid=CA, accessed October 8, 2011.

4.7 Geology and Soils

This section evaluates whether construction, operation, and maintenance of the Project and alternatives would result in potential adverse impacts related to local geology, existing soil conditions, or seismicity. The evaluation and analysis of geology, soils, faulting, and seismicity are based, in part, on review of various geologic maps and reports. The primary sources include available resources from the United States Geological Survey (USGS), the California Geological Survey (CGS), and a Project-specific geotechnical report completed by TBDU Geotechnical Engineering Group (TBDU, 2010). Both short-term and long-term Project effects are analyzed to determine their significance under CEQA. When Project impacts are determined to be significant or potentially significant, mitigation measures to avoid or reduce those impacts are identified.

4.7.1 Setting

Environmental Setting

The Project area is located within California's Peninsular Ranges Geomorphic Province[1]—represented by a series of ranges separated by northwest trending valleys, subparallel to faults branching out from the San Andreas Fault (CGS, 2002). The trend of topography is similar to the Coast Ranges, but the geology is more like the Sierra Nevada, with granitic rock intruding older metamorphic rocks. The Peninsular Ranges extend into lower California and are bound on the east by the Colorado Desert. On the west, the province includes the Los Angeles Basin, its marine shelf, and the Catalina Islands. Major faults in the province are the Cucamonga, San Jacinto, and San Andreas faults.

Local Geology

The Project is located in the central part of the Upper Santa Ana River Valley, also referred to as the Fontana Plain. The San Gabriel Mountains rise sharply to the north, a large portion of which are drained by the Lytle Creek Wash, which flows away from the mountains in a southeasterly direction, passing as close as 3 miles northeast of the Project site. In addition, San Sevaine Creek, Day Creek, and Etiwanda Creek all emanate from the steeply rising southern flanks of the Cucamonga Wilderness (part of the San Gabriel Mountains), flowing a short distance south before entering a network of urban storm drains and canals. These washes and creeks are tributaries to the Santa Ana River located further to the south. The Santa Ana River flows in a southwesterly direction, eventually meeting the Prado Dam, which provides flood control for the coastal plains of Orange and Los Angeles counties to the west. During seasonal periods of heavy rainfall, the creeks in the Project area emerge onto the Fontana Plain from the granitic mountain ranges to the north, depositing large quantities of sand, silt, and gravel. Due to the sharp decrease in the channel gradients as creeks leave the mountains, stream flows no longer have the power to carry much of their sediment load. Over hundreds and thousands of years, the cycle of flooding and sediment deposition repeats itself, forming gently sloping aprons of loosely consolidated

[1] California's geomorphic provinces are naturally defined geologic regions that display a distinct landscape or landforms with unique, defining features based on geology, faults, topographic relief, and climate.

sediment (i.e., *alluvial fans*) that lead away from the base of the mountains. Elevations across the Project area decrease from approximately 2,000 feet above mean sea level (amsl) on the north edge of the plain, to about 850 feet amsl south of Fontana, resulting in a slope gradient that averages around 3 percent (SCE, 2010).

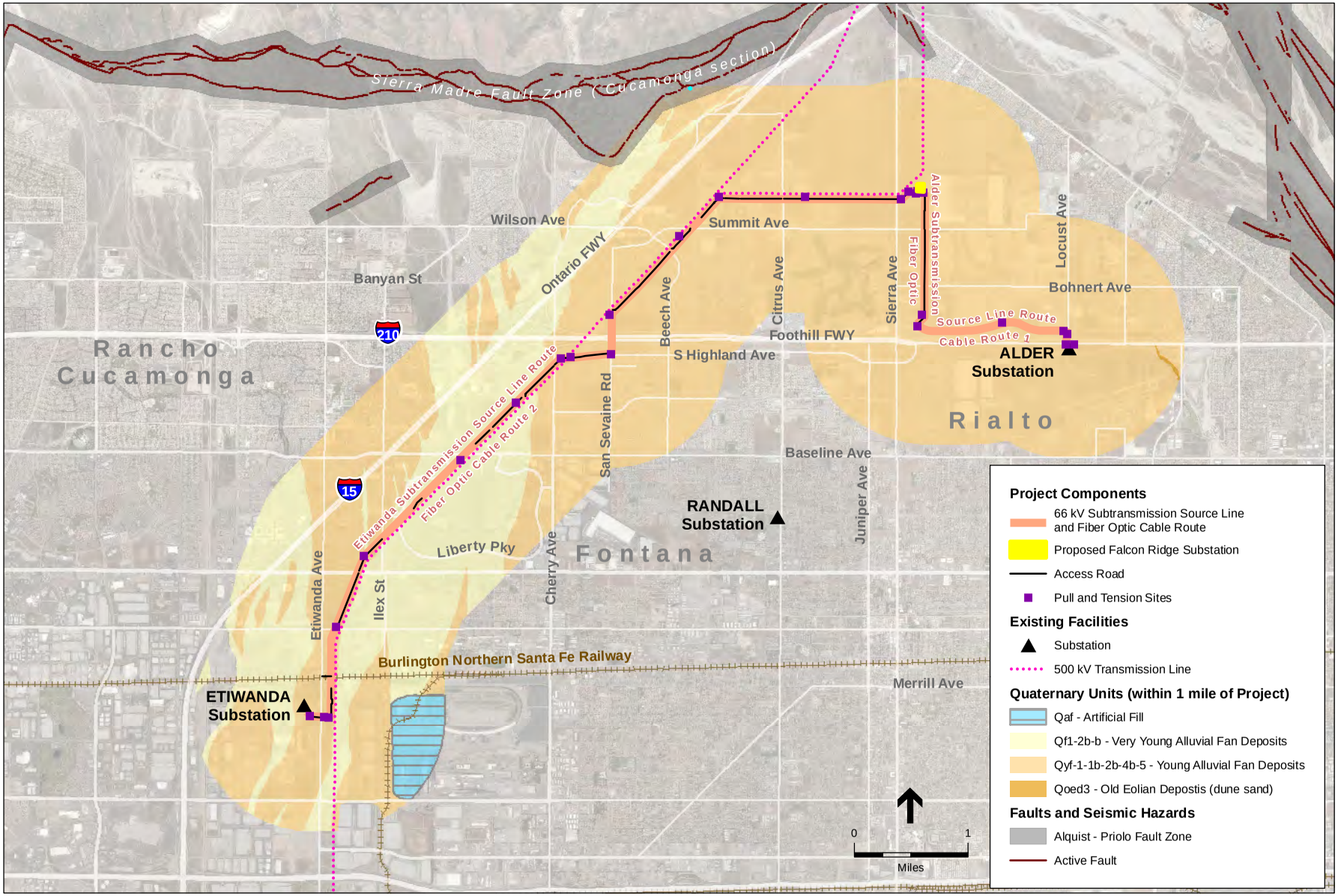
As a result of the aforementioned processes, the Project area is underlain entirely by gently sloping Holocene[2]- and Pleistocene[3]-age alluvial fan sediments, which are distinguished based on how recently the land surface was actively experiencing periodic stream deposition (see **Figure 4.7-1**). A characteristic feature of alluvial fans is that besides episodically depositing sediment, stream channels and washes tend to migrate laterally, which means that the location of active flooding and sediment deposition shifts over geologic time. Generally, the portion of the Etiwanda Subtransmission Source Line Route located west of Cherry Avenue is underlain by very young alluvial fan deposits associated with San Sevaine and Etiwanda Creeks, whereas east of San Sevaine Avenue, Project components are underlain by slightly older alluvial fan deposits associated with Lytle Creek Wash (Morton and Miller, 2006). This geologic environment has important implications for the soil types found in the vicinity (discussed below), as well as the location of flood hazard zones (discussed in Section 4.10, *Hydrology and Water Quality*).

Soils

Overlying the geologic units described above (aside from portions of active washes) is a mantle of soil that varies in thickness and character. In general, soil characteristics are strongly governed by slope, relief, climate, vegetation, and the geologic unit upon which they form. Soil types are important in describing engineering constraints such as erosion and runoff potential, corrosion risks, and various behaviors that affect structures, such as expansion and settlement. The soils in the Project area are poorly developed, meaning they support thin topsoils and do not differ greatly in character from the underlying granite-derived sand and gravel.

Table 4.7-1 lists the soil units mapped on the proposed Falcon Ridge Substation site and the subtransmission source lines, their areal extent, and their key physical characteristics. Soils in the Project area all have similar characteristics, being primarily sandy units, or sandy loams[4], that are well drained with low runoff potential, low shrink/swell potential, and low-to-moderate risk of corrosion (NRCS, 2011). Generally, soils in the vicinity of the Project have been in historical agricultural production, or greatly disturbed by urban development. The result is that naturally developed soil horizons have generally been disturbed, reworked, graded, or amended within at least several feet of the ground surface. Nevertheless, the main physical properties and texture of the soil is likely to be similar to the soil series as mapped by the NRCS and shown in Table 4.7-1. The geotechnical investigation performed for the proposed Falcon Ridge Substation site generally confirms the physical nature of the underlying soils, finding that the underlying geologic material

2 The Holocene epoch refers dates back to 10,000 years B.P.
3 The Pleistocene epoch refers to a period from 10,000 years to 1.8 million years B.P.
4 Loam is soil composed of sand, silt, and clay in relatively even concentration (about 40-40-20 percent 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).



SOURCE: SCE, 2011; CGS ,1995

Falcon Ridge Substation Project . 207584.09

Figure 4.7-1

Geological Resources in the Project Vicinity

TABLE 4.7-1
SOIL TYPES UNDERLYING THE PROJECT AREA

Location	Soil Type / Area Percentage	Drainage Class	Shrink/ Swell Potential[a]	Risk of Corrosion[b] (concrete / uncoated steel)	Hydrologic Soil Group[c] / Erosion Factor (Kf)[d]
Proposed Falcon Ridge Substation Site	Soboba Loamy Sand / 100%	Excessively drained	Low	Moderate / Moderate	A / 0.20
Subtransmission Source Lines and Fiber Optic Cable Route	Tujunga Loamy Sand / 56%	Somewhat excessively drained	Low	Low / Moderate	A / 0.20
	Soboba Loamy Sand / 26%	Excessively drained	Low	Moderate / Moderate	A / 0.20
	Hanford Coarse Sandy Loam / 17%	Well Drained	Low	Low / Moderate	B / 0.32
	Psamments and Fluvents / 1%	Somewhat excessively drained	Low	Low / Moderate	A / 0.17

[a] The shrink/swell potential of soils expresses the magnitude of the volume change experienced by a soils when it undergoes cycles of wetting and drying. The shrink swell potential of a soil is rated as low, moderate or high. For soils with a moderate of high potential, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots, and special design commonly is needed.

[b] "Risk of corrosion" pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. For uncoated steel, the risk of corrosion, expressed as low, moderate, or high, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract. For concrete, the risk of corrosion also is expressed as low, moderate, or high. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

[c] Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups (A through D) according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms. Soils in Group A have a high infiltration rate and a high rate of water transmission, soils in Group B have a moderate infiltration rate and a moderate rate of water transmission. Soils in Group C have a slow infiltration and transmission rates and consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. Soils in Group D have the highest runoff potential when thoroughly wet because water movement through the soil is restricted or very restricted.

[d] Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

SOURCE: NRCS, 2011

is very coarse in nature, containing abundant sand, gravel, as well as some cobble to boulder size material (TBDU, 2010). Consistent with the mapped soil series, the geotechnical report also determined that soils underlying the substation have a low shrink/swell potential and a moderate potential for corrosion to untreated steel (TBDU, 2010). Geotechnical investigations have not been completed along the subtransmission source lines; though based on the mapped soils, the subsurface is likely to have similar physical characteristics, although areas underlain by Hanford series may have slightly greater erosion potential because it is a finer-grained soil unit.

Groundwater

The Project site is within the Chino and Rialto/Colton subbasins of the Upper Santa Ana Valley Groundwater Basin. Based on a review of groundwater information provided by the Department of Water Resources (DWR, 2004; DWR, 2006), the primary water-bearing geologic unit in the vicinity is alluvium, with younger alluvium allowing for higher water transmission and storage than older alluvium. The regional groundwater gradient is to the southeast. Current and former municipal and agricultural wells in the region have typically been drilled to depths ranging from

400 to 1,475 feet, indicating that groundwater in the region is derived from deep aquifers rather than shallow sources (DWR, 2004). Given the well-drained nature of the soils and the geological setting of the vicinity, it is unlikely that there are shallow groundwater tables present in the Chino and Rialto/Colton subbasins. Exploratory soil borings drilled on the proposed Falcon Ridge Substation site did not encounter groundwater to the depth explored of 26 feet below the ground surface (TBDU, 2010).

Faults and Seismic Hazards

The Project is located in a seismically active area and therefore would likely be subjected to ground shaking from movement along one or more of the sufficiently active faults or well-defined faults in the region. An earthquake fault search identified a total of 64 faults within a 100-mile radius of the Project site (SCE, 2010). Active faults within a 20-mile radius of the Project site with the potential to generate peak ground accelerations[5] of 0.1 gravity (g) or greater are listed in **Table 4.7-2**. Table 4.7-2 does not indicate the future likelihood that such faults will produce earthquakes—only the maximum estimated earthquake magnitude and the associated peak ground accelerations, based on fault geometries and slip rates known by geologists. Based on studies by the USGS, the Southern San Andreas Fault has a 59 percent probability of experiencing an earthquake greater than a 6.7 in magnitude over the next 30 years, and the San Jacinto Fault has a 31 percent probability (USGS, 2008). Accounting for the wide range of possible earthquake sources, it is estimated that the Los Angeles Region as a whole has a 67 percent chance of experiencing an earthquake of magnitude 6.7 or higher before 2037 (USGS, 2008).

TABLE 4.7-2
SUFFICIENTLY ACTIVE AND WELL-DEFINED FAULTS WITHIN A 20-MILE RADIUS OF THE SUBSTATION SITE

Fault Name	Distance in miles	Direction from Site	Estimated Maximum Earthquake Magnitude (Mw)	Peak Ground Acceleration[1] (g)
San Jacinto-San Bernardino	1.3	N	6.7	0.477
Cucamonga	1.8	NW	7.0	0.563
San Andreas – San Bernardino	6.3	NE	7.3	0.412
San Andreas – Southern	5.6	NE	7.4	0.424
Cleghorn	9.1	N	6.5	0.224
San Andreas – 1857 Rupture	12.2	N	7.8	0.371
San Andreas – Mojave	10.3	N	7.1	0.261
North Frontal Fault Zone – West	15.8	NE	7.0	0.243
San Jacinto-San Jacinto Valley	18.9	SE	6.9	0.190
San Jose	17.2	SW	6.5	0.156
Sierra Madre	16.6	NW	7.0	0.196
Chino-Central Ave (Elsinore)	19.9	SW	7.0	0.125

Mw = Moment Magnitude
g = gravity

SOURCE: SCE, 2010

5 Peak ground acceleration 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.

The most proximal faults to the Project area are the San Jacinto, San Andreas, and Sierra Madre Faults, described individually below:

- ***Sierra Madre-Cucamonga fault zone*** (Treiman, 2000): The Sierra Madre-Cucamonga fault zone marks the southern margin of uplift of the San Gabriel Mountains. Only local portions of the fault zone have had detailed geo-seismic investigations, and those have had fairly limited results. Published slip rates vary widely along the fault zone. The best-understood part of the fault is the easternmost section, the Cucamonga fault zone, with excellent geomorphic expression, several trenches, and age control from radiocarbon and soil stratigraphic studies. These studies have demonstrated multiple Holocene-age events on several strands of the Cucamonga fault and a minimum slip rate of 4.5 mm/yr. Two studies on the central and eastern portions of the Sierra Madre fault zone have indicated that recurrence intervals between large events (Magnitude greater than or equal to 7) seem to be long (about 7,000 to 8,000 years or longer).

- ***San Jacinto fault, San Bernardino Valley section*** (Treiman and Lundberg, 1999): This is the most seismically active fault in southern California, with significant earthquakes (Magnitude 5.5 or larger), including surface rupturing earthquakes in 1968 (M6.6 Borrego Mountain earthquake) and 1987 (M6.6 Superstition Hills and M6.2 Elmore Ranch earthquakes), and numerous smaller shocks within each of its main sections. The fault zone is divided from north to south into: San Bernardino section, San Jacinto Valley section, Anza section, Coyote Creek section, Borrego Mountain section, Superstition Hills section, and Superstition Mountain section. Slip rates in the northern half of the fault system, close to the Project area, are around 12 mm/yr but are only around 4 mm/yr for faults in the southern half where strands overlap or are subparallel.

- ***San Andreas fault zone, San Bernardino Mountains section*** (Bryant and Lundberg, 2002): The San Andreas Fault Zone (SAFZ) is the longest fault in California and crosses the Project vicinity in a northwest direction several miles to the east of Lytle Creek Wash. It is a right lateral, strike-slip fault that extends over 700 miles (1,120 kilometers) from the Gulf of California to Cape Mendocino in northern California. Historically, the SAFZ has produced earthquakes up to about magnitude 8. As discussed by the Working Group on California Earthquake Probabilities, the fault can be divided into several discrete segments along its length, based on differing seismic characteristics. The segments that traverse west of the Project area include the Mojave segment and the San Bernardino Mountains segment. In future earthquakes, these segments may rupture separately or together, as occurred in the 1857 Fort Tejon earthquake (magnitude 7.9) when three segments ruptured. The 1857 Fort Tejon earthquake produced a surface rupture of more than 200 miles (322 kilometers) in length. Based on empirical relationships established by geologists, the Mojave segment is capable of generating about a 7.4 earthquake and San Bernardino Mountains segment is capable of generating about a magnitude 7.5 earthquake. If these segments rupture together and with other segments to either the north or south, the SAFZ could generate a magnitude 7.8 to 8 earthquake, as it did in 1857.

Ground Shaking

The primary tool that seismologists use to describe ground-shaking hazard 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. Use of this probability level allows engineers to design structures to withstand ground motions that have a 90 percent chance of NOT occurring in the next 50-years; making buildings safer than if they were designed for the most probable scenarios. The PSHA indicates that at the Project site, there is a 10 percent chance of exceeding PGA values of 0.95g over the next 50 years at the Falcon Ridge Substation site (1 in 475 chance of occurring) (CGS, 2011a). The Etiwanda and Alder Subtransmission Source Line Routes are located in an area with potential ground accelerations ranging from approximately 0.862g to 0.95g. These are high values relative to many places in California, and are a result of the nearby convergence of several major regional fault zones. Although the site could be subjected to strong ground shaking in the event of an earthquake, this hazard is common in Southern California and structures can be designed to withstand the effects of strong ground shaking through proper engineering design and construction in conformance with 2007 California Building Code (CBC), as further discussed in Section 4.7.4 below.

Fault Rupture

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. 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. A review of the Alquist-Priolo (AP) Earthquake Fault maps shows that, and as shown in Figure 4.7-1, no element of the Project would be located within a currently established AP fault zone (CDMG, 1995). The closest AP fault zone is the Cucamonga section of the Sierra Madre Fault Zone, located approximately 1 mile northwest of the Etiwanda Subtransmission Source Line. The San Bernardino Valley section of the San Jacinto Fault Zone—also an AP fault—is located approximately 1.7 miles northeast of the Alder Subtransmission Source Line. TBDU Geotechnical Engineering Group reviewed the existing geologic setting and determined that there are no known active faults passing through any portion of the Project site and that the potential for ground surface rupture resulting from earthquakes on nearby major faults is unknown with certainty, but is considered low (TBDU, 2010).

Liquefaction

Liquefaction is a transformation of soil from a solid to a liquefied state during which saturated soil temporarily loses strength resulting from the buildup of excess pore water pressure, especially during earthquake-induced cyclic loading. Soil susceptible to liquefaction includes loose to medium dense sand and gravel, low-plasticity silt, and some low-plasticity clay deposits. Soil liquefaction and associated ground failure can damage roads, pipelines, underground cables, and buildings with shallow foundations. Liquefaction can occur in areas characterized by water-saturated, cohesionless, granular materials at depths less than 40 feet. Soil that liquefies can manifest a number of behaviors, including lateral spread, rapid settlement and flow slides. Due to the absence of shallow groundwater at the site, the Project site is not considered susceptible to liquefaction (TBDU, 2010).

Landslides

Seismically induced landslides and other slope failures are common occurrences during or soon after earthquakes. However, the site topography is nearly flat and the absence of nearby slopes precludes any slope stability hazards. The potential for seismically induced landslides is therefore considered low (TBDU, 2010).

Geologic and Soil Constraints

Accelerated Erosion

Erosion is the displacement of solids (soil, mud, rock, and other particles) by wind, water, or ice and by downward or down-slope movement in response to gravity. Generally, the Project area is underlain by well-drained soils on a flat to low-gradient land surface. As a result, the potential for substantial and accelerated erosion is low. Soils in hydrologic group A (see Table 4.7-1) have low runoff potential when thoroughly wet, usually because stormwater is able to freely and rapidly infiltrate into the subsurface, and because coarse sediment generally requires relatively high overland flow velocities to be mobilized. While runoff and erosion behavior can be estimated from the mapped soil series, the actual susceptibility to erosion would vary by location and is based on factors other than the soil unit, including slope, vegetation (or lack thereof), and human disturbances. The possibility of substantial and accelerated erosion is further discussed in Section 4.7.4, Impacts Analysis.

Expansive Soils

Expansive soils contain significant amounts of clay particles that have the ability to give up water (shrink) or take on water (swell). They are generally found in areas that were historically a flood plain or lake area, but they can also occur in hillside areas. When these soils swell, the change in volume can exert significant pressures on loads that are placed on them, such as buildings or underground utilities, and can result in structural distress and/or damage. If dried out, the soil will contract, often leaving fissures or cracks. Excessive drying and wetting of the soil can progressively deteriorate structures over the years by leading to differential settlement beneath or within buildings and other improvements. Table 4.7-1 provides an estimate of the shrink/swell potential of soils within the Project area. Because the soils in the Project area generally have low clay contents, the shrink/swell potential is considered to be low. Soil samples taken from exploratory soil borings on the substation site indicate that the soils are not expansive (TBDU, 2010). The expansion potential of soils along the subtransmission source line routes were not evaluated in the geotechnical investigation, though based on similarities in geology and soils, the soils are likely to be non-expansive.

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 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, concrete, reinforcing steel, and bare metal structures exposed to these soils can deteriorate, eventually leading to structural failures. As shown in Table 4.7-1, both uncoated steel and concrete have a low to moderate susceptibility to corrosion.

While the corrosion potential of soils can be estimated from the mapped soil series, the actual presence or absence of corrosive soils can only be determined by field exploration of the Project site and laboratory testing of soils. Based on the preliminary geotechnical investigation at the proposed substation site, soils are not expected to be corrosive to concrete, but could be moderately corrosive to untreated ferrous metals (TDBU, 2010). The corrosion potential of soils along the subtransmission source line route was not evaluated in the geotechnical investigation, though is likely to be similarly corrosive. The potential for and effects of corrosive soils is further discussed in Section 4.7.4, Impacts Analysis.

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. Collapsible soils—should they be present in the study area—have a higher potential of occurring in recently deposited floodplain sediments along and adjacent to nearby creeks and washes. The Project is located in a geologic environment where some potential exists for the occurrence of collapsible soils, particularly within recently deposited soils located west of San Sevaine Avenue along the proposed Etiwanda Subtransmission Source Line. However, the potential for collapse as a result of rising groundwater levels is considered low, because groundwater beneath the proposed facilities is very deep—approximately 300 feet below ground surface (bgs) (TBDU, 2010).

Ground Subsidence and Fissures

Ground subsidence is a regional or basin-wide phenomenon characterized by a gradual settling or sinking of the ground surface, often with little or no horizontal movement. Groundwater withdrawals for municipal and agricultural purposes can locally or regionally increase the effective unit weight of the soil profile, which in turn increases the effective stress on the deeper soils. If groundwater withdrawals are excessive and prolonged, and not replaced by natural or artificial recharge (i.e., groundwater overdraft), they can result in regional consolidation or settlement of underlying soils and lowering of the land surface. In some cases, ground subsidence can be accompanied by ground fissures. Two types of fissures are associated with subsidence. The first are generally straight and correspond to the traces of faults, while the second are more curvilinear on the surface and appear to correspond to the alluvium-bedrock contact at valley margins. Such ground fissures typically develop slowly as long-term groundwater withdrawals and associated ground subsidence occurs.

Little data regarding subsidence is available for the Rialto-Colton Groundwater Basin. However, subsidence of about 0.5 foot has been documented between 1991 and 2001 southwest of Rancho Cucamonga, in the Chino Groundwater Basin (Wildermuth Environmental, 2003). In areas of the chino basin underlying the Project site, no subsidence was documented. The risk of fissures and subsidence at the Project site is considered to be low due to groundwater depths of approximately 300 feet bgs at the substation site, between 400 feet to 600 feet bgs along the Etiwanda Subtransmission Source Line Route, and between 300 and 600 feet bgs along the Alder Subtransmission Source Line Route (SCE, 2010).

Regulatory Setting

Federal

Occupational Safety and Health Administration Regulations

Excavation and trenching are among the most hazardous construction activities. 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

The statewide minimum public safety standard for mitigation of earthquake hazards (as established through the CBC, Alquist-Priolo Earthquake Fault Zoning Act, and the Seismic Hazards Mapping Act) is that the minimum level of mitigation for a project should reduce the risk of ground failure during an earthquake to a level that does not cause the collapse of buildings for human occupancy, but in most cases, is not required to prevent or avoid the ground failure itself. It is not feasible to design all structures to completely avoid damage in worst-case earthquake scenarios. Accordingly, regulatory agencies have generally defined an "acceptable level" of risk as that which provides reasonable protection of the public safety; although it does not necessarily ensure continued structural integrity and functionality of a project (Title 14 California Code of Regulations (CCR), §3721(a)). Nothing in these acts, however, precludes lead agencies from enacting more stringent requirements, requiring a higher level of performance, or applying these requirements to developments other than those that meet the acts' definitions of a "project."

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.

The Project is not subject to this act because it is not within an earthquake fault zone and it does not involve structures for human occupancy.

California Building Code

The CBC has been codified in the 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 to be 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 2010 edition of the CBC is based on the 2009 International Building Code (IBC) published by the International Code Conference. The 2010 CBC contains California amendments 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 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, 2011b). This act would not apply to the Project because seismic hazard zones have not yet been established in the Project area.

Local

CPUC General Order No. 131-D explains that local land use regulations would not apply to the Project. However, for information purposes, the following policies identified in the San Bernardino County, City of Fontana, City of Rialto, and City of Rancho Cucamonga general plans would otherwise be relevant to the Project.

San Bernardino County

The following goals and policies identified in the San Bernardino County General Plan are relevant to the Project (San Bernardino County, 2007):

Safety Element

Goal S 7: The County will minimize exposure to hazards and structural damage from geologic and seismic conditions.

- ***Policy S 7.1*:** Strive to mitigate the risks from geologic hazards through a combination of engineering, construction, land use, and development standards.
  - Require sites to be developed and all structures designed in accordance with recommendations contained in any required geotechnical or geologic reports, through conditioning, construction plans, and field inspections.
  - Require that all recommended mitigation measures be clearly indicated on all grading and construction plans.
  - Require all facilities to meet appropriate geologic hazard specifications as determined by the County Geologist for discretionary and ministerial authorizations.
- ***Policy S 7.3*:** Coordinate with local, regional, state, federal, and other private agencies to provide adequate protection against seismic hazards to County residents.
  - Continue to work with public utilities, school districts, railroads, the state Department of Transportation (Caltrans), and other agencies supplying critical public services to ensure that they have incorporated structural safety and other measures to be adequately protected from seismic hazards for both existing and proposed facilities.
  - Coordinate with utility companies to institute orderly programs of installing cut-off devices on utility lines, starting with the lines that appear to be most vulnerable and those that serve the most people. Adequate emergency water supplies will be established and maintained in areas dependent upon water lines that cross active fault zones.

City of Fontana

The following City of Fontana General Plan goals and policies are relevant to the Project (City of Fontana, 2003):

Safety Element

Goal 1: Injury and loss of life, property damage, and other impacts caused by seismic shaking, fault rupture, ground failure, earthquake-induced landslides, and other earthquake-induced ground deformation are minimized in our City.

- ***Policy 2*:** The City shall ensure that current geologic knowledge and peer (third-party) review are incorporated into the design, planning, and construction stages of a project, and that site-specific data are applied to each project.
- ***Policy 3*:** The City shall strive to ensure that the design of new structures and the performance of existing structures address the appropriate earthquake hazards.

- ***Policy 4*:** The City shall ensure to the fullest extent possible that, in the event of a major disaster, essential structures and facilities remain safe and functional, as required by current law. Essential facilities include hospitals, police stations, fire stations, emergency operation centers, communication centers, generators and substations, and reservoirs.

- ***Policy 7*:** The City shall continue earthquake strengthening and provisions for alternate or back-up essential services, such as water, sewer, electricity, and natural gas pipelines and connections throughout the city. First priority for this action plan should be for the essential services within or north of the identified fault hazard management zones.

Goal 2: The risk to life or limb, and property damage resulting from geologic hazards is minimized in our City.

- ***Policy 1*:** The City shall take actions to minimize grading and otherwise changing the natural topography, while protecting public safety and reducing the potential for property damage as a result of geologic hazards.

City of Rialto

The following City of Rialto General Plan goal and policy are relevant to the Project (City of Rialto, 2010):

Safety Element

Goal 5-1: Minimize hazards to public health, safety, and welfare associated with geotechnical hazards.

- ***Policy 5-1.1*:** Require geotechnical investigations by certified engineering geologist or other qualified professionals for all grading and construction projects subject to geologic hazards, including fault rupture, severe ground shaking, liquefaction, landslides, and collapsible or expansive soils. Particular attention should be paid to areas within Alquist-Priolo Earthquake Fault Zones.

- ***Policy 5-1.2*:** Require all construction to be in conformance with the Uniform Building Code (UBC) and the California Building Code (CBC), and to be consistent with the Municipal Code as it provides for earthquake resistant design, excavation, and grading.

City of Rancho Cucamonga

The following City of Rancho Cucamonga General Plan policies are relevant to the Project (City of Rancho Cucamonga, 2010):

Public Health and Safety Element

Goal PS-5: Minimize the potential damage to structures and loss of life that may result from earthquakes and other seismic hazards.

- ***Policy PS-5.3*:** Promote the strengthening of planned utilities through the Cucamonga Valley Water District's Master Plan, the retrofit and rehabilitation of existing weak structures and lifeline utilities, and the relocation or strengthening of certain critical facilities to increase public safety and minimize potential damage from seismic and geologic hazards.

- ***Policy PS-5.5*:** Continue to incorporate the most recent seismic safety practices into City codes and project review processes.

Department of Building and Safety Requirements

The Project would be subject to the building and safety requirements of San Bernardino County and the cities of Fontana, Rialto, Rancho Cucamonga. These entities are responsible for enforcing the provisions of the CBC and local ordinance codes through the requirement that project proponents obtain building permits, grading permits, and other applicable permits for development projects within their jurisdiction. The process of obtaining a grading permit involves the completion of an application and the submittal of project plans for review by the applicable city or county departments. These departments would review such plans for conformance with building standards and may approve, approve with conditions, or deny permit requests. For example, the San Bernardino County Grading Code requires a grading permit for excavations greater than 2 feet in depth or a fill of 1 foot or more in thickness, and grading activities over 5,000 cubic yards requires plans drawn by a civil engineer. Grading plans would also be handled by the City of Fontana, the City of Rialto, and the City of Rancho Cucamonga for the portions of the Project within their respective jurisdictions.

Engineering and Construction Codes and Standards

Design and construction of SCE facilities are governed by a variety of building codes and standards. Such standards must be either consistent with or more stringent than the requirements of the CBC. A number of these specifically regulate topics relevant to geology and geotechnical engineering, such as earthwork standards and seismic safety, including the following:

CPUC General Order No. 95 provides general standards for design and construction of overhead electric transmission and distribution lines.

"IEEE 693" ***Recommended Practices for Seismic Design of Substations*** contains guidelines for earthquake-resistant substation design and construction. The IEEE (Institute of Electrical and Electronics Engineers, Inc.) is an international professional organization and a widely recognized authority in the development of industry standards for electrical engineering and electric power generation and transmission.

The International Building Code (IBC) is voluntarily adopted by jurisdictions and agencies. SCE adheres to the IBC's earthwork standards where they are not superseded by CPUC regulations.

4.7.2 Significance Criteria

The following significance criteria are adapted from and are consistent with the CEQA *Guidelines*, Appendix G, Environmental Checklist. In accordance with the CEQA *Guidelines*, the Project would result in a significant impact to geology and soil resources if it would:

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.)

ii. Strong seismic ground shaking

iii. Seismic-related ground failure, including liquefaction

iv. Landslides;

b) Result in substantial soil erosion or the loss of topsoil;

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;

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; or

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.

4.7.3 Applicant Proposed Measures

There are no APMs included to address issues related to geology and soils.

4.7.4 Impacts Analysis

Approach to Analysis

This impact analysis considers the potential geology, soils, and seismicity impacts associated with the construction, operation, and maintenance of the Project. The long-term impacts associated with exposure of the Project to adverse geologic or seismic conditions are discussed under Impacts 4.7-1 through 4.7-4. Routine operations and maintenance activities of the Project would not affect the geologic or seismic risks to the Project itself or off-site properties because facility layouts, structures, and foundations would remain unchanged. Due to the nature of the 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:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

a)i. Rupture of a known earthquake fault.

The Project would not be located within a known earthquake fault zone as mapped by the Alquist Priolo Earthquake Fault Zoning Act. Further, there is no other substantial evidence of a known fault. Therefore there would be no impact related to fault rupture at the Project site (No Impact, Class IV).

a)iv. Landslides.

The Project site is flat or very low-gradient, and the potential for downslope movement of materials triggered by gravity or by earthquake ground shaking is negligible. In addition, surface grading for placement of Project structures would be minimal and there would be no substantial fill slopes that could be subject to failure. Therefore, there would be no impact involving landslides (No Impact, Class IV).

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.

The proposed Falcon Ridge Substation site is currently not connected to sewer; therefore, the site would be equipped with a restroom consisting of a portable chemical unit maintained by an outside service company. No septic or alternative wastewater disposal systems requiring soils capable of supporting these systems would be installed at the proposed Falcon Ridge Substation site. As a result, there would be no impact related to soils unable to support a septic system or alternative wastewater disposal systems (No Impact, Class IV).

Impact Analysis

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

a)ii. Strong seismic ground shaking.

a)iii. Seismic-related ground failure, including liquefaction.

Impact 4.7-1: The Project could expose people or structures to potential adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking and earthquake-induced ground failure (such as liquefaction and lateral spreading). *Less than Significant* (Class III).

In the event of a large earthquake on the San Jacinto Fault, San Andreas Fault, Sierra Madre Fault, or any of the more distant faults, seismic ground-shaking and related ground failures could affect the Project. However, all structures in California are subject to the standards in the 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 to design foundations and structures to withstand the effects of earthquakes. Even though the Project would be located in an area that is close to major fault lines and that may experience very strong seismic shaking during its lifetime, the structures would not be utilized for human occupancy and would be unattended with the exception of routine maintenance activities. Therefore, rather than risk of injury to the public, the main concern with respect to earthquakes would be for ground shaking to damage the proposed facilities and result in interruption or loss of electrical service.

SCE completed a geotechnical investigation of the proposed Falcon Ridge Substation site to determine the nature and engineering properties of the subsurface soils and to provide preliminary recommendations for site grading, foundation design, and construction. The geotechnical investigation found that although the site could be subject to strong ground shaking during an earthquake, the effects could be adequately addressed with proper engineering design and construction in conformance with the CBC, or more stringent codes, such as IEEE 693, Recommended Practices for Seismic Design of Substations, and CPUC General Order No. 95 to withstand seismic loading. Further, consistent with the information presented in the setting, it was also determined that the potential for secondary effects of seismic activity, such as liquefaction, differential settlement, and landslides, was low or non-existent (TBDU, 2010).

The geotechnical report for the proposed Falcon Ridge Substation site provides specifications for structural fills, appropriate building materials, and the most suitable foundation designs required to withstand seismic design parameters, consistent with CBC requirements. Recommendations, which are generally standard in the industry, include over-excavation to several feet below proposed grades, removing deleterious materials (such as rocks, boulders, and plant matter), and placing engineered fills that are moisture-conditioned and compacted in a manner that would avoid problematic ground movements (i.e., due to gradual soil settlement, hydroconsolidation, or soil collapse), both in the long term and during an earthquake. While SCE has not yet prepared a geotechnical investigation of the subtransmission source line route, associated facilities, or telecommunications system, it would be prepared if necessary as part of pre-construction activities described in Chapter 2, *Project Description*. Review of all geotechnical reports and their incorporation into Project plans must occur prior to issuance of a grading or building permit by the agency with jurisdiction over the construction activity (see regulatory setting). Similar to the proposed Falcon Ridge Substation site, the geotechnical investigation of the subtransmission source line route would characterize site soils and perform laboratory testing, determine seismic design coefficients, and would provide recommendations for installation of TSPs, LWS poles, and wood poles, consistent with the CBC and CPUC General Order No. 95.

Application of modern building codes and implementation of geotechnical recommendations reduces the potential for damage to SCE facilities from long-term soil movements and in the event of an earthquake to acceptable levels. In the unlikely event SCE facilities incur damage in a particularly intense earthquake, the effects would be minor because 1) facilities would be unmanned; 2) the damage would not present a hazard to life, limb, or off-site property; and 3) the damage would be temporary, and could be assessed and repaired following facility inspection. For the above reasons, the Project would have a less-than-significant impact with respect to strong seismic ground shaking and earthquake-induced ground failure.

Mitigation: None required.

b) Result in substantial soil erosion or the loss of topsoil.

Impact 4.7-2: The Project could result in substantial soil erosion or the loss of topsoil. ***Less than Significant*** **(Class III)**

Some soil erosion occurs naturally in the environment; however, the preliminary stage of construction, especially initial site grubbing, grading, and soil stockpiling, leaves loose soil exposed to the erosive forces of rainfall and high winds. Generally, excessive soil erosion can cause sedimentation problems in storm drain systems; rapid stormwater runoff can initiate or increase the size of shallow channels and/or gullies and potentially undermine engineered soils beneath foundations and paved surfaces. As discussed in the setting (see Table 4.7-1), soils in the Project vicinity are not prone to substantial erosion because they are well drained and the site topography is generally flat. Nevertheless, it does not entirely preclude erosion or loss of topsoil from occurring, especially if soil stockpiles, constructed slopes, and/or otherwise unprotected soils are exposed during large storm events or high winds during construction.

However, the Project is not expected to cause significant issues related to soil erosion for the reasons described in Section 4.10, *Hydrology and Water Quality*. In addition to the Project site being generally flat and well drained, the Project would result in minimal changes with respect to stormwater flows, runoff, and erosion because a SWPPP would be implemented during Project construction to control potential erosion of temporarily disturbed areas. A SWPPP is required because Project construction would disturb more than 1 acre of land. Also discussed in Section 4.10, *Hydrology and Water Quality*, the Applicant would be required to develop and implement a Water Quality Management Plan (WQMP) which must be approved prior to local issuance of grading permits. The WQMP must demonstrate that the Project would achieve post-development runoff rates, volumes, flow velocities, and flow durations that mimic those of the pre-development condition. As part of the development of a WQMP, SCE and/or its contractor would list the combination of site design, source control, and/or treatment control BMPs necessary to prevent substantial soil erosion or loss of topsoil.

For these reasons, impacts related to soil erosion would be less than significant. Note that loss of topsoil with respect to important farmlands or soils of statewide importance is addressed in Section 4.2, *Agriculture and Forestry Resources*.

Mitigation: None required.

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.

Impact 4.7-3: The Project may 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 subsidence or collapse. *Less than Significant* (Class III)

As discussed in the Approach to Analysis above, the potential risk from on- or off-site landslides is negligible because the topography of the Project site is relatively flat. In addition, the impact of the Project with respect to earthquake-induced instabilities (including landslides, lateral spreading, and liquefaction) are discussed under Impact 4.7-1. This impact addresses the potential for soil subsidence, fissures, and collapsible soils (i.e., hydro-consolidations) to adversely affect the Project or otherwise present a public safety issue.

As discussed in the setting, the Project area could be subject to hydro-collapse or other minor soil instabilities and settlement. However, the Project would be unlikely to experience adverse effects from these issues because groundwater in the Project area is located hundreds of feet below the surface, making it very unlikely that groundwater would rise to levels that may cause soils to collapse. Further, the Project would require minimal irrigation because the perimeter landscaping would be drought tolerant, in accordance with local ordinance codes. Minimal amounts of water would be used during construction for dust suppression, and it would be provided by water trucks. The Project would thus have minimal impacts on local groundwater levels or supplies, precluding the possibility of Project-related impacts on ground subsidence. The site is located in a region with relatively low precipitation, so collapse occurring as a result of minimal infiltrating surface waters is also considered unlikely (SCE, 2010). As discussed in Impact 4.7-1, the geotechnical investigation performed for the proposed Falcon Ridge Substation site recommends standard engineering practices, such as over-excavating existing soils and placing structural foundations on a mat of artificial fill compacted to appropriate design specifications (TBDU, 2010). Other recommendations that are typical of similar engineering designs include moisture conditioning of the soil to achieve maximum stability, and ensuring deleterious materials are removed from soil prior to being placed or moved on site. These types of measures, which are standard in the engineering practice and required through building and construction codes, ensure that small ground movements such as long-term soil consolidation or movements due to subsidence or collapsible soils do not damage or deteriorate foundations and/or other structural components of the Project.

For the above reasons, the Project would have a less-than-significant impact related to unstable soils.

Mitigation: None required.

d) Be located on expansive soil, creating substantial risks to life or property.

Impact 4.7-4: The Project could be located on expansive soil, creating substantial risks to life or property. *Less than Significant* (Class III)

As discussed in the setting, expansive soils were not encountered during the initial geotechnical investigation conducted for the proposed Falcon Ridge Substation site (TBDU, 2010). Based on the regional soil survey, soils along the other proposed SCE facilities are not expected to be subject to shrink/swell behavior. However, local site-specific condition may vary. If expansive soils along the subtransmission source line route are present, they are unlikely to pose a substantial geotechnical problem because subtransmission source line poles would be direct buried to depths of 9 to 40 feet (depending on pole type and location) using augured holes. Expansive soils are more typically a problem for underground linear appurtenances or flat, rigid foundations where greater surface areas are in contact with expansive soils. The initial geotechnical report also provides site-specific Project design and construction recommendations, such as over-excavation of soil and use of engineered fill for earthwork at the proposed Falcon Ridge Substation site. For underground portions of the subtransmission source line, the trench would be backfilled with a slurry mix that is non-expansive. For the above reasons, impacts from expansive soils are considered to be less than significant.

Mitigation: None required.

4.7.5 Alternatives

Alternative 1: Lowell Street Realignment Alternative

Alternative 1 would alter the route of the proposed Alder Subtransmission Source Line and Fiber-Optic Cable, but it would not substantially change the size or type of facilities to be constructed. The new alignment of the Alder Subtransmission Source Line and Fiber Optic Cable Route would be within the same geologic setting as that analyzed for the Project. Therefore, Alternative 1 impacts to geology and soils would be the same as the Project.

No Project Alternative

Under the No Project Alternative, the Project would not be implemented; therefore, there would be no impact related to geology and soils.

References – Geology and Soils

Bryant, W.A., and Lundberg, M.M., compilers, 2002, *Fault number 1i, San Andreas fault zone, San Bernardino Mountains section*, in Quaternary fault and fold database of the United States: U.S. Geological Survey website, http://earthquakes.usgs.gov/regional/qfaults, accessed 10/12/2011.

California Division of Mines and Geology (CDMG), 1995, *State of California Earthquake Fault Zones Delineated in Compliance with the Alquist Priolo Earthquake Fault Zoning Act, Devore Quadrangle*, Revised Official Map, effective June 1, 1995.

California Geological Survey (CGS), 2002, *California's Geomorphic Provinces*, based on the Geomorphic Map of California prepared by Jennings, O.P., 1938, revisions of the text by D.L. Wagner, D.L, 2002, CGS Note 36, 2002.

California Geological Survey (CGS), 2011a. *Probabilistic Seismic Hazards Mapping Ground Motion Page*, Available online at http://redirect.conservation.ca.gov/cgs/rghm/pshamap/pshamap.asp, accessed on August 21, 2011.

California Geological Survey (CGS), 2011b, *Index Map of Official Seismic Hazard Zone Maps in Southern California*, available at http://gmw.consrv.ca.gov/shmp/html/pdf_maps_so.html, accessed on 10/12/2011.

City of Fontana, 2003, City of Fontana General Plan, available online at http://www.fontana.org/index.aspx?NID=813, accessed October, 24, 2011.

City of Rancho Cucamonga, 2010, City of Rancho Cucamonga General Plan, accessed online at http://www.rcgeneralplan.com/news.php, accessed on October, 24, 2011.

City of Rialto, 2010, City of Rialto General Plan, available online at http://www.ci.rialto.ca.us/4599.htm, accessed on October, 24, 2011.

Department of Water Resources (DWR), 2004, *Upper Santa Ana Valley Groundwater Basin, Rialto-Colton Subbasin*, Subbasin Descriptions, California's Groundwater, Bulletin 118, last updated 2/27/2004.

Department of Water Resources (DWR), 2006, *Upper Santa Ana Valley Groundwater Basin, Chino Subbasin*, Subbasin Descriptions, California's Groundwater, Bulletin 118, last updated 1/20/2006.

Morton, D.M., and Miller, F.K., 2006, *Geologic map of the San Bernardino and Santa Ana 30' x 60' quadrangles, California*, with digital preparation by Cossette, P.M., and Bovard, K.R., U.S. Geological Survey Open-File Report 2006-1217, available at http://pubs.usgs.gov/of/2006/1217/, 2006.

Natural Resources Conservation Service (NRCS), 2011, *Custom Soil Resource Report for San Bernardino County Southwestern Part, California, Falcon Ridge Substation and Subtransmission Line*, created at http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm, on 10/12/2011.

San Bernardino County, 2005, *County of San Bernardino General Plan Safety Element Background Report*, June 15, 2005.

San Bernardino County, 2007, *County of San Bernardino General Plan Safety Element*, adopted March 13, 2007.

Southern California Edison Company (SCE), *Proponent's Environmental Assessment, Falcon Ridge Project*, December 2010.

TBDU Geotechnical Engineering Group (TBDU), 2010, *Southern California Edison Geotechnical Investigation Report, Falcon Ridge 66kV Substation, Devore, California*, May 2010.

Treiman J.J., and Lundberg, M.M., compilers, 1999, *Fault number 125a, San Jacinto fault, San Bernardino Valley section*, in Quaternary fault and fold database of the United States: U.S. Geological Survey website, http://earthquakes.usgs.gov/regional/qfaults, accessed 10/12/2011.

Treiman, J.J., compiler, 2000, *Fault number 105h, Sierra Madre fault zone, Cucamonga section*, in Quaternary fault and fold database of the United States: U.S. Geological Survey website, http://earthquakes.usgs.gov/regional/qfaults, accessed 10/12/2011.

United States Geological Survey (USGS), 2008, *Forecasting California's earthquakes; what can we expect in the next 30 years?*, prepared by Field, Edward H., Milner, Kevin R., and the 2007 Working Group on California Earthquake Probabilities, USGS Fact Sheet 2008-3027, 4 p.

Wildermuth Environmental, 2003, *Chino Basin Dry Yield Program*, Figure 2-4, Areas of Subsidence and Historical Artesian Conditions, July 2003.

4.8 Greenhouse Gas Emissions

This section evaluates the potential for the Project and alternatives to result in impacts associated with greenhouse gas (GHG) emissions during construction, operation, and maintenance activities.

4.8.1 Setting

Background on Greenhouse Gases and Climate Change

Gases that trap heat in the atmosphere are called GHGs. The major concern with GHGs is that increases in their concentrations are causing global climate change, a change in the average weather on Earth that can be measured by wind patterns, storms, precipitation, and temperature. Although there is disagreement as to the rate of global climate change and the extent of the impacts attributable to human activities, most in the scientific community agree that there is a direct link between increased emissions of GHGs and long-term global temperature increases. There are several gases that act as GHGs; their common attribute is that they allow sunlight to enter the atmosphere, but trap a portion of the outward-bound infrared radiation, which warms the air. The process is similar to the effect greenhouses have in raising the air temperature inside the greenhouse, hence the name GHGs. Both natural processes and human activities emit GHGs. The presence of GHGs in the atmosphere regulates the Earth's temperature; however, emissions from human activities such as fossil fuel-based electricity production and the use of motor vehicles have elevated the concentration of GHGs in the atmosphere. It generally is believed that this accumulation of GHGs is contributing to global climate change.

The principal GHGs are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs). Because these different GHGs have different warming potential (the amount of heat trapped by a certain mass of a GHG), and CO_2 is the most common reference gas for climate change, GHG emissions often are quantified and reported as CO_2 equivalents (CO_2e). For example, SF_6 is commonly used in the utility industry as an insulating gas in circuit breakers and other electronic equipment. SF_6, while comprising a small fraction of the total GHGs emitted annually worldwide, is a very potent GHG with 23,900 times the global warming potential of CO_2. Therefore, an emission of 1 metric ton of SF_6 could be reported as an emission of 23,900 metric tons of CO_2e. Large emission sources are reported in million metric tons[1] of CO_2e.

Some of the potential effects of global warming in California 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 (CARB, 2009). 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, 2007):

[1] A metric ton is 1,000 kilograms; it is equal to approximately 1.1 U.S. tons and approximately 2,204.6 pounds.

- 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;
- Reduced diurnal 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.

The California Air Resources Board (CARB) estimated that in 2008, California produced 478 million gross metric tons of CO_2e emissions. CARB found that transportation was the source of 37 percent of the state's GHG emissions; followed by electricity generation at 24 percent, and industrial sources at 19 percent (CARB, 2010).

Regulatory Setting

Federal

The federal Clean Air Act (CAA) requires the USEPA to define national standards to protect U.S. public health and welfare. The federal CAA does not specifically regulate GHG emissions; however, GHGs are pollutants that can be regulated under the federal CAA. There are currently no federal regulations that set ambient air quality standards for GHGs.

State

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 (AB) 32, the Global Warming Solutions Act of 2006, requires CARB to establish a statewide GHG emissions cap for 2020 based on 1990 emission levels. AB 32 required CARB to adopt regulations by January 1, 2008, that identify and require 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. CARB established this limit in

December 2007 at 427 million metric tons of CO_2e. This is approximately 30 percent below forecasted "business-as-usual" emissions of 596 million metric tons of CO_2e in 2020, and about 10 percent below average annual GHG emissions during the period of 2002 through 2004 (CARB, 2009).

By January 1, 2011, CARB was required to adopt rules and regulations (to be implemented by 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 strategies for reducing GHG emissions under AB 32. The broad spectrum of strategies that were 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.

In addition to approving the 37 GHG reduction strategies, CARB directed staff to further evaluate early action recommendations made at its June 2007 meeting, and to report back to CARB within 6 months. The general sentiment of CARB suggested a desire to try to pursue greater GHG emissions reductions in California in the near-term. Since the June 2007 CARB hearing, CARB staff has 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 September 2007 (CARB, 2007). CARB adopted nine Early Action Measures for implementation, including Ship Electrification at Ports, Reduction of High Global-Warming-Potential Gases in Consumer Products, Heavy-Duty Vehicle Greenhouse Gas Emission Reduction (Aerodynamic Efficiency), Reduction of Perfluorocarbons from Semiconductor Manufacturing, Improved Landfill Gas Capture, Reduction of Hydroflourocarbon-134a from Do-It-Yourself Motor Vehicle Servicing, Sulfur Hexaflouride Reductions from the Non-Electric Sector, a Tire Inflation Program, and a Low Carbon Fuel Standard.

Climate Change Scoping Plan

In December 2008, CARB approved the AB 32 Scoping Plan outlining the state's strategy to achieve the 2020 GHG emissions limit (CARB, 2009). 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 California's energy sources, save energy, create new jobs, and enhance public health. The measures in the Scoping Plan will continue to be developed over the next year and are scheduled to be in place by 2012. The Scoping Plan expands the list of the nine Early Action Measures into a list of 39 Recommended Actions contained in Appendices C and E of the Scoping Plan. These measures are presented in **Table 4.8-1**.

TABLE 4.8-1
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 Earl 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 gigawatt-hours (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, 2009

In addition, the Scoping Plan identifies challenges to meeting future electrical demand, including building transmission lines for renewable energy sources and modernizing electricity infrastructure.

CEQA Guidelines Revisions

In 2007, the California State Legislature passed Senate Bill (SB) 97, which required amendment of the CEQA Guidelines to incorporate analysis of and mitigation for GHG emissions from projects subject to CEQA. The California Natural Resources Agency adopted these amendments on December 30, 2009, and they took effect March 18, 2010.

The amendments add §15064.4 to the CEQA Guidelines. This new section specifically addresses the potential significance of GHG emissions and calls for a "good-faith effort" to "describe, calculate or estimate" GHG emissions; §15064.4 further states that the analysis of the significance of any GHG impacts should include consideration of the extent to which the project would increase or reduce GHG emissions; exceed a locally applicable threshold of significance; and comply with "regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions." The new Guidelines also state that a project may be found to have a less-than-significant impact on GHG emissions if it complies with an adopted plan that includes specific measures to sufficiently reduce GHG emissions (§15064(h)(3)). Importantly, however, the CEQA Guidelines do not require or recommend a specific analytical methodology or provide quantitative criteria for determining the significance of GHG emissions.

Local

CPUC General Order No. 131-D explains that local land use regulations would not apply to the Project. However, for information purposes, the County of San Bernardino, City of Fontana, City of Rialto, and City of Rancho Cucamonga general plans were reviewed, and it was determined that no policies would be directly relevant to the Project.

It should be noted that in 2007 the California Attorney General sued San Bernardino County because of the lack of GHG emissions analysis in the EIR prepared for its general plan. This suit resulted in a settlement agreement wherein the county agreed to adopt a GHG Emissions Reduction Plan. The San Bernardino Associated Governments (SANBAG) and participating cities within SANBAG, including the cities of Fontana, Rialto, and Rancho Cucamonga, are now in the process of developing this plan (California Attorney General's Office, 2011).

4.8.2 Significance Criteria

Based on CEQA Guidelines §15064.4 and §15064.7(c), as well as Appendix G, a project would cause adverse impacts associated with GHG emissions if it would:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or

b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

4.8.3 Applicant Proposed Measures

There are no APMs included to address issues related to GHGs.

4.8.4 Impacts Analysis

Approach to Analysis

This analysis uses an approach for the determination of significance of GHG emissions based on the GHG significance thresholds adopted by the South Coast Air Quality Management District (SCAQMD). The SCAQMD has adopted an operational significance threshold of 10,000 metric tons CO_2e per year for stationary/industrial sources (SCAQMD, 2008). The SCAQMD's adopted GHG significance threshold is intended for long-term operational GHG emissions. However, the SCAQMD has developed guidance for the determination of significance of GHG construction emissions that recommends that total emissions from construction be amortized over 30 years and added to operational emissions and then compared to the applicable significance threshold (SCAQMD, 2008). This analysis of the Project applies SCAQMD's guidance with regard to the assessment of construction-related GHG emissions.

As part of its application to the CPUC, SCE provided GHG emissions estimates for construction and operational activities that would be associated with the Project (SCE, 2010). The emission estimates were independently reviewed by the CPUC's consultant, Environmental Science Associates (ESA), and are summarized below. Off-road and on-road mobile source emission factors obtained from the SCAQMD were used to estimate diesel and gasoline exhaust emissions. The SCAQMD emission factors for off-road vehicles were determined using CARB's OFFROAD Model and emission factors for on-road trucks and worker vehicles were derived using CARB's EMFAC2007 Model to estimate the pounds of GHG emitted per mile of travel.

It should be noted that the short-term construction emissions estimates provided by SCE do not include indirect emissions that would be associated with electricity use at the Falcon Ridge Substation site or water use for dust suppression, and that long-term SF_6 emissions estimates were calculated using an unsupported leak rate of 0.5 percent of the total SF_6 capacity of the proposed new circuit breakers and distribution getaway switches. Therefore, for a more conservative analysis, SCE's emissions estimates have been supplemented. Specifically, indirect short-term electricity usage-related GHG emissions associated with electricity use and water use were estimated for the Project using emission and use factors established by the California Energy Commission (CEC) and the California Climate Action Registry (CCAR) (CEC, 2005; CCAR, 2009) and long-term SF_6 operational emissions were revised using a USEPA-published SF_6 leak rate of up to 1.0 percent for electrical circuit breakers manufactured in and after 1999 (USEPA, 2006).

There are no San Bernardino County, City of Fontana, City of Rialto, or City of Rancho Cucamonga climate action plans, policies, or regulations that would be applicable to the Project. However, the Project's potential to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions is assessed by examining any potential conflicts with

the GHG reduction goals set forth in AB 32, including the potential for the Project to conflict with the 39 Recommended Actions identified by CARB in its Climate Change Scoping Plan and/or any associated adopted regulations.

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Impact 4.8-1: The Project would result in emissions of greenhouse gases that could contribute to global climate change. *Less than Significant* (Class III)

The Project would result in both short-term construction emissions of GHGs and long-term emissions of GHGs associated with operation and maintenance. Project construction would occur over an approximately 12-month period. Project emissions would primarily be associated with exhaust from on-road vehicular traffic and off-road construction equipment; however, indirect emissions would also occur related to energy consumption associated with the temporary distribution circuit that would be used at the Falcon Ridge Substation site and the daily use of water. The estimated total emission of GHGs that would be generated by Project construction activities is 1,404 metric tons CO_2e. See Appendix C, *Air Quality Calculations*, for details of data, calculations, and assumptions used to estimate Project construction-related GHG emissions.

Operation and maintenance GHG emissions that would be associated with the Project would include vehicular exhaust related to periodic maintenance and inspection activities and SF_6 leakage from new circuit breakers at the proposed Falcon Ridge Substation and the existing Alder and Etiwanda substations as well the new gas switches at the proposed distribution getaways. SCE has estimated that long-term vehicle GHG exhaust emissions that would be associated with the Project would be approximately 1 metric ton CO_2e per year (see Appendix C for details associated with the Project operation emission estimate). Regarding SF_6 circuit breaker leakage that would occur at the proposed Falcon Ridge Substation, at Alder and Etiwanda substations, and at the proposed distribution getaways, SCE estimates that the new circuit breakers and switches would have a total capacity of approximately 248 pounds of SF_6. The USEPA estimates that leaking circuit breakers manufactured in 1999 and later emit less than 1 percent of the SF_6 nameplate capacity (USEPA, 2006). Because there is no readily available SF_6 leakage data for distribution getaway switches, this analysis uses the USEPA circuit breaker leakage rate for the new circuit breakers as well as for the new distribution getaway switches. The SF_6 leak rate for the Project would therefore be up to approximately 2.5 pounds per year, which would equal approximately 27 metric tons CO_2e per year. Therefore, the total operational emissions that would be generated by the Project would be approximately 28 metric tons CO_2e per year.

As indicated above, total GHG construction emissions in the form of CO_2e would be approximately 1,404 metric tons. These emissions amortized over a 30-year project lifetime equal approximately 47 metric tons per year. Adding 47 metric tons CO_2e to the operational emissions of 28 metric tons CO_2e per year gives the total Project annual GHG emissions amount of approximately 75 metric tons CO_2e per year, which would be substantially less than the SCAQMD's significance threshold of 10,000 metric tons CO_2e per year for industrial sources.

Therefore, the GHG emissions that would be generated by the Project would not significantly contribute to global climate change and impacts would be less than significant (Class III).

Mitigation: None required.

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b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Impact 4.8-2: The Project could conflict with CARB's Climate Change Scoping Plan and/or Associated Regulations. *Less than Significant* (Class III)

The Project could conflict with certain GHG reduction goals set forth in AB 32, including the 39 Recommended Actions identified by CARB in its Climate Change Scoping Plan. Table 4.8-1 presents the 39 Recommended Actions identified to date by CARB in its Climate Change Scoping Plan. Of the 39 measures identified, those that would be considered to be applicable to the Project would primarily be those actions related to transportation and high global warming potential gases. Consistency of the Project with these measures has been evaluated by each source-type measure below.

Scoping Plan Measure T-7: Heavy-Duty Vehicle GHG Emission Reduction (Aerodynamic Efficiency). This measure will require existing trucks/trailers to be retrofitted with the best available technology and/or CARB approved technology. This measure has been identified as a Discrete Early Action, which means that it began to be enforceable starting in 2010. Technologies that reduce GHG emissions and improve the fuel efficiency of trucks may include devices that reduce aerodynamic drag and rolling resistance. The requirements apply to California and out-of-state registered trucks that travel to California. This measure requires fleet owners of in-use trucks and trailers to comply through a phase-in schedule starting in 2010 and achieve 100 percent compliance by 2014. Heavy-duty vehicles used for hauling during construction of the Project would be required to be compliant with the regulations associated with Scoping Plan Measure T-7; therefore, the potential for the Project to conflict with compliance of this recommended action would be negligible and associated impacts would be less than significant.

Scoping Plan Measure H-6: High Global Warming Potential Gas Reductions from Stationary Sources – SF_6 Leak Reduction and Recycling in Electrical Applications. This measure will reduce emissions of SF_6 within the electric utility sector and at particle accelerators by requiring the use of best achievable control technology for the detection and repair of leaks and the recycling of SF_6. On June 17, 2011, the approved Final Regulation Order associated with Scoping Plan Measure H-6 for reducing SF_6 emissions from gas insulated switchgear became effective. The regulation establishes maximum annual SF_6 emission rates for gas insulated switchgear, starting in 2011 at 10 percent of the owners' total equipment capacity. The emission rates will steadily decline by 1 percent per year until 2020, at which time the maximum annual SF_6 emission rate would be set at 1 percent. The regulation also requires gas insulated switchgear owners to annually report their SF_6 emissions and emission rate to CARB (CARB, 2011).

Prior to the SF_6 regulation being effective, SCE adhered to its SF_6 Gas Management Guidelines designed to facilitate the rapid location and repair of equipment leaking SF_6 gas. SCE's SF_6 Gas Management Guidelines necessitate proper documentation and control of SCE's SF_6 gas inventories, whether in equipment or in cylinders. SCE currently documents and inventories its SF_6 supplies on both a quarterly and annual basis. In addition, in 2001, SCE's parent organization, Edison International, joined the USEPA's voluntary SF_6 gas management program, committing SCE to join the national effort to minimize emissions of this GHG. SCE has reported that its SF_6 emissions in 2006 were 41 percent less than in 1999, while the inventory of equipment containing SF_6 gas actually increased by 27 percent during the same time period (SCE, 2010).

SCE addresses SF_6 leakage on older equipment by performing repairs and replacing antiquated equipment through its infrastructure replacement program (SCE, 2010). The Project would include installation of new circuit breakers at the Falcon Ridge Substation and the existing Alder and Etiwanda substations and installation of gas switches at the proposed distribution getaways that would contain SF_6. However, based on its existing practices, SCE appears to be poised for successful implementation of CARB's new SF_6 regulation for gas insulated switchgear. Therefore, the potential for the Project to conflict with compliance of this regulation would be negligible and associated impacts would be less than significant.

Mitigation: None required.

4.8.5 Alternatives

Alternative 1: Lowell Street Realignment Alternative

Total construction-related GHG emissions under Alternative 1 would be slightly less than those of the Project (SCE, 2011). GHG emissions during operation and maintenance would be the same as those of the Project. Consequently, similar to the Project, impacts from GHG emissions from Alternative 1 would be less than significant.

No Project Alternative

Under the No Project Alternative, the construction, operation, and maintenance related impacts that would result under the Project would not occur. There would be no impact under the No Project Alternative relative to GHG emissions.

References – Greenhouse Gas Emissions

California Attorney General's Office, 2011. California Environmental Quality Act, Recent CEQA Litigation and Settlements. http://ag.ca.gov/globalwarming/ceqa/settlements.php. Accessed October 19, 2011.

California Air Resources Board (CARB), 2007. *Expanded List of Early Action Measures To Reduce Greenhouse Gas Emissions In California Recommended For Board Consideration,* September 2007.

CARB, 2009. *Climate Change Scoping Plan: A Framework for Change,* available online: http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf; published December 2008, amended version included errata and Board requested modifications posted May 11, 2009.

CARB, 2010. *California Greenhouse Gas Inventory for 2002-2008 – by Category as defined in the Scoping Plan*, last updated May 12, 2010.

CARB, 2011, *Sulfur Hexafluoride (SF_6) Emission Reductions from Gas Insulated Switchgear*, webpage (http://www.arb.ca.gov/cc/sf6elec/sf6elec.htm) last updated August 8, 2011.

California Climate Action Registry (CCAR), 2009. General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.Tables C.4 and C.7.

California Energy Commission (CEC), 2005. *California's Water – Energy Relationship Prepared in Support of the 2005 Integrated Energy Policy Report Proceeding*, Final Staff Report, November 2005 (CEC-700-2005-011-SF) Table C-6, page 118.

Intergovernmental Panel on Climate Change (IPCC), 2007. Climate Change 2007: Working Group II: The Scientific Basis.

South Coast Air Quality Management District (SCAQMD), 2008. *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans*, accessed online (http://www.aqmd.gov/hb/2008/December/081231a.htm), last updated November 26, 2008.

Southern California Edison (SCE), 2010. Proponent's Environmental Assessment, Falcon Ridge Substation Project. Filed December 29, 2010.

SCE, 2011. *Falcon Ridge Substation Project, Response to CPUC Alternatives*, September 28, 2011.

U.S. Environmental Protection Agency (USEPA), 2006. *SF_6 Leak Rates from High Voltage Circuit Breakers – U.S. EPA Investigates Potential Greenhouse Gas Emissions Source*. IEEE Power Engineering Society General Meeting, Montreal, Quebec, Canada, June 2006.

4.9 Hazards and Hazardous Materials

This section evaluates the potential hazardous materials and public health impacts of the Project and alternatives. The CPUC reviewed the State Water Resources Control Board (SWRCB) GeoTracker (SWRCB, 2011) and Department of Toxic Substances Control (DTSC) EnviroStor (DTSC, 2011) databases to identify hazardous materials sites in the Project vicinity. In addition to hazardous materials, this section also addresses potential safety hazards associated with the Project and alternatives related to public use airports and private airstrips, as well as the risk associated with exposing people or structures to wildland fires, and the potential to interfere with emergency response or emergency evacuation plans.

The CPUC generally provides information about electric and magnetic fields (EMF) in its environmental documents, including this Draft EIR, to inform the public and decision makers. However, the CPUC does not consider EMF, in the context of CEQA, as 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. See Section 1.6, *Electric and Magnetic Fields*, and Appendix B, *Electric Magnetic Fields,* for additional information about EMF that would be generated by the Project.

4.9.1 Setting

This section provides setting information specific to hazards and hazardous materials in the Project vicinity. It discusses the potential presence of hazardous materials in soil and groundwater based on past and current site activities, wildfire hazards in the Project area, and the presence of airports and schools in the Project vicinity.

Definition of Hazardous Materials

The term "hazardous materials" refers to both hazardous substances and hazardous wastes. Under federal and state laws, any material, including wastes, may be considered hazardous if it is specifically listed by statute as such or if it is toxic (causes adverse human health effects), ignitable (has the ability to burn), corrosive (causes severe burns or damage to materials), or reactive (causes explosions or generates toxic gases). The term "hazardous material" is defined 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 if released into the workplace or the environment.[1]

In some cases, past industrial or commercial activities on a site may have resulted in spills or leaks of hazardous materials to the ground, resulting in soil and/or groundwater contamination. Hazardous materials may also be present in building materials and released during building demolition activities. If improperly handled, hazardous materials and wastes can cause public health hazards when released to the soil, groundwater, or air. The four basic exposure pathways through which an individual can be exposed to a chemical agent include: inhalation, ingestion,

[1] State of California, Health and Safety Code, Chapter 6.95, §25501(o).

bodily contact, and injection. Exposure can come as a result of an accidental release during transportation, storage, or handling of hazardous materials. Disturbance of subsurface soil during construction can also lead to exposure of workers or the public from stockpiling, handling, or transportation of soils contaminated by hazardous materials from previous spills or leaks.

Existing Environment

Land use in the Project area is a mix of industrial, commercial and residential uses; historical land use included agricultural activities. Based on past and present activities associated with these land uses, existing hazardous materials in the Project area could include industrial contaminants such as perchlorate and volatile organic compounds (VOCs), petroleum hydrocarbon contaminants associated with underground storage tank (UST) releases, and pesticides from former agricultural uses.

Limited Soil Investigation at proposed Falcon Ridge Substation Site

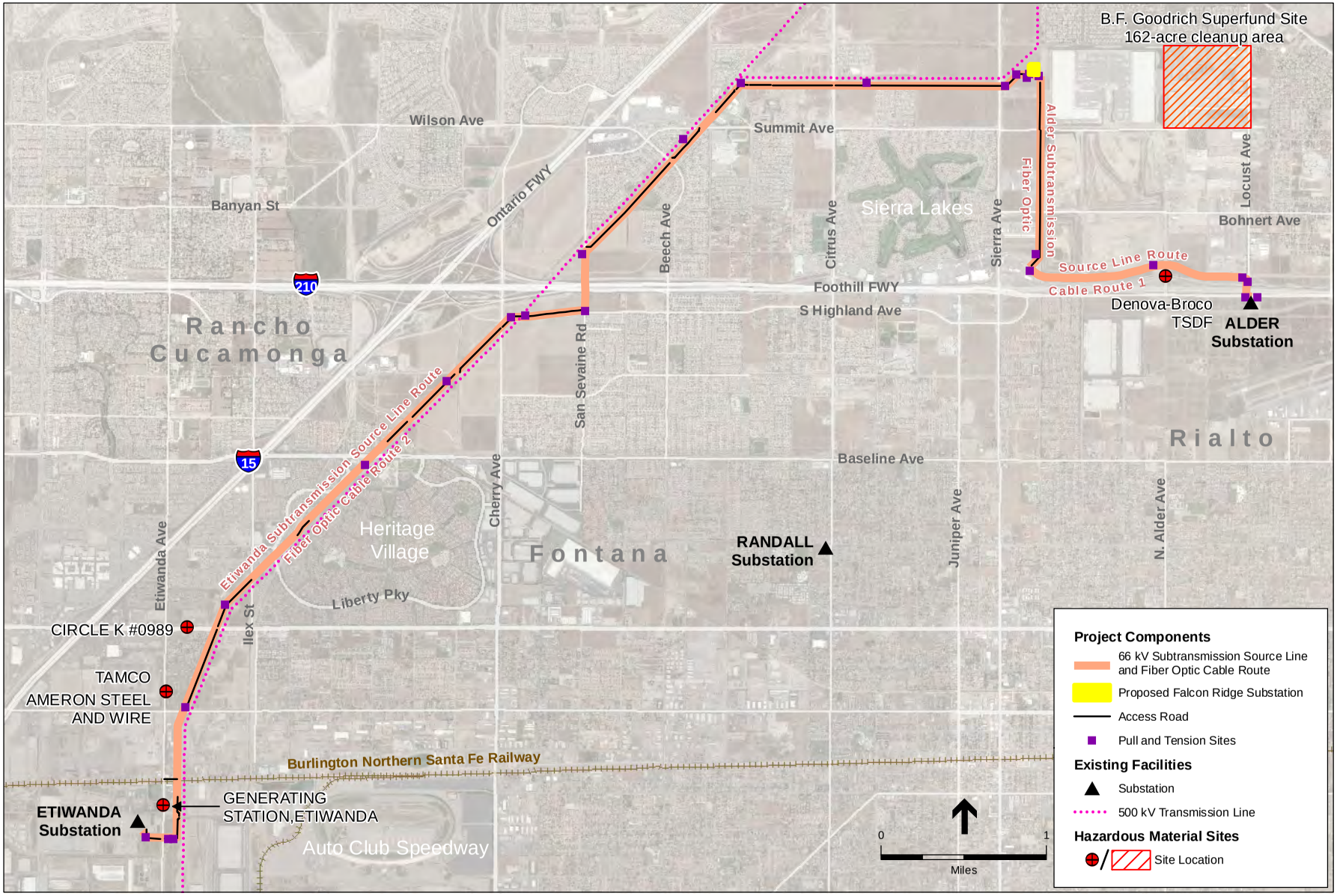
Soil sampling and chemical analysis was performed to evaluate the disposal requirements of soil excavated for the construction of the Proposed Falcon Ridge Substation. Soil samples from five soil borings were collected at various depths up to 10 feet below ground surface and submitted for laboratory analysis of Total Petroleum Hydrocarbons (TPH), polychlorinated biphenyls (PCBs) and California Code of Regulations (CCR) Title 22 metals. Laboratory results reported that TPH and PCBs were not detected in any of the samples and that metal detections were well below the thresholds for hazardous waste classification (TDBU, 2011a).

Potential Presence of Hazardous Materials in Soil and Groundwater

A database search of hazardous materials sites was performed for this EIR to include a review of areas within 0.25 mile of all Project facilities using the online SWRCB GeoTracker (SWRCB, 2011) and DTSC EnviroStor (DTSC, 2011) databases. GeoTracker identifies the following types of sites: leaking underground storage tank (LUST) sites; land disposal sites; military sites; DTSC cleanup sites; other cleanup sites; permitted underground storage tank (UST) facilities; and permitted hazardous waste generators. EnvirStor identifies federal Superfund sites, state response sites, voluntary cleanup sites, school cleanup sites, corrective action sites, and tiered permit sites. **Figure 4.9-1**, *Hazardous Materials Sites in the Project Vicinity*, shows the locations of the identified known hazardous materials release sites.

Information regarding hazardous materials sites identified within 0.25 mile of Project facilities is summarized below from information available on the U.S. Environmental Protection Agency (USEPA), SWRCB, and DTSC websites:

- ***B.F. Goodrich Superfund Site.*** The B.F. Goodrich site includes contaminated soil and groundwater in an industrial area in Rialto, California known as the "160-acre area" bound by West Casa Grande Avenue to the north, Locust Avenue to the east, Alder Avenue to the west, and an extension of Summit Avenue to the south. This site is located approximately 0.75 mile east of the proposed Falcon Ridge Substation, 0.9 mile north of the proposed Alder Subtransmission Source Line Route, and adjacent to the Alternative Source Line Route.



SOURCE: SCE, 2011; SWRCB GeoTracker, 2011

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Figure 4.9-1

Hazardous Materials Sites in the Project Vicinity

The 160-acre area is part of a larger a740-acre area developed by the U.S. Army in the 1940s as the Rialto Ammunition Backup Storage Point. It was used as a storage facility for rail cars transporting bombs, ammunition and other ordnance to the Port of Los Angeles. It was subsequently used by a variety of private businesses to manufacture and test solid-fuel rocket propellant, solid-fuel missile and rocket motors, military flares, fireworks, and other products (CH2MHILL, 2010).Testing to determine the sources and extent of contamination in the Rialto-Colton groundwater basin began in 2003. The primary contaminants in groundwater are trichloroethene (TCE) and perchlorate. Low concentrations of carbon tetrachloride and other VOCs have also been detected. Although the area of groundwater contamination is at least several miles long, the interim cleanup plan focuses on the area of highly contaminated groundwater at the 160-acre area. In the area targeted for cleanup, the depth to the first layer of groundwater is about 400 to 450 feet. The highest TCE concentration measured is more than 300 times the drinking water standard of 5 micrograms per liter (µg/L), or 5 parts per billion (ppb). The perchlorate concentrations in most of the groundwater monitoring wells exceed the drinking water standard of 6 µg/L by a factor of 10 or more; the highest concentration measured is more than 1,000 times the drinking water standard (USEPA, 2010).

The groundwater cleanup plan for the source area, adopted by USEPA in September 2010, includes a groundwater extraction and treatment system estimated to pump and treat approximately 1,500 to 3,200 gallons per minute of contaminated groundwater. The estimated cost of this first phase of cleanup is up to $18 million for design and construction and $1.6 million per year for operation and maintenance. In addition to Goodrich Corporation, the USEPA has identified six other potentially responsible parties for cleanup of the site (USEPA, 2011).

- ***Fuel Leak Investigations.*** Several facilities were identified from the LUST List within 0.25 mile of the proposed Etiwanda Subtransmission Source Line Route near the Etiwanda Substation. These facilities include Circle K located at 12852 Foothill Boulevard, Tamco/Ameron Steel and Wire at 12459 Arrow Highway. One LUST site, Rib Roof, was located at 2745 Locust Avenue near the Rialto Perchlorate Investigation area discussed above. All of these gasoline or diesel fuel release cases have been closed by the San Bernardino County Local Oversight Program, indicating that no further action is required.

- ***Land Disposal Site.*** A generating station located at 8996 Etiwanda Avenue was listed; however, no site history or cleanup status was available. This case was closed by the RWQCB as of November 2006.

- ***Treatment, Storage and Disposal Facility (TSDF).*** This site, known as the Denova-Broco TSDF, is under site assessment. The San Bernardino County Department of Public Works has submitted a Work Plan to the RWQCB for investigation of the former TSDF Thermal Destruction Pit. This site, located at 2610 Alder Avenue, is adjacent to the proposed Alder Subtransmission Source Line Route near the Alder Substation.

- ***Schools Investigations.*** A number of potential school sites were investigated as required for school development. These assessments typically included sampling for the presence of pesticides in soil. No further investigations were required at these facilities (DTSC, 2011).

Wood Treatment Products

The Project would remove 28 existing wood poles. The wood poles could be treated with chemicals such as pentachlorophenol, creosote, and chromated copper arsenate. Typically, these chemicals are applied to utility wood poles during manufacturing to protect wood from rotting due to insects and microbial agents. These chemicals, for certain uses and quantities, can be considered to be hazardous materials, which require specific handling procedures and disposal prescribed by state and federal regulations. Additionally, the base of some of the treated wood poles may be wrapped with copper naphthenate paper, also known as CuNap wrap.[2] 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.

Wildfire Hazards

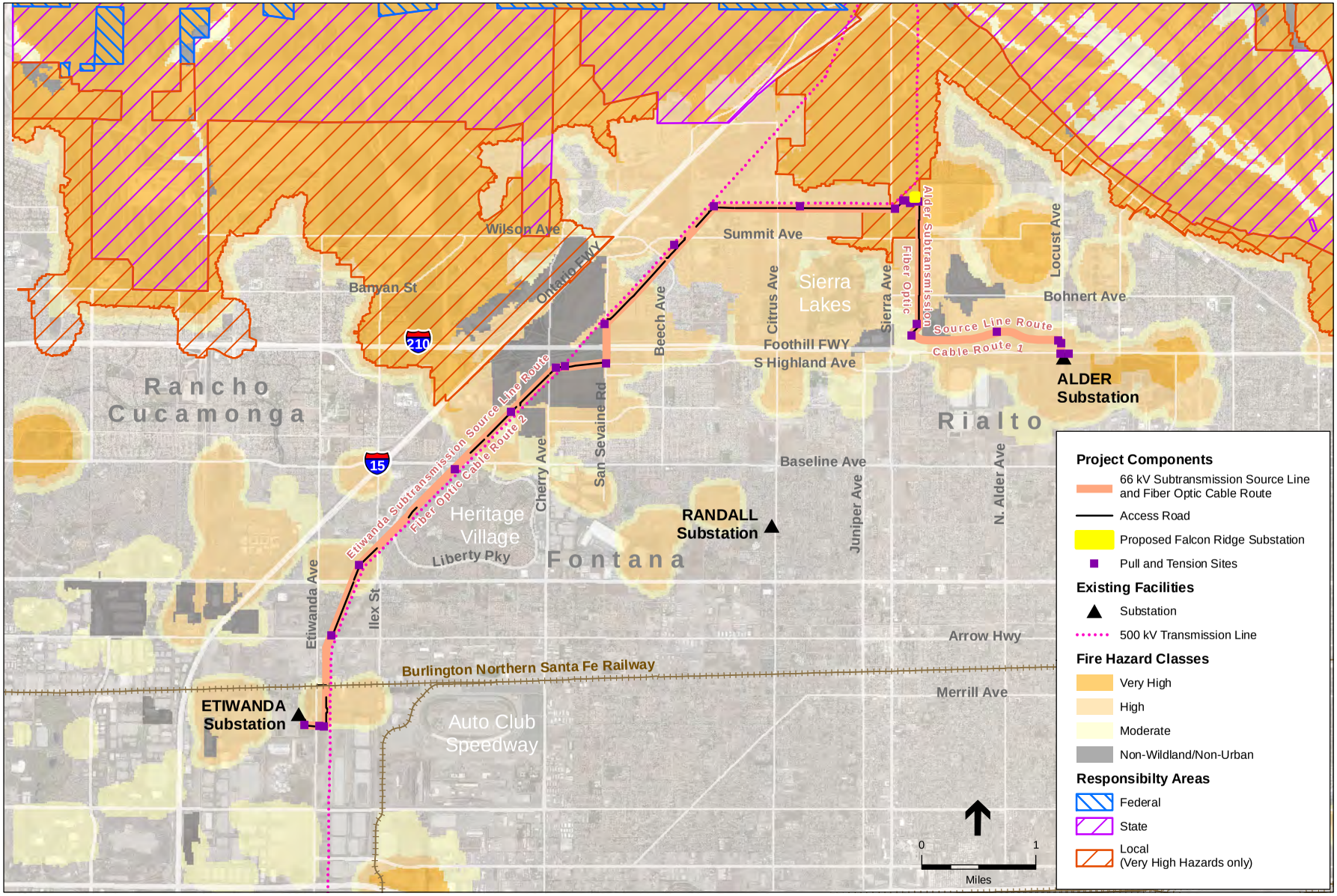
The California Department of Forestry and Fire Protection (CAL FIRE) has mapped fire hazard severity zones in San Bernardino County based on fuel loading, slope, fire weather, and other relevant factors (**Figure 4.9-2**). Much of the Project site is located in areas mapped as high fire hazard zones; however, the proposed Falcon Ridge Substation and approximately 0.7 mile of the proposed Alder Subtransmission Source Line route are located within an area of very high fire hazard risk. Other portions of the Project area are classified as non-wildland/non-urban and urban unzoned (CAL FIRE, 2007).

Fire protection throughout the areas surrounding the Project is provided by the San Bernardino County Fire Department (SBCFD), the Rancho Cucamonga Fire Protection District (RCFPD), the Fontana Fire Protection District (FFPD), and the City of Rialto Fire Department (RFD) (County of San Bernardino, 2005; City of Fontana, 2008).

Emergency Response

San Bernardino County has developed both an Operational Area Emergency Operations Plan and an Operational Area Multi-Jurisdictional Local Hazard Mitigation Plan to respond to a number of natural and man-made disasters (California Emergency Management Agency, 2011). The Office of Emergency Services (County OES), a division of the SBCFD, is responsible for disaster planning and emergency management coordination throughout the San Bernardino County Operational Area (OA) by functioning as the Lead Agency for the OA (SBCFD, 2011). The primary duties include the coordination of emergency plans, interagency coordination, and coordinating disaster planning and responses. In this role, the County OES coordinates emergency management provisions with the 24 cities and towns, self-governed special districts, volunteer organizations, state and federal agencies, and others. The County Fire Chief serves as the OA Fire and Rescue coordinator. Emergency response services within the Project area are provided by the local fire protection districts.

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



SOURCE: SCE, 2011; CAL FIRE, 2007/2010

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Figure 4.9-2

Fire Hazard Severity Zones in the Project Vicinity

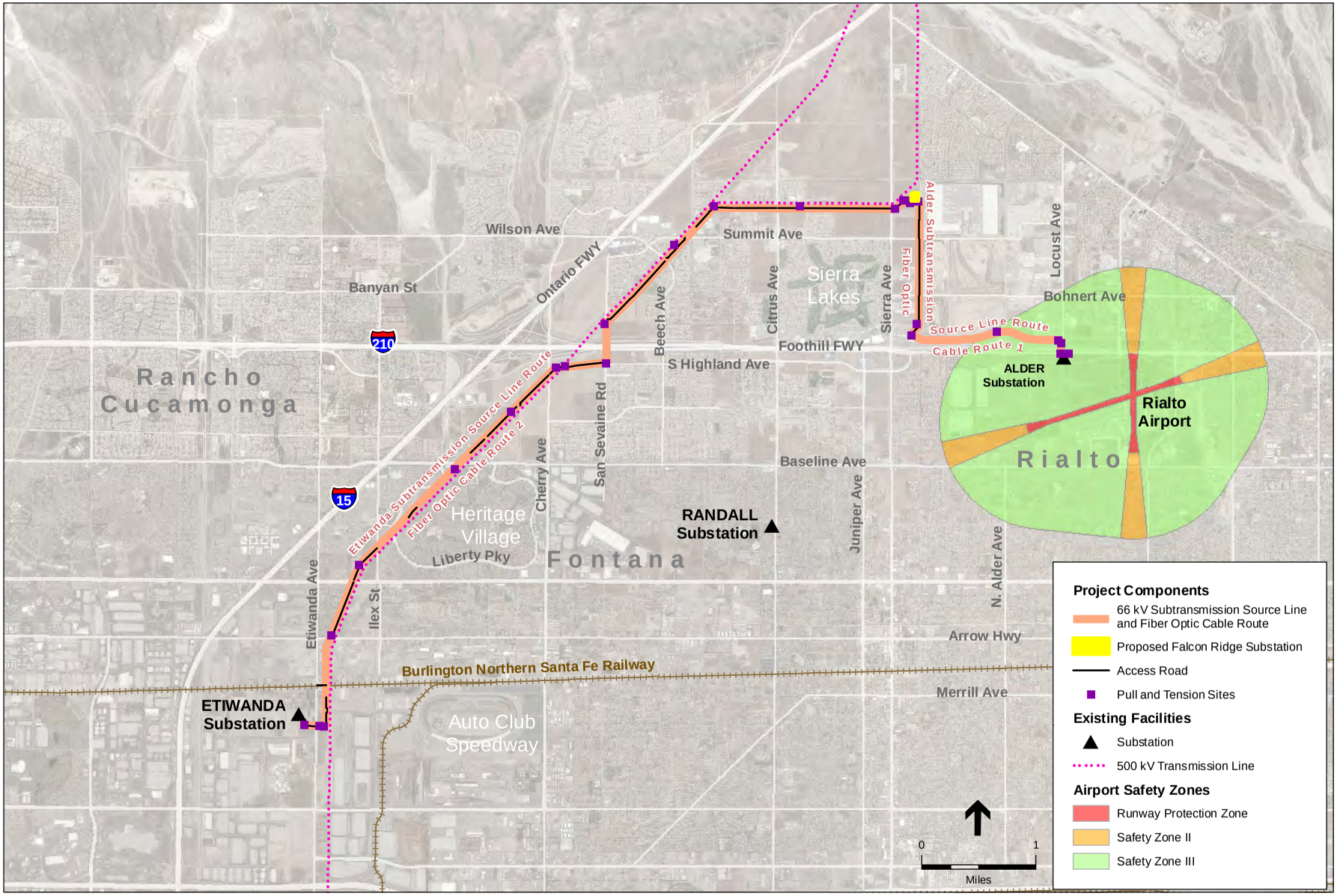
Airports

The publicly owned Rialto Municipal Airport is a general aviation airport for privately operated and chartered aircraft located approximately 0.5 miles to the south of the Alder Substation and approximately 2 miles south-southeast of the proposed Falcon Ridge Substation site. The City of Rialto plans to close and redevelop the Rialto Municipal Airport as part of its approved "Renaissance Specific Plan," a 1,500-acre mixed use community for the area along the Foothill Freeway (CA-210). The airport is anticipated to close by late 2012 or mid-2013 (City of Rialto, 2011). No other public or private airports, air strips, or helipads were identified within 2 miles of the Project.

The Rialto Municipal Airport Final Comprehensive Land Use Plan (County of San Bernardino, 1991) establishes safety zones and acceptable uses in areas surrounding the airport, as shown on **Figure 4.9-3**. The Runway Protection Zone (RPZ) extends out 1,000 feet from the end of each runway, along the runway centerline. It is 250 feet wide at the end of the runway and 450 feet wide at 1,000 feet from the end of the runway. Land uses generally allowed within the RPZ are roads, rail lines, open space and water, agricultural row crops, and pastures. Safety Zone II extends 4,000 feet from the end of the RPZ. Its width ranges from 450 feet to 1,250 feet wide. The following land uses are generally allowed within Safety Zone II: single family detached residences; manufacturing, except for chemicals, petroleum refining, and rubber and plastics; transportation, communications, and utilities, except for passenger terminals, landfills, and hazardous waste facilities; trade, business, and office services, except for service stations, hotels, motels, and campgrounds; government services; cemeteries; recreation facilities, except for parks and indoor recreation; and agriculture and mining.

The modifications to the existing Alder Substation and approximately 0.9 mile of the proposed Alder Subtransmission Source Line Route closest to the Alder Substation would be located in Safety Zone III. This zone extends 5,000 feet from the end of each runway in all directions. Most land uses, including those associated with the Project, are allowed within Safety Zone III, except for uses that are associated with large assemblages of people, such as hospitals, stadiums and arenas, auditoriums and concert halls, outdoor amphitheaters and music shells, regional shopping centers, and jails and detention centers.

Additional airports, airstrips, and helipads are located within 10 miles of one or more components of the Project. Norton Air Force Base is located approximately 9.1 miles southeast of the Alder Substation, the privately owned Cable Airport is located approximately 9.3 miles west of the proposed Etiwanda Subtransmission Source Line Route, and the publicly owned Chino Airport is located approximately 9.6 miles southwest of the Etiwanda Substation. The nearest commercial airport is Ontario International Airport, located approximately 3.8 miles southwest of the Etiwanda Substation. The Fontana Police Heliport is located approximately 2.4 miles south of the proposed Alder Subtransmission Source Line Route, Kaiser Hospital Heliport is located approximately 4.5 miles south of the proposed Alder Subtransmission Source Line Route, and Arrowhead Regional Medical Center Heliport is located approximately 5.4 miles southeast of the Alder Substation (SCE, 2010).



SOURCE: SCE, 2011

Figure 4.9-3
Rialto Municipal Airport Safety Zones

Schools

There are no schools located within the Project site. There are seven existing or proposed schools located within 0.25 mile of facilities related to the Project or alternatives (see Figure 4.15-1).

- Heritage Intermediate School, located at 13766 South Heritage Circle, Fontana, approximately 0.02 mile southeast of the proposed Etiwanda Subtransmission Source Line Route
- West Heritage Elementary School, located at 13690 West Constitution Way, Fontana, approximately 0.22 mile southeast of the proposed Etiwanda Subtransmission Source Line Route
- Sierra Lakes Elementary School, located at 5740 Avenal Place, Fontana, approximately 0.25 mile south of the proposed Etiwanda Subtransmission Source Line Route
- Wilmer Amina Carter High School, located at 2630 North Linden Avenue, Rialto, approximately 0.25 mile east of the Alternative Alder Subtransmission Source Line Route B
- Perdew Elementary School, 13051 Miller Avenue, Etiwanda, approximately 0.25 mile northwest of the proposed Etiwanda Subtransmission Source Line Route
- Water of Life Christian School, located at 7625 East Avenue, Fontana, approximately 0.15 mile west of the proposed Etiwanda Subtransmission Source Line Route
- Fontana Elementary School #34 is a proposed school located on the future Cypress Avenue, north of Summit Avenue and west of Sierra Avenue, Fontana, approximately 0.2 miles southwest of the proposed Falcon Ridge Substation (Fontana Unified School District, 2011)

Four public or private preschool and day-care centers were identified within 0.25 mile of the Project (SCE, 2010):

- A Brighter Beginning Preschool and Child Care Center, located at 13597 Sherman Place, Fontana, approximately 0.14 mile northwest of the proposed Etiwanda Subtransmission Source Line Route
- Water of Life Preschool, located at 7325 East Avenue, Fontana, approximately 0.10 mile northwest of the proposed Etiwanda Subtransmission Source Line Route
- Kinder Care Learning Center, located at 7370 West Liberty Parkway, Fontana, approximately 0.07 mile northwest of the proposed Etiwanda Subtransmission Source Line Route
- Be Entrepreneurs Home Preschool and Daycare, located at 6022 Roosevelt Place, Fontana, approximately 0.19 mile east of the proposed Etiwanda Subtransmission Source Line Route
- Moore Family Home Daycare, located at 7782 McKinley Court, Fontana, approximately 0.22 mile southeast of the proposed Etiwanda Subtransmission Source Line Route

Regulatory Setting

Federal

Occupational Safety and Health Administration

The federal Occupational Safety and Health Administration (OSHA) enforces regulations covering 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 where workers 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 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 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, and the 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 CCR, Title 22, §§66261.20-24, contains technical descriptions of characteristics that would classify wasted 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 waters of the United States. The Santa Ana RWQCB (SARWQCB) enforces site cleanup regulations for illicit discharges that have resulted in contamination of groundwater in the 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 on-site 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 on-site, 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 on-site treatment; (2) 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 San Bernardino County, the Hazardous Materials Division of the SBCFD is the designated CUPA.

Department of Toxic Substance Control

The 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 §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, transportation, 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 3 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.

Aboveground Storage of Petroleum Products

The Aboveground Petroleum Storage Act (1990) and Assembly Bill 1130 (2008) require the owner or operator of a tank facility with an aggregate storage capacity greater than 1,320 gallons of petroleum to file an inventory statement with the CUPA and to prepare and implement a spill prevention, control, and countermeasure (SPCC) plan in accordance with the requirements of 40 CFR 112. The plan must identify appropriate spill containment or equipment for diverting spills from sensitive areas, as well as discuss facility-specific requirements for the storage system, inspections, recordkeeping, security, and personnel training.

Underground Storage Tanks

State laws governing USTs specify requirements for permitting, monitoring, closure, and cleanup these facilities. Regulations set forth construction and monitoring standards for existing tanks, release reporting requirements, and closure requirements. In the Project area, SBCFD has regulatory authority for permitting, inspection, and removal of USTs. Any entity proposing to remove a UST must submit a closure plan to the county prior to tank removal. Upon approval of the UST closure plan, the county would issue a permit, oversee removal of the UST, require additional subsurface sampling if necessary, and issue a site closure letter when the appropriate removal and/or remediation has been completed.

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 §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 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, CDFG, the RWQCBs, the local air districts (in this case, the SCAQMD), 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.

Utility Notification Requirements

Title 8, §1541 of the California Code of Regulations requires excavators to determine the approximate locations of subsurface installations such as sewer, telephone, fuel, electric, and water lines (or any other subsurface installations that may reasonably be encountered during excavation work) prior to opening an excavation. The California Government Code (§4216 et seq.) requires owners and operators of underground utilities to become members of and participate in a regional notification center. According to §4216.1, operators of subsurface installations who are members of, participate in, and share in the costs of a regional notification center are in compliance with this section of the code. Underground Services Alert of Southern California (known as DigAlert) receives planned excavation reports from public and private excavators and transmits those reports to all participating members of DigAlert that may have underground facilities at the location of

excavation. Members will mark or stake their facilities, provide information, or give clearance to dig (DigAlert, 2011).

Aviation Hazards

Federal Aviation Administration (FAA) Regulations Part 77 (14 CFR 77) establish height restrictions for development within approach and take-off patterns to allow aircraft maneuvering room and to ensure that neither the operating capability of the airport nor the usable runway is adversely affected by obstructions in the surrounding airspace. The FAA has a established height restriction of 150 feet for objects within 5,000 feet from the end of each runway. In addition, the FAA has notification requirements for construction within the vicinity of airports which require that the FAA be notified of any construction or alteration greater in height than the distance from the closest runway divided by 100, out to a distance of 20,000 feet (SCE, 2011). For any such projects, the FAA requires that Notice of Proposed Construction or Alteration (Form 7460) be submitted. The FAA will determine whether the proposed project will create a hazard to navigable airspace and issue either a Determination of No Hazard or a Notice of Presumed Hazard.

California Public Utilities Code section 21659 prohibits hazards near airports (as defined by 14 CFR 77) unless a permit allowing the construction is issued by the Caltrans Division of Aeronautics.

Fire Protection

The California Public Resources Code includes fire safety regulations that apply to state responsibility areas during the time of year designated as having hazardous fire conditions. During the fire hazard season, these regulations restrict the use of equipment that may produce a spark, flame, or fire; require the use of spark arrestors[3] on equipment that has an internal combustion engine; specify requirements for the safe use of gasoline-powered tools in fire hazard areas; and specify fire-suppression equipment that must be provided on-site for various types of work in fire-prone areas.

Additional codes require that any person who owns, controls, operates, or maintains any electrical transmission or distribution line shall maintain a firebreak clearing around and adjacent to any pole, tower, and conductors which are carrying electric current as specified in the section (§§4292 and 4293).

California Public Utilities Commission General Orders

The California Public Utilities Commission General orders cover all aspect of design, construction, operation and maintenance of electrical facilities in California.

- General Order No. 95 – Rules for Overhead Electric Line Construction – covers all overhead electrical transmission line and fire safety. It specifies clearance requirements to

[3] A spark arrestor is a device that prohibits exhaust gases from an internal combustion engine from passing through the impeller blades where they could cause a spark. A carbon trap commonly is used to retain carbon particles from the exhaust.

prevent hazardous shocks, grounding techniques to minimize nuisance shocks, maintenance and inspection requirements.

- General Order No.128 – Rules for Underground Electric Line Construction - includes required clearances, grounding techniques, maintenance, and inspection for underground electric lines.

- General Order No. 131-D – Rules for Planning and Construction of Electric Generation, Line, and Substation Facilities in California - provides CPUC construction application and noticing requirements

California Code of Regulations – Electrical Utilities

The CCR is a catalog of state laws and regulations adopted by state agencies, including:

- CCR Title 8, §2700 et seq., High Voltage Electrical Safety Orders, establishes essential requirements and minimum standards for installation, operation, and maintenance of electrical equipment to provide practical safety and freedom from danger.

- CCR Title 14, §§1250-1258, Fire Prevention Standards for Electric Utilities, provides specific exemptions from electric pole and tower firebreak and electric conductor clearance standards, and specifies when and where standards apply.

Local

CPUC General Order No. 131-D explains that local land use regulations would not apply to the Project and alternatives. However, for information purposes, the following goals and policies included in the general plans for San Bernardino County and the cities of Fontana, Rialto, and Rancho Cucamonga would otherwise be relevant to the Project.

The local general plans for the cities of Fontana, Rialto and Rancho Cucamonga do not contain general plan policies relevant to hazards that are substantially different from the state policies described above. Only those policies considered to be directly relevant to the Project are discussed below (City of Fontana, 2003; City of Rancho Cucamonga, 2010; City of Rialto, 2010).

San Bernardino County General Plan –Safety Element

- ***Policy S 1.3:*** Support and expand emergency preparedness and disaster response programs, including ensuring adequate access routes to and from potential devastation areas as required by the County's Emergency Management Plan.

- ***Policy S 2.3:*** Ensure that environmental review is conducted for projects proposed on sites that have been identified as contaminated.

- ***Policy S 3.1:*** Programs under Fire Safety include a requirement for applicants for new land developments to prepare a site-specific fire protection plan, with special emphasis in areas of high and very high fire risk.

- ***Policy S 8.1:*** Ensure the Safety of Airport Operations and Surrounding Land Uses. Programs under this policy include continued Airport Safety Reviews of all land uses

proposed within any Airport Safety Area in the County; application FAA Regulations including height restrictions.

- ***Policy V/S 1.1 and 1.2*:** Designates evacuation routes in the Valley Region, including the following in the Project vicinity: Interstates I-15 and I-210; San Bernardino Avenue/4th Street from Vineyard Avenue to Cherry Avenue; Etiwanda Avenue from San Bernardino Avenue to its northern extremity; and Sierra Avenue from Foothill Boulevard to Riverside Avenue.

San Bernardino County Fire Department, Hazardous Materials Division

The SBCFD, Hazardous Materials Division is the CUPA for the County of San Bernardino. The CUPA manages six hazardous material and hazardous waste programs: Hazardous Materials Release Response Plans and Inventory (Business Plan); California Accidental Release Program (CalARP); Underground Storage Tank; Aboveground Petroleum Storage Act/Spill Prevention, Control and Countermeasure Plan; Hazardous Waste Generation and Onsite Treatment; and Hazardous Materials Management Plans and Inventory Statements under Uniform Fire Code Article 80.

County of San Bernardino Environmental Health Services, Division of Public Health

The County of San Bernardino Environmental Health Services Department is another local agency overseeing hazardous waste management in the county. In particular, the department inspects and regulates medical waste generators. The department also has oversight on waste management, water and wastewater, land use, food protection, recreational health, vector control, and other related requirements.

Rialto Airport Comprehensive Land Use Plan

The Comprehensive Land Use Plan (CLUP) for the Rialto Municipal Airport was prepared for the County of San Bernardino Airport Land Use Commission (County of San Bernardino, 1991). The CLUP identifies areas, located outside of the airport proper, that are influenced by the operations of the airport. Planning boundaries are established on the perimeters of these areas by applying the specific operational criteria of the airport to various planning models that have been primarily developed by the Federal Aviation Administration (FAA). The CLUP identifies various "safety zones" surrounding the airport and provides guidelines for land uses within these zones to protect people in the vicinity of the airport. There are also limits on the height of objects that could obstruct air navigation, which depend on the distance and direction of the object to the airport runways.

City of Rialto General Plan – Safety and Noise Chapter

- ***Policy 5-3.4*:** Require that all site plans, subdivision plans and building plans be reviewed by the Fire Department to ensure compliance with appropriate fire regulations.

- ***Policy 5-12.1*:** Notify all developers, particularly those of multi-story or critical structures, of potential impacts resulting from Santa Ana Winds, and require appropriate structural and design treatment.

City of Fontana General Plan - Implementation Matrix

- ***4-6*:** Require the continued involvement of the City and County Fire Departments in the planning of all new development, beginning at the Environmental Impact Report phase, to reduce to acceptable levels the fire hazards to developments near the Urban Wildland Interface. Require as a condition of project approval the incorporation of fire safety mitigation measures recommended by the Fire Departments.

4.9.2 Significance Criteria

According to Appendix G of the CEQA *Guidelines* and a review of other similar transmission line project review documents, a significant impact would occur if implementation of the Project would:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;

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;

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school;

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment;

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area;

f) For a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area;

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or

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.

4.9.3 Applicant Proposed Measures

There are no APMs included to address issues related to Hazards and Hazardous Materials.

4.9.4 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.

Impact 4.9-1: Project construction, operation and maintenance would require the use of certain materials such as fuels, oils, solvents, and other chemical products that could pose a potential hazard to the public or the environment during routine transport, use or disposal. ***Less than Significant with Mitigation*** **(Class II)**

Construction

Project construction would require the transportation and use of fuels, lubricants, and solvents for construction vehicles and equipment. Small quantities (less than 25 gallons) of these materials could be stored at the staging areas to fuel small engine generators for power tool usage. Any hazardous materials needed for construction would be stored and used in accordance with the product specifications and applicable regulations. Product specifications are described in detail on Material Safety Data Sheets (MSDS), which accompany every batch of materials considered to be hazardous. Information in the MSDS includes instructions on proper use and application of the material, accidental release measures and handling and storage requirements. Applicable regulations specify storage and handling requirements such as proper container types and usage methods. Prior to construction, all construction workers would receive training according to the WEAP. Among other things, the WEAP would provide instructions for implementation of the Project SWPPP, including site-specific BMPs required by the RWQCB through its review and approval of the SWPPP, the location of the MSDS, and notification procedures in the event of a spill, leak, or discovery of soil contamination. Examples of hazardous materials BMPs to protect surface and groundwater from possible sources of contamination include placing drip pans underneath parked vehicles, implementing tracking controls for vehicles entering and exiting the construction site, and protecting the ground surface with tarps in equipment and material storage areas. For further information regarding the SWPPP, please refer to Section 4.10, *Hydrology and Water Quality*.

Project construction would require excavation for underground features: distribution getaway vaults, subtransmission lines, duct banks, and pole foundations; as well as grading for site clearing and roads. Excavations generally would not exceed approximately 12 feet for the vaults and 5 feet for trenches. Encountering contaminated soil or groundwater during excavation and grading could result in exposures to construction workers, the public and the environment. Based upon soil borings performed for the geotechnical investigation at the proposed Falcon Ridge Substation, it appears unlikely that groundwater would be encountered during excavations for the Project. Groundwater was not encountered in soil borings to a depth of 26 feet (TDBU, 2011b). The depth to the first groundwater aquifer in the site vicinity is greater than 400 feet (CH2MHILL, 2010.)

Regulatory agency database searches did not identify any hazardous materials sites within the Project area. In the vicinity of the Project area, several types of environmental cleanups have been conducted or are underway. The B.F. Goodrich Superfund Site, focuses on cleanup of an 160-acre area located 0.7 mile to the east of the proposed Falcon Ridge Substation and the Alder Subtransmission Source Line Route. Groundwater resources in the vicinity have been

contaminated by perchlorate and VOCs, forcing the closure of municipal drinking water wells. As discussed above, because local groundwater is more than 400 feet deep, the potential to encounter contaminants migrating in groundwater during the near-surface Project excavations would be low. Similarly, contaminants from identified fuel leak cases and cleanup sites in the vicinity have a low potential to affect surface soil conditions. Soil contamination that could be encountered during construction activities at Project locations would generally be limited to those contaminants related to former site-specific activities at these locations.

The Remedial Investigation/Feasibility Investigation for the B.F. Goodrich Superfund Site (CH2MHILL, 2010) indicates that the 160-acre area was part of a larger 740-acre munitions storage facility operated by the U.S. Army. As a result of these historical site activities which were widespread and may have extended into the Project area, it is possible that residual soil contamination could be encountered during construction of the proposed Falcon Ridge Substation and Alder Subtransmission Source Line Route. Chemical analysis of soil samples collected at the proposed Falcon Ridge Substation site did not detect the presence of TPH, PCBs, or elevated metals concentrations, however, analysis for the presence of perchlorate and VOCs was not performed (TDBU, 2011a). Historical agricultural uses of the Project area and vicinity could have resulted in residual pesticide contamination in soil, although the investigations discussed above in the Section 4.9.1, *Setting* for the proposed schools indicate that residual pesticides in soil, if any, would not pose a threat to public health or the environment.

Although there is a relatively low potential for contaminated soil to be encountered during construction excavation and grading, in accordance with the WEAP, construction workers would be instructed on the procedures to follow in the event unanticipated soil contamination is encountered. Suspect soil would need to be segregated, sampled, and disposed in accordance with regulations. Mitigation Measure 4.9-1 further requires that a site-specific Health and Safety Plan be prepared and implemented that addresses the potential to encounter hazardous materials in soil. With implementation of this measure, the potential impact to public health or the environment would be less than significant.

Prior to removal of existing poles, the existing subtransmission source lines, distribution getaways and telecommunication lines (where applicable) would be transferred to the new poles. All remaining subtransmission, distribution, and telecommunication lines that would not be reused by SCE would be removed and delivered to a suitable facility for recycling. Depending on the type, condition, and original chemical treatment, the wood poles removed could be reused by SCE for other purposes or disposed of in an appropriate disposal facility.

Routine transport of hazardous materials to and from Project site could indirectly result in an incremental increase in the potential for accidents. However, applicable regulations under Caltrans and the CHP regulate the transportation of hazardous materials and wastes, including container types and packaging requirements as well as licensing and training for truck operators, chemical handlers, and hazardous waste haulers. All transport of hazardous materials would be in compliance with applicable laws, rules and regulations, including the acquisition of required shipping papers, package marking, labeling, transport vehicle placarding, training, and registrations.

Operation and Maintenance

During operation and maintenance of the Project, vehicles and equipment used for routine inspections and emergency repair would require the use of fuel and lubricants. The proposed Falcon Ridge Substation site would be equipped with transformer banks that would contain mineral oil. Because the quantity of oil stored would exceed 1,320 gallons, a SPCC Plan describing spill prevention measures would be required. This plan would be prepared and stamped by a Professional Engineer and a copy submitted to CPUC staff. Typical SPCC measures include secondary containment features such as curbs and berms designed to contain spills should they occur. These features would be part of SCE's final engineering design for the Project. With compliance with hazardous materials laws and regulations, operation and maintenance impacts due to the routine transport, use, or disposal of hazardous materials would be less than significant.

> **Mitigation Measure 4.9-1:** SCE and/or its contractors shall prepare and implement a Health and Safety Plan in accordance with applicable regulations prior to construction. The health and safety plan shall identify the chemicals potentially present in soil, health and safety hazards associated with those chemicals, monitoring to be performed during site activities, soil handling methods required to minimize the potential for harmful exposures, appropriate personnel protective equipment, and emergency response procedures. The plan shall be submitted to the CPUC for approval prior to commencement of construction activities and shall be distributed to all construction crew members prior to construction and operation of the Project.

Significance after Mitigation: Less than Significant.

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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.

Impact 4.9-2: Project construction, operations and maintenance could create a significant hazard to the public or environment through release of hazardous materials into the environment. ***Less than Significant*** **(Class III)**

Construction

As discussed above in Impact 4.9-1, Project construction would require the limited use of hazardous materials, such as fuels, lubricants, and solvents. Storage and use of hazardous materials during construction could result the accidental release of small quantities of hazardous materials, typically associated with minor spills or leaks. Spills and leaks could degrade soil and groundwater quality, and/or surface water quality in nearby creeks or downstream water bodies.

Although spills and leaks during construction could occur, implementation of construction water quality BMPs required by the RWQCB through its review and approval of the SWPPP would reduce the potential for accidental releases and ensure quick response to any spills to minimize impacts to the environment. As discussed in Impact 4.9-1 above, hazardous materials would be stored, handled, and used in accordance with applicable regulations. All equipment and materials

storage would need to be routinely inspected for leaks, and records would need to be maintained for documenting compliance with the storage and handling of hazardous materials. Construction worker training under the WEAP would provide site personnel with instruction on the SWPPP, site-specific BMPs, and notification procedures in the event of a release of hazardous materials or upon the discovery of soil contamination.

During construction activities for the Project, the potential exists that subsurface utilities (e.g., a natural gas line) or structures (e.g., an UST) might be encountered and damaged, resulting in a release of a hazardous material. The potential for such incidents would be reduced by thoroughly screening for subsurface structures in areas prior to commencement of any subsurface work. Screening activities would include use of DigAlert (Underground Services Alert of Southern California), visual observations, hand digging, and use of buried line locating equipment.

With compliance with existing hazardous materials, stormwater, and utility regulations, the potential hazard to the public or the environment from an accidental release of hazardous materials would be less than significant.

Operation and Maintenance

The proposed Falcon Ridge Substation would be equipped with transformer banks containing mineral oil that could leak or spill if the transformers were damaged from a seismic event, fire, or other accident scenario. To minimize potential impacts in the event a transformer is damaged, the proposed Falcon Ridge Substation design would be equipped with valves, berms or other structures designed to contain spills and prevent off-site releases of oil. As required, an SPCC Plan would be prepared and implemented by SCE before any oil-containing equipment is brought to the Project site. All equipment would need to be routinely inspected for leaks, and records maintained for documenting compliance with the storage and handling of hazardous materials. Therefore, impacts would be less than significant.

Mitigation: None required.

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c) Produce hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.

Impact 4.9-3: Project construction, operation and maintenance would handle hazardous materials within 0.25 mile of schools. *Less than Significant* (Class III)

Construction

There are ten existing schools, preschools or daycare centers located within 0.25 mile of the proposed Etiwanda Subtransmission Source Line and one proposed school located approximately 0.2 mile southwest of the proposed Falcon Ridge Substation. As discussed above under Impact 4.9-1, small quantities of hazardous materials would be used during construction. Although construction activities could result in the inadvertent release of small quantities of hazardous

materials, a spill or release at a construction site would not result in an emission with the potential to result in exposures to individuals at nearby schools. Standard construction water quality BMPs required by the RWQCB through its review and approval of the SWPPP include measures for the safe handling and storage of hazardous materials used during construction to prevent a release and methods to contain any such release if it should occur. Because the potential for a release resulting from the handling of hazardous materials at a construction site or staging area to affect individuals at nearby schools would be low, the potential impact related to use of hazardous materials within 0.25 mile of a school would be less than significant.

Operation and Maintenance

Project operation and maintenance would require use and storage of mineral oil for the transformer banks at the proposed Falcon Ridge Substation, as well as fuel and lubricants for vehicles and equipment used during routine maintenance and emergency repair. Storage and handling of mineral oil within the substation would be performed in accordance with the SPCC Plan, which would require measures to prevent releases and contain them if they do occur. Mineral oil has a low volatility and would be unlikely to vaporize into air causing hazardous emissions. Fuels and lubricants for vehicles and equipment would be used in such small quantities, that a spill or leak would be unlikely to affect individuals at nearby schools. Therefore, operational impacts related to existing or proposed schools within 0.25 mile of the Project would be less than significant.

Mitigation: None required.

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d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would create a significant hazard to the public or the environment.

Based on the database search results (SWRCB, 2011; DTSC, 2011), the Project area is not included on any lists of hazardous materials sites compiled pursuant to Government Code §65962.5, and therefore, would not create a significant hazard to the public or the environment (No Impact, Class IV).

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e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area.

See f) below.

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f) For a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area.

Impact 4.9-4: The Project could result in a safety hazard because of its proximity to a public airport, private air strip or helipad. *Less than Significant* (Class III)

There is one public airport (Rialto Municipal Airport) within 2 miles of the Project. The Rialto Municipal Airport is located approximately 0.5 miles to the south of the Alder Substation and approximately 2 miles south-southeast of the proposed Falcon Ridge Substation site. As discussed in Section 4.9.1, *Setting*, the CLUP for the Rialto Municipal Airport identifies various "safety zones" surrounding the airport and provides guidelines for land uses within these zones to protect people within the vicinity of the airport. None of the Project components would be located in the RPZ or in Safety Zone II. The modifications to the existing Alder Substation and approximately 0.9 mile of the proposed Alder Subtransmission Source Line and Fiber-Optic Cable route closest to the Alder Substation would be located in Safety Zone III. Most land uses, including those associated with the Project, are allowed within Safety Zone III. Prohibited uses are associated with large assemblages of people, such as hospitals, stadiums and arenas, auditoriums and concert halls, outdoor amphitheaters and music shells, regional shopping centers, and jails and detention centers. The Rialto Municipal Airport is scheduled to close within 2 years to accommodate an approved mixed use development at this property.

The FAA regulations establish a height limit of 150 feet for objects within 5,000 feet from the end of each runway. The FAA also has notification requirements for any construction or alteration within the vicinity of airports greater in height than the distance from the closest runway divided by 100, to a distance of 20,000 feet. Although new poles would not exceed 100 feet and would not represent an operational hazard, cranes used to install the poles could extend above this height limit during construction. Therefore, SCE would be required to notify the FAA and request approval prior to commencing construction of the portion of the proposed Alder Subtransmission Source Line route within approximately 10,000 feet of the closest runway at the Rialto Municipal Airport (SCE, 2011.) This would include all of the proposed Alder Subtransmission Source Line Route except for approximately 0.3 miles closest to the proposed Falcon Ridge Substation. With FAA approval, the safety hazards resulting from construction and operation of the Project in proximity to the Rialto Municipal Airport would be less than significant.

Mitigation: None required.

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g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Impact 4.9-5: The Project would reduce compliance with an adopted emergency response plan or emergency evacuation plan. *Less than Significant with Mitigation* (Class II)

Construction

As discussed in Section 4.17, *Transportation and Traffic*, construction of most of the planned facilities would not require closure of any travel lanes and therefore would not reduce the roadway capacity on roads that provide access to the work sites; however, installation of planned subtransmission lines and emplacement of new poles would require new right-of-way in order to permit construction vehicle and equipment access. Although activities associated with subtransmission lines and poles would occur over a short period as construction progresses along the alignment, roadways adjacent to the planned alignment may require temporary closures of travel lanes and reduce roadway capacities during installation. Two of the roadways that would be temporarily closed, portions of Etiwanda Avenue and Sierra Avenue, are identified as local evacuation routes (County of San Bernardino, 2007). Construction activities would need to be coordinated with the local jurisdiction to avoid the closure of any emergency access route. Mitigation Measure 4.17-1 requires SCE and/or its contractors to coordinate all construction activities with emergency service providers in and along the subtransmission source line route to minimize disruption to emergency vehicle access (see Section 4.17, *Transportation and Traffic*). Implementation of this measure would ensure that potential impacts associated with an interference with an emergency response or evacuation would be mitigated to less-than-significant levels.

Operation and Maintenance

Project operation and maintenance would not obstruct roadways or interfere with the flow of traffic. As a result, operation and maintenance would have no impact on emergency response or evacuation plans (No Impact).

Mitigation Measure 4.9-5: Implement Mitigation Measure 4.17-1.

Significance after Mitigation: Less than Significant.

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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?

Impact 4.9-6: Construction, operation and maintenance-related activities in high fire hazard areas could ignite dry vegetation and start a fire. ***Less than Significant with Mitigation*** **(Class II)**

Construction

The proposed Falcon Ridge Substation, proposed Alder Subtransmission Source Line route, and portions of the Etiwanda Source Line route are located in high and very high fire hazard zones, as mapped by CAL FIRE. Heat or sparks from construction and/or maintenance vehicles and equipment have the potential to ignite dry vegetation and cause a fire, particularly during the dry season. Therefore, depending on the time of year and location of construction activities, this could be a significant impact.

SCE has standard protocols that are implemented when the National Weather Service issues a "Red Flag Warning," which is a warning that conditions (e.g., strong wind, low humidity, warm temperatures) favor explosive fire growth potential. These protocols include measures to address worker smoking and fire rules, storage and parking areas, use of gasoline-powered tools, use of spark arresters on construction equipment, road closures, use of a fire guard, fire suppression tools, fire suppression equipment, and training requirements. Trained fire suppression personnel and fire suppression equipment would be established at key locations, and the personnel and equipment would be capable of responding to a fire within 15 minutes of notification. Portable communication devices (i.e., radio or mobile telephones) would be available to construction personnel. In addition, SCE participates with the California Department of Forestry and Fire Protection, California Office of Emergency Services, U.S. Forest Service, and various city and county fire agencies in the Red Flag Fire Prevention Program and complies with California Public Resources Code §§4292 and 4293 related to vegetation management in transmission line corridors (SCE, 2010).

In addition to SCE standard protocols, implementation of Mitigation Measures 4.9-6 would require the preparation of a Fire Prevention and Emergency Response Plan and use of appropriate fire protection equipment to reduce the potentially significant fire impact associated with the construction of the Project to less than significant.

Operation and Maintenance

Electrical subtransmission lines can initiate a fire if an object, such as a tree limb or kite, simultaneously contacts the subtransmission line conductors and a second object, such as the ground or a portion of the supporting pole, or if two conductors make contact. Conductor-to-conductor contact can occur when extremely high winds force two conductors on a single pole to oscillate so excessively that they contact one another. This contact can result in arcing (sparks) that can ignite nearby vegetation.

Numerous regulations and design standards apply to transmission line safety and fire hazards. Transmission line structures used to support overhead transmission lines must meet the requirements of CPUC General Order No. 95, Rules for Overhead Electric Line Construction. This design code and the National Electrical Safety Code include loading requirements related to local wind conditions. Wind speed maps are included in the International Building Code based on data compiled by the National Weather Service. Transmission support structures are designed to withstand different combinations of loading conditions, including extreme winds. These design requirements include use of safety factors that consider the type of loading, as well as the type of material used, e.g., wood, steel, or concrete. Overhead transmission lines consist of a system of support structures and interconnecting wire that is inherently flexible. Although it is extremely rare for a transmission line support structure to blow over, transmission line protection systems are designed to shut off power flow in a fraction of a second. These systems consist of transmission line relays and circuit breakers designed to rapidly detect faults and cut off power to avoid shock and fire hazards.

Electrical arcing from power lines can represent a fire hazard. This phenomenon is more prevalent for lower voltage distribution lines than for subtransmission lines such as those

proposed under the Project because distribution lines are typically on shorter structures and in much greater proximity to trees and vegetation. Fire hazards from transmission lines are reduced through the use of taller structures and wider rights-of-way. As required, SCE would follow state vegetation and tree clearing requirements, including CPUC General Order No. 95, PRC §4293. Further, SCE would inspect all components of the proposed subtransmission line at least annually for corrosion, equipment misalignment, loose fittings, and other common mechanical problems.

Compliance with existing laws, regulations, and design standards would reduce the risk of wildfire associated with Project operation; however, because portions of the Project area are located within high and very high fire hazard zones, this impact would still be potentially significant. Implementation of Mitigation Measure 4.9-6 would reduce this impact to a less-than-significant level by requiring SCE and/or its contractors to consult with local fire departments to identify appropriate protocols and procedures for fire safety and emergency response and to prepare and implement a Fire Prevention and Emergency Response Plan that addresses fire hazards related to Project operation.

Mitigation Measure 4.9-6: SCE and/or its contractors shall prepare and implement a Fire Prevention and Emergency Response Plan to ensure the health and safety of construction workers, SCE personnel, and the public during Project construction and operation. The Fire Prevention and Emergency Response Plan shall include, but not be limited to, the following:

- Two water trucks each of 4,000-gallon capacity, equipped with 50 feet of fast-response hose with fog nozzles, shall be on-site during construction for immediate response to fire incidents, unless this provision is amended by the fire jurisdictions.
- Each Project construction site (if construction occurs simultaneously at various locations) and the proposed Falcon Ridge substation shall be equipped with fire extinguishers and fire-fighting equipment sufficient to extinguish small fires.
- All construction workers and SCE personnel visiting the substation and/or subtransmission source lines to perform maintenance activities shall receive training on the proper use of fire-fighting equipment and procedures to be followed in the event of a fire.
- The SBCFD and local fire departments shall be consulted during plan preparation and fire safety measures recommended by the agencies included.
- The plan shall list fire prevention procedures and specific emergency response and evacuation measures that would be required to be followed during emergency situations.
- The plan shall be submitted to the CPUC for approval prior to commencement of construction activities and shall be distributed to all construction crew members prior to construction and to all SCE personnel visiting the substation during operation and maintenance of the Project.

Significance after Mitigation: Less than Significant.

4.9.5 Alternatives

Alternative 1: Lowell Street Realignment Alternative

Alternative 1 would alter the route of the proposed Alder Subtransmission Source Line and Fiber-Optic Cable, but it would not substantially change the size or type of facilities to be constructed. The alternative alignment of the Alder Subtransmission Source Line and Fiber Optic Cable Route would border on three sides the 160-acre contaminated area that is the subject of the B.F. Goodrich Superfund Site cleanup plan (Figure 4.9-1). There is a greater likelihood of encountering soil contamination during construction activities of the alternative alignment than of the Project, however, with implementation of the Health and Safety Plan required under Mitigation Measure 4.9-1, the potential impact on the public and the environment of exposure to hazardous materials in soil would still be less than significant.

No Project Alternative

Under the No Project Alternative, the Project would not be implemented; therefore there would be no impact related to hazards and hazardous materials.

References – Hazards and Hazardous Materials

California Department of Forestry and Fire Protection (CAL FIRE), Fire and Resource Assessment Program,2007. Draft Fire Hazard Severity Zones in All Jurisdictions, San Bernardino County Southwest, GIS information available online at http://frap.cdf.ca.gov, accessed October 26, 2011.

CAL FIRE, Fire and Resource Assessment Program, 2010. State Responsibility Areas for Fire Protection, GIS information available online at http://frap.cdf.ca.gov, accessed October 26, 2011.

California Emergency Management Agency, 2011. website information available at http://hazardmitigation.calema.ca.gov/approved_local_hazard_mitigation_plans accessed October 14, 2011.

CH2MHILL, *Remedial Investigation/Feasibility Study Report, B.F. Goodrich Superfund Site, Rialto, California*, January 25, 2010.

City of Fontana, 2003. City of Fontana General Plan, Appendix L, Implementation Matrix, Table L-1, Summary Action Strategy, p. L-35, October 21, 2003.

City of Fontana, 2008. Fontana Fire Protection District Map. <http://www.fontana.org/DocumentView.aspx?DID=2110> Accessed October 25, 2011.

City of Rancho Cucamonga, 2010. Rancho Cucamonga General Plan, adopted May 2010.

City of Rialto, 2010. City of Rialto General Plan, December 2010.

City of Rialto Redevelopment Agency, 2011. Rialto Airport Redevelopment Project – "Renaissance Rialto", website information last updated May 10, 2011 available at http://www.ci.rialto.ca.us/redevelopment_2301.php accessed October 14, 2011.

Department of Toxic Substances Control (DTSC), Envirostor database of cleanup sites and hazardous waste permitted sites, available online at http://www.envirostor.dtsc.ca.gov/public/, accessed October 13, 2011.

DigAlert, 2011. Information available online at http://www.digalert.org accessed October 26, 2011.

Fontana Unified School District, 2011. Letter regarding the Falcon Ridge Substation Project, April 4, 2011.

San Bernardino County, 2005. General Plan, Safety Background Report, June 15, 2005 available online at http://www.sbcounty.gov/landuseservices/Background%20Reports/Safety/Figures/FIG-7-23A-SAFETY-Fire_Districts-Valley.pdf accessed October 14, 2011.

San Bernardino County, 2007. County of San Bernardino General Plan, adopted March 13, 2007.

San Bernardino County, 1991. *Final Comprehensive Land Use Plan, Rialto Municipal Airport*. Available online at http://www.sbcounty.gov//ehlus/Depts/Planning/documents/RialtoACLUP.pdf accessed October 14, 2011.

San Bernardino County Fire Department, website information available at http://www.sbcfire.org/oes/, accessed October 13, 2011.

Southern California Edison (SCE), 2010. *Proponent's Environmental Assessment Falcon Ridge Substation Project,* Volume 1, December 29, 2010.

SCE, 2011. Personal communication from Thomas Diaz, SCE Regulatory Affairs regarding the Falcon Ridge Project Notice of Application, March 8, 2011.

State Water Resources Control Board (SWRCB), Geotracker database of cleanup sites, available online at http://geotracker.swrcb.ca.gov/default.asp, accessed October 13, 2011.

TDBU, 2010a. *Limited Environmental Soil Characterization for Construction Purposes, Falcon Ridge Substation*, April 22, 2010.

TDBU, 2010b. *Geotechnical Investigation Report, Falcon Ridge 66kV Substation*, May 17, 2010.

United States Environmental Protection Agency (USEPA), 2010. *Fact Sheet, B.F. Goodrich Superfund Site Groundwater Cleanup Plan*, January 2010.

USEPA, 2011. Website information on the B.F. Goodrich Superfund Site, EPA# CAN0009595, at http://yosemite.epa.gov/r9/sfund/r9sfdocw.nsf/ViewByEPAID/CAN000905945?OpenDocument#threats. Accessed October 20, 2011.

4.10 Hydrology and Water Quality

This section discusses the existing environmental and regulatory setting of the Project and alternatives, identifies potential impacts related to construction, operation, and maintenance of the Project and alternatives, and proposes mitigation measures for those impacts determined to be significant. Setting information presented in this section was compiled from the PEA (SCE, 2010), resource agency websites and databases, and Geographic Information System (GIS) data.

4.10.1 Setting

Environmental Setting

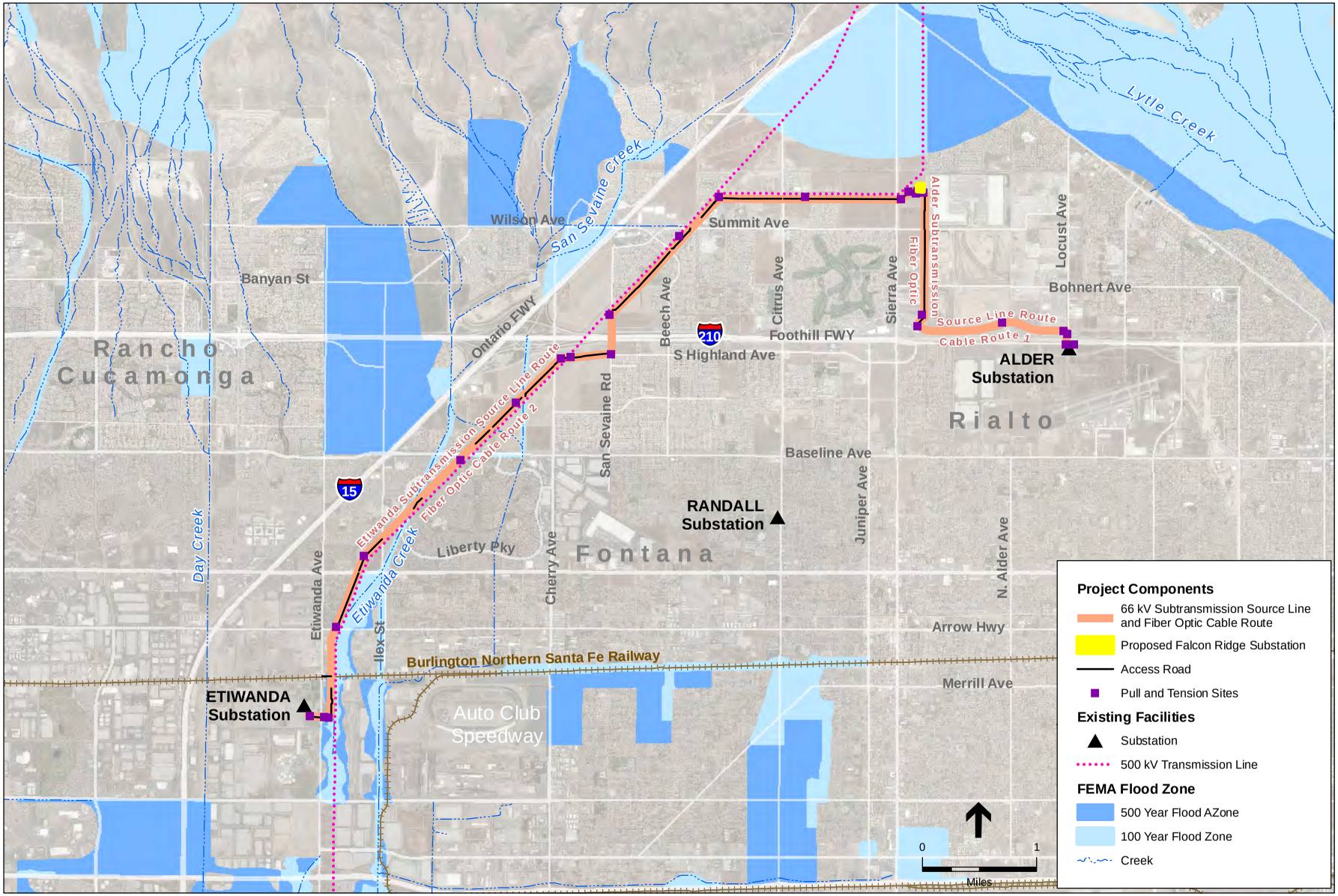
Regional Setting and Climate

Average annual precipitation ranges from 18 inches per year on the valley floors to 40 inches or more per year in the San Bernardino Mountains (SAWPA, 2010). Most of the precipitation occurs between November and March in the form of rain with variable amounts of snow in the higher mountains of the watershed. The climatological cycle of the region results in high surface water flows in the spring and early summer period, followed by typically low flows during the dry season. Winter and spring floods generated by precipitation in the high mountains are not uncommon. Similarly, during the dry season, severe thunderstorms in the high mountains periodically have generated torrential floods in local tributary streams.

The Project is located on the Fontana Plain, within the central part of the Upper Santa Ana River Valley. The San Gabriel Mountains rise sharply to the north, a large portion of which are drained by the Lytle Creek Wash, which flows away from the mountains in a southeasterly direction, passing as close as 3 miles northeast of the Project site. In addition, San Sevaine Creek and Etiwanda Creek both emanate from the steeply rising southern flanks of the Cucamonga Wilderness, flowing a short distance south before entering a network of urban storm drains and canals. These washes and creeks are tributaries to the Santa Ana River located further to the south. The Santa Ana River flows in a southwesterly direction, and eventually reaches the Prado Dam, which defines the boundary between the Upper and the Lower Santa Ana River. Downstream of the Prado Dam, the Santa Ana River Flows through the Orange County coastal plain and out to the Pacific Ocean.

Surface Water Hydrology and Drainage

The Project site straddles two sub-watersheds, the Chino Watershed and the Middle Santa Ana River Watershed, both of which eventually drain to the Santa Ana River, though through a different network of storm drains and/or flood control facilities. The Santa Ana River and other surface waters from both watersheds drain into the Prado Flood Control Basin before continuing to the Pacific Ocean (SARWQCB, 2004). **Figure 4.10-1** shows surface waters in the Project area as well as 100-year flood hazard zones. Within the Project area, The San Bernardino County Flood Control District (SBCFCD) is responsible for the maintenance and operation of countywide flood control facilities, which include debris dams, storm channels, and storm drains along the Santa Ana River



SOURCE: SCE, 2011; FEMA, 2009

Falcon Ridge Substation Project . 207584.09

Figure 4.10-1

Local Creeks and Flood Hazards in the Project Vicinity

and major tributary streams. The cities of Rialto, Fontana, and Rancho Cucamonga construct and maintain the local storm drains (within their respective jurisdictions) that feed into the SBCFCD's area-wide system (SCE, 2010). The Middle Santa Ana River Watershed is under the jurisdiction of the SARWQCB.

Chino Basin Watershed

Stormwater on the Project site located generally west of Sierra Avenue, which includes most of the Etiwanda Subtransmission Source Line Route, is collected by the City of Fontana storm drainage system, and eventually conveyed to the San Sevaine/Etiwanda Creek drainages. Both creeks are ephemeral storm drains that drain all lands west of Sierra Avenue in the cities of Fontana and Rancho Cucamonga, and pass through a series of infiltration/detention basins before draining into Reach 3[1] of the Santa Ana River (SCE, 2010).

Middle Santa Ana River Watershed

Stormwater on the Project site located generally east of Sierra Avenue, which includes the Falcon Ridge Substation site and the Alder Subtransmission Source Line Route, first encounters a constructed storm drain at the western edge of the Mid-Valley Landfill, and eventually flows through the City of Rialto stormwater drainage system into the Rialto Channel. The Rialto Channel is a man-made channel that then drains into Reach 4[2] of the Santa Ana River.

Prado Basin Surface Water Management Zone

The Prado Basin Surface Water Management Zone, located behind Prado Dam, collects surface waters from the Upper Santa Ana River Watershed. Depending on how the dam is operated, surface waters may or may not percolate behind the dam. Flood control operations at the dam, coupled with an extremely shallow groundwater table and an unusually thin aquifer, significantly affect these surface flows, as well as subsurface flows in the area. There is little or no groundwater storage in the flood plain behind the dam. Any groundwater in storage is forced to the surface because the foot of Prado Dam extends to bedrock and subsurface flows cannot pass through the barrier created by the dam and the surrounding hills. Given these characteristics, this area is designated as a surface water management zone, rather than a groundwater management zone. The Prado Basin Management Zone is generally defined by the 566-foot elevation above mean sea level. It extends from Prado Dam up Reach 3 of the Santa Ana River to the 566-foot elevation (just west of Hamner Avenue). The Prado Basin Management Zone encompasses the Prado Flood Control Basin, which is a created wetland complex. Orange County Water District's wetland ponds are also located within the Prado Basin Management Zone (SARWQCB, 2008).

[1] The RWQCB has divided the Santa Ana River into reaches for the purposes of managing water quality. Reach 3 is defined as the portion of the Santa Ana River from the Prado Dam, upstream to Mission Blvd. in Riverside.

[2] Reach 4 is defined as the portion of the Santa Ana River from Mission Blvd. in Riverside, upstream to the San Jacinto Fault in San Bernardino.

Surface Water Quality

Water quality degradation due to high concentrations of nitrogen and total dissolved substances (TDS) are among the most significant regional water quality problems in the Santa Ana River watershed (SARWQCB, 2008). Historically, the Santa Ana River and its major tributaries likely flowed during most of the year, recharging deep alluvial groundwater basins in the inland valleys and the coastal plain. However, irrigation projects eventually led to the diversion of most of the streams tributary to the river, and the quantity of groundwater recharge diminished greatly. Diverted stream flows were used to support extensive irrigated agriculture operations, principally citrus orchards that were also reliant on the use of nitrogen fertilizers to sustain crop yields. Further, discharge from publicly owned treatment works have changed natural surface flows and provides base flow in many parts of the River's drainage network. As the Santa Ana River basin has become extensively urbanized, wastewater flows to the river have increased from 50,000 to over 146,000 acre-feet per year (AFY) from 1970 to 2000, with base flow expected to rise to 370,000 AFY by 2025, as measured at the Prado Dam (SAWPA, 2010).

Treated wastewater discharged to tributaries of the Santa Ana River, along with rising groundwater, non-point source discharges, and seasonal rainfall runoff have all contributed to water quality issues within the watershed. Non-point source pollutants, typically of diffuse origin, can be mobilized and transported to receiving water bodies in sudden pulses and large quantities by storm and irrigation flows within the watershed. Possible sources of non-point source pollution include over-application of nitrogen fertilizers and irrigation water, sedimentation, and the leaching of salts, pesticides, and herbicides. The use of excessive irrigation water or the effect of precipitation hitting bare ground increases erosion, sediment transport, and TDS levels. Excessive irrigation also causes soil constituents and minerals to leach out of the soil. As a result of diversion of stream flows and groundwater pumping to supply water for municipal and agricultural purposes, stream flows within the Santa Ana River are effluent-dominated, except during periods of high precipitation in the winter (SARWQCB, 2004).

Efforts by the SARWQCB to preserve the beneficial use of the Santa Ana River for recreation has encouraged the construction or improvement of publicly owned treatment works, which treat wastewater prior to discharge into the Santa Ana River and its major tributary streams. In the last couple decades, the SARWQCB has required plants to provide virus control (in-line coagulation and filtration and improved disinfection or their equivalents), control of inorganic nitrogen levels, and controls on residual chlorine levels. These efforts have resulted in a steady improvement in water quality since the 1970s and 1980s (SARWQCB, 2008). Nevertheless, the Santa Ana River and its tributary streams remain impaired with respect to several pollutants and /stressors, including pathogens (fecal coliform), and salinity/TDS/chlorides. Applicable water quality standards are identified within the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan) (SARWQCB, 2008). Water quality is assessed on a biannual basis and impairments are listed on the State of California List of Impaired Water Quality Segments (i.e., the §303(d) list). The Regulatory Setting (below) lists water quality objectives for pollutants appearing on the §303(d) list of impaired water bodies in the Upper Santa Ana River watershed for surface waters within the vicinity of the Project.

Groundwater Hydrology and Groundwater Quality

Groundwater in the Project area is defined by the Department of Water Resources (DWR) as the Upper Santa Ana River Groundwater Basin. The groundwater is highly controlled by the geology of the area, both the configuration of bedrock and the extensive geologic faults. Most groundwater basins are unconfined, much like a bowl full of sand that has water poured in. However, the variable depth to bedrock, variations in the permeability of geologic layers, and the presence of faults cause pressure zones where water flows toward the ground surface. In general, groundwater flows in the same direction as surface water: from the mountains that surround the valley toward the middle of the basins, and regionally, toward the southwest and the Pacific Ocean. The Project area is underlain by two subbasins that are delineated based on groundwater barriers such as faults and bedrock units: the southwestern portion of the Etiwanda Subtransmission Source Line route is underlain by the Chino subbasin, and the rest of the Project site is underlain by the Rialto-Colton subbasin (DWR, 2004; DWR, 2006).

Both basins are characterized by an unconfined aquifer system in which high-quality recharge is distributed over a broad area near the mountain front. As groundwater moves toward areas of discharge, overlying land-use activities impact water quality. High salt and nitrate concentrations are two long-standing groundwater quality issues in the Santa Ana River watershed (DWR, 2004; DWR, 2006). Sources of elevated levels include mineral content in the sediments, recharge and drainage patterns, source water quality, irrigation, wastewater discharges, and historic land use. Managing levels of TDS in groundwater basins is a significant challenge as the recycling of wastewater increases in the watershed. Each cycle of residential water use typically adds approximately 200 mg/L of salt to the water (SWAPA, 2010). Industrial and commercial operations may contribute higher levels. Construction and use of salinity management facilities, such as brine lines and desalters, are being used to prevent salt-build up and to remediate high TDS groundwater basins. Elevated levels of nitrates in groundwater originate primarily from use of fertilizers, confined animal feedlots, and wastewater treatment facilities. Areas with elevated nitrates (defined as greater than the 10 mg/L, using the ambient water quality statistics) occur in the southwest portions of the valley and not directly underlying the Project.

Approximately 25 years ago, perchlorate and volatile organic compounds (VOCs) were discovered in groundwater in some areas, including areas in close proximity to the Project (see Section 4.9, *Hazardous Materials*). Contamination due to VOCs and perchlorate has become a major concern within the Rialto/Colton groundwater basin, and may underlie the eastern ends of the Project site near the terminus of the Alder Subtransmission Source Line Route.

Flooding

Flood zones for the 100-year and 500-year flood[3] are mapped in the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps. Regional flood control planning and facility construction are conducted by the SBCFCD, which exercises control over all primary

[3] A 100-year flood is calculated to be the level of floodwater expected to be equaled or exceeded every 100 years on average. A 100-year flood has a 1percent chance of being equaled or exceeded in any single year. A 500-year flood has a 0.2 percent chance of occurring in any given year.

streams in the county, acquires right-of-way for all main channels, constructs channels, and has carried out an active program of permanent channel improvements in coordination with the U.S. Army Corps of Engineers (USACOE).

Based on the San Bernardino County flood zone maps, which incorporate FEMA data, the major floodplains in the vicinity of the Project are those associated with the San Sevaine/Etiwanda Creek (San Bernardino County, 2005; SCE, 2010). Portions of the Etiwanda Subtransmission Source Line Route and Telecommunication Facilities located south of Foothill Blvd. are located in an area that includes both 100-year and 500-year flood zones. Portions of the Etiwanda Subtransmission Source Line Route located east of Cherry Ave. and north of Foothill Ave. are located in an area that would normally be part of the floodplain, but that are currently protected by levees (SCE, 2010). All other areas of the Project, including the Falcon Ridge Substation, the northern portion of the Etiwanda Subtransmission Source Line Route, and the Alder Subtransmission Source Line Route are not located within either the 100-year or the 500-year flood zones.

Dam Failure

Flooding can also occur from dam failure. This flooding is referred to as dam inundation. The State of California requires that dam inundation maps, which depict a best estimate of the extent of water flow in the event of dam failure, must be approved and maintained by the Office of Emergency Services. These maps have been compiled by San Bernardino County and incorporated into the county's General Plan Safety Element using hazard overlays (San Bernardino County, 2005). The Project is not located in an area with a risk from dam inundation.

Mudflows

Slightly different from water flooding, mudflows are flooding conditions where a river of liquid and flowing mud move on a surface of a normally dry land area. Mudflow risk is dependent on terrain, soil type, and rainfall intensity. Mudflow risk is highest for burned areas that have been denuded due to a wildfire or areas immediately down-gradient of burned areas. Without vegetation and ground cover, rainfall can cause soil on steep slopes of burned areas to become saturated, liquefy, and then flow down hills as a mudflow. Hazards from mudflows are most likely at the bottoms and mouths of steep ravines and drainage courses, the outer "banks" of bends along such ravines, and along or below steep slopes (CGS, 2011). The Project is located at least 2 miles from steep terrain, making the hazard from mudflow unlikely.

Seiche

A seiche is a standing wave in an enclosed or partially enclosed body of water. Seiches and seiche-related phenomena have been observed on lakes, reservoirs, swimming pools, bays, harbors and seas. The key requirement for formation of a seiche is that the body of water be enclosed or at least partially bounded, allowing the formation of the standing wave. There are no enclosed bodies of water that are located close enough the Project area to pose any risk from seiche.

Tsunami

Flooding or damage from a tsunami may occur in coastal areas including beaches, lagoons, bays, estuaries, tidal flats and river mouths. It is rare for a tsunami to penetrate more than 1 mile inland. The State of California has developed tsunami evacuation maps that delineate areas that are within the projected run-up height of tsunamis. The Project is located too far inland and too high in elevation to be located in a tsunami hazard zone.

Regulatory Setting

Federal and State Water Quality Policies

The statutes that govern the activities under the Project that may affect water quality are the federal CWA (33 U.S.C. §1251) and the Porter-Cologne Water Quality Control Act (Porter-Cologne) (California Water Code, §13000 et seq.). These acts provide the basis for water quality regulation in the Project 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 Resource 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 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, §13240-13247). The Project area is located within the jurisdiction of the SARWQCB.

Beneficial Use and Water Quality Objectives (CWA §303)

The SARWQCB is responsible for the protection of the beneficial uses of waters within southwestern San Bernardino County, western Riverside County, and northwestern Orange County. The SARWQCB uses its planning, permitting, and enforcement authority to meet this responsibility and has adopted the Basin Plan to implement plans, policies, and provisions for water quality management.

In accordance with state policy for water quality control, the SARWQCB 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 existing and potential beneficial uses supported by the key surface water drainages throughout its jurisdiction. The existing and potential beneficial uses designated in the Basin Plan for the surface water bodies in or downstream from the Project area are identified in **Table 4.10-1**. The existing uses of groundwater in the vicinity of the Project area, the Upper Santa Ana River Basin, include: municipal and domestic supply (MUN), agricultural supply (AGR), industrial service supply (IND), and industrial process supply (PROC)

TABLE 4.10-1
BENEFICIAL USES OF WATERS IN THE PROJECT AREA

Beneficial Use	East Etiwanda Creek	San Sevaine Creek	Lytle Creek	Santa Ana River Reach 4 – Mission Blvd. in Riverside to San Jacinto Fault in San Bernardino	Santa Ana River Reach 3 – Prado Dam to Mission Blvd. in Riverside	Prado Basin Management Zone (Prado Lake behind Prado Dam)
Municipal and Domestic Supply (MUN)	X	I	X	+	+	+
Agricultural Supply (AGR)			X		X	
Industrial Service Supply (IND)			X			
Industrial Process Supply (PRO)	X		X			
Groundwater Recharge (GWR)	X	I	X	X	X	
Water Contact Recreation (REC 1)	X	I	X	X[1]	X	X
Non-Contact Water Recreation (REC 2)	X	I	X	X	X	X
Warm Freshwater Habitat (WARM)				X	X	X
Cold Freshwater Habitat (COLD)	X	I	X			
Wildlife Habitat (WILD)	X	I	X	X	X	X
Rare, Threatened or Endangered Species (RARE)	X		X		X	X
Spawning, Reproduction and Development (SPWN)				X	X	
Hydropower Generation (POW)			X			

X = Existing or Potential beneficial use
I = Intermittent beneficial use
+ = Waterbody has been specifically excepted from the MUN designation in accordance with the criteria specified in the "Sources of Drinking Water Policy."

1 Access prohibited in some portions by San Bernardino County Flood Control.

SOURCE: SABRWQCB, 2008

(SARWQCB, 2008). 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 the region. **Table 4.10-2** presents selected quantitative surface water and groundwater quality objectives relevant to the Project area.

The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the nation's waters." Under CWA §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. The Santa Ana River and Lytle Creek are listed as an impaired water bodies that have pathogens and salinity/TDS/chlorides as pollutants/stressors (**Table 4.10-3**). California is required to establish total maximum daily loads (TMDL) for each pollutant/stressor. A TMDL defines how much of a specific pollutant/stressor a given water body can tolerate and still meet relevant water

TABLE 4.10-2
SELECTED WATER QUALITY OBJECTIVES

Watershed/Water Body	Water Quality Objectives (mg/L)				
	TDS	Sodium	Chloride	Nitrogen	Sulfate
East Etiwanda Creek	200	15	4	4	25
San Sevaine Creek	200	--	--	--	--
Lytle Creek	200	15	4	4	25
Santa Ana River, Reach 3	700	110	140	10	150
Santa Ana River, Reach 4	550	--	--	10	--
Prado Basin Management Zone	--	--	--	--	--
Groundwater Basins					
Chino North*	420	--	--	5	--
Chino 2	250	--	--	2.9	--
Chino 3	260	--	--	3.5	--
Rialto	230	--	--	2.0	--

* "Maximum benefit" objectives of Chino North apply unless Regional Board determines that lowering of water quality is not of maximum benefit to the people of the state; in that case, objectives for Chino 2 or 3 would apply (Chino North an Chino 2/3 are physically the same groundwater basin).
\- Narrative objectives apply.

SOURCE: SARWQCB, 2008

TABLE 4.10-3
APPROVED 2006 CWA §303(D) LIST OF WATER QUALITY LIMITED SEGMENTS IN THE PROJECT AREA

Name	Pollutant/Stressor	Source	Proposed or Approved TMDL Completion Date
Lytle Creek	Pathogens	Unknown Nonpoint Source	2019 (A)
Santa Ana River, Reach 3	Pathogens	Dairies	2007 (B)
Santa Ana River, Reach 4	Pathogens	Nonpoint Source	2019 (A)
	Salinity/TDS/Chlorides	Source Unknown	2019 (A)

SOURCE: SWRCB, 2007

quality standards. A TMDL has been approved to address pathogens within Santa Ana River, Reach 3. The TMDL has established bacterial indicator numeric targets for fecal coliform and E. coli (SWRCB, 2007):

- *Fecal coliform*: log mean less than 200 organisms per 100 mL based on five or more samples per 30 day period, and not more than 10 percent of the samples exceed 400 organisms per 100 mL for any 30-day period.

- *E. coli*: log mean less than 126 organisms per 100 mL based on five or more samples per 30-day period, and not more than 10 percent of the samples exceed 235 organisms per 100mL for any 30-day period.

Water Quality Certification (CWA §401)

Section 401 of the CWA requires that an applicant for any federal permit (e.g., a USACE §404 permit) obtain certification from the state that the discharge would comply with other provisions of the CWA and with state water quality standards. For example, an applicant for a permit under §404 of the CWA must also obtain water quality certification per §401 of the CWA. Section 404 of the CWA requires a permit from the USACOE prior to discharging dredged or fill material into waters of the United States, unless such a discharge is exempt from CWA §404.[4] For the Project area, the SARWQCB must provide the water quality certification required under §401 of the CWA. Water quality certification under §401 of the CWA, and the associated requirements and terms, is required in order to minimize or eliminate the potential water quality impacts associated with the action(s) requiring a federal permit.

NPDES Program (CWA §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 NPDES permit. The 1987 amendments to the CWA added §402(p), which establishes a framework for regulating municipal and industrial stormwater discharges under the NPDES Program. In November 1990, the USEPA published final regulations that also establish stormwater permit application requirements for discharges of stormwater to waters of the United States from construction projects that encompass 5.0 or more acres of soil disturbance. Regulations (Phase II Rule) that became final on December 8, 1999, expanded the existing NPDES Program to address stormwater discharges from construction sites that disturb land equal to or greater than 1.0 acre and less than 5.0 acres (small construction activity). The regulations also require that stormwater discharges from small municipal separate storm sewer systems (MS4s) be regulated by an NPDES permit.

San Bernardino County MS4 Permit (SARWQCB Order R8-2010-0036). Within the purview of the MS4 permit requirements, the SBCFCD, the (the Principal Permittee), and San Bernardino County, in cooperation with the cities of Big Bear Lake, Chino, Chino Hills, Colton, Fontana, Grand Terrace, Highland, Loma Linda, Montclair, Ontario, Rancho Cucamonga, Redlands, Rialto, San Bernardino, Upland, and Yucaipa (co-permittees), have formed the San Bernardino County Stormwater Program under a revised municipal NPDES permit for stormwater discharges issued by the SARWQCB (Order R8-2010-0036; San Bernardino County MS4 Permit).[5] Under the San Bernardino County MS4 Permit, the co-permittees are required to administer, implement, and enforce a Water Quality Management Program (WQMP) to reduce pollutants in urban runoff. The San Bernardino County Stormwater Program *Model Water Quality Management Plan Guidance* (San Bernardino County, 2010) provides guidance for the implementation of stormwater management control measures. The guidance has been developed to meet the Planning and Land Development requirements contained in the San Bernardino County MS4 Permit for new development and redevelopment projects and to facilitate successful implementation of the WQMP.

[4] 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.

[5] SARWQCB Order R8-2010-0036, NPDES Permit No. CAS004002, *Waste Discharge Requirements for the County of San Bernardino and the Incorporated Cities of San Bernardino County, Areawide Urban Storm Water Runoff*.

Specific to post-construction runoff, a goal of the WQMP is to achieve post-development runoff rates, volumes, flow velocities, and flow durations that mimic those of the pre-development condition, and to protect the beneficial uses of receiving waters through enforcement of water quality objectives in the Basin Plan. Within the guidelines, a process is outlined to ensure that new development and redevelopment projects comply with the WQMP and the requirements of the San Bernardino County MS4 Permit. This process includes screening and selection of BMPs (e.g., retention BMPs, treatment control BMPs, etc.) as appropriate.

According to the definition of new development projects, the Project would be subject to the requirements and standards set forth in the San Bernardino County MS4 Permit and within the guidelines (San Bernardino County, 2010). According to the San Bernardino County MS4 Permit, new development projects that require a WQMP include all development projects equal to 1.0 acre or greater of disturbed area that add more than 10,000 square feet of impervious surface area. No building or grading permit shall be granted by the co-permittee(s)—which in the case of the Project include San Bernardino County and the cities of Fontana, Rialto, and Rancho Cucamonga—prior to approval of the final Project-specific WQMP.

Construction General Permit (SWRCB Order 2009-09-DWQ). For stormwater discharges associated with construction activity in the state of California, the SWRCB has adopted the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (SWRCB Order 2009-0009-DWQ; Construction General Permit) in order to avoid and minimize water quality impacts attributable to such activities.[6] The Construction General Permit applies to all projects where construction activity disturbs 1.0 or more acre of soil. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground, such as stockpiling and excavation. The Construction General Permit requires the development and implementation of a SWPPP, which would include and specify BMPs designed to prevent pollutants from contacting stormwater and keep all products of erosion from moving off-site into receiving waters. Routine inspection of all BMPs is required under the provisions of the Construction General Permit. In addition, the SWPPP must contain a visual monitoring program, a chemical monitoring program for non-visible pollutants, and a sediment monitoring plan if the site discharges directly to a water body listed on the §303(d) list for sediment.

For the Project area, the Construction General Permit is implemented and enforced by the SARWQCB. Dischargers are required to submit a Notice of Intent (NOI) in order to obtain coverage under the Construction General Permit, at the discretion of the SWRCB and the SARWQCB. Dischargers are responsible for notifying the relevant RWQCB of violations or incidents of non-compliance, as well as for submitting annual reports identifying deficiencies of the BMPs and how the deficiencies were corrected.

6 SWRCB Order 2009-0009-DWQ (as amended by SWRCB Order 2010-0014-DWQ), NPDES Permit No. CAS000002, *National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities.*

The Construction General Permit requires a risk-based permitting approach, dependent upon the likely level of risk imparted by a project. To ensure compliance and protection of water quality, the permit implements monitoring, reporting, and training requirements for management of potential stormwater pollutants. The permit contains several compliance items, including: (1) mandatory BMPs to reduce erosion and sedimentation, which may include incorporation of vegetated swales, setbacks and buffers, rooftop and impervious surface disconnection, bioretention cells, rain gardens, rain cisterns, implementation of pollution/sediment/spill control plans, training, and other structural and non structural actions; (2) sampling and monitoring for non-visible pollutants; (3) effluent monitoring and annual compliance reports; (4) development and adherence to a Rain Event Action Plan; (5) requirements for the post-construction period; (6) numeric action levels and effluent limits for pH and turbidity; (7) monitoring of soil characteristics on site; and (8) mandatory training under a specific curriculum.

The Project would disturb more than 1.0 acre of soil and would thus be subject to the provisions and requirements of the General Construction Permit. SCE would submit an NOI to the SWRCB and obtain coverage under, and comply with, the General Construction Permit. As summarized previously, the preparation of a SWPPP would be required in accordance with the General Construction Permit. The SWPPP would include, but not be limited to, relevant measures, conditions, and obligations which would reduce or eliminate the impacts of construction activities on stormwater and receiving water quality and quantity. The General Construction Permit also contains requirements for the post-construction period, though implementation of a WQMP—if required under the San Bernardino County MS4 Permit and approved by the co-permittee with jurisdictional authority—may constitute compliance with the General Construction Permit post-construction requirements.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act (codified in the California Water Code, §13000 *et seq*.) is the basic water quality control law for California. As mentioned above, it is implemented by the SWRCB and the nine RWQCBs. The SWRCB establishes statewide policy for water quality control and provides oversight of the RWQCBs' operations. 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 state[7] could cause pollution or nuisance, including impacts to public health and the environment. Evident from the preceding regulatory discussion, the Porter-Cologne Act and the CWA overlap in many respects, as the entities established by the Porter-Cologne Act are in many cases enforcing and implementing federal laws and policies. However, there are some regulatory tools that are unique to the Porter-Cologne Act.

7 "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, § 13050 (e).)

Dredge/Fill Activities and Waste Discharge Requirements

Actions that involve, or are expected to involve, discharge of waste are subject to water quality certification under §401of the CWA (e.g., if a federal permit is being sought or granted) and/or waste discharge requirements (WDRs) under the Porter-Cologne Act. Chapter 4, Article 4 of the Porter-Cologne Act (California Water Code, §§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), WDRs are required and are issued exclusively under state law. WDRs typically require many of the same BMPs and pollution control technologies as required by NPDES-derived permits. Further, the WDRs application process is generally the same as for CWA §401 water quality certification, though in this case it does not matter whether the particular project is subject to federal regulation.

General WDRs for Discharges to Land with a Low Threat to Water Quality. In SWRCB Order 2003-0003-DWQ, 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 of low volume with minimal pollutant concentrations.[8] All WDRs must implement the Basin Plan and require dischargers (e.g., SCE) to comply with all applicable Basin Plan provisions and water quality objectives. The General WDRs establish minimum standards and monitoring requirements with respect to a few, specific categories of discharge, including boring waste discharge, small dewatering projects (e.g., temporary dewatering during construction excavation activity), and miscellaneous discharges such as small, inert solid waste disposal operations. As discussed in the environmental setting, the Project is unlikely to encounter shallow groundwater. However, the actual presence or absence of shallow groundwater is dependant on local geologic and climatic conditions, and it is thus possible that perched groundwater could be encountered.

The Project may therefore require dewatering during pole installation (particularly for the TSPs), and any dewatering activity that would discharge to the land surface would need to comply with the provisions of these General WDRs (or, alternatively, SCE and/or its contractor would need to obtain an individual WDR). Accordingly, to obtain coverage under these General WDRs and ensure compliance with the Basin Plan, SCE and/or its contractor would submit the following to the SARWQCB: an NOI to comply with these General WDRs, a Project map, evidence of CEQA compliance, the requisite fee, a discharge monitoring plan (DMP), and any additional information requested by the SARWQCB.[9] SARWQCB 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.

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8 SWRCB Order 2003-0003-DWQ, *Statewide General Waste Discharge Requirements (WDRs) for Discharges to Land with a Low Threat to Water Quality (General WDRs).*

9 Further details concerning the requirements for coverage under these General WDRs, such as the necessary contents of a DMP, can be found in the SWRCB Order implementing these General WDRs (SWRCB Order 2003-0003-DWQ).

Executive Order 11988

Under Executive Order 11988, FEMA is responsible for management of floodplain areas defined as the lowland and relatively flat areas adjoining inland and coastal waters subject to a 100-year floodplain. FEMA requires that local governments covered by federal flood insurance pass and enforce a floodplain management ordinance that specifies minimum requirements for any construction within the 100-year floodplain.

County and Local Plans, Policies, and Regulations

CPUC General Order No. 131-D explains that local land use regulations would not apply to the Project and alternatives. However, for information purposes, the following goals and policies included in the general plans for San Bernardino County and the cities of Fontana, Rialto, and Rancho Cucamonga would otherwise be relevant to the Project and alternatives.

San Bernardino County

San Bernardino County Ordinance No. 4011 (Title 8: Development Code, Division 2 Land Use Zoning Districts and Allowed Land Uses, Chapter 82.14 Flood Plain Safety Overlay) requires that no structure be constructed, located, substantially improved, or graded in areas designated as floodways (defined as a channel of a river and adjacent 100-year flood zone areas) except upon approval of a plan which provides that the proposed development will not result in any increase in flood levels during the occurrence of the 100-year flood discharge. SBCFCD requires an encroachment permit where work is proposed within the public right-of-way (ROW) easement, which includes aerial utilities. Encroachment permit applications associated with new developments that propose to discharge stormwater into SBCFCD facilities must identify best management practices (BMPs) (NPDES requirements) to mitigate water quality impacts from the Project (SCE, 2010).

Cities of Fontana, Rialto and Rancho Cucamonga

As discussed above, the cities of Fontana, Rialto, Rancho Cucamonga, and the SBCFCD are permittees under a regional MS4 permit issued by the SARWQCB. As permittees, the cities and the SBCFCD are responsible for ensuring permit requirement are carried out, including requirements for implementing WQMPs, which prohibit and regulate specific types of discharges, mandate inspections and public education, place controls on new development and redevelopment, and specify site and construction site maintenance practices (SARWQCB, 2010).

To implement their WQMPs, the cities of Fontana, Rialto, and Rancho Cucamonga have developed conditions of approval for projects requiring coverage under the state's General Permits. These conditions are to be effective at the time of grading permit issuance for construction sites on 1 acre or more and at the time of local permit issuance for industrial facilities (SARWQCB, 2010). These cities require applicants to submit a WQMP as early as possible during the environmental review or planning phase and no grading permit will be issued prior to approval of a site-specific WQMP. A WQMP must describe water quality controls, or BMPs, that will be implemented for a project. The BMPs are incorporated into the project design and operation to minimize the impact from identified pollutants of concern and hydrologic

conditions of concern. Where pollutants of concern include pollutants that are listed as causing or contributing to impairments of receiving waters, BMPs must also be selected so that the project does not cause or contribute to an exceedance of receiving water quality standards. Strategies to minimize the pollutants in runoff from the project site include site design BMPs, source control BMPs, and/or treatment control BMPs.

4.10.2 Significance Criteria

Significance criteria, or thresholds, listed in Appendix G of the CEQA Guidelines area used to determine the significance of potential impacts due to the Project. Based on these criteria, a project would have a significant hydrology- or water quality-related effect on the environment if it would:

a) Violate any water quality standards or waste discharge requirements.

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).

c) Substantially alter the existing drainage pattern of a site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or sedimentation on- or off-site.

d) Substantially alter the existing drainage pattern of a site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.

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.

f) Substantially degrade water quality.

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 flood hazard delineation map.

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows.

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.

j) Inundation by seiche, tsunami, or mudflow.

Approach to Analysis

Reconnaissance-level field investigations were conducted and regional and site-specific technical documents were reviewed to identify hydrology and water quality resources that could be affected by the Project. Potential impacts on hydrologic resources and water quality during

construction, operation, and maintenance were determined and evaluated with respect to identified hydrologic features.

Based on the proposed construction, operation, and maintenance of the various Project elements and the hydrologic environment in the areas where Project components would be constructed, the Project would not result in impacts related to groundwater resources, risks relating to housing within a flood zone, and inundation by seiche, tsunami, or mudflow (i.e., CEQA criteria b), e), f), g), h), i), or j)). Herein, for the following reasons, these topics are not discussed further:

- *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).* During installation of subsurface structures, there is a slight possibility that shallow groundwater would be encountered. If dewatering should occur, it would be for a short period of time and would not affect groundwater levels in the region. Project operation may indirectly use groundwater (through a water agency) to maintain landscaping, but this usage is not expected to deplete groundwater supplies. The impermeable surfaces associated with the Project would be minimal and physically dispersed, as they would be limited to the footings and duct banks and would not constitute the entire substation, and would not substantially interfere with groundwater recharge. As a result, construction, operation, and maintenance of the Project would not 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.

- *Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.* The proposed Falcon Ridge Substation does not involve placing housing within a 100-year floodplain, therefore, there are no impacts associated with placing housing within a 100-year floodplain.

- *Place within a 100-year flood hazard area structures which would impede or redirect flood flows*. The proposed Falcon Ridge Substation site is not within a FEMA designated 100-year flood hazard zone. Construction of the subtransmission source lines would occur in a 100-year flood zone; however the poles and foundations would not alter drainage patterns and do not have a large cross section that would significantly impede flood flows. Therefore, there are no impacts related to impeding or redirecting flood flows from placing structures within a 100-year flood plain.

- *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.* Because the Project would not be located down gradient of a levee or dam and would not be within a dam inundation zone, there would be no impact with respect to flooding as a result of the failure of a levee or dam.

- *Inundation by seiche, tsunami, or mudflow.* As discussed in the setting, there are no flood hazards related to these phenomena in the Project area. Therefore, there are no impacts related to inundation by seiche, tsunami, or mudflow.

These criteria are not evaluated further in this EIR (No Impact, Class IV).

4.10.3 Applicant Proposed Measures

No APMs have been identified by SCE to reduce Project impacts on hydrology and water quality.

4.10.4 Impacts and Mitigation Measures

This impact analysis considers the potential hydrology and water quality impacts of activities associated with the construction, operation, and maintenance of the Project.

a) Violate any water quality standards or waste discharge requirements.

Impact 4.9-1: Construction, operation and maintenance activities associated with the Project could result in increased erosion and sedimentation and/or pollutant (e.g., fuels and lubricants) loading to surface waters, which could increase turbidity, suspended solids, settleable solids, or otherwise degrade water quality. *Less than significant* (Class III).

Construction

Construction activities associated with the Project could increase the turbidity or otherwise degrade the water quality of receiving stream channels or other surface waterways, such as engineered channels and storm drains. Activities that disturb the ground near or within a stream channel (e.g., clearing and grading) could make soils and sediments more susceptible to erosion by altering their existing structure or state. Depending on the distance and ground slope, some portion of the eroded material could eventually be delivered to the stormwater drainage systems adjacent to Project components (e.g., during the next rain event). An increase in the runoff rate from a construction area may result from temporarily decreasing ground surface resistance to overland flow (e.g., clearing of native vegetation or slope grading), decreasing the infiltration capacity of the soil by means of compaction (e.g., with heavy equipment), or by increasing the velocity of runoff (e.g., concentrating flow into manmade features). In addition, if construction equipment or workers inadvertently release pollutants (e.g., hydraulic fluid or petroleum) on site, these compounds could be entrained by runoff and discharged into receiving channel(s) causing water quality degradation. The extent of erosion or pollution that could occur at any given construction site varies depending on soil type, vegetation/cover (or lack thereof), and weather conditions. Specific construction activities referenced under this potential impact include, but are not limited to, clearing and grading, excavation work, and the stockpiling of soil or sediments.

Based on the Project setting, significant problems related to increased sediment concentrations and turbidity levels in receiving stream channels as a result of increased runoff appear unlikely. Soils on the Project site are primarily in Hydrologic Group A, which refers to soils that have low runoff potential due to high rates of infiltration and water transmission (See Table 4.7-1, *Soil types underlying the Project area*). Combined with the nearly flat topography, the Project site has a low susceptibility to significant runoff and erosion. Even in the case where a storm event would be sufficiently intense and prolonged to generate overland flow, stormwater runoff would generally be captured by the nearest municipal storm drain, or by engineered channels, in the

Project vicinity rather than a natural watercourse. Stormwater from the proposed Falcon Ridge Substation site would be directed south to regional storm drain systems, either along Sierra Avenue or to the western edge of the Mid-County Landfill. The natural watercourses associated with Etiwanda, San Sevaine, and Lytle Creeks are located upstream of the Project within the San Gabriel Mountains and would not be affected by the Project. Further, none of the waterbodies down-gradient of the Project, including the Santa Ana River, is on the CWA §303(d) list as impaired for sediment—which is the most likely pollutant that the Project would generate.

While uncertainties exist regarding the precise response of various Project-related construction areas to intense storms, the Project's contribution towards total suspended sediment loads and turbidity in receiving waters would be minor. Most elements of the Project would involve only short-term (i.e., within a single season) construction activities, and thus the associated potential impacts would be short-lived in nature. Actions associated with the Project that would require considerable soil moving activities include site preparation and construction of the proposed Falcon Ridge Substation, grading/grubbing associated with installation of new access roads, and underground work associated with telecommunications facilities and relocation of existing transmission poles. While the total construction-related land disturbance associated with the Project would be substantial (approximately 160 acres), construction activities would be carried out in phases and geographically dispersed over a wide area such that the area of disturbance at any one time would be relatively minor.

Regardless, the Project would be required to adhere to a number of federal and state water quality provisions, primarily because the provisions are designed to minimize or eliminate the potential water quality impacts associated with the cumulative effect of construction activities in the region. Because the Project would be greater than 1 acre in size, SCE would be required to submit a NOI to the Santa Ana SWRCB in order to obtain approval to carry out construction activities under the General Construction Permit. This permit would include a number of design, management, and monitoring requirements for the protection of water quality and the reduction of construction phase impacts related to stormwater (and some non-stormwater) discharges. Permit requirements would include the preparation of a SWPPP, implementation and monitoring of BMPs, implementation of best available technology (BAT) for toxic and non-conventional pollutants, implementation of best conventional technology (BCT) for conventional pollutants, and periodic submittal of performance summaries and reports to the Santa Ana RWQCB. The SWPPP would apply to the Project as a whole and would include reference to the major construction areas, such as the proposed Falcon Ridge Substation, materials staging areas and underground work associated with telecommunications facilities and relocation of existing transmission poles. Also, the Applicant would contact the Santa Ana RWQCB and file a Report of Waste Discharge; the Santa Ana RWQCB would then determine whether an issuance or a waiver of WDRs is necessary considering the permits already required for the Project.

Project construction would require the limited use of hazardous materials; all hazardous materials associated with construction activities would be stored, handled, and used in accordance with the applicable regulations. The SWPPP would provide detail of locations where hazardous materials

may be stored during construction, and the protective measures, notifications, and cleanup requirements for any accidental spills or other releases of hazardous materials that could occur.

Operation and Maintenance

The potential for the Project to violate water quality standards during long-term operation and maintenance is mainly a result of modifications to the existing local drainage characteristics. If water quality issues and existing drainage patterns are not properly considered in the design of the Project, such changes could increase the volume and rate of stormwater runoff in and subsequently lead to an increase in erosion and sedimentation, and/or carry point or non-point hazardous materials into the local storm drain system. The potential for the Project to substantially alter the existing drainage pattern of the Project area is less than significant, as discussed under Impact 4.9-2. With respect to adverse water quality impact due to the presence of hazardous materials, based on the anticipated volume of mineral oil in use at the site being in excess of 1,320 gallons, a Spill Prevention and Control Countermeasures (SPCC) Plan would be required (40 C.F.R. Parts 112.1-112.7). Typical SPCC secondary containment 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 Project, and would minimize the potential for hazardous materials to be released off-site or to otherwise adversely affect water quality. The Project would not involve in the long-term use or storage of hazardous materials other than mineral oil.

Summary

In summary, the construction, operation, and maintenance of the Project would generally pose a low threat to water quality due to the level terrain, high rate of soil infiltration, and the regulatory controls that would apply to the Project. The measures required of SCE—including preparation and implementation of a SWPPP and WQMP (see discussion for criterion d), below), and if required, coverage under a water quality certification, and/or WDR—are sufficient to reduce potential avoid violation of water quality standards or waste discharge requirement. Therefore, the water quality impacts of the Project would be less than significant.

Mitigation: None required.

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c) Substantially alter the existing drainage pattern of a site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or sedimentation on- or off-site.

See discussion for criterion d), below.

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d) Substantially alter the existing drainage pattern of a site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.

Impact 4.9-2: Installation of the proposed Falcon Ridge Substation and associate access roads would alter the local drainage pattern, potentially resulting in substantial on- or off-site erosion or sedimentation, and/or substantially increasing the rate or amount of surface runoff in a manner that would result in flooding on- or off-site. *Less than Significant* (Class III)

Construction and operation of the proposed Falcon Ridge Substation would require vegetation removal, installation of impervious surfaces and the associated substation components, and minor modifications to the existing local drainage characteristics. These proposed changes could slightly increase the volume and rate of stormwater runoff from the proposed Falcon Ridge Substation site and/or associated access roads and subsequently lead to an increase the amount of sediment that is mobilized and carried by downstream flows. Impervious surfaces essentially eliminate the process of infiltration, allowing a larger volume of precipitation to be transformed to surface runoff. The enclosed substation surface would be graded at a uniform slope of no less than 1 percent in a west-to-east direction. The enclosed substation surface would be covered with permeable material (crushed rock) in areas where no paving or structures would be placed. In total, approximately 46,120 square feet of the substation site would consist of impermeable paved surfaces associated with equipment foundations, 66 kV bus enclosures, the internal and external driveway, and the block wall foundation. These areas, for the most part, would be physically separated by graveled surfaces, and constitute approximately 37 percent of the proposed substation area and approximately 14 percent of the associated parcel. Prior to substation construction, SCE would prepare final engineering drawings for grading and drainage and submit these drawings to the City of Fontana to obtain a grading permit.

Though each project area or watershed is ultimately unique in its response to perturbation, development and land-use conversion typically bring about a common suite of potential hydrology and water quality issues, stemming primarily from the creation and addition of impervious surface areas. The MS4 permits promulgated by the RWQCBs in California are in direct response to these more typical hydrology and water quality issues and are meant to address the cumulative and project-specific impacts of development. According to the definition of new development projects, the Project would be subject to the requirements and standards set forth in the San Bernardino County MS4 Permit and within the model stormwater quality management plan guidance by the San Bernardino County Storm Water Program. According to the San Bernardino County MS4 Permit, new development projects include all development projects equal to 1.0 acre or greater of disturbed area that add more than 10,000 square feet of impervious surface area. Construction activities for the proposed Falcon Ridge Substation would result in a disturbed area of approximately 2.7 acres (see Chapter 2, *Project Description*, Figure 2-3), and the various elements associated with the proposed Falcon Ridge Substation (e.g., foundation, driveways, perimeter wall, etc.) would result in approximately 46,120 square feet of new, impervious surface at the site (see Chapter 2, *Project Description*, Table 2-4). Therefore, the Project would be required to prepare a water quality management plan addressing Project design, operation, and maintenance in order to comply with the provision of the MS4 permit.

As discussed above in the regulatory setting section, the WQMP—which must be prepared and approved prior to local issuance of grading permits—must demonstrate that the Project would not violate water quality objectives in the Basin Plan, would maintain beneficial uses of downstream waterbodies, and would achieve post-development runoff rates, volumes, flow velocities, and flow durations that mimic those of the pre-development condition. As part of the development of a WQMP, SCE and/or its contractor would list the combination of site design, source control, and/or treatment control BMPs necessary to achieve the standards and stipulations outlined within the regional MS4 permit. Because the permit conditions require that site drainage mimic pre-project conditions, there would be minimal impact with respect to downstream flooding. As part of the WQMP, SCE and/or its contractor would also be required to develop a maintenance plan, which shall include guidelines for how and when inspection and maintenance should occur for each long-term BMP measure identified in the WQMP.

Compliance with the requirements outlined in the San Bernardino County MS4 Permit and the associated Model Stormwater Quality Management Plan Guidance (San Bernardino County, 2010) would preclude any water quality and/or flooding impacts from Project-related increases in the rate or amount of surface runoff from becoming potentially significant.

Mitigation: None required.

4.10.5 Alternatives

Alternative 1: Lowell Street Realignment Alternative

Alternative 1 would alter the route of the proposed Alder Subtransmission Source Line and Fiber-Optic Cable, but it would not substantially change the size or type of facilities to be constructed. Because the alternative route is slightly longer than the Project route, Alternative 1 could result in an increased land disturbance area that could be subject to erosion during construction, but the regulatory framework described in Section 4.10.1, Setting, would remain applicable and would be equally effective at addressing potential hydrology and water quality impacts. Therefore, Alternative 1 impacts to hydrology and water quality would be the same as the Project.

No Project Alternative

Under the No Project Alternative, the Project would not be implemented; therefore there would be no impact related to hydrology and water quality.

References – Hydrology and Water Quality

California Geological Survey (CGS), 2011, *Hazards From Mudslides...Debris Avalanches and Debris Flows in Hillside and Wildfire Areas*, CGS Note 33, written by Alan Barrows and Ted Smith, available at http://www.consrv.ca.gov/cgs/information/publications/cgs_notes/note_33/Pages/index.aspx, Accessed October 17, 2011.

California State Water Resources Control Board (SWRCB), 2007. 2006 CWA Section 303(d) List of Water Quality Limited Segments, U.S. EPA approval date: June 28, 2007.

Department of Water Resources (DWR), 2004, *Upper Santa Ana Valley Groundwater Basin, Rialto-Colton Subbasin*, Subbasin Descriptions, California's Groundwater, Bulletin 118, last updated 2/27/2004.

DWR, 2006, *Upper Santa Ana Valley Groundwater Basin, Chino Subbasin*, Subbasin Descriptions, California's Groundwater, Bulletin 118, last updated 1/20/2006.

San Bernardino County, 2005, *San Bernardino County General Plan, Safety Element Background Report*, June 15, 2005.

San Bernardino County, 2010, *San Bernardino Stormwater Program, Model Water Quality Management Plan Guidance,* revised November 12, 2010.

Santa Ana Regional Water Quality Control Board (SARWQCB), 2004, *Watershed Management Initiative Chapter*, September, 2004.

SARWQCB, 2008. *Water Quality Control Plan (Basin Plan) for the Santa Ana River Basin (Region 8)*. January 24, 1995, updated in February 2008.

Santa Ana Watershed Project Authority (SAWPA), 2010. *2010 Integrated Watershed Management Plan*, available at http://www.sawpa.org/owow-generalinfo.html, Accessed October 17, 2010.

Southern California Edison Company (SCE), 2010a. *Proponent's Environmental Assessment, Falcon Ridge Project*, December 2010.

4.11 Land Use and Planning

This section addresses potential impacts on land uses in the study area. The analysis considers potential impacts resulting from the construction, operation, and maintenance of the Project and alternatives. Land use issues include the division of established communities and consistency with applicable land use plans and policies and habitat conservation plans or natural community conservation plans. This evaluation is based on site visits and review of local and regional plans and policies.

4.11.1 Setting

Environmental Setting

The Project would be located within unincorporated San Bernardino County and the cities of Fontana, Rialto, and Rancho Cucamonga.

The proposed Falcon Ridge Substation site would be located within the City of Fontana, a primarily residential community situated at the junction of Interstate 15 (I-15) and State Route 210 (SR 210) and traversed by Interstate 10 (I-10) and several major rail lines. There is a substantial amount of vacant land in the vicinity of the substation site, and residential uses have spread northward from SR 210 into this area, making Fontana a rapidly growing city that has gained in population every year between 2000 and 2009 (U.S. Census Bureau, 2010). In addition to its residential character, Fontana has a history of industrial uses, beginning with the former Kaiser Steel Mill, which closed in 1984 (City of Fontana, 2003a).

A small portion of the Project is located within the Southeast Focus Area of the City of Rancho Cucamonga, which is bordered to the west by I-15 and to the east by unincorporated San Bernardino County and the City of Fontana. The most common land use type in the area is heavy industry, which primarily consists of steel and pipe manufacturing (City of Rancho Cucamonga, 2010).

The northeast portion of the Project area is located within the City of Rialto in western San Bernardino Valley, adjacent to Fontana (City of Rialto, 2010a). The area of the city in which the Project is located is characterized by industrial and warehouse facilities near the rail lines. In addition, the Rialto portion of the Project area includes other industrial areas, such as the land adjacent to the Rialto Municipal Airport.

Another small portion of the Project area is located within the Valley Planning Region of unincorporated San Bernardino County, which includes the portion of the county south and west of the U.S. Forest Service boundaries (San Bernardino County, 2007). The San Bernardino Mountain range, which runs northwest to southeast, forms the eastern limit of the Valley, along with the Yucaipa and Crafton Hills. The southern limits of the Valley are marked by alluvial highlands extending south from the San Bernardino and the Jurupa Mountains. The Project crosses through the Valley Planning Region of the County north of I-10, in an area that consists mostly of industrial uses. The Project area does not contain land covered by a habitat conservation plan or natural community conservation plan.

Regulatory Setting

State

California Public Utilities Commission General Order No. 131-D

The CPUC has sole and exclusive jurisdiction over Project siting and design 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 any land use approval that would involve a discretionary decision to be made by a local agency such as a planning commission, city council or county board of supervisors), 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 matter." The public utility is required to obtain any required non-discretionary local permit.

Local

San Bernardino County

General Plan and Zoning Ordinance. The county has combined its land use designations and zoning classifications as part of its "one-map approach" to ensure land use consistency between the county's General Plan and Zoning Code (San Bernardino County, 2007). A small portion of the proposed Etiwanda Subtransmission Source Line and Fiber-Optic Cable route located northeast of the existing Etiwanda Substation would be located on land designated for Regional Industrial (IR) use by the most recent land use map update (San Bernardino County, 2009). This designation is shown in **Figure 4.11-1**, General Plan Land Use Designations. The Land Use Element of the county's General Plan describes purpose of the IR district:

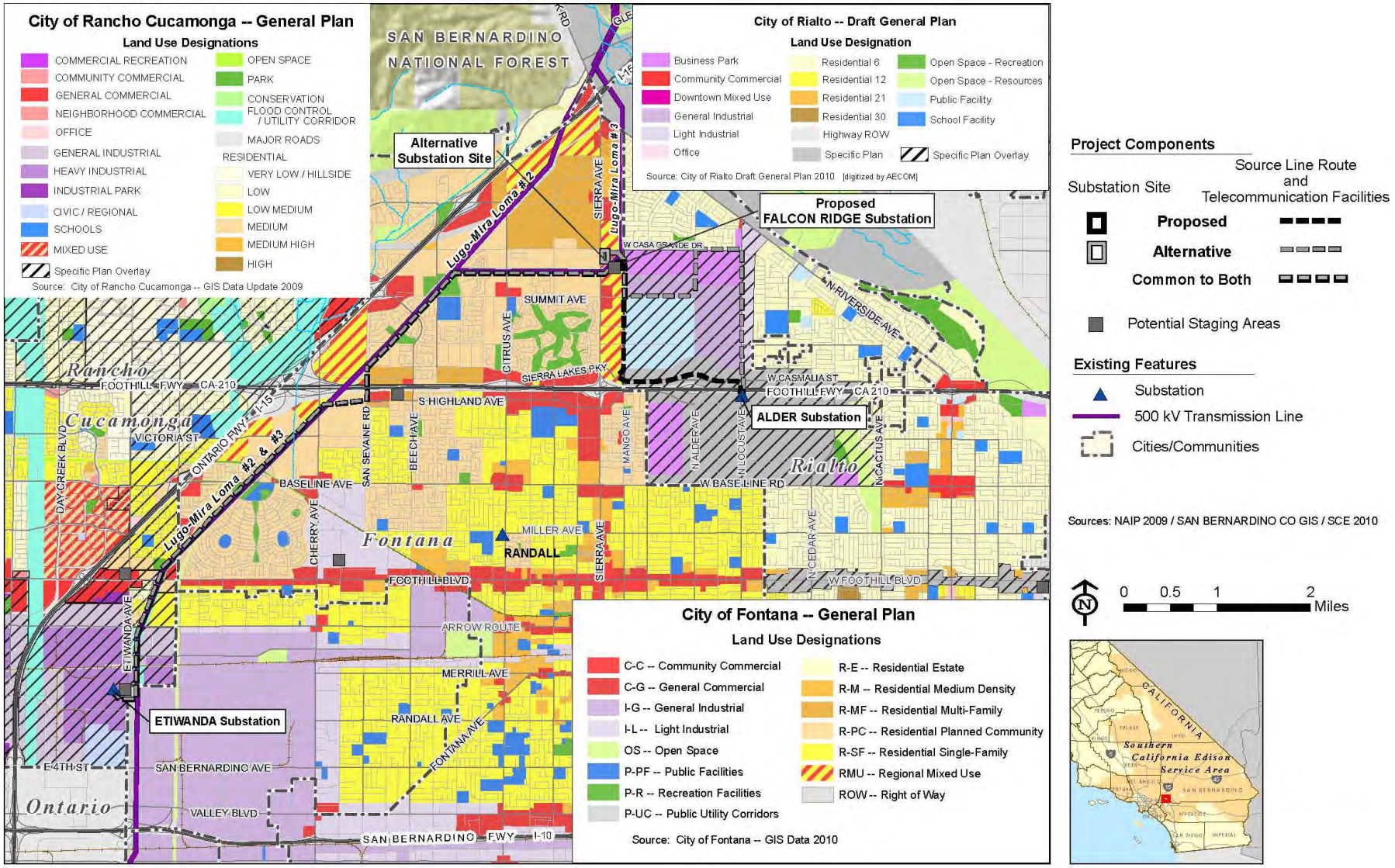
- To identify and establish areas suitable for major industrial centers or a single large industrial plant having 200,000 or more square feet of floor area, or more than 500 employees on any shift;

- To provide sites for industrial uses which have severe potential for negative impacts on any uses that would locate relatively close to them; and

- To identify areas intended eventually to be utilized for industrial purposes to support the public need for manufacturing uses and employment opportunities (San Bernardino County, 2007).

The Circulation and Infrastructure (CI) Element of the General Plan presents goals and policies to promote the development of infrastructure capacity to serve the county's needs. The Conservation (CO) Element addresses the conservation, development, and use of natural resources. Relevant goals and policies listed in the General Plan include the following:

- ***CI 18.1:*** Coordinate with SCE and other utility suppliers to make certain that adequate capacity and supply exists for current and planned development in the County.



SOURCE: SCE, 2011

Falcon Ridge Substation Project . 207584.09

Figure 4.11-1

General Plan Land Use Designations

- ***CO 10.1:*** Electric infrastructure is essential to serve growth and development in the County. Effective planning for electrical infrastructure requires collaboration between the major utilities and the County.

- ***CO 10.2:*** The location of electric facilities should be consistent with the County's General Plan, and the General Plan should recognize and reflect the need for new and upgraded electric facilities (San Bernardino County, 2007).

City of Fontana

General Plan. The proposed Falcon Ridge Substation, a portion of the proposed Alder Subtransmission Source Line route, a portion of the proposed Etiwanda Subtransmission Source Line route, and Staging Area 3 would be located on land currently designated as *Regional Mixed Use* (*RMU)*, for which the city's General Plan defines a target residential density of 12 to 24 housing units per acre and a preferred mix of uses including retail, office, light industrial/business park, residential, and public open space. The intent of this designation is to create centers for employment-generating commercial and industrial uses. Specific development types allowed in *RMU* include research and development facilities, general commercial uses, corporate business parks, service business offices, light manufacturing, warehouse retail, entertainment centers, hotels and convention centers, professional business offices, day care centers, and public open space (City of Fontana, 2003a, p. 3-14 and 3-15).

The proposed distribution getaways would be located in land designated as *RMU* and *Public Utility Corridor* (*P-UC*). *P-UC* indicates locations in the planning area that contain easements for public utilities (City of Fontana, 2003a).

In addition to land designated as *RMU*, the proposed Etiwanda Subtransmission Source Line and Fiber-Optic Cable route would be on lands designated as *General Commercial* (*C-G*), *Multi Family Residential* (*R-MF*), *Residential Planned Community* (*R-PC*), and *P-UC*, The *C-G* land use designation is intended for retailing, wholesaling, and service activities, including automobile dealerships and malls. Offices and businesses providing professional services are also permitted in these areas. The *R-MF* land use designation is intended to be located near activity centers such as commercial and employment centers, major community facilities, and arterial corridors. Typical development in this residential category would include duplexes, condominiums, townhomes and apartments. The *R-PC* land use designation's intent is to provide for the managed growth of master planned communities offering a mix of residential housing types and amenities available for various economic segments of the population.

The Etiwanda Subtransmission Source Line would also traverse areas covered by the Citrus Heights North, Summit at Rosena, Summit Heights, West End, and West Gate specific plans, each of which is an approved, and in some cases partially built-out, plan for the development of mixed–use, master-planned communities. The subtransmission line route would be within the existing SCE ROW, delineated as *P-UC* on the city's land use map and not included in the specific plan areas, with the exception of the portion that would divert from SCE's ROW and extend east parallel to South Highland Avenue to San Sevaine Road, then extend north paralleling San Sevaine Road and spanning the 210 Freeway until reentering SCE's ROW. This portion

would be located within areas of *RMU* and *R-PC* designation within the West Gate Specific Plan that are not yet built out (City of Fontana 1996, 2011a-f). These designations are shown in Figure 4.11-1.

The city's General Plan was reviewed for applicable policies, which are provided below:

- ***LU-1.1:*** Development shall be consistent with our land use plan and contribute to the maintenance of an economic base that provides high quality jobs for those who choose to both live and work in Fontana.

- ***LU-1.5:*** Areas designated as Regional Mixed Use on the Land Use Plan shall be developed with a mix of non-residential and residential uses responsive primarily to regional market and locational forces.

- ***LU-2.1:*** New development with potentially adverse impacts on existing neighborhoods or residents such as noise, traffic, emissions and storm water runoff, shall be located and designed so that quality of life and safety in existing neighborhoods are preserved.

- ***LU-2.2:*** Regionally beneficial land uses such as transportation corridors, flood control systems, utility corridors, and recreational corridors shall be sensitively integrated into our community.

- ***LU-2.5:*** Multiple uses within utility easements shall emphasize open spaces but may accommodate more intensive uses to safely augment adjacent uses.

- ***PFSI 9.3:*** Collaboration with utility companies shall occur to achieve the maximum undergrounding of utility lines commensurate with available funds.

Municipal Code. General Plan policy PFSI 9.3 is implemented through the provisions of the city's municipal code, chapter 27, Utilities. Although §27-52 establishes citywide utility undergrounding requirements, §27-53 exempts any utility lines over 36 kv or any lines affixed to and supported by poles accommodating lines over 36 kv. Because the subtransmission source lines would be 66 kv, the Project would be exempt from these requirements.

Zoning Ordinance. The proposed Falcon Ridge Substation, distribution getaways, a portion of the proposed Alder Subtransmission Source Line route, a portion of the proposed Etiwanda Subtransmission Source Line route, and Staging Area 3 would be located on land currently zoned as *Regional Mixed Use* (*RMU*) by the City of Fontana's Zoning and Development Code. Another portion of the proposed Etiwanda Subtransmission Source Line route would be on lands designated as *General Commercial* (*C-2*), *Multi Family Residential* (*R-3*), and *Residential Planned Community* (*R-PC*) (City of Fontana, 2011g).

The *RMU* district accommodates a wide range of residential, retail, commercial, office, light manufacturing, and civic uses to create vibrant activity centers with compatible activities. The *C-2* district accommodates commercial activities including retail and wholesale activities, automobile-related sales and services, offices and businesses providing administrative and professional services, and medical offices and clinics. *R-3* is the most intense multiple-family residential zoning district and permits development such as garden apartments, corridor apartments, condominiums, and townhouses. *R-PC* is a district that applies to areas not currently

covered by a specific plan, but which the city has identified as potentially appropriate areas for master-planned communities. Projects of 160 acres or more may develop a wide range of uses and densities if a specific plan is first prepared and approved, while projects of fewer than 160 acres may develop only low-density residential uses (Fontana Municipal Code § 30-190.1 et seq.)

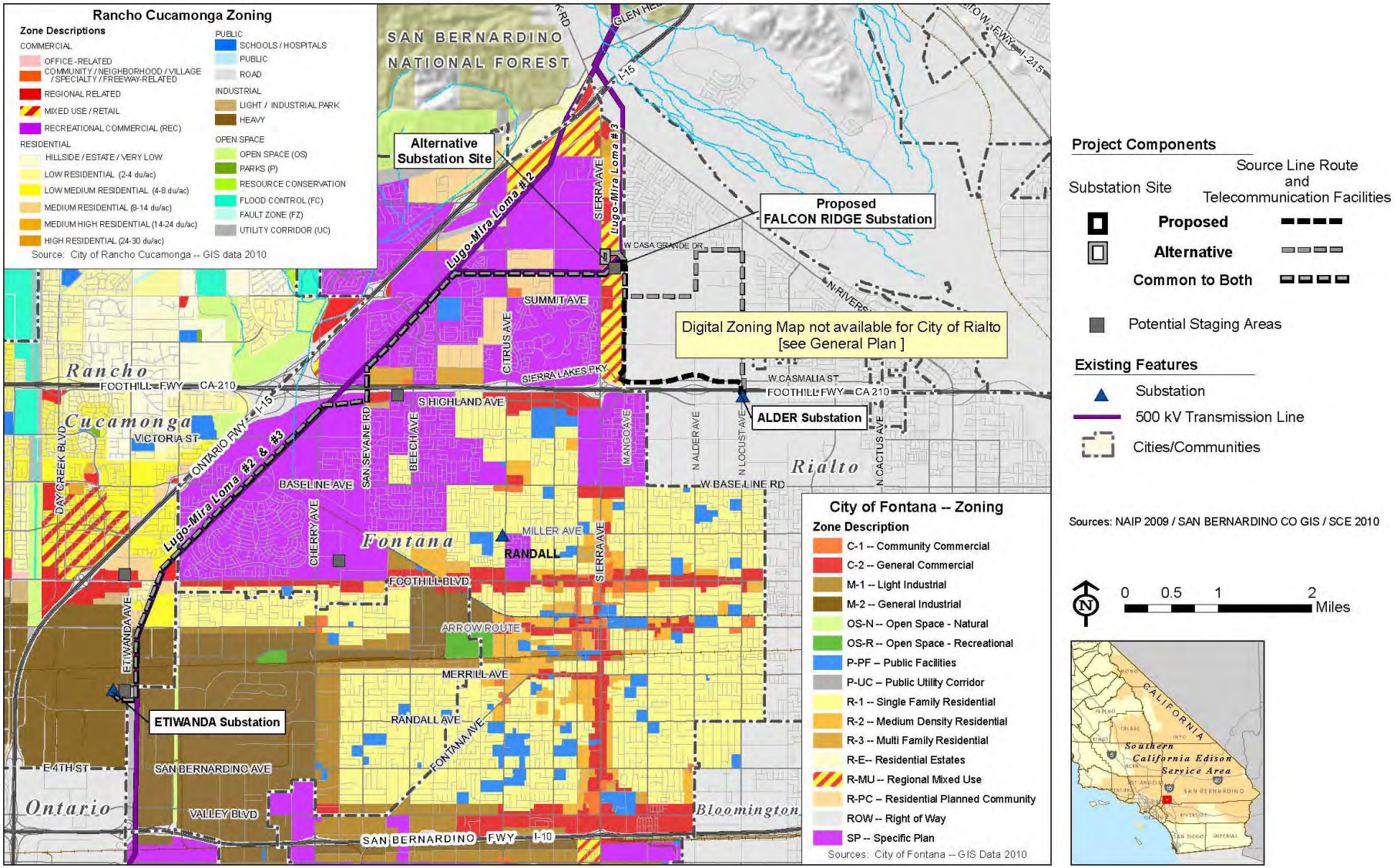
The portions of the Project that would be located within the specific plans described above are not covered by the Zoning Ordinance because, as explained in the General Plan, the specific plans are "customized and comprehensive plan[s] that will yield a more desirable living environment than could be achieved with conventional zoning" (City of Fontana, 2003a, p. 3-5). **Figure 4.11-2**, Zoning Designations, shows City of Fontana zoning in the Project vicinity.

City of Rialto

General Plan. The proposed Alder Subtransmission Source Line route would be located within the City of Rialto. The lands adjacent to the future Mango Avenue extension on this alignment are designated by the City of Rialto General Plan as *General Industrial* (*GI*), *Public Facility* (*P*), and *Specific Plan* (*SP*). As described in the General Plan Land Use Element, *GI* allows for a broad range of heavy industrial activities requiring large areas of land with convenient access for trucks and rail. Permitted uses include manufacturing and processing, warehousing and distribution, chemical or petroleum products processing and refining, heavy equipment operations, and similar uses. The *P* land use designation encompasses government, civic, cultural, health, and infrastructure uses and activities which contribute to and support the needs of the community (City of Rialto, 2010a).

The *SP* designation for the areas the substransmission line would traverse refers to the Renaissance Specific Plan, which contains land use designations specific to this planning area. The subtransmission line would be located along the northern border of the specific plan where it parallels West Casmalia Avenue. The land in this portion of the specific plan area is designated *Freeway Incubator*, which accommodates larger retail and business uses that serve the region based on its proximity to the freeway. The subtransmission line would then cross SR 210 at Locust Avenue and terminate at the existing Alder Substation. This land is designated *Utilities/Public Facilities*, which is a designation specific to the existing utility infrastructure in the planning area, including the Alder Substation. Both of these land use designations allow utilities as a permitted use (City of Rialto, 2010b).

Staging Area 1, an approximately 0.5-acre site located within Eastern T/S Rialto, is located south of the intersection of Foothill Boulevard and Pepper Avenue in the City of Rialto. According to the Land Use Element of the City of Rialto's Draft General Plan (2010a), the staging area has a *Specific Plan* (*SP*) land use designation and is within the Draft Foothill Boulevard Specific Plan. Once the Foothill Boulevard Specific Plan is approved and adopted by the City of Rialto, this Staging Area will be assigned a *SP* land use designation. These designations are shown in Figure 4.11-1.



SOURCE: SCE, 2011

Falcon Ridge Substation Project . 207584.09

Figure 4.11-2
Zoning Designations

Zoning Code. The City of Rialto Zoning Code §18.02.070 states:

> "The provisions of this title do not limit or interfere with the construction, installation, operation, and maintenance for public utility purposes, of water and gas pipes, mains and conduits, electric light and electric power transmission and distribution lines, telephone and telegraph lines, oil pipe lines, sewers and sewer mains, and incidental appurtenances."

Therefore, the zoning designations of properties adjacent to the Mango Avenue, West Casmalia Avenue, and Locust Avenue portions of the subtransmission line in the City of Rialto would not be relevant to the Project. For informational purposes, Figure 4.11-2 shows City of Rialto zoning in the Project vicinity.

City of Rancho Cucamonga

General Plan. According to the City of Rancho Cucamonga General Plan (2010), the Etiwanda Substation site and proposed Staging Area 2 is designated as *Heavy Industrial* (*HI*). The Land Use Element of the City of Rancho Cucamonga General Plan defines *HI* as a land use designation that permits heavy manufacturing, compounding, processing or fabrication, warehousing, storage, freight handling, and truck services and terminals, as well as supportive service commercial uses. In addition, the existing Etiwanda Substation is located within the Industrial Area Specific Plan area. According to the Industrial Area Specific Plan (Chapter 17.30 of the City of Rancho Cucamonga Development Code, 2009), the Etiwanda Substation has a specific plan land use designation of *HI*. The Industrial Area Specific Plan (2009) defines this land use designation as one that allows for medium, minimum impact, and heavy industrial manufacturing, and wholesale storage and distribution uses.

Within the City of Rancho Cucamonga, the proposed Etiwanda Subtransmission Source Line route would be located on lands designated by the City of Rancho Cucamonga (City of Rancho Cucamonga, 2010) as: *Open Space -- Flood Control/Utility Corridor*. The Land Use Element of the City of Rancho Cucamonga General Plan defines the *Open Space -- Flood Control/Utility Corridor* land use designation as lands primarily used for flood control purposes and to support public utilities. Improvements typically include flood control channels, drainage basins, and major utility corridors, such as high-tension electric power transmission lines and towers. Flood control facilities include improved channels and natural waterways under the control of the City and the San Bernardino County Flood Control District. Both Deer and Day Creeks, along with utility easements within the Sphere of Influence, are key elements of the *Flood Control/Utility Corridor* designation.

Additionally, the proposed Etiwanda Subtransmission Source Line route would pass through portions of the Industrial Area Specific Plan with the following land use designations: *General Industrial* (*GI*) and *Heavy Industrial* (*HI*). The Industrial Area Specific Plan defines the *GI* as a land use designation intended to accommodate a wide range of light to medium manufacturing and wholesale, storage, and distribution uses. Typically, administrative, office, and professional services are not allowed to reduce the potential for land use conflicts. The definition of *HI* was provided previously for the Etiwanda Substation.

The proposed Etiwanda Subtransmission Source Line route would also cross through a portion of the Etiwanda Specific Plan with a land use designation of *Open Space* (*OS*). The Etiwanda Specific Plan (City of Rancho Cucamonga, 2000) states that the *OS* land use designation allows for the following uses: (1) flood control channels, levees, spreading grounds and basins, roads, bridges, diversion drains, and utility installations including high voltage transmission lines and similar facilities; (2) field crops, orchards, tree farms, truck gardening, berry and bush crops, flower gardening, wildlife preserves, and similar open or agricultural uses; and (3) other uses or enterprises similar to the above and approved by the Planning Commission.

Staging Area 4 has a *General Commercial* land use designation. The *General Commercial* land use designation applies to properties along major activity corridors. This designation provides for a wide range of community-oriented and regional-oriented commercial businesses, including businesses that cater to tourists traveling on Historic Route 66 (Foothill Boulevard) (City of Rancho Cucamonga, 2010). These designations are shown in Figure 4.11-1.

The City of Rancho Cucamonga General Plan (2010) is a long-range policy document that sets the foundation for many of the City's regulatory documents, including the Development Code, redevelopment plans, specific plans, community plans, master plans, and design guidelines. Relevant policies listed in the City of Rancho Cucamonga General Plan include the following:

- ***LU-7.1:*** Concentrate heavy industrial and utility-related uses in the area immediately surrounding the electrical power plant
- ***LU-11.2:*** Continue to require the undergrounding of utility lines and facilities wherever feasible to minimize the unsightly appearance of overhead utility lines and utility enclosures
- ***CS-6.3:*** Continue to incorporate, where feasible, regional and community trails along utility corridors and drainage channels

Zoning Ordinance. According to the City of Rancho Cucamonga General Plan (2010), the Etiwanda Substation site and proposed Staging Area 2 would be located on land zoned as *Heavy Industrial*. The City of Rancho Cucamonga Development Code (2009) defines this zoning designation as activities that include manufacturing, compounding, processing, fabrication, warehousing, storage, and freight handling.

The proposed Etiwanda Subtransmission Source Line and Fiber-Optic Cable route would be located on lands zoned by the City of Rancho Cucamonga (City of Rancho Cucamonga, 2010) as *Utility Corridor (UC) - Open Space District*. According to the City of Rancho Cucamonga's Development Code (2009), the *UC Open Space District* zoning designation is intended to allow certain land uses within utility corridors, which could be compatible with both the utility function and surrounding existing or proposed land use.

Staging Area 4 would be located within the approved Foothill Boulevard Specific Plan area. The Specific Plan zoning designation for this site is *Community Commercial* (*CC*). The *CC* land use district designation includes a variety of uses, which typically include drug stores, supermarkets,

apparel shops, variety stores, and commercial recreation uses. In addition, the Foothill Boulevard Specific Plan identifies the proposed Staging Area 4 site as an Activity Center Area. Activity Centers are defined in the Foothill Boulevard Specific Plan as selected intersections along the Foothill Boulevard Corridor defined as "Theme" or "Statement" areas which tie together the visual aspects of the Foothill Boulevard Corridor through the city, promote concentrated activity at these areas, and give identity and theme to the areas in which they are located (City of Rancho Cucamonga, 2009). Figure 4.11-2 shows City of Rancho Cucamonga zoning in the Project vicinity.

Etiwanda Specific Plan. A portion of the Project site within the City of Rancho Cucamonga is also within the planning area of the Etiwanda Specific Plan. This plan designates the Project site as *Open Space*. Permitted uses within this district include "utility installations including high-voltage transmission lines and similar facilities" (City of Rancho Cucamonga, 2000).

4.11.2 Significance Criteria

Based on guidance provided by CEQA regarding what constitutes a significant environmental effect (Guidelines Section 15064, 15126, and Appendix G), a project would have a significant land use impact if it would:

a) Physically divide 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, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect;

c) Conflict with any applicable habitat conservation plan or natural community conservation plan.

4.11.3 Applicant Proposed Measures

There are no APMs included to address issues related to land use, planning, and/or policies.

4.11.4 Impacts and Mitigation Measures

a) Physically divide an established community;

Impact 4.11.1: The Etiwanda Subtransmission Source Line and Fiber-Optic Cable route would divide an established community. *Less than Significant* (Class III)

Project construction, operation, and maintenance would not physically divide an established community. The proposed Falcon Ridge Substation would be located on undeveloped land owned by SCE, and the proposed distribution getaways would also be located on undeveloped land adjacent to the Falcon Ridge Substation site. In addition, the proposed subtransmission source line routes and proposed telecommunication facilities would not cross through existing residential communities in the cities of Rancho Cucamonga or Rialto or in unincorporated San Bernardino County. While the proposed Etiwanda Subtransmission Source Line route and proposed

telecommunication facilities would cross through existing residential communities in the City of Fontana, the portions of the route that would traverse these communities would be within the existing SCE ROW and these facilities would not restrict access or constitute a physical barrier to these communities. There are no currently existing communities in the locations where the proposed Etiwanda Subtransmission Source Line and Fiber-Optic Cable route would be constructed outside of the existing SCE ROW. As described in the Setting, this portion of the route would be located within vacant lands covered by the West Gate Specific Plan, which is not yet built out. Therefore, these facilities would not restrict access or constitute a physical barrier to an established community. The Project would have a less-than-significant impact with respect to the physical division of communities.

Mitigation: None required.

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b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect.

The CPUC has sole and exclusive jurisdiction over the siting and design of the Project. General Order No. 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 Project would not conflict with any applicable agency land use plan, policy, or regulation. Accordingly, there would be no impact (No Impact, Class IV).

However, CPUC General Order No. 131-D requires that in locating a project "the public utility shall consult with local agencies regarding land use matters." Therefore, a local land use consistency analysis is provided below, for informational purposes only.

City of Fontana General Plan

Construction, operation, and maintenance of the Project would not conflict with land use plans and policies in the City of Fontana. As described above in *Regulatory Setting*, General Plan Policy PFSI 9.3 and its implementing codes exempt the Project from undergrounding requirements due to its voltage. The Project's potential impacts to air pollutant emissions, stormwater runoff, noise, and traffic, are described in detail in Sections 4.3, 4.10, 4.13, and 4.17, respectively.

City of Rancho Cucamonga General Plan

Construction, operation, and maintenance of the Project would conflict with the City of Rancho Cucamonga General Plan Policy LU-11.2, which requires the undergrounding of utility lines and facilities wherever feasible to minimize the unsightly appearance of overhead utility lines and utility enclosures.

Etiwanda Specific Plan

The Project would be consistent with the Etiwanda Specific Plan *Open Space* district because it would be considered a utility line, which is a permitted use in this district.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan.

As discussed in Section 4.4, *Biological Resources*, there are no habitat conservation plans or natural community conservation plans that involve lands within the Project area. Therefore, the Project would not result in any conflicts with an adopted habitat conservation plan or natural community conservation plan (No Impact, Class IV).

4.11.5 Alternatives

Alternative 1: Lowell Street Realignment Alternative

Alternative 1 would be located within and adjacent to the same land use designations as the Project, with the addition of the *Business Park* (*BP*) designation in the City of Rialto. As described in the General Plan Land Use Element, *BP* allows a mix of commercial, office, research and development, laboratories, and light industrial uses and is intended to be "developed in a complementary manner and displaying high-quality architecture and site design" (City of Rialto, 2010a). As stated in City of Rialto Zoning Code §18.02.070, the city zoning designations are not relevant to Alternative 1. Alternative 1 would not conflict with any applicable land use plan, policy, or regulation. The alternative Alder Sutbtransmission Source Line and Fiber-Optic Cable Route would not traverse an established community, and no portion of Alternative 1 would be located within the planning boundaries of a habitat conservation plan or natural community conservation plan. Therefore, the impacts would be the same as the Project.

No Project Alternative

Under the No Project Alternative, the Project would not be implemented; therefore, there would be no impact related to land use and planning.

References – Land Use

California Public Utilities Commission (CPUC). 2010. California Public Utilities Commission General Order Index. Available online: http://www.cpuc.ca.gov/puc/documents/go.htm. Accessed July 2010.

City of Fontana, 1996. West Gate Specific Plan.

City of Fontana. 2003a. City of Fontana General Plan. Available online: http://www.fontana.org/index.aspx?NID=813. Accessed October 5, 2010.

City of Fontana. 2008. City of Fontana Zoning and Development Code. Available online: http://library.municode.com/index.aspx?clientId=12998&stateId=5&stateName=California. Accessed October 5, 2010.

City of Fontana. 2009. Zoning District Map. Available online: http://www.fontana.org/DocumentView.aspx?DID=3977. Accessed October 28, 2011.

City of Fontana, 2011a. General Plan Land Use Map. Available online: http://www.fontana.org/DocumentView.aspx?DID=3969. Accessed October 5, 2011.

City of Fontana, 2011b. Citrus Heights North Specific Plan. Available online: http://www.fontana.org/index.aspx?NID=1282. Accessed October 5, 2011.

City of Fontana, 2011c. Summit at Rosena Specific Plan. Available online: http://www.fontana.org/index.aspx?NID=1298. Accessed October 5, 2011.

City of Fontana, 2011d. Summit Heights Specific Plan. Available online: http://www.fontana.org/index.aspx?NID=1299. Accessed October 5, 2011.

City of Fontana, 2011e. West End Specific Plan. Available online: http://www.fontana.org/index.aspx?NID=1303. Accessed October 5, 2011.

City of Fontana, 2011f. West Gate Specific Plan. Available online: http://www.fontana.org/index.aspx?NID=1304. Accessed October 5, 2011.

City of Rancho Cucamonga. 2000. Etiwanda Specific Plan. Available online: http://www.cityofrc.us/civica/filebank/blobdload.asp?BlobID=3372. Accessed October 14, 2011.

City of Rancho Cucamonga. 2009. City of Rancho Cucamonga Development Code. Available online: http://library.municode.com/HTML/16570/level2/TIT17DECO_CH17.32FOBODI.html. Accessed October 28, 2011.

City of Rancho Cucamonga. 2010. City of Rancho Cucamonga General Plan.

City of Rialto. 2010a. City of Rialto General Plan.

City of Rialto. 2010b. City of Rialto Draft Renaissance Specific Plan. Available online: http://www.ci.rialto.ca.us/development_856.php. Accessed July 2010.

San Bernardino County, 2007. San Bernardino County General Plan.

San Bernardino County, 2009. San Bernardino County Land Use Plan General Plan Land Use Zoning Districts (Map FH28 A). Available online: http://www.sbcounty.gov/landuse services/general%20plan%20update/Mapping/1-Land%20Use%20Zoning%20Districts%20Maps/FH28A.pdf. Accessed October 5, 2011.

U.S. Census Bureau, 2010. GCT-T1-R. Population Estimates (geographies ranked by estimate). Available online: http://factfinder.census.gov/servlet/GCTTable?-ds_name=PEP_2009_EST&-mt_name=PEP_2009_EST_GCTT1R_ST9S&-geo_id=04000US06&-format=ST-9&-tree_id=809&-context=gct. Accessed November 22, 2011.

4.12 Mineral Resources

This section describes the existing sources of mineral and energy resources in the Project vicinity and evaluates the potential for construction, operation, and maintenance of the Project and alternatives to result in the loss of availability of known or locally important mineral resources.

4.12.1 Setting

Environmental Setting

A mineral resource area refers to land on which known deposits of commercially viable mineral or aggregate deposits exist. Mineral resources include oil, natural gas, and metallic and non-metallic deposits.

Oil, Gas, and Geothermal Resources

According to maps prepared by the California Division of Oil, Gas, and Geothermal Resources (DOGGR), no oil, natural gas, or geothermal resource areas are located in or adjacent to the Project site (SCE, 2010; DOGGR, 2001). The closest oil fields—the Chino-Soquel, Mahala, and Prado-Corona oil fields—are located over 10 miles to the southwest (DOGGR, 2004). The closest oil well is located south of Foothill Blvd, between Cherry and Sierra Avenues; however, it is a former exploration well that is now plugged and abandoned (DOGGR, 2004).

Aggregate Resources

The Project site and the northern portions of Fontana, Rancho Cucamonga, and Rialto are underlain by several coalescing alluvial fans that emerge from the southern flanks of the San Gabriel Mountains. As discussed in Section 4.7, *Geology and Soils*, these deposits are coarse in nature, containing abundant sand and gravel (i.e., aggregate resources), along with larger cobble to boulder-size material. These alluvial fans are associated with Lytle Creek to the east, and Cucamonga, San Sevaine, and Etiwanda creeks to the west. Generally the coarseness of the material increases on portions of the alluvial fan closest to the mountains. Similar deposits exist throughout much of inland Southern California, since alluvial fans are a characteristic feature of the region, frequently accumulating at the base of most mountain ranges. Because of the ubiquitous nature of sand and gravel, construction-grade sand and gravel is a high-volume, low-value commodity that cannot be transported long distances economically. Therefore, it is important to maintain aggregate resources close to urban areas due to its importance and value to the construction industry.

There are several active mines in the Project vicinity that are currently producing local sources of construction-grade sand and gravel. The Mid-Valley Sanitary Landfill is the closest active mine to the Project, and is located approximately 2,000 feet southeast of the proposed Falcon Ridge Substation site and adjacent to approximately three-quarters of the proposed Alder Subtransmission Source Line Route. Robertson's Ready Mix was awarded the contract to excavate three pits for the county-owned Mid-Valley Sanitary Landfill expansion (San Bernardino County, 2005). The

excavated material is sand and gravel that is processed on-site and sold for construction-grade aggregate. Eventually, when aggregate can no longer be feasibly extracted, the quarry pits will provide the landfill with additional capacity for future use. In 2005, it was estimated that the landfill expansion would provide an estimated 80 to 100 million tons of aggregate reserves to the San Bernardino area over the 25- to 35-year life of the landfill (San Bernardino County, 2005). A second active quarry—the Lytle Creek Wash Pit, operated by CEMEX USA—also produces aggregate and is located approximately 1.8 miles to the east of the proposed substation site (SCE, 2010). The CGS estimates that approximately 709 million tons of aggregate resources exist beneath the Lytle Creek Wash, identified as "Sector B-5" in the mineral resource classification of the San Bernardino Production-Consumption Region; however, the actual amount of aggregate CEMEX holds in reserve is proprietary (CGS, 2008). These aggregate resources are primarily used for local construction projects, though as continued urbanization decreases aggregate resource availability regionally, such resources are increasingly being hauled longer distances, primarily to Orange and northern San Diego counties to the west (CGS, 2008).

Lands within the Project area, including the existing mineral resource extraction operations described above, have been classified into mineral resource zones (MRZs) by the CGS (formerly the California Division of Mines and Geology). Specific to aggregate resources, the CGS has divided California into Production-Consumption (P-C) Regions for the purpose of studying aggregate resource production and demand, classifying areas into mineral resource zones (MRZ), and identifying aggregate resource sectors. The Project site is on the western end of the San Bernardino P-C Region, closely bordering the Claremont-Upland P-C Region located to the west. MRZs are established based on the general potential for the underlying geology to support the presence of aggregate resources, as well as the degree of knowledge that exists regarding the actual presence and extent of such resources. MRZs are established based solely on geological factors without regard for current land use; therefore, classification reports prepared for metropolitan areas also identify areas likely to contain aggregate resources where future mineral production has not been preempted by incompatible land uses, such as urbanization. These areas, called "aggregate resource sectors," are used to focus the attention of land use planners and local governments on those areas that remain potentially available for future mineral extraction. The establishment of MRZs and aggregate resource sectors are referred to as "classification" of mineral lands, whereas the "designation" of a mineral resource as having regional or statewide significance is carried out by the State Mining and Geology Board (SMGB) and the State Geologist, after consultation with lead agencies and other interested parties. MRZs, aggregate resource sectors, and the degree to which local jurisdictions recognize mineral resources are described in the Regulatory Setting below.

Classifications and designations for aggregate resources, such as sand, gravel, and crushed stone, in San Bernardino County were completed by SMGB in 1987 (CDMG, 1987), and the classifications (but not the designations) were updated in 2008 (CGS, 2008). The 2008 update identified additional MRZs and resource sectors that were not identified in 1987. The two aggregate resource sectors (sectors J and K) that were added in the 2008 update have not been designated by the SMGB as having regional or statewide importance, but they may be considered for designation in the future. The proposed Falcon Ridge Substation site, Alder Subtransmission

Source Line Route, and portions of the Etiwanda Subtransmission Source Line Route are located entirely in areas classified as MRZ-2, which are areas where aggregate resources are known or likely to be present. Project facilities are located within the following aggregate resource sectors (CGS, 2008):

- The substation site and portions of the proposed Alder Subtransmission Source Line Route along Mango Ave are located in subsector J-10, which is identified by the CGS as having land uses that do not preclude the potential for future mining. This resource subsector is estimated to contain approximately 50 million tons of aggregate resources (CGS, 2008). In total, Aggregate Resource Sector J covers 1,656 acres and contains an estimated 334-million tons of aggregate resources.

- The 0.75-mile portion of the proposed Etiwanda Substation Source Line Route at Highway 210 that is outside of the existing right-of-way traverses the outer portions of subsectors A-7 and A-4, which together are about 1,600 acres in size and contain approximately 120 million tons of aggregate resources (CGS, 2008). Aggregate Resource Sector A was designated by the SMGB in 1987, and the portions of the resource sector that have not been made unavailable by urban land uses remain designated as a regionally significant source of construction-grade aggregate.

- A portion of the proposed Alder Subtransmission Source Line Route within the City of Rialto is also in a resource sector (subsector A-6), but the 2008 update indicated that the resource sector is no longer potentially available for aggregate extraction because of changes in land use that occurred after the 1987 designations.

Regulatory Setting

State

California Surface Mining and Reclamation Act

The Surface Mining and Reclamation Act of 1975 (SMARA), as codified in the California Public Resources Code (§2710 et seq.), provides a comprehensive surface mining and reclamation policy for the regulation of surface mining operations to ensure that adverse environmental impacts are minimized and mined lands are restored to a usable condition. SMARA also encourages the production, conservation, and protection of the state's mineral resources. Section 2207 of the California Public Resources Code provides annual reporting requirements for all mines in the state, and the SMGB is granted authority and obligations under this section.

SMARA also mandates the classification of lands with valuable mineral resources so that land use decisions that may affect mineral-bearing lands can be made with the knowledge of these resources. The SMARA requires the State Geologist to classify areas with potential for significant mineral resources. It states:

> The primary objective of the mineral land classifications is to assure that mineral potential and its significance is recognized and considered before land use decisions that could preclude mining are made. The availability of mineral resources is vital to our society. Yet for most types of minerals, economic deposits are rare, isolated occurrences. Access to terrain for purposes of mineral exploration and mine development has become increasingly difficult because California is also faced with growing land use competition.

The SMGB classified land in California based on the availability of mineral resources. Four MRZ classifications have been established for classifying sand, gravel, and crushed rock resources:

- **MRZ-1:** Adequate information indicates that no significant mineral deposits are present or likely to be present.
- **MRZ-2:** Adequate information indicates that significant mineral deposits are present or there is a high likelihood for their presence, and development should be controlled.
- **MRZ-3:** The significance of mineral deposits cannot be determined from the available data.
- **MRZ-4:** There is insufficient data to assign any other MRZ designation.

Under SMARA, aggregate materials are classified as reserves or resources. Reserves are defined as aggregate materials believed to be acceptable for commercial use that exist within property boundaries owned or leased by an aggregate-producing company, and for which permission allowing extraction and processing has been granted by the proper authorities. Aggregate resources include reserves and similar potentially usable aggregate materials that may be economically mined in the future, but for which no use permit allowing extraction has been granted.

The mineral lands inventory is subject to local public review to ensure that mineral deposits of state or regional significance are identified and protected for future extraction. The State Geologist also prepares an annual mining report that includes information on the amount of land disturbed during the previous year, acreage reclaimed during the previous year, and amendments to the reclamation plan. SMARA further requires mining operations to have approved Mining/Reclamation Plans prior to the start of operations, to allow for future reuse of the mine.

Local

CPUC General Order No. 131-D explains that local land use regulations would not apply to the Project and alternatives. However, CPUC staff considered local plans and policies to identify locally important mineral resources in the study area, and none were identified within the Project site. For information purposes, the following goals and policies included in the general plans for San Bernardino County and the cities of Fontana, Rialto, and Rancho Cucamonga related to mineral resources are described below.

San Bernardino County

The San Bernardino County General Plan (San Bernardino County, 2007) recognizes the importance of mineral resources and has developed policies to protect the current and future extraction of mineral resources that are important to the county's economy while minimizing impacts of this use on the public and the environment. The county's policy is to recognize and protect lands that show or have proven to have significant mineral resources and protect their access. The county also acknowledges and incorporates into land use planning decisions the

mineral classification of lands completed by the SMGB, and the designation of mineral resources of regional significance by the SMGB. Current and future mineral extraction operations within county jurisdiction are governed under SMARA, and implemented through county Ordinance No. 3759.

City of Fontana

According to the City of Fontana General Plan (City of Fontana, 2003), the most significant mineral resources within the city's planning area are sand and gravel deposits in the alluvial fan south of the San Gabriel foothills. Currently, there are no active sand and gravel mining operations within the limits of the City of Fontana, and, according to the General Plan, new surface mining would likely be met with strong opposition; therefore, the conservation of mineral resources lands was not included in the proposed Open Space and Conservation Element of the General Plan (SCE, 2010). Nevertheless, should future mineral extraction operations occur within its jurisdiction, they would be governed under SMARA, and implemented by the city through Ordinance No. 1295.

City of Rialto

The City of Rialto General Plan (City of Rialto, 2010) presents the classifications in the 2008 state update of MRZs and resource sectors in San Bernardino County. Areas specifically designated in the City of Rialto General Plan as containing regionally significant aggregate resources are predominantly located in the Lytle Creek area. In addition, sand and gravel are actively being excavated from the Mid-Valley Sanitary Landfill expansion located in the City of Rialto. According to the General Plan, these designated areas will remain undeveloped as long as extraction activities continue or are economically viable (SCE, 2010). Current and future mineral extraction operations within the city are governed under SMARA, and implemented by the city through Ordinance No. 1285.

City of Rancho Cucamonga

The City of Rancho Cucamonga General Plan identifies regionally significant aggregate resource sectors, but it does not incorporate the state MRZ classifications. In the General Plan, the city recognizes the value of regionally significant aggregate resource areas designated within the city's planning area. However, the city has determined that urban uses shall have a priority over aggregate recovery in areas not already disturbed by such activities. Development will be subject to the city's development standards and public safety objectives. The city will also seek the removal of areas planned for urban use from SMARA maps (City of Rancho Cucamonga, 2010).

4.12.3 Significance Criteria

According to Appendix G of the CEQA *Guidelines*, a project impact would be considered significant if it would:

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; or

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.

4.12.4 Applicant Proposed Measures

There are no APMs included to address issues related to mineral resources.

4.12.5 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.

see b) below

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b) Result in loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Impact 4.12-1: The Project would acquire new rights-of-way within areas identified as mineral resource sectors that could be of value to the region. ***Less than Significant*** **(Class III)**

As indicated in the setting, much of the Project site is underlain by coarse-grained alluvial fan sediments that represent a source of construction-grade aggregate. The presence of several existing aggregate resource producers in the vicinity reflects the value of the subsurface materials for use as construction-grade aggregate. To promote the goal of preserving significant sources of aggregate, the CGS has identified aggregate resource sectors in the Project vicinity, portions of which are coincident with the Falcon Ridge Substation site and the subtransmission source line routes. The local jurisdictions in the Project area do not identify any additional mineral resource areas or locally important mineral resource recovery sites beyond those already identified by CGS. As such, this impact discussion addresses both CEQA criteria a) and b) relating to mineral resources.

SCE would need to acquire approximately 13 acres of new ROW for the subtransmission source lines and access roads, as well as utilize 2.7 acres of an approximately 7.5-acre parcel for the proposed substation. Most of the proposed Etiwanda Subtransmission Source Line Route would be located within already dedicated easements that are not currently available for mineral resource extraction. However, a new ROW would need to be acquired for a 0.75-mile section of the subtransmission source line route that would cross the 210 Freeway. This new ROW would be partially located along the periphery of aggregate resource subsectors A-7 and A-4, both of which have been designated by the SMGB as regionally significant construction aggregate resource areas (CDMG, 1987). The Falcon Ridge Substation site and portions of the proposed Alder Subtransmission Source Line Route would be located within aggregate resource Subsector J-10. While these areas have been classified as aggregate resource sectors by the CGS, they have not been designated as regionally significant by the SMGB. Based on the location of new ROW and

the substation vis-à-vis aggregate resource sectors, the Project would result in a decrease of up to 13 acres of land available for future production of aggregate resources that would have value to the region.

While the Project would be partially located within and adjacent to aggregate resource sectors identified by the CGS, it would not preclude access to the remaining aggregate resource sectors in the vicinity, and the loss of land area available for future aggregate resource production would be minimal. The portion of the Etiwanda Subtransmission Source Line Route located in Sector A would be along public roads on the periphery of the sector. The resource sector as a whole would remain intact, and the placement of poles would not prevent future access. Likewise, the Alder Subtransmission Source Line along Mango Avenue, which is located along Mango Avenue on the edge of Subsector J-10, would leave the resource sector intact and would not prevent future access to land available for future mineral resource extraction. The Falcon Ridge Substation site, on the other hand, is located within Subsector J-6, and would result in the loss of 2.7 acres of land available for future mineral resource extraction. However, Resource Sector J is a total of 1,600 acres in size, and the loss of land area caused by the Project would represent less than 1 percent of the resource sector as a whole. Further, Resource Sector J has not been designated by the SMGB as a regionally significant construction aggregate resource sector.

For the above reasons, the Project would have a less-than-significant impact on the availability of locally or regionally important aggregate resources.

Mitigation: None required.

4.12.6 Alternatives

Alternative 1: Lowell Street Realignment Alternative

Alternative 1 would alter the route of the proposed Alder Subtransmission Source Line and Fiber-Optic Cable, but it would not substantially change the size or type of facilities to be constructed. While the alternative route is slightly longer than the Project route, the modified portions of the Alternative 1 route would not be within an area currently available for extraction of mineral resources. It would be along streets that are bounded on each side by existing land uses. Therefore, Alternative 1 impacts to mineral resources would be the same as the Project.

No Project Alternative

Under the No Project Alternative, the Project would not be implemented; therefore, there would be no impact related to mineral resources.

References – Mineral Resources

California Department of Oil, Gas and Geothermal Resources, 2001, *Oil, Gas and Geothermal Resources in California*, Map S-1, 2001.

California Department of Oil, Gas and Geothermal Resources, 2004, *Regional Wildcat Map*, Map I-4, 2004.

California Division of Miners and Geology (CDMG), 1987, *Classification of Sand and Gravel Resource Areas, San Bernardino Production-Consumption Region, San Bernardino County, California,* 1987.

California Geological Survey (CGS), 2008, *Update of Mineral Land Classification for Portland Cement Concrete-Grade Aggregate in the San Bernardino Production-Consumption Region, San Bernardino and Riverside Counties, California*, Special Report 206, 2008.

City of Fontana, 2003. City of Fontana General Plan.

City of Rialto, 2010. City of Rialto General Plan.

City of Rancho Cucamonga, 2010, *Rancho Cucamonga General Plan*, Conservation Element, adopted May 2010.

San Bernardino County, 2005, *San Bernardino County General Plan Conservation Element Background Report*, June 15, 2005.

San Bernardino County, 2007, *San Bernardino County General Plan*, Conservation Element, Prepared by URS, Adopted March 2007.

Southern California Edison Company (SCE), 2010a. *Proponent's Environmental Assessment, Falcon Ridge Project*, December 2010.

4.13 Noise

This section evaluates potential impacts associated with noise levels from construction, operation, and maintenance of the Project and alternatives. The analysis presented below is based on review of SCE's PEA for the Project (SCE, 2010a), ambient noise measurements collected in the study area (i.e., in the vicinity of the Project components and Alternative 1), and local noise exposure criteria established by San Bernardino County and the cities of Fontana, Rialto, and Rancho Cucamonga.

4.13.1 Setting

Noise Background

Sound is mechanical energy transmitted by pressure waves through a medium such as air. Noise is generally 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 noise. Sound pressure level is measured in units of decibels (dB), with 0 dB corresponding roughly to the threshold of human hearing, and 120 to 140 dB corresponding to the threshold of pain.

The number of sound pressure peaks travelling past a given point in a single second is referred to as the frequency, expressed in cycles per second or Hertz (Hz). A given sound may consist of energy at a single frequency (pure tone) or in many frequencies over a broad frequency range or band. Human hearing is generally affected by sound frequencies between 20 Hz and 20,000 Hz (20 kHz).

Typical human hearing 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 high frequencies. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA). Unless otherwise stated, all noise levels reported below are A-weighted.

Noise Descriptors

Noise in our daily environments fluctuates over time. Some fluctuations are minor, but some are substantial. Some noise levels occur in regular patterns, but others are random. Some noise levels fluctuate rapidly, but others slowly. Some noise levels vary widely, but others are relatively constant. Various noise descriptors have been developed to describe time-varying noise levels. The following are the noise descriptors most commonly used in environmental noise analyses, and are applicable to this study:

- **Equivalent Sound Level (L_{eq}):** The L_{eq} represents an average of the sound energy occurring over a specified time period. In effect, the L_{eq} is the steady-state sound level containing the same acoustical energy as the time-varying sound that actually occurs during the same period.

- **Minimum Sound Level (L_{min}):** The L_{min} is the lowest instantaneous sound level measured during a specified period.

- **Percentile-Exceeded Sound Level (L_n):** The L_n represents the sound level exceeded "n" percentage of a specified period (e.g., L_{10} is the sound level exceeded 10 percent of the time, and L_{90} is the sound level exceeded 90 percent of the time).

- **Maximum Sound Level (L_{max}):** The L_{max} is the highest instantaneous sound level measured during a specified period.

- **Day-Night Average Level (L_{dn}):** The L_{dn} is the energy-average of A-weighted sound levels occurring over a 24-hour period, with a 10 dB penalty applied to A-weighted sound levels occurring during nighttime hours (10 p.m.-7 a.m.). The L_{dn} is often noted as the DNL.

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 (ambient) noise levels to which one has adapted. In general, the more a new noise exceeds the ambient noise level, the less acceptable the new noise will be judged by those experiencing it. With regard to increases in A-weighted noise level, the following relationships are generally accepted:

- Except in carefully controlled laboratory experiments, a change of 1 dB cannot be perceived;

- Outside of the laboratory, a 3 dB 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 5 dB is required before any noticeable change in human response would be expected; and

- A 10 dB 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. A ruler is a *linear* scale. It has marks on it corresponding to equal quantities of distance; that is, the ratio of successive intervals is equal to one. A *logarithmic* scale is different in that the ratio of successive intervals is not equal to one. Each interval on a logarithmic scale is some

common factor larger than the previous interval. A typical ratio is 10, so that the marks on the scale read: 1; 10; 100; 1,000; 10,000; etc., doubling the variable plotted on the x-axis. 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 arithmetic additive fashion, rather they combine logarithmically. For example, if two identical noise sources produce noise levels of 50 dB, the combined noise level would be 53 dB, not 100 dB.

Noise Attenuation

Sound level naturally decreases with increased distance from the source. This basic attenuation rate is referred to as the *geometric spreading loss*. The basic rate of this divergence depends on whether a given noise source can be characterized as a point source or a line source. Noise from point sources, including stationary mobile sources such as idling vehicles or on-site construction equipment, attenuates (lessens) at a rate of approximately 6 dB per doubling of distance from the source. In many cases, noise attenuation from a point source increases by 1.5 dB from 6 dB to 7.5 dB for each doubling of distance to account for ground absorption and reflective wave canceling. 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 dB 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 from roadway traffic and trains ("line" sources) would typically attenuate at a lower rate of approximately 3 dB 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 dB to 4.5 dB for each doubling of distance. Atmospheric effects, such as wind and temperature gradients, can also influence noise attenuation rates from both point and line sources of noise. However, unlike ground attenuation, atmospheric effects are constantly changing and difficult to predict.

Trees and vegetation, buildings, and barriers reduce the noise level that would otherwise occur at a given receptor distance. However, for a vegetative strip to have a noticeable "shielding" effect on noise levels, it must be dense and wide. For example, a stand of trees must be at least 100 feet wide and dense enough to completely obstruct a visual path to a given roadway to attenuate traffic noise by 5 dB (Caltrans, 1998). A row of structures can shield more distant receivers depending upon the size and spacing of the intervening structures and site geometry. Similar to vegetative strips discussed above, noise barriers, which include natural topography and sound walls, reduce noise by blocking the line of sight between the source and receiver. Generally, a noise barrier that breaks the line of sight between source and receiver will provide at least a 5 dB reduction in noise.

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 and is typically expressed in units of inches per second (in/sec). 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 defined as the average of the squared amplitude of the signal. Decibel notation (VdB) is commonly used to describe 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.

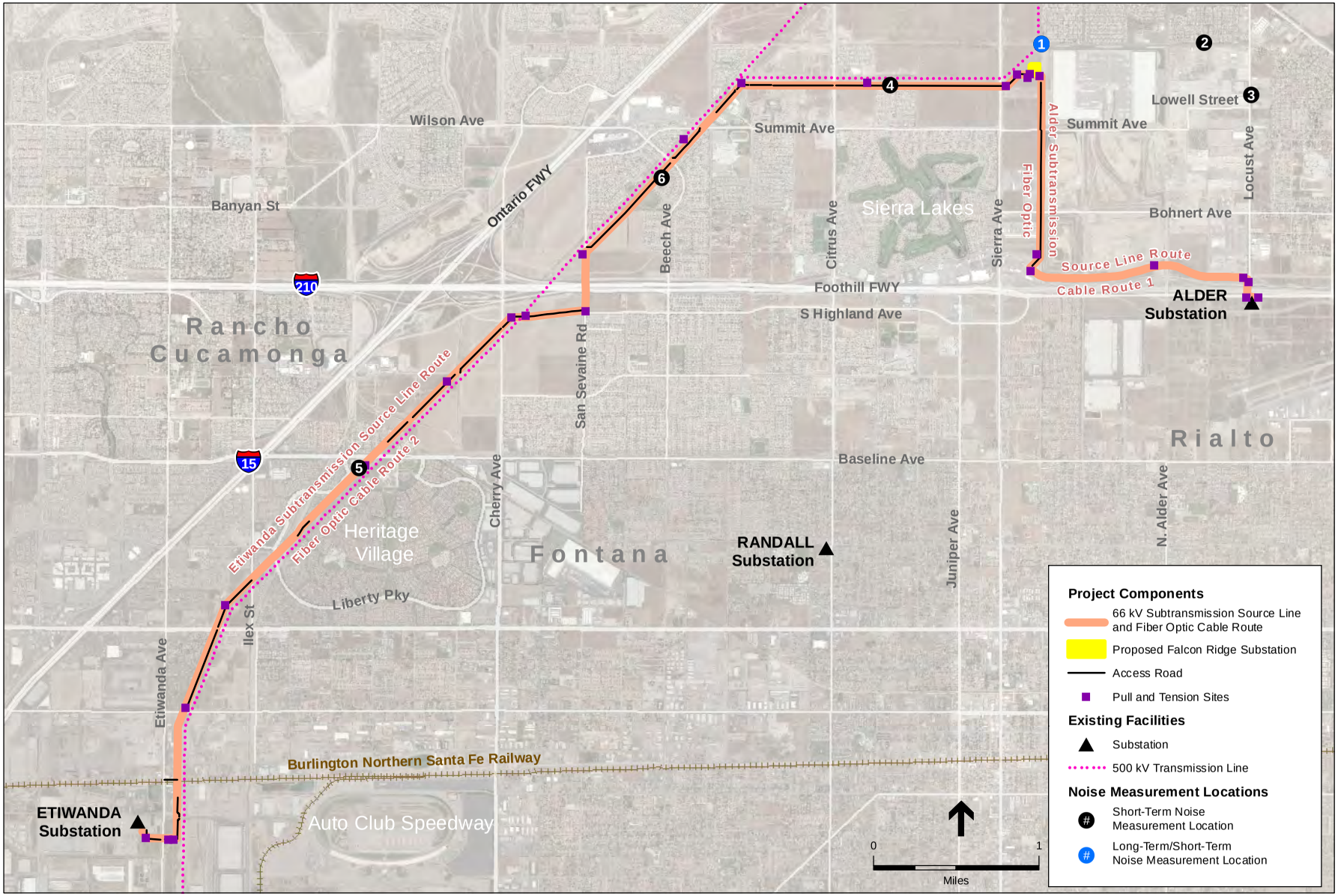
Existing Ambient Noise Environment

The main contributors to the study area noise environment include vehicle traffic noise from major roadways in the study area, such as SR 210 and I-15, vehicle traffic on local area roadways, and wind. Occasional aircraft over-flights associated with Rialto Municipal Airport (located approximately 2.3 miles southeast of the Falcon Ridge Substation site and approximately 0.5 mile south of the Alder Substation), local area construction projects, and community activity also contribute to the noise environment in the study area.

Community noise measurement surveys were conducted at several locations near the Project components and Alternative 1 to document the existing noise environment at noise-sensitive receptors in the study area. See **Figure 4.13-1** for the noise monitoring locations. The dominant noise sources identified during the ambient noise surveys were traffic from the local area roadways and wind. A long-term (25-hour) noise level measurement was conducted on the west end of West Casa Grande Drive (Site 1) – a location close to the Falcon Ridge Substation site. These measurements were completed on September 14 and 15, 2010. Short-term, 15-minute monitoring of ambient noise levels was also conducted at Site 1 in addition to five other locations in the study area (i.e., Sites 2 through 6). These short-term measurements were completed during the daytime on July 7, 2010. All measurements were completed in accordance with the American National Standards Institute (ANSI) standards using Larson Davis Laboratories (LDL) Model 820 sound-level meters. The sound-level meters were calibrated before and after use with an LDL Model CAL200 acoustical calibrator to ensure measurement accuracy. The measured ambient noise level data are summarized in **Table 4.13-1**. As expected, the quietest hours of the day at Site 1 were in the evening until early morning, from about 8:00 p.m. until 6:00 a.m. The highest ambient noise exposure was measured during the 7:00 p.m. to 8:00 p.m. hour.

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 stress, psychological stress, and hearing loss. Given these effects, some land uses are considered more sensitive to noise exposure than others. In general, residences, schools, hotels, hospitals, and nursing homes are considered to be the most sensitive to noise. Additionally, churches, libraries, and cemeteries are also sensitive to noise. Commercial and industrial uses are generally considered the least noise-sensitive.



SOURCE: SCE, 2011

Falcon Ridge Substation Project . 207584.09

Figure 4.13-1

Noise Measurement Locations

TABLE 4.13-1
SUMMARY OF MEASURED AMBIENT NOISE LEVELS

Short-Term Measurements (15 Minutes)					
Site # and Description	**Time[a]**	**Noise Level (dB)**			
		L_{eq}	**L_{min}**	**L_{max}**	**L_{90}**
Site 1: West end of West Casa Grande Drive	12:04 p.m.	47	42	62	44
Site 2: West Casa Grande Drive & North Silverberry Drive	12:37 p.m.	60	42	77	47
Site 3: 50 feet west of West Locust Avenue	1:02 p.m.	68	46	84	51
Site 4: North end of Pineleaf Avenue	1:41 p.m.	49	45	57	47
Site 5: North end of West Liberty Parkway, east of KinderCare Learning Center	2:27 p.m.	70	56	81	63
Site 6: Creek Side Drive east of SCE ROW	3:04 p.m.	52	48	58	50

Long-Term Measurement (25 Hours)		
Site #/Description	**Date**	**Average Measured Leq, dB (Range)**
Site 1: West end of West Casa Grande Drive	September 14-15, 2010	51 (43-59)

[a] Short-term measurements were collected on July 7, 2010.

SOURCE: SCE, 2010a.

Project

Noise-sensitive receptors in the vicinity of the Project are identified below.

Falcon Ridge Substation Site

There is an existing single-family residential development northeast of the Falcon Ridge Substation site with homes located on the south side of West Fairview Drive (between West Fairview Drive and West Casa Grande Drive), the closest of which is approximately 650 feet from the site. Although the Falcon Ridge Substation site is within the City of Fontana, the residences along West Fairview Drive are located within the jurisdiction of the City of Rialto. There are no other noise-sensitive uses near the Falcon Ridge Substation site. It is anticipated that the Falcon Ridge Substation distribution getaway vault that would be located within the future extension of Casa Grande Drive would be approximately 200 feet from the nearest residence on West Fairview Drive.

Subtransmission Source Line Routes

There are numerous residential developments that are adjacent to the Etiwanda Subtransmission Source Line route. Within the City of Fontana, the closest residential dwellings appear to be approximately 30 feet from the Etiwanda Subtransmission Source Line route in the vicinity west of Cypress Avenue. Also, within the City of Fontana, the KinderCare learning center and Heritage Intermediate School are located south of Baseline Avenue approximately 150 feet northwest and 600 feet southeast, respectively, of the Etiwanda Subtransmission Source Line route, and the Water

of Life church, preschool, and elementary school are approximately 450 feet northwest of the Etiwanda Subtransmission Source Line route. Within the City of Rancho Cucamonga, the closest residences to the Etiwanda Subtransmission Source Line route would be associated with a large residential area north of Arrow Route and south of Foothill Boulevard, at distances as close as approximately 50 feet. The closest sensitive receptors to the Alder Subtransmission Source Line route would be associated with a residential area in the City of Rialto that would be approximately 600 feet to the south of the route.

Alternative 1: Lowell Street Realignment Alternative

The sensitive receptors identified above for the Etiwanda Subtransmission Source Line route also apply to that segment of Alternative 1. Regarding the Alder Subtransmission Source Line route of Alternative 1, south of West Bohnert Avenue is a residence that would be approximately 100 feet to the east. North of West Bohnert Avenue and south of Persimmon Avenue, Alternative 1 would range between 350 to 650 feet west of residences. The portion of Alternative 1 along Locust Avenue north of Persimmon Avenue would be approximately 650 feet west of a residential development.

Regulatory Context

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 involves implementation of general plan policies and noise ordinance standards. Local general plans tend to identify general principles intended to guide and influence development plans; local noise ordinances establish standards and procedures for addressing specific noise sources and activities.

CPUC General Order No. 131-D explains that local land use regulations would not apply to the Project and alternatives. However, CPUC staff considered the following policies identified in the general plans for San Bernardino County and the cities of Fontana, Rialto, and Rancho Cucamonga to inform the determination of significance thresholds for the study area.

San Bernardino County General Plan

The San Bernardino County General Plan includes the following policies from the Noise Element (San Bernardino County, 2007a):

- ***Policy N 1.5*:** Limit truck traffic in residential and commercial areas to designated truck routes; limit construction, delivery, and through-truck traffic to designated routes; and distribute maps of approved truck routes to County traffic officers.

- ***Policy N 1.6*:** Enforce the hourly noise-level performance standards for stationary and other locally regulated sources such as industrial, recreational, and construction activities as well as mechanical and electrical equipment. See the San Bernardino County's Code criteria below.

San Bernardino County Code

San Bernardino County regulates noise with County Code §83.01.080, *Noise*. The interior L_{dn} noise level limit for mobile noise sources adjacent to noise-sensitive uses, such as residences, is 45 dB and the interior L_{dn} noise level limit is 60 dB. Temporary construction, maintenance, repair, or demolition activities are exempt if they occur between 7:00 a.m. and 7:00 p.m., except on Sundays and Federal holidays (San Bernardino County, 2007b).

City of Fontana General Plan

The City of Fontana General Plan includes the following policy from the Noise Element (City of Fontana, 2003):

- ***Policy 5*:** Construction shall be performed as quietly as feasible when performed in proximity to residential or other noise sensitive land uses.

City of Fontana Municipal Code

The City of Fontana regulates noise with Municipal Code Chapter 18, Article II, *Noise*. The relevant portion of this code, §18-63(b), describes the following prohibited noises:

- **(7) *Construction or repairing of buildings or structures*.** The erection (including excavating), demolition, alteration, or repair of any building or structure other than between the hours of 7:00 a.m. and 6:00 p.m. on weekdays and between the hours of 8:00 a.m. and 5:00 p.m. on Saturdays, except in case of urgent necessity in the interest of public health and safety, and then only with a permit from the building inspector, which permit may be granted for a period not to exceed three days or less while the emergency continues and which permit may be renewed for periods of three days or less while the emergency continues. If the building inspector should determine that the public health and safety will not be impaired by the erection, demolition, alteration, or repair of any building or structure or the excavation of streets and highways within the hours of 6:00 p.m. and 7:00 a.m., and if he shall further determine that loss or inconvenience would result to any party in interest, he may grant permission for such work to be done on weekdays within the hours of 6:00 p.m. and 7:00 a.m., upon application being made at the time the permit for the work is awarded or during the progress of the work.

- **(9) *Transportation of metal rails, pillars and columns.*** The transportation of rails, pillars or columns of iron, steel or other material over and along streets and other public places upon carts, drays, cars or trucks, or in any other manner so loaded as to cause loud, excessive, impulsive or intrusive noise or as to disturb the peace and quiet of such streets or other public places (City of Fontana, 2007).

City of Rialto General Plan

The City of Rialto General Plan includes the following policy from the Safety and Noise Element (City of Rialto, 2010):

- ***Policy 5-10.5*:** Require all exterior noise sources (construction operations, air compressors, pumps, fans and leaf blowers) to use available noise suppression devices and techniques to reduce exterior noise to acceptable levels that are compatible with adjacent land uses.

City of Rialto Municipal Code

The City of Rialto regulates noise with Municipal Code Chapter 9.50, *Noise Control*. The relevant portions of this code are as follows (City of Rialto, 2008):

- **§9.50.030, *Prohibited Acts*.** Creating excessive noise adjacent to any school, church, court or library while the same is in use, or adjacent to any hospital or care facility, which unreasonably interferes with the workings of such institution, or which disturbs or unduly annoys patients in the hospital, students in the school, users of the court or library, provided conspicuous signs are displayed in such streets indicating the presence of a school, institution of learning, church, court or hospital.

- **§9.50.040, *Excessive Noise and Vibration emanating from a Motor Vehicle*.** (A) No person shall operate or occupy a motor vehicle on any public right-of-way, public place or private property, while operating or permitting the use or operation of any radio, stereo receiver, musical instrument, television, computer, compact disc player, tape recorder, cassette player or any other device for the production or reproduction of sound from within the motor vehicle so that the sound is plainly audible at a distance of fifty feet from such vehicle, or in the case of a motor vehicle on private property, beyond the property line.

- **§9.50.050, *Controlled Hours of Operation*.** It is unlawful for any person to engage in the following activities other than between the hours of seven a.m. and eight p.m. in all zones:

  F. Operate or permit the use of pile driver, steam or gasoline shovel, pneumatic hammer, steam or electric hoist or other similar devices.

  G. Operate or permit the use of electrically operated compressor, fan, and other similar devices.

  I. Operate or permit the use of any motor vehicle with a gross vehicle weight rating in excess of ten thousand pounds, or of any auxiliary equipment attached to such a vehicle, including but not limited to refrigerated truck compressors, for a period longer than fifteen minutes in any hour while the vehicle is stationary and on a public right-of-way or public space except when movement of the vehicle is restricted by other traffic.

- **§9.50.060, *Exemptions*.** The following activities and noise sources shall be exempt from the provisions of this chapter:

  L. Construction, repair, or excavation work performed pursuant to a valid written agreement with the city or any of its political subdivisions which agreement provides for noise mitigation measures.

- **§9.50.070, *Disturbances from Construction Activity*.**

  A. No person shall be engaged or employed, or cause any other person to be engaged or employed, in any work of construction, erection, alteration, repair, addition, movement, demolition, or improvement to any building or structure except within the hours provided for by subsection B of this section.

  B. The permitted hours for such construction work are as follows:

TABLE 4.13-2
CITY OF RIALTO-PERMITTED HOURS FOR CONSTRUCTION WORK

Days	Permitted Hours
October 1st through April 30th	
Monday—Friday	7:00 a.m. to 5:30 p.m.
Saturday	8:00 a.m. to 5:00 p.m.
Sunday and State Holidays	No permissible hours
May 1st through September 30th	
Monday—Friday	6:00 a.m. to 7:00 p.m.
Saturday	8:00 a.m. to 5:00 p.m.
Sunday and State Holidays	No permissible hours

SOURCE: City of Rialto, 2008

City of Rancho Cucamonga General Plan

The City of Rancho Cucamonga General Plan includes the following policies from the Public Health and Safety Element (City of Rancho Cucamonga, 2010):

- ***Policy PS-13.6*:** Implement appropriate standard construction noise controls.

- ***Policy PS-13.7*:** Require all exterior noise sources (construction operations, air compressors, pumps, fans, and leaf blowers) to use available noise suppression devices and techniques to bring exterior noise levels down to acceptable levels for all construction projects.

City of Rancho Cucamonga Municipal Code

The City of Rancho Cucamonga regulates noise with Municipal Code Title 17, §17.02.120, *Noise Abatement*. The relevant portions of this code are as follows:

- ***C. Designated Noise Zones.*** The properties hereafter described are hereby assigned the following noise zones:

  Noise Zone I: All single and multiple family residential properties.

  Noise Zone II: All commercial properties.

- ***17.02.120-D. Exterior Noise Standards.***

  1. It shall be unlawful for any person at any location within the city to create any noise or allow the creation of any noise on the property owned, leased, occupied, or otherwise controlled by such person, which causes the noise level when measured on the property line of any other property to exceed the basic noise level as adjusted below:

     a. Basic Noise Level for a cumulative period of not more than 15 minutes in any one hour; or

b. Basic Noise Level plus 5 dB for a cumulative period of not more than 10 minutes in any one hour; or

c. Basic Noise Level plus 14 dB for a cumulative period of not more than 5 minutes in any one hour; or

d. Basic Noise level plus 15 dB at any time.

It should be noted that the city's basic noise level is 65 dBA and the adjusted exterior noise standards are equivalent to 65 dB L_{25}, 70 dB L_{17}, 79 dB L_{8}, or 80 dB L_{max}.

2. If the measurement location is a boundary between two different noise zones, the lower noise level standard shall apply.

- ***17.02.120-E. Special Provisions.*** The following activities shall be exempted from the provisions of this Part:

4. Noise sources associated with, or vibration created by, construction, repair, remodeling, or grading of any real property or during authorized seismic surveys, provided said activities do not take place between the hours of 8:00 p.m. and 6:30 a.m. on weekdays and Saturday, or at any time on Sunday or a national holiday, and provided noise levels created do not exceed the noise standard of 65 dB plus the limits specified in §17.02.120-D-1.

6. Noise sources associated with the maintenance of real property, provided said activities take place between the hours of 8 a.m. and 8 p.m. on any day except Sunday or between the hours of 9 a.m. and 8 p.m. on Sunday.

- ***17.02.120-F. Schools, Churches, Libraries, Health Care Institutions-Special Provisions.*** It shall be unlawful for any person to create any noise which causes the noise level at any school, hospital, or similar health care institution, church, or library while the same is in use, to exceed the noise standards specified in this Section and prescribed for the assigned noise zone in which the school, hospital, church, or library is located (City of Rancho Cucamonga, 1983).

4.13.2 Significance Criteria

According to Appendix G of the CEQA *Guidelines*, a project impact would be considered significant if it would:

a) Expose people to or generate noise levels in excess of standards established in the local General Plan or noise ordinance, or applicable standards of other agencies;

b) Expose people to or generate excessive groundborne vibration or groundborne noise levels;

c) Cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;

d) Cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;

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; or

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.

4.13.3 Applicant Proposed Measures

There are no APMs included to address issues related to noise.

4.13.4 Impacts and Mitigation Measures

Approach to Analysis

Equipment noise during Project construction is the primary concern in evaluating short-term noise impacts. During operation, noise from corona discharge along the subtransmission source line routes in wet conditions, substation transformer noise, and general maintenance activities would be the primary concerns associated with long-term noise impacts.

Evaluation of potential noise impacts from construction, operation, and maintenance of the Project included a review of relevant San Bernardino County and Fontana, Rialto, and Rancho Cucamonga noise standards and policies, as well as a comparison of the existing noise environment with estimated Project construction, operation, and maintenance noise levels. Impacts were assessed by comparing the modeled noise levels of construction equipment and operational activities to applicable noise regulations and/or the ambient noise environment.

a) 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.

Construction activities in unincorporated San Bernardino County and the cities of Fontana and Rialto are exempt from the noise regulation provisions in their code if the construction activities occur during the hours presented in **Table 4.13-3**. Construction activities are allowed within the City of Rancho Cucamonga during the hours presented in Table 4.13-3, and must also comply with noise exposure limits (see Impact 4.13-2 discussion). Construction activities would not be allowed on Sundays or national holidays within any jurisdiction in the study area.

Per Chapter 2, *Project Description*, construction activities and deliveries would generally occur during locally permitted hours. Variances would be obtained from the local jurisdiction as necessary in the event construction activities would occur on days or hours outside of what is specified by ordinance. Accordingly, nighttime construction activities would not violate local ordinances if variances are obtained. Therefore, the Project would result in no impact (No Impact, Class IV).

TABLE 4.13-3
LOCAL JURISDICTIONS-PERMITTED HOURS FOR CONSTRUCTION WORK

City/County	Permitted Hours		
	Monday-Friday	Saturday	Sunday and Holidays
San Bernardino County	7:00 a.m. - 7:00 p.m.	7:00 a.m. - 7:00 p.m.	None
City of Fontana	7:00 a.m. - 6:00 p.m.	8:00 a.m. - 5:00 p.m.	None
City of Rialto (Oct.-Apr) City of Rialto (May-Sep)	7:00 a.m. - 5:30 p.m. 6:00 a.m. - 7:00 p.m.	8:00 a.m. - 5:00 p.m. 8:00 a.m.- 5:00 p.m.	None None
City of Rancho Cucamonga*	6:30 a.m. - 8:00 p.m.	6:30 a.m. - 8:00 p.m.	None

* Construction noise exposure shall not exceed 65 dB L_{25}, 70 dB L_{17}, 79 dB L_8, or 80 dB L_{max} at noise-sensitive property lines (e.g., residential property lines).

SOURCES: San Bernardino County, 2007b; City of Fontana, 2007; City of Rialto, 2008; and City of Rancho Cucamonga, 1983

Impact 4.13-1: Construction activities would violate City of Rancho Cucamonga exterior noise standards. *Significant Unavoidable* (Class I)

Construction activity noise would conflict with City of Rancho Cucamonga Municipal Code §17.02.120-D, Exterior Noise Standards and §17.02.120-E, Special Provisions, if construction noise exposure would exceed 65 dB L_{25}, 70 dB L_{17}, 79 dB L_8, or 80 dB L_{max} at noise-sensitive property lines (as described in Section 4.13.1, under City of Rancho Cucamonga Municipal Code). Project construction would require a variety of equipment. Typical noise levels for construction equipment at 50 feet from the source are shown in **Table 4.13-4**, Typical Noise Levels Generated by Construction Equipment. Various types of trucks, including crew trucks, flat bed trucks, etc., would also be required for Project construction; however, these trucks would not be continuous sources of noise at the construction sites.

TABLE 4.13-4
TYPICAL NOISE LEVELS GENERATED BY CONSTRUCTION EQUIPMENT

Equipment	Noise Level (dB) at 50 feet
Backhoe	80
Concrete mixer	85
Pump truck	82
Crane, Mobile	83
Dozer	85
Excavator	85
Generator	81
Grader	85
Man lift	85
Loader	85
Paver	89
Roller	85
Scraper	89

SOURCE: FTA, 2006

As shown in Table 4.13-4, the maximum intermittent noise levels for individual pieces of construction equipment are expected to range between 80 and 89 dB at approximately 50 feet. Within the City of Rancho Cucamonga, the Etiwanda Subtransmission Source Line route and associated access road would be constructed within 50 feet of the closest residences. Access road construction would require several pieces of construction equipment, including a road grader, backhoe/front loader, and a drum type compactor (e.g., roller). As described in Table 4.13-4, these pieces of equipment would each result in L_{max} levels of 85 dBA at 50 feet. It is likely that at some point during access road construction activities, two of these equipment types would operate simultaneously in the same vicinity to one another, which would result in a combined L_{max} noise level of approximately 88 dBA at the closest residences. This combined L_{max} noise level would conflict with the City of Rancho Cucamonga's exterior noise standards and would result in a significant short-term impact. To reduce construction noise levels, SCE shall implement Mitigation Measure 4.13-1.

Mitigation Measure 4.13-1: SCE and/or its contractors shall develop a Construction Noise Reduction Plan in coordination with the City of Rancho Cucamonga to be implemented for construction activities within the City of Rancho Cucamonga. The Plan shall be submitted to the CPUC for review and approval prior to the commencement of construction activities. The Plan shall include, but not be limited to, the following measures for construction activities:

- Publish and distribute to the potentially affected community within 200 feet, a telephone number, which shall be attended during active construction working hours, for use by the public to register complaints. All complaints shall be logged noting date, time, complainants' name, nature of complaint, and any corrective action taken.

- All construction equipment shall have intake and exhaust mufflers recommended by the manufacturers thereof, to meet relevant noise limitations.

- Maximize physical separation, as far as practicable, between noise sources (construction equipment) and noise receptors. Separation may be achieved by providing enclosures for stationary items of equipment and noise barriers around particularly noisy areas at the project sites and by locating stationary equipment to minimize noise impacts on the community.

- Utilize construction noise barriers such as paneled noise shields, barriers, or enclosures adjacent to or around noisy equipment associated with construction activities, including access road construction, steel pole installation and wood pole removal, etc., in the immediate vicinity (i.e., within 200 feet) of sensitive receptors. Noise control shields shall be made featuring a solid panel and a weather-protected, sound-absorptive material on the construction-activity side of the noise shield. Shields used during linear construction activities shall be readily removable and moveable so that they may be repositioned, as necessary, to provide noise abatement for construction activities located near City of Rancho Cucamonga residential receptors.

Significance after Mitigation: Although several components of Mitigation Measure 4.13-1 would likely reduce the annoyance that would be associated with loud construction activities, it is

not possible to firmly substantiate that implementation of Mitigation Measures 4.13-1 would achieve noise reductions of more than 5 dBA. Therefore, even with this mitigation measure, construction activities would be likely to exceed the City of Rancho Cucamonga exterior noise standards. Therefore, the impact would be significant and unavoidable (Class I).

Impact 4.13-2: Daily operational activities could violate applicable noise exposure limits. *Less than Significant* (Class III)

The primary sources of noise from operation and maintenance of the Project would be associated with corona discharge, substation transformer operations, and general maintenance-related activities.

Corona Noise

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 on the 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.

According to the Electric Power Research Institute (EPRI), corona noise levels 25 feet directly below 138 kV transmission lines (conductors) under wet conditions would be up to 37 dB (EPRI, 1978). Noise levels under the Project conductors would be expected to be lower as the voltage would be 66 kV rather than 138 kV; nevertheless, for the purpose of this analysis the noise level of 37 dB is used to represent worst-case corona noise levels that would occur directly below the subtransmission source line conductors. At a distance of 30 feet from the centerline of the subtransmission source line (distance to closest residential receptors), corona-related noise exposure under wet conditions would not be expected to exceed 34 dB (EPRI, 1978). This noise exposure would not exceed any applicable county or city noise exposure limit. Therefore, corona-related noise that would be associated with the Project would be less than significant (Class III).

Substation Transformers

The proposed Falcon Ridge Substation would include the installation of two 66/12 kV transformers. Operation of the new transformers would increase noise levels in the immediate vicinity of the transformers. Transformer noise is caused, in part, by a phenomenon called magnetostriction, which causes the transformer to be magnetically excited and vibrate, producing a “humming” type of noise.

SCE has measured the average sound pressure level (L_p) for two 115/12 kV transformers to be approximately 63 dB at a distance of 3 feet between the two transformers (SCE, 2010b). Assuming that this level represents the average sound pressure level (L_p) from the proposed transformer noise sources (a conservative assumption given that the measured noise levels are

associated with 115/12 kV transformers and the proposed transformers would be 66/12 kV), the sound power level (L_w) was calculated from the following equation [Institute of Electrical and Electronics Engineers (IEEE) Std. C57.12.90-2010 (IEEE, 2010)].

$$L_w \cong L_p + 10\,\mathrm{Log}_{10}(S) - 10.3$$

In this case, L_p is 63 dB and *S* (radiating surface area of the transformers) is estimated to be approximately 1,158 sq. ft. based on the transformer dimensions for a recently proposed SCE 115/12 kV substation, producing a sound power level (L_w) of approximately 83 dB for the combined transformer sources. At a distance of 800 feet from these sources, which accounts for an internal approximately 150-foot setback from the nearest transformer to the substation perimeter wall, the estimated sound pressure level is calculated from the following equation.

$$L_p \cong L_w - 10\mathrm{Log}_{10}(2\pi d^2) + 10.3$$

In this case, L_w is 83 dB and *d* is 800 feet, producing a sound pressure level of approximately 27 dB at the closest residential properties. This noise exposure would not be audible and would not exceed any applicable city (i.e., City of Fontana or City of Rialto) noise exposure limit. Therefore, there would be no possibility that the proposed Falcon Ridge Substation transformers would conflict with an applicable standard (No Impact).

Maintenance

Maintenance activities would include inspection, maintenance, and repair of Project components. SCE personnel would visit the proposed Falcon Ridge Substation three to four times per month to test and repair equipment. New subtransmission source lines would be inspected on an annual basis. Worker vehicles used to transport maintenance staff would create a negligible amount of noise and would not be expected to conflict with applicable noise criteria. Impacts would be less than significant (Class III).

Mitigation: None required.

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b) Expose people to or generate excessive groundborne vibration or groundborne noise levels.

Impact 4.13-3: Construction activities could expose people and/or structures to vibration levels. *Less than Significant* (Class III)

Construction

Temporary sources of groundborne vibration and noise during construction would result from operation of conventional heavy construction equipment such as drill rigs, bulldozers, and loaded haul trucks. These pieces of equipment can generate vibration levels of up to 0.09 in/sec at a distance of 25 feet. However, vibration levels attenuate rapidly from the source. At a distance of

30 feet, which is the closest expected location of construction equipment to residential uses, vibration would be as high as 0.07 in/sec.

The PPV threshold of 0.20 in/sec identified by Caltrans (2004) is used in this analysis to determine the significance of vibration impacts related to adverse human reaction, and the Federal Transit Administration (FTA) PPV threshold of 0.12 in/sec for buildings extremely susceptible to vibration damage is used to determine the significance of vibration impacts related to risk of architectural damage to buildings (FTA, 2006). Vibration levels at the closest residence locations would be well below these thresholds. Therefore, construction-related vibration impacts would be less than significant. These vibration levels would not have the potential to cause structural damage to nearby buildings; and would be unlikely to cause an adverse human reaction at residences or other sensitive uses in the immediate vicinity of construction activities.

Construction activities associated with the subtransmission source line installation would not be concentrated at the same location for an extended period of time; rather, they would progress in a linear fashion along the proposed corridors. Therefore, it is expected that an individual receptor would not be exposed to groundborne vibration for longer than a few days. Impacts from subtransmission source line installation would be less than significant (Class III).

Construction activities related to the proposed Falcon Ridge Substation and associated distribution getaways would be localized for approximately 12 and 2 months, respectively; however, since the nearest sensitive receptor would be located 650 feet from the perimeter of the Falcon Ridge Substation site and approximately 200 feet from the nearest distribution getaway site, it is expected that construction-related groundbourne vibration would not be perceptible and no impact would occur (No Impact).

Operation and Maintenance

Operation and maintenance of the Project would not introduce any new sources of perceivable groundborne vibration to the study area. Therefore, there would be no operation-related vibration impacts. Since there would be no groundborne vibration impact, there would be no groundborne noise exposure impact (No Impact).

Mitigation: None required.

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c) Cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

Impact 4.13-4: Operation- and maintenance-related noise levels could increase ambient noise levels in the vicinity of the Project. *Less than Significant* (Class III)

The primary noise sources from operation and maintenance of the Project would be associated with corona discharge, substation transformers, and general maintenance-related activities.

Corona Noise

As presented in the Impact 4.13-2 discussion above, at a distance of 30 feet from the centerline of the subtransmission source line (the distance to closest residential receptors), corona-related noise exposure would not be expected to exceed 34 dB. This level of noise exposure would be well below the daytime measured L_{min} ambient noise in the vicinity of the Project (see Table 4.13-1), and would not be expected to increase nighttime ambient noise exposure. It should also be noted that the corona noise levels associated with the Project would be substantially less than those associated with the existing 500 kV transmission line that would parallel the Etiwanda Subtransmission Source Line route. Corona-related noise that could be associated with the Project would be less than significant (Class III).

Substation Transformers

As discussed in the Impact 4.13-2 discussion above, Project substation transformer noise exposure at the closest residential receptors would not be expected to exceed 27 dB. This noise exposure level is below the lowest ambient noise level measured at noise survey Site 1 (i.e., below 42 dB L_{min}), and would not be expected to contribute significantly to the ambient noise exposure in the Project area. Therefore, noise impacts related to the proposed Falcon Ridge Substation transformers would be less than significant (Class III).

Maintenance

Maintenance activities would include inspection, maintenance, and repair of Project components. SCE personnel would visit the proposed Falcon Ridge Substation three to four times per month to test and repair equipment. New subtransmission source lines would be inspected on an annual basis. Worker vehicles used to transport maintenance staff would create a negligible amount of noise and would not be expected to conflict with applicable noise ordinances and plans. Impacts would be less than significant (Class III).

Mitigation: None required.

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d) Cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Impact 4.13-5: Construction-related noise levels would increase ambient noise levels in the vicinity of the Project. *Less than Significant with Mitigation* (Class II)

As described in the Impact 4.13-1 discussion, Project construction would require a variety of equipment. As shown in Table 4.13-4, the maximum intermittent noise levels for individual pieces of construction equipment are expected to range between 80 and 89 dB at approximately 50 feet. When taking into account the actual usage of the construction equipment over the period of a workday, SCE has estimated that the highest combined predicted L_{eq} noise level for construction activities associated with the Falcon Ridge Substation at 50 feet would be approximately 84 dB (SCE, 2010a). At the closest residential property to the proposed Falcon Ridge Substation site (i.e., at a distance of approximately 650 feet) and the nearest distribution

getaway vault site (i.e., at a distance of approximately 200 feet), short-term construction noise exposures would not be expected to exceed 62 dB L_{eq} and 72 dB L_{eq}, respectively. SCE has estimated that the highest combined predicted L_{eq} noise level for construction activities associated with the subtransmission source lines at 50 feet would be approximately 80 dB (SCE, 2010a). At the closest residential setbacks (i.e., a distance of 30 feet), short-term construction noise exposure would not be expected to exceed 84 dB L_{eq}. Existing residents near Project elements would experience a temporary increase in noise levels above those existing without the Project. Therefore, construction-related noise levels may be considered to be a nuisance to the closest sensitive receptors.

Although there are no applicable local policies or standards available to judge the significance of short-term construction noise levels in unincorporated San Bernardino County, the City of Fontana, or the City of Rialto (see Impact 4.13-2 for construction noise impacts relative to City of Rancho Cucamonga noise standards), the FTA has identified a daytime hourly L_{eq} level of 90 dB as a noise level where adverse community reaction could occur (FTA, 2006). Therefore, given that the highest noise levels at the nearest residences would be less than 90 dB, the temporary increase in local noise levels would not be expected to cause a substantial nuisance to nearby residences.

In addition, implementation of Mitigation Measure 4.13-5 would ensure that construction activities outside of permitted hours (Table 4.13-3) would be mitigated to a less-than-significant level.

> **Mitigation Measure 4.13-5:** In the event that nighttime construction activity is determined to be necessary within 1,000 feet of sensitive receptors, SCE shall develop a Nighttime Noise and Nuisance Reduction Plan that shall be submitted to the CPUC for review and approval prior to the commencement of construction activities. The 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 nuisances are reduced to the 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 determined by SCE to not be feasible, an explanation as to why the specific strategy is not feasible shall be included in the Nighttime Noise and Nuisance Reduction Plan.
>
> - Plan construction activities to minimize the amount of nighttime construction.
> - Offer temporary relocation of residents within 200 feet of nighttime construction activities.
> - Temporary noise barriers, such as shields and blankets, shall be installed immediately adjacent to all nighttime stationary noise sources (e.g., auger rigs, bore rigs, generators, pumps, etc.).
> - Install temporary noise barriers that block the line of sight between nighttime activities and the closest residences within 1,000 feet.

- Publish and distribute to the potentially affected community within 1,000 feet of pending nighttime construction activities, a telephone number, which shall be attended during nighttime construction working hours, for use by the public to register complaints. All complaints shall be logged noting date, time, complainants' name, nature of complaint, and any corrective action taken

Significance after Mitigation: Less than Significant.

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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.

Impact 4.13-6: Construction workers and employees conducting maintenance of the Project could be exposed to noise levels associated with Rialto Municipal Airport. *Less than Significant* (Class III)

The Alder Subtransmission Source Line route and the modifications to Alder Substation would be located within 2 miles of Rialto Municipal Airport. However, the Project would not involve the development of noise-sensitive land uses that would be exposed to excessive aircraft noise. Construction workers along the proposed Alder Subtransmission Source Line would be exposed to limited aircraft over-flight noise during the 12-month construction period. There would be no full-time employees associated with the Project; however, employees that would conduct maintenance and inspections of the new subtransmission source line and Alder Substation would be exposed to limited aircraft over-flight noise. Construction workers and employees conducting maintenance would be exposed to periodic short-term aircraft over-flight noise; however, the average construction and maintenance activity noise and ambient vehicle traffic noise levels that the workers and employees would be exposed to would likely be greater than the average over-flight noise levels that they would be exposed to. Therefore, the impact would be less than significant (Class III).

Mitigation: None required.

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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.

The Project would not affect, or be affected by, private airstrip aircraft operations in the vicinity (No Impact).

4.13.5 Alternatives

Alternative 1: Lowell Street Realignment Alternative

Activities associated with construction of Alternative 1 would occur closer to residences compared to the same portion of the proposed Alder Subtransmission Source Line route. Although noise levels associated with Alternative 1 would be higher (i.e., L_{eq} of up to approximately 74 dB) at the closest residences in the City of Rialto compared to the Project (due to shorter distances to residences), construction related impacts in the City of Rialto would continue to be less than significant. It should be noted that implementation of Alternative 1 would have no effect in reducing the significant and unavoidable impact that would occur associated with construction of the proposed Etiwanda Subtransmission Source Line route because the part of Alternative 1 that varies from the Project would occur in the City of Rialto, and the significant unavoidable impact that would occur under the Project would occur in the City of Rancho Cucamonga. Maintenance noise impacts would be the same for this alternative as for the Project.

No Project Alternative

Under the No Project Alternative, the Project would not be implemented; therefore, no noise or vibration impacts would occur.

References – Noise

California Department of Transportation (Caltrans), 1998. *Technical Noise Supplement*, 1998.

Caltrans, 2004, *Noise, Vibration, and Hazardous Waste Management Office*, 2004, *Transportation- and Construction-Induced Vibration Guidance Manual*, June 2004.

City of Fontana, 2003. City of Fontana General Plan (October 21, 2003).

City of Fontana, 2007. Municipal Code Chapter 18, Article II, §18-63. - Scope, enumeration of prohibited noises.

City of Rancho Cucamonga, 1983. Municipal Code §17.02.120 - Noise Abatement.

City of Rancho Cucamonga, 2010. Rancho Cucamonga General Plan (May 19, 2010).

City of Rialto, 2008. Code of Ordinances Chapter 9.50 - Noise Control.

City of Rialto, 2010. Rialto General Plan (December, 2010).

Electrical Power Research Institute (EPRI), 1978. Transmission line Reference Book, 115-138 kV Compact Line Design.

Federal Transit Administration (FTA), 2006. *Transit Noise and Vibration Impact Assessment (FTA-VA-90-1003-06)*, May 2006.

Institute of Electrical and Electronics Engineers (IEEE), 2010, IEEE Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers, IEEE STD C57.12.90-2010.

San Bernardino County, 2007a, County of San Bernardino 2007 General Plan (March 13, 2007).

San Bernardino County, 2007b. San Bernardino County, CA Code of Ordinances §83.01.080 Noise.

Southern California Edison (SCE), 2010a. Proponent's Environmental Assessment. Falcon Ridge Substation Project. December 29, 2010.

SCE, 2010b. *115/12 kV Transformer Banks Noise Levels Monitored at Concho Substation*, October 2010.

4.14 Population and Housing

This section provides a description of population and housing for the Project area, and evaluates potential impacts associated with implementation of the Project and alternatives. A discussion of population growth or displacement of human population and housing is also included. The Project would be constructed in the cities of Fontana, Rialto, Rancho Cucamonga, and unincorporated areas of San Bernardino County.

4.14.1 Setting

Population

San Bernardino County is located in southern California, east of Kern and Los Angeles counties, and north of Riverside County. The largest county in the nation in terms of total land area, as of 2011, San Bernardino County had the fifth largest population among California counties, with 2,052,397 residents (California Department of Transportation [Caltrans], 2011; California Department of Finance [CA DOF], 2011). **Table 4.14-1** shows historic and projected population growth from 1990 to 2035 in the Project area, which includes unincorporated San Bernardino County and the cities of Fontana, Rialto, and Rancho Cucamonga. As shown in Table 4.14-1, over the past two decades unincorporated San Bernardino County has experienced a decrease in population, which is partially attributed to the incorporation of areas that were previously unincorporated (CA DOF, 2007). The population in unincorporated areas of the County decreased approximately 11 percent between 1990 and 2010, from 322,557 residents to 291,776 residents, but is estimated to increase approximately 23 percent between 2010 and 2035 to 377,494 residents (CA DOF, 2007; CA DOF, 2011). As demonstrated in Table 4.14-1, the populations in the cities of Fontana, Rialto, and Rancho Cucamonga all experienced steady growth between 1990 and 2010, and are expected to continue to increase over the next 25 years (CA DOF, 2007; CA DOF, 2011; Southern California Association of Governments [SCAG], 2011a).

TABLE 4.14-1
HISTORIC AND PROJECTED POPULATION GROWTH, 1990–2035

Area	1990	2000	% change 1990-2000	2010	% change 2000-2010	2020	% change 2010-2020	2035	% change 2020-2035
Unincorporated San Bernardino County	322,557	291,042	-10.8%	291,776	0.3%	306,437	4.8%	377,494	18.8%
Fontana	87,535	127,064	31.1%	196,069	35.2%	221,352	11.4%	257,703	14.1%
Rialto	72,395	91,376	20.8%	99,171	7.9%	113,031	12.3%	128,229	11.9%
Rancho Cucamonga	101,409	126,475	19.8%	165,269	23.5%	179,023	7.7%	179,037	0.0%

SOURCE: CA DOF, 2007; CA DOF, 2011; SCAG, 2011a

Housing

According to the CA DOF, at the beginning of 2011 unincorporated San Bernardino County had an estimated 132,862 total housing units with a vacancy rate of approximately 29 percent (CA DOF, 2011). **Table 4.14-2** shows housing data for unincorporated San Bernardino County and the cities of Fontana, Rialto, and Rancho Cucamonga.

TABLE 4.14-2
2011 HOUSING DATA ESTIMATES

	Total Housing Units	Total Households	Vacant Housing Units	Vacancy Rate (percent)
Unincorporated San Bernardino County	132,862	94,285	38,577	29.0%
Fontana	52,171	49,413	2,758	5.3%
Rialto	27,271	25,265	2,006	7.4%
Rancho Cucamonga	57,287	55,025	2,262	4.0%

SOURCE: CA DOF, 2011

As demonstrated in **Table 4.14-3**, the number of households in the cities of Fontana, Rialto, and Rancho Cucamonga, as well as unincorporated San Bernardino County is forecast to increase from 2008 to 2035 (SCAG, 2011a).

TABLE 4.14-3
HOUSEHOLD ESTIMATES: 2008 TO 2035

Year	Unincorporated San Bernardino County	Fontana	Rialto	Rancho Cucamonga
2008	92,841	47,515	25,531	53,739
2020	96,886	56,965	30,268	55,907
2035	116,731	66,174	35,555	57,220

SOURCE: SCAG, 2011a

Regulatory Setting

Regional

Southern California Association of Governments

SCAG is a Joint Powers Agency established under California Government Code §6502 et seq. SCAG is designated as a Council of Governments, a Regional Transportation Planning Agency, and a Metropolitan Planning Organization for a six-county region that includes San Bernardino County. SCAG prepares a Regional Housing Needs Assessment (RHNA) for the region, which quantifies the need for housing within each jurisdiction during specified planning periods. The

RHNA is a key tool for SCAG and its member governments to plan for growth. The most recently published RHNA covered the planning period of January 1, 2006 to June 30, 2014. Because of the requirements of Senate Bill (SB) 375, SCAG is preparing the next RHNA planning cycle which will cover January 1, 2011 to September 30, 2021 (SCAG, 2011b).

Local

CPUC General Order No. 131-D explains that local land use regulations would not apply to the Project and alternatives. However, for information purposes, the following goals and policies included in the general plans for San Bernardino County and the cities of Fontana, Rialto, and Rancho Cucamonga would otherwise be relevant to the Project and alternatives.

San Bernardino County General Plan

The San Bernardino County General Plan contains the following goals and policies that would be relevant to the Project and alternatives (San Bernardino County, 2007):

Circulation and Infrastructure Element

Goal CI 18: The County will ensure efficient and cost effective utilities that serve the existing and future needs of people in the unincorporated areas are provided.

- ***Policy CI 18.1:*** Coordinate with Southern California Edison and other utility suppliers to make certain that adequate capacity and supply exists for current and planned development in the County.

Conservation Element

Goal CO 10: The General Plan will anticipate and accommodate future electric facility planning and will enable information sharing to improve electric load forecasting.

- ***Policy CO 10.1*:** Electric infrastructure is essential to serve growth and development in the County. Effective planning for electrical infrastructure requires collaboration between the major utilities and the County.
- ***Policy CO 10.2*:** The location of electric facilities should be consistent with the County's General Plan, and the General Plan should recognize and reflect the need for new and upgraded electric facilities.
- ***Policy CO 10.3*:** The County will continue ongoing information-sharing with electric utilities on community growth projections, which will be used by the utilities to forecast electricity demand, which, in turn, assists with future electric facility planning needed to serve the County.
- ***Policy CO 10.4*:** The County recognizes that planning cycles differ between utilities and the County. The County will attempt to provide annual data sharing to enable utilities to track development trends and serve the growth needs of the County.

City of Fontana General Plan

The Public Facilities, Services & Infrastructure Element of the City of Fontana General Plan includes the following goal and policies that would be relevant to the Project and alternatives (City of Fontana, 2003):

> **Goal 9:** Public utility companies provide contemporary levels of service in our community at competitive rates.
>
> - ***Policy 1:*** Growth projections should be provided to utility companies periodically as the basis for their projection of facility and service needs to support community development.
> - **Policy *2:*** The installation of utilities shall be coordinated so that disruption of public rights-of-way and private property is kept to a minimum.
> - **Policy *3:*** Collaboration with utility companies shall occur to achieve the maximum undergrounding of utility lines commensurate with available funds.

City of Rialto General Plan

The City of Rialto General Plan does not include any goals, objectives, or policies related to population and housing that would be relevant to the Project or alternatives (City of Rialto, 2010).

City of Rancho Cucamonga General Plan

The City of Rancho Cucamonga General Plan does not include any goals, objectives, or policies related to population and housing that would be relevant to the Project or alternatives (City of Rancho Cucamonga, 2010).

4.14.2 Significance Criteria

According to Appendix G of the CEQA Guidelines, an impact resulting from the Project would be considered significant if it would:

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).

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

4.14.3 Applicant Proposed Measures

No APMs have been identified by SCE for reducing impacts related to population and housing.

4.14.4 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).

Impact 4.14-1: The Project could induce substantial population growth in an area, either directly or indirectly. *Less than Significant* (Class III)

The Project proposes no new homes and no new businesses. The proposed Falcon Ridge Substation site is currently undeveloped and under the Project an unmanned substation would constructed on the site. The majority of the proposed subtransmission alignments would be within an established utility corridor, which would continue to be used as a utility corridor; new ROW would be through primarily open space with no existing structures. Therefore the Project would not directly induce population growth.

The Project would provide temporary employment opportunities, but this would not result in substantial population growth. The construction period would last approximately 12 months and SCE anticipates a total of approximately 90 construction personnel working on any given day, consisting of either SCE construction crews or contractors. It is anticipated that all temporary positions would be filled from the local labor pool available in San Bernardino County, with workers expected to commute to the site rather than move. However, even if the 90 construction personnel needed temporary accommodations, an adequate number of units exist in the area to serve the demand. There are several dozen hotels and motels in the cities of Fontana, Rialto, Rancho Cucamonga and surrounding communities (GoogleMaps, 2011). In addition, vacancy rates in unincorporated San Bernardino County and the cities in the Project area would provide additional options for would-be tenants. As shown in Table 4.14-2, in 2011 unincorporated San Bernardino County had an overall vacancy rate of 29.0 percent. The cities of Fontana, Rialto, and Rancho Cucamonga had vacancy rates of 5.3 percent, 7.4 percent, and 4.0 percent, respectively. Project operation and maintenance would require minimal staffing, which would be handled by current SCE employees. No new permanent jobs would be created. Therefore, overall, employment generated by the Project would have no impact on population growth because any short-term housing demand created during construction could be accommodated by existing units and no long-term growth would result from operation and maintenance. Therefore, implementation of the Project is not expected to result in any significant increase to either directly or indirectly induce substantial population growth in an area.

Operation of the Project would also not indirectly induce substantial population growth by creating new opportunities for local industry or commerce. The Project is designed to allow SCE to continue to provide safe and reliable electrical service in its ENA (see Figure 2-1 in Chapter 2, *Project Description*), and to meet forecasted demand projections. Growth is anticipated in the Project area, as described above in Section 4.14.1, *Setting*. This growth is planned and regulated by applicable local planning policies and zoning ordinances and the Project's provision of electrical service is consistent with development anticipated by plans and zoning in the jurisdictions that the Project would serve. Additionally, 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, operation of the project would not directly or indirectly encourage new development or induce substantial population growth.

Mitigation: None required.

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b) Displacement of existing housing units, necessitating the construction of replacement housing elsewhere.

Implementation of the Project would not displace any housing units. The proposed Falcon Ridge Substation would be constructed on vacant land with no existing buildings or structures. The proposed Alder Subtransmission Source Line Route would be constructed within approximately 3 miles of new ROW, and the proposed Etiwanda Subtransmission Source Line Route would be constructed within approximately 9 miles of new and existing ROW; however, neither of the proposed subtransmission source line routes would traverse housing units. Furthermore, existing housing does not exist within the locations of the proposed telecommunication facilities and the proposed distribution getaways. Therefore, the Project would have no impact with regard to the displacement of existing housing units, nor would it necessitate the construction of replacement housing elsewhere (No Impact, Class IV).

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c) Displacement of people, necessitating the construction of replacement housing elsewhere.

As noted above, implementation of the Project would not eliminate housing or any other structures that are currently used by people. It would consequently not displace any people. Therefore it would have no impact with regard to the displacement of people, and would not necessitate the construction of replacement housing elsewhere (No Impact, Class IV).

4.14.5 Alternatives

Alternative 1: Lowell Street Realignment Alternative

The impacts of Alternative 1 on population and housing would be the same as for the Project because it would construct a project of the same size and capacity, and require the same temporary construction crew and operation and maintenance personnel. Therefore, because it would not directly or indirectly induce substantial long-term population growth, this impact would be less than significant. Additionally, the Alternative 1 route would be located such that it would also not displace people or existing housing, and would result in no impact with respect to these criteria.

No Project Alternative

Under the No Project Alternative, the Project would not be implemented; therefore, there would be no impact related to population and housing.

References – Population and Housing

California Department of Finance (CA DOF), 2007. E-4, Historical City, County, and State Population Estimates, 1991-2000, with 1990 and 2000 Census Counts, http://www.dof.ca.gov/research/demographic/reports/view.php#objCollapsiblePanelEstimatesAnchor, accessed August 24, 2011.

CA DOF, 2011. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2010-2011, with 2010 benchmark. Available online: http://www.dof.ca.gov/research/demographic/reports/estimates/e-5/2011-20/view.php. Accessed July 21, 2010.

California Department of Transportation (Caltrans), 2011. San Bernardino Economic Forecast. Available online: http://www.dot.ca.gov/hq/tpp/offices/ote/socio_economic_files/2010/San_Bernardino.pdf. Accessed August 24, 2011.

City of Fontana, 2003. City of Fontana General Plan. Adopted October 21, 2003.

City of Rancho Cucamonga, 2010. Rancho Cucamonga General Plan. Adopted May 2010.

City of Rialto, 2010. Rialto General Plan. Adopted December 2010.

San Bernardino County, 2007. San Bernardino County General Plan. Adopted March 13, 2007; effective April 12, 2007.

GoogleMaps, 2011. Search for "hotel" near Fontana, CA, www.maps.google.com. Accessed August 24, 2011.

Southern California Association of Governments (SCAG), 2011a. Local Input/General Plan Growth Forecast for 2012 RTP. Available online: www.scag.ca.gov/forecast/downloads/excel/rtp2012-growth-forecast.xls. Accessed May 31, 2011.

SCAG, 2011b. Regional Housing Needs Assessment. Available online: www.scag.ca.gov/housing/rhna/index.htm. Accessed August 22, 2011.

4.15 Public Services

This section analyzes the impact of the Project and alternatives on the provision of public services in unincorporated San Bernardino County and the cities of Fontana, Rialto, and Rancho Cucamonga. It identifies adverse physical impacts to the environment that could result from a need to provide new or physically altered public facilities resulting from the Project and alternatives. This analysis reviews fire protection and emergency medical response, police services, schools and other public facilities. Park and recreational facilities are discussed in Section 4.16, *Recreational Resources*. Public service facilities nearest the Project are shown in **Figure 4.15-1**.

4.15.1 Setting

Fire Protection and Emergency Medical Services

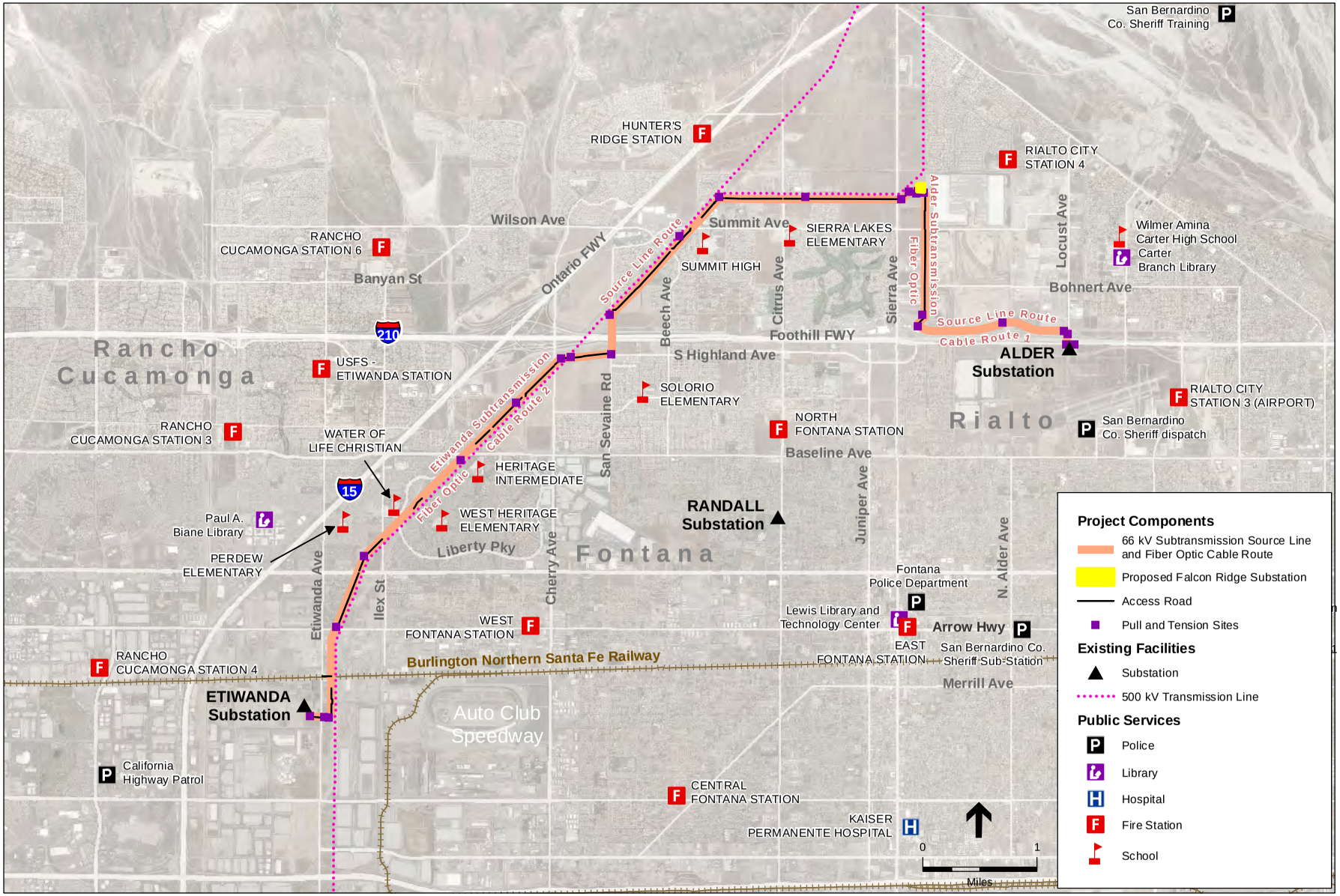
Local

San Bernardino County, City of Fontana, City of Rialto, City of Rancho Cucamonga

The San Bernardino County Fire Department (SBCFD) provides fire protection, emergency response, disaster assistance and preparedness services, and search and rescue to 2.2 million residents in unincorporated San Bernardino County and the cities of Needles, Fontana, Grand Terrace, Victorville, Hesperia, Yucca Valley, and Adelanto. Of the 70 fire stations located throughout its service area, 15 serve the Project area through the department's Valley Division. In 2010, SBCFD had 908 fire suppression personnel and responded to 68,066 emergency incidents (SBCFD, 2010). The SBCFD does not currently have established performance standards; however, the San Bernardino County General Plan contains policies and programs related to fire protection services calling for the adoption of a Countywide Fire Protection Master Plan that would use National Fire Protection Association (NFPA) Standards 1710 and 1720 as goals for creation of standards of cover (San Bernardino County, 2005). These standards call for a response time of fewer than 4 minutes for the arrival of the first company to 90 percent of incidents and a minimum of 15 personnel to respond to incidents in urban areas and 10 to respond in suburban areas (NFPA, 2010a, b).

The Fontana Fire Protection District (FFPD), which includes the City of Fontana and several adjacent portions of unincorporated San Bernardino County, is a subsidiary district of the SBCFD and provides contracted fire prevention, emergency services, and hazardous material response through the SBCFD (FFPD, 2008; City of Fontana, 2010a). Therefore, the FFPD's performance standards match those of the SBCFD. The FFPD currently operates seven fire stations. The closest of these to the Project site would be Station 79, located at 5075 Coyote Canyon Road, approximately 0.9 mile from the proposed Etiwanda Subtransmission Source Line route (see Figure 4.15-1).

The City of Rialto Fire Department (RFD) provides fire prevention services, hazardous materials and technical rescue response capabilities, and disaster preparedness programs to its service area within the City of Rialto. RFD would serve portions of the Project site including the proposed



SOURCE: SCE, 2011

Falcon Ridge Substation Project . 207584.09

Figure 4.15-1

Public Services in the Project Vicinity

Alder subtransmission source line route and the proposed telecommunication facilities located within this route, except for the portion within the City of Fontana. The RFD operates four fire stations. However, Station #202 is now closed and a new replacement station is under construction (City of Rialto, 2010a). The fire station closest to the Project would be Station 204, located at 3288 N. Alder, approximately 0.8 miles from the substation site (see Figure 4.15-1). According to the City of Rialto General Plan, the RFD adheres to NFPA standards that call for first units to respond to a fire or medical emergency within 4 minutes and the remaining equipment to respond within 8 minutes (City of Rialto, 2010)

The City of Rancho Cucamonga Fire Protection District (RCFPD) provides fire protection and emergency medical services, as well as other emergency preparedness and response programs, to its service area within the City of Rancho Cucamonga. The RCFPD would serve the portion of the Etiwanda subtransmission source line route that is located within the City of Rancho Cucamonga. The RCFPD operates six fire stations, the closest to the Project of which would be Station 173, located at 12270 Firehouse Court, approximately 1.5 miles west of the proposed Etiwanda subtransmission source line route (see Figure 4.15-1) (City of Rancho Cucamonga, 2010a, b). In 2009, the RCFPD responded to 11,552 incidents, which included 1,389 fire incidents and 9,406 calls for emergency medical services (RCFPD, 2010). In order to reduce current response times of 7 to 10 minutes from the Amethyst Fire Station, the RCFPD is currently constructing a seventh fire station on Hellman Avenue (City of Rancho Cucamonga, 2011).

Police Protection

San Bernardino County

The San Bernardino County Sheriff's Department (SBCSD) is the primary law enforcement agency for San Bernardino County and both provides community policing and operates and maintains county correctional facilities. The SBCSD has 3,700 employees and operates 10 sheriff substations throughout the County, including one in the City of Fontana. The SBCSD contracts with 14 incorporated cities within the county, including Rancho Cucamonga, to provide local full-service law enforcement, traffic services, investigations, and safety services (San Bernardino County, 2010a). Sheriff substations are shown in Figure 4.15-1. The SBCSD Fontana Station serves a population of 88,014 people in a 139-square-mile area, and has 27 patrol deputies for a service ratio of 1,539 to 1. In 2010, this station responded to 42,430 calls for service. In the City of Rancho Cucamonga, the SBCSD serves 178,904 people over 44 square miles, and has 105 deputies for a service ratio of 1,704 to 1. The SBCSD responded to 125,075 calls for service in Rancho Cucamonga in 2010 (SBCSD, 2010).

City of Fontana

The City of Fontana Police Department (FPD) is located at 17005 Upland Avenue and provides the primary police protection services for the City of Fontana (City of Fontana, 2010b). The FPD has 180 sworn officer and its service units include air support, field evidence, hostage negotiations, investigations, K-9, patrol, special enforcement detail and traffic. In 2010, the FPD responded to 104,982 calls for service (FPD, 2010). The EIR prepared for the City of Fontana

General Plan prior to its adoption included mitigation measures that the City shall maintain an average police response time of 4 to 5 minutes and shall continue to work towards a ratio of 1.4 sworn officers per 1,000 residents (City of Fontana, 2010c, p. S-20)

City of Rialto

The City of Rialto Police Department (RPD) is located at 128 N. Willow Avenue (City of Rialto, 2010b). The RPD provides the primary police protection services for the City of Rialto, including traffic control, criminal investigations, and narcotics surveillance, and has 112 sworn officers (City of Rialto, 2011). Based on population data described in Section 4.14, *Population and Housing*, the current ratio of sworn officers to residents is 1.13 officers per 1,000 residents; however, the city has a goal of 1.4 officers per 1,000 residents (City of Rialto, 2009).

City of Rancho Cucamonga

The City of Rancho Cucamonga Police Department (RCPD) is located at 10510 Civic Center Drive (City of Rancho Cucamonga, 2010c). The RCPD provides the primary police protection services for the City of Rancho Cucamonga and consists of a patrol division, traffic division, and multiple enforcement teams. The RCPD currently has 135 sworn officers (Cabana, 2011). The Rancho Cucamonga General Plan Policy PS-4.2 requires that a minimum 4-minute response time is maintained for emergency calls to the RCPD (City of Rancho Cucamonga, 2010e).

Schools

The proposed Falcon Ridge substation site is located within the Rialto School District, while the proposed subtransmission source line routes traverse the Etiwanda School District, the Fontana Unified School District, and the Rialto Unified School District.

California Education Code §41376 establishes a goal of districtwide average class sizes of 30 students and a maximum class size of 32 students. While enrollment data is available for the 2009-2010 school year, average class sizes are not available for that year. **Table 4.15-1** summarizes the number of schools, enrollment, and average class size for each of the school districts that would serve the Project area.

As shown in Table 4.15-1, the Rialto Unified School District met the California Education Code goals for average class sizes in 2008-2009. Additionally, data from previous years show that when the student population was greater than 30,000 students, the average class size was still below 30 students (Ed-Data, 2011b).

The Etiwanda School District met the California Education Code goals for average class sizes in 2008-2009. The estimated average class size based on the higher 2009-2010 enrollment was approximately 28.4 students.

The Fontana Unified School District met the California Education Code goals for average class sizes in 2008-2009.

TABLE 4.15-1
PROJECT AREA SCHOOL DISTRICT DATA

District	Number of Regular Schools	2009-2010 Districtwide Enrollment	2008-2009 Districtwide Enrollment	2008-2009 District Average Class Size
Rialto Unified School District	19 elementary schools, 5 middle schools, 5 high schools[a]	27,170 students[b]	27,452 students[b]	27.8 students[c]
The Etiwanda School District	12 elementary schools, 4 intermediate schools, an alternative school[d]	12,646 students[e]	12,476 students[e]	28 students[f]
Fontana Unified School District	29 elementary schools, 7 middle schools, 4 high schools, 3 alternative schools[g]	41,004 students[h]	41,077 students[h]	25.6 students[i]

SOURCE: (a) Rialto Unified School District, 2011; (b) Ed-Data, 2011a; (c) Ed-Data, 2011b; (d) Etiwanda School District, 2011; (e) Ed-Data, 2011c; (f) Ed-Data, 2011d; (g) Fontana Unified School District, 2011; (h) Ed-Data, 2011e; (i) Ed-Data, 2011f

There are eight schools located within 0.5 mile of the Project and alternative sites, as shown in Figure 4.15-1:

- Heritage Intermediate School, located at 13766 South Heritage Circle, Fontana, approximately 0.02 mile southeast of the proposed Etiwanda Subtransmission Source Line route;
- Perdew Elementary School, located at 13051 Miller Avenue, Etiwanda, approximately 0.25 mile northwest of the proposed Etiwanda Subtransmission Source Line route;
- Sierra Lakes Elementary School, located at 5740 Avenal Place, Fontana, approximately 0.25 mile south of the proposed Etiwanda Subtransmission Source Line route;
- Solorio Elementary School, located at 15172 Walnut Street, Fontana, approximately 0.35 mile east of the proposed Etiwanda Subtransmission Source Line route;
- Summit High School, located at 15551 Summit Avenue, Fontana, approximately 0.35 mile east of the proposed Etiwanda Subtransmission Source Line route;
- Water of Life Christian School, located at 7625 East Avenue, Fontana, approximately 0.15 mile west of the proposed Etiwanda Subtransmission Source Line route; and
- West Heritage Elementary School, located at 13690 West Constitution Way, Fontana, approximately 0.22 mile southeast of the proposed Etiwanda Subtransmission Source Line route.
- Wilmer Amina Carter High School, located at 2630 North Linden Avenue, Rialto, approximately 0.25 mile east of the proposed Alternative Alder Subtransmission Source Line route.

Other Public Facilities

Hospitals

San Bernardino County operates the Arrowhead Regional Medical Center, located at 400 North Pepper Avenue in the City of Colton, approximately 7 miles southeast of the proposed Falcon Ridge Substation site. Arrowhead Regional Medical Center provides emergency, trauma, family health, and burn services (Arrowhead Regional Medical Center, 2011). The County also has seven public health clinics and additional medical facilities and services, such as private for-profit services and municipal facilities. The closest hospital facility to the Project site is Kaiser Permanente Hospital, located in the City of Fontana at 9961 Sierra Avenue, approximately 5.7 miles south of the proposed Falcon Ridge Substation site (Kaiser Permanente, 2011). Additionally, the Community Hospital of San Bernardino, located at 1805 Medical Center Drive in San Bernardino, is approximately 6.5 miles southeast of the proposed Falcon Ridge Substation site. This hospital provides emergency, maternity, family health, and trauma services (Community Hospital of San Bernardino, 2011). These hospitals are shown on Figure 4.15-1.

Library Services

San Bernardino County operates a system of 33 libraries and a bookmobile. The library closest to the Project site is the Carter Branch Library, located at 2630 N. Linden Avenue in Rialto, approximately 2 miles southeast of the proposed Falcon Ridge Substation site (San Bernardino County, 2010b). Another, the Lewis Library and Technology Center, is located within the City of Fontana at 8437 Sierra Avenue, approximately 3.7 miles south of the proposed Falcon Ridge Substation site (Fontana Library, 2010).

The City of Rancho Cucamonga currently operates two libraries. The closest to the Project is the Paul A. Biane Library, located at 12505 Cultural Center Drive, approximately 6.5 miles southwest of the proposed Falcon Ridge Substation site (City of Rancho Cucamonga, 2010d).

Regulatory Setting

Local

CPUC General Order No. 131-D explains that local land use regulations would not apply to the Project and alternatives. However, CPUC staff considered local plans and policies to determine the service ratios and/or response time goals for local agencies and services, informing the determination of significance thresholds for the study area. For information purposes, the following goals and policies included in the general plans for San Bernardino County and the cities of Fontana, Rialto, and Rancho Cucamonga would otherwise be relevant to the Project and alternatives.

San Bernardino County General Plan

> **Goal CI 16.** The County will protect its residents and visitors from injury and loss of life and protect property from fires through the continued improvement of existing Fire Department facilities and the creation of new facilities, but also through the improvement

of related infrastructure that is necessary for the provision of fire service delivery such as water systems and transportation networks.

- ***Policy CI 16.3:*** Encourage development in areas that have adequate infrastructures for the provision of fire service, which include, but are not limited to, water systems capable of delivering appropriate fire flow, and transportation networks that can provide access for fire apparatus and other emergency response vehicles as well as provide efficient egress for evacuees.

Goal CI 17. The County will provide adequate law enforcement facilities to deliver services to deter crime and to meet the growing demand for services associated with increasing populations and commercial/industrial developments.

- ***Policy CI 17.1:*** Appropriately prioritize calls for service and seek sufficient staffing levels to ensure response times are reasonable and efforts to deter crime are optimized (San Bernardino County, 2007).

City of Fontana General Plan

Schools

Goal 1. High quality schools with adequate physical capacity are provided in all areas of our City.

- ***Policy 1:*** Planning and development in the City shall continue to be integrated with the needs of school districts for new facilities.

Law Enforcement

Goal 2. Our law enforcement and fire protection services meet our population's public safety needs and contribute to a sense of safety and high quality of life in our community.

- ***Policy 1:*** Continue to work towards a ratio of 1.4 sworn police officers per 1,000 residents in the City.

- ***Policy 8:*** Adequate fire and police response times shall be maintained in the City (City of Fontana, 2003).

City of Rialto General Plan

Goal 5-7. Maintain a high level of emergency response capability.

Goal 5-8. Provide effective and comprehensive policing services that meet the safety needs of Rialto.

- ***Policy 5-8.1:*** Provide timely responses to emergency and nonemergency call for service 24 hours a day, per the City standards (City of Rialto, 2010).

City of Rancho Cucamonga

Public Facilities and Infrastructure

Goal PF-2. Improve access for all Rancho Cucamonga residents to high quality educational opportunities that satisfy each individual's needs, desires, and potential.

- ***Policy PF-2.2:*** Consider the needs of the school districts that serve Rancho Cucamonga in future planning and development activities.

Public Health and Safety

Goal PS-1. Plan, promote, and demonstrate a readiness to respond and reduce threats to life and property through traditional and innovative emergency services and programs.

- ***Policy PS-1.10:*** Review and determine needs for future system improvements when indicated by key performance measures.

Goal PS-4. Provide a high level of public safety services throughout Rancho Cucamonga.

- ***Policy PS-4.2:*** Maintain, and improve where feasible, police response times to all calls for service and require that a minimum four minute response time is maintained for emergency calls (City of Rancho Cucamonga, 2010e).

4.15.2 Significance Criteria

According to Appendix G of the CEQA Guidelines, a project impact would be considered significant if it would:

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for 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;
ii. Police protection;
iii. Schools;
iv. Parks; or
v. Other public facilities.

4.15.3 Applicant Proposed Measures

There are no APMs included to address issues related to impacts to public services.

4.15.4 Impacts and Mitigation Measures

a.i) Fire Protection

As discussed above, fire protection in the Project area is provided by the SBCFD, the FFPD, the RFD, and the RCFD. Increases in long-term demand for fire protection services are typically associated with substantial increases in population. The Project would not result in a population increase, nor introduce any new uses to the Project area, that would generate increased long-term demand for fire protection services (see Section 4.14, *Population and Housing,* for more information related to potential population increases). The construction period would last approximately 12 months, and SCE anticipates a total of approximately 90 construction personnel working on any given day. Although it is anticipated that all temporary positions would be filled

from the local labor pool available in San Bernardino County, if any temporary workers should move into the service area of these fire protection agencies from elsewhere, there are currently enough vacant housing units and hotels to accommodate them (see Section 4.14, *Population and Housing*). Because the Project would not result in a need for new housing units, it would not affect the various fire protection agencies' ability to maintain acceptable response times based on current station locations. Therefore, Project construction would not result in the need for new or physically altered fire protection facilities in order to maintain acceptable service ratios, response times, or other performance objectives.

During operation and maintenance, the Project would require routine maintenance, inspection, and vegetation management activities. Operational staffing levels would not increase above existing levels that are required to maintain the existing subtransmission and transmission systems. The Project would not add new structures or uses within the service areas of the relevant fire protection agencies that would affect their ability to maintain acceptable response times. Therefore, the Project would not result in the need for new or physically altered fire protection facilities. Project operation and maintenance would have no impact with respect to fire protection services. See Section 4.9, *Hazards and Hazardous Materials*, for discussion of potential Project-related impacts associated with risk of fire hazards (No Impact, Class IV).

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a.ii) Police Protection.

Police protection services in the Project area would be provided by the SBCSD, FPD, RPD, and RCPD. Increases in the demand for police protection services are typically associated with substantial increases in population. The Project would not result in a population increase, nor introduce any new uses to the Project area, that would generate increased long-term demand for police protection services (see Section 4.14, *Population and Housing,* for more information related to potential population increase). The construction period would last approximately 12 months, and SCE anticipates a total of approximately 90 construction personnel working on any given day. Although it is anticipated that all temporary positions would be filled from the local labor pool available in San Bernardino County, if any temporary workers should move into the service area of the relevant police protection agencies from elsewhere, each agency's current staff of sworn officers could accommodate this increase in population while maintaining an acceptable service ratio because an addition of 90 construction personnel would not measurably alter the current service ratios of the police protection agencies in the Project area. Therefore, Project construction would have no impact with respect the need for new or physically altered police protection facilities.

During operation and maintenance, operational staffing levels would not increase above existing levels that are required to maintain the existing subtransmission and transmission systems. Therefore, the Project would not affect the police protection agencies' ability to maintain an acceptable service ratio or result in the need for new or physically altered police protection

facilities. Project construction, operation, and maintenance would have no impact with respect to police protection services (No Impact, Class IV).

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a.iii) Schools

Increased demand for public school services are typically associated with increases in the local population or demand for housing. The construction crew for the Project is estimated to be up to 90 people, including SCE and contracted construction personnel. The construction period is expected to last for 12 months. Although it is anticipated that all temporary positions would be filled from the local labor pool available in San Bernardino County, temporary workers could move into the area from elsewhere and bring school-aged children into the service areas of the Rialto Unified, Etiwanda, and Fontana Unified school districts. A conservative approach to estimating the number of children that could move into the area during the construction period gives an estimate of 225 children.[1] Based on the assumption that these children would be approximately equally divided among grade levels, existing schools could accommodate this increase in enrollment. An increase of 225 students in the Rialto Unified School District would result in a total enrollment of up to approximately 27,400 students. This would be an increase of less than 1 percent of current enrollment. An increase of 225 students in the Etiwanda School District would result in a total enrollment of up to approximately 12,870 students. This would be an increase of less than 2 percent of current enrollment. An increase of 225 students in the Fontana Unified School District would result in a total enrollment of up to approximately 41,230 students. This would be an increase of less than 1 percent of current enrollment. Average class sizes would be maintained at fewer than 30 students in any of these districts. The potential Project-related increase in students would not result in the need for new or expanded schools.

During operation and maintenance, operational staffing levels would not increase above existing levels that are required to maintain the existing subtransmission and transmission systems. Therefore, the Project would not result in a substantial increase in demand for school facilities and would not require the construction of a new or modification of an existing school, the construction of which could cause significant environmental effects. Therefore, the Project would have no impact with respect to schools (No Impact, Class IV).

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[1] In Riverside County in 2010, 242,985 households had children under the age of 18, and the total county population of children under the age of 18 was 594,588 (U.S. Census Bureau, 2010). This gives a rough average of 2.5 children per household with children present. Assuming each of the 90 temporary construction workers represented one average household with children, this could result in an increase of 225 children in the service areas of the Rialto Unified, Etiwanda, or Fontana Unified school districts.

a.iv) Parks.

For potential impacts on recreational facilities, including parks, see Chapter 4.16, *Recreation*. Impacts on recreational facilities were found to be less than significant after mitigation or to have no impact.

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a.v) Other Public Facilities.

The Project would not result in substantial adverse impacts related to other types of public facilities (e.g., public libraries, hospitals, or other civic uses) because, as discussed above, the Project would not result in a significant increase of local population or housing, which is typically associated with increased demand for public facilities. Project construction would require a limited number of people as a temporary work crew, and Project operation and maintenance would require no new staff. Therefore, the Project would not have an effect on the ability of other public services to maintain their service levels, and would have a no impact associated with the provision of new or physically altered facilities for libraries, hospitals, or other civic uses (No Impact, Class IV).

4.15.5 Alternatives

Alternative 1

Alternative 1 would alter the route of the proposed Alder Subtransmission Source Line and Fiber-Optic Cable, but it would not substantially change the size or type of facilities to be constructed and would require the same temporary construction crew and operation and maintenance personnel. Therefore, Alternative 1 impacts to Public Services would be the same as the Project.

No Project Alternative

Under the No Project Alternative, the Project would not be implemented; therefore there would be no impact related to the provision of public services.

References – Public Services

Arrowhead Regional Medical Center, 2010. Patient Services. Available online: https://www.arrowheadmedcenter.org/default.aspx?id=42. Accessed September 13, 2011.

Cabana, Debbie, 2011. Rancho Cucamonga Police Department Operations, telephone interview with Alexandra Kostalas, ESA, September 13, 2011.

California Department of Forestry and Fire Protection, 2008a. Very High Fire Hazard Severity Zones in LRA – Fontana. Available online: ftp://frap.cdf.ca.gov/fhszlocalmaps/san bernardino/Fontana.pdf. Accessed September 13, 2011.

California Department of Forestry and Fire Protection, 2008b. Very High Fire Hazard Severity Zones in LRA – Rancho Cucamonga. Available online: ftp://frap.cdf.ca.gov/fhszlocalmaps/ san_bernardino/Rancho_Cucamonga.pdf. Accessed September 13, 2011.

California Department of Forestry and Fire Protection, 2008c. Very High Fire Hazard Severity Zones in LRA – Rialto. Available online: ftp://frap.cdf.ca.gov/fhszlocalmaps/ san_bernardino/Rialto.pdf. Accessed September 13, 2011.

California Department of Forestry and Fire Protection, 2008d. Very High Fire Hazard Severity Zones in LRA – SW San Bernardino County. Available online: http://frap.cdf.ca.gov/ webdata/maps/san_bernardino_sw/fhszl_map.62.pdf. Accessed September 13, 2011.

City of Fontana, 2003. Fontana General Plan.

City of Fontana, 2010a. About the Fontana Fire District. Available online: http://www.fontana. org/index.aspx?NID=634. Accessed September 13, 2011.

City of Fontana, 2010b. Police Department. Available online: http://www.fontana.org/index. aspx?NID=112. Accessed September 13, 2011.

City of Fontana, 2010c. Program Environmental Impact Report Redevelopment Plan for the Southwest Industrial Park Project Area Amendment No. 9. Available online: http://www.fontana.org/DocumentView.aspx?DID=3281. Accessed October 14, 2011.

City of Fontana, 2011a. Arboretum Specific Plan. Available online: http://www.fontana.org/ index.aspx?NID=1278. Accessed September 13, 2011.

City of Fontana, 2011b. West Gate Specific Plan. Available online: http://www.fontana.org/ index.aspx?NID=1304. Accessed September 13, 2011.

City of Fontana, 2011c. West End Specific Plan. Available online: http://www.fontana.org/index. aspx?NID=1303. Accessed September 13, 2011.

City of Rancho Cucamonga, 2011. Northwest Fire Station FAQ. Available online: http://rc-web.civicasoft.com/cityhall/fire_district/nwfaqs.asp. Accessed October 18, 2011.

City of Rancho Cucamonga, 2010a. Emergency Services. Available online: http://www.ci.rancho-cucamonga.ca.us/fire/index.htm. Accessed September 13, 2011.

City of Rancho Cucamonga, 2010b. RCFD Fire Station Locations. Available online: http://www.cityofrc.us/civica/filebank/blobdload.asp?BlobID=2493. Accessed September 13, 2011.

City of Rancho Cucamonga, 2010c. Contact Rancho Cucamonga Police. Available online: http://www.cityofrc.us/cityhall/police/contact.asp. Accessed September 13, 2011.

City of Rancho Cucamonga, 2010d. Contact info, Hours, and Locations. Available online: http://www.cityofrc.us/cityhall/lib/hours.asp. Accessed September 13, 2011.

City of Rancho Cucamonga, 2010e. City of Rancho Cucamonga General Plan.

City of Rialto, 2009. Draft Environmental Impact Report, Rialto Commerce Center. Available online: http://www.ceqamap.com/search.php?mode=view&action=view&id=2555. Accessed October 18, 2011.

City of Rialto, 2010. Rialto General Plan.

City of Rialto, 2010a. Fire Department. Available online: http://www.ci.rialto.ca.us/fire_main.php. Accessed September 13, 2011.

City of Rialto, 2010b. City of Rialto Police Department. Available online: http://rialtopd.com/. Accessed September 13, 2011.

City of Rialto, 2011. Police Department History. Available online: http://www.ci.rialto.ca.us/rialto_1168.php. Accessed September 12, 2011.

Community Hospital of San Bernardino. 2011. Available online: http://www.chsb.org. Accessed September 13, 2011.

Ed-Data, 2011a. Enrollment Enrollment by Grade Rialto Unified School District, 2009-10. Available online: http://www.ed-data.k12.ca.us/App_Resx/EdDataClassic/fsTwoPanel.aspx?#!bottom=/_layouts/EdDataClassic/profile.asp?fyr=1011&county=36&district=67850&Level=06&reportNumber=16#enrollmentbygrade. Accessed October 13, 2011.

Ed-Data, 2011b. Average Class Size Rialto Unified School District, 2009-10. Available online: http://www.ed-data.k12.ca.us/App_Resx/EdDataClassic/fsTwoPanel.aspx?#!bottom=/_layouts/EdDataClassic/profile.asp?fyr=1011&county=36&district=67850&Level=06&reportNumber=16#averageclasssize. Accessed October 13, 2011.

Ed-Data, 2011c. Enrollment by Grade Etiwanda Elementary School District, 2009-10. Available online: (http://www.ed-data.k12.ca.us/App_Resx/EdDataClassic/fsTwoPanel.aspx?#!bottom=/_layouts/EdDataClassic/profile.asp?fyr=1011&county=36&district=67702&Level=06&reportNumber=16#enrollmentbygrade. Accessed October 13, 2011.

Ed-Data, 2011d. Average Class Size Etiwanda Elementary School District, 2009-10. Available online: http://www.ed-data.k12.ca.us/App_Resx/EdDataClassic/fsTwoPanel.aspx?#!bottom=/_layouts/EdDataClassic/profile.asp?fyr=1011&county=36&district=67702&Level=06&reportNumber=16#averageclasssize. Accessed October 13, 2011.

Ed-Data, 2011e. Enrollment by Grade Fontana Unified School District, 2009-10. Available online: http://www.ed-data.k12.ca.us/App_Resx/EdDataClassic/fsTwoPanel.aspx?#!bottom=/_layouts/EdDataClassic/profile.asp?fyr=1011&county=36&district=67710&Level=06&reportNumber=16#enrollmentbygrade. Accessed October 13, 2011.

Ed-Data, 2011f. Average Class Size Fontana Unified School District, 2009-10. Available online: http://www.ed-data.k12.ca.us/App_Resx/EdDataClassic/fsTwoPanel.aspx?#!bottom=/_layouts/EdDataClassic/profile.asp?fyr=1011&county=36&district=67710&Level=06&reportNumber=16#averageclasssize. Accessed October 13, 2011.

Etiwanda School District, 2011. Schools. Available online: http://www.etiwanda.k12.ca.us/. Accessed September 13, 2011.

Fontana Fire Protection District (FFPD), 2008. Fontana Fire Protection District Map. Available online: http://www.fontana.org/DocumentView.aspx?DID=2110. Accessed September 12, 2011.

Fontana Library, 2010. Lewis Library and Technology Center. Available online: http://www.fontanalibrary.org/about.asp. Accessed September 13, 2011.

Fontana Police Department, 2010. Fontana Police Department 2010 Annual Report. Available online: http://fontana.org/DocumentView.aspx?DID=4185. Accessed September 12, 2011.

Fontana Unified School District, 2011. District History. Available online: http://fusd.net/fusdhistory/history.stm. Accessed September 13, 2011.

Kaiser Permanente, 2010. Fontana Medical Center. Available online: https://health.kaiserpermanente.org/wps/portal/facility/100127. Accessed September 12, 2011.

National Fire Protection Association, 2010a. NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments, 2010 Edition. Available online: http://www.nfpa.org/itemDetail.asp?categoryID=999&itemID=24346&URL=Codes%20&%20Standards/Code%20development%20process/. Accessed October 13, 2011.

National Fire Protection Association, 2010b. NFPA 1720 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments, 2010 Edition. Available online: http://www.nfpa.org/itemDetail.asp?categoryID=999&itemID=24347&URL=Codes%20&%20Standards/Code%20development%20process/. Accessed October 13, 2011.

Rialto Unified School District, 2011. About RUSD. Available online: http://www.rialto.k12.ca.us/index.php?option=com_content&view=article&id=68&Itemid=5&lang=e. Accessed September 13, 2011.

Rancho Cucamonga Fire Protection District, 2010. Annual report for 2009. Available online: http://www.cityofrc.us/civica/filebank/blobdload.asp?BlobID=2462. Accessed October 13, 2011.

San Bernardino County, 2010a. San Bernardino Sheriff-Coroner's Department. Available online: http://www.co.san-bernardino.ca.us/sheriff. Accessed September 13, 2011.

San Bernardino County, 2010b. Branches and Hours. Available online: http://www.sbcounty.gov/library/home. Accessed September 13, 2011.

San Bernardino County, 2007. San Bernardino County General Plan.

U.S. Census Bureau, 2010. 2010 Demographic Profile – San Bernardino County, CA. Available online: http://www.census.gov/popfinder/. Accessed October 13, 2011.

4.16 Recreation

This section presents the environmental setting and impact analysis for parks, open space, and recreational resources for the Project and the surrounding Project area. The purpose of this section is to assess the impacts of the Project and alternatives on parks, other recreational facilities, and recreational values.

4.16.1 Setting

The Project would be constructed, maintained and operated in the cities of Fontana, Rialto, and Rancho Cucamonga, as well as unincorporated San Bernardino County. The study area for recreational resources encompasses the recreational facilities potentially affected by implementation of Project or alternatives, as portrayed in **Figure 4.16-1**, *Parks and Recreation Areas*.

Recreational Areas

National Parks

The U.S. Forest Service manages one National Forest in the study area. The San Bernardino National Forest covers approximately 676,666 acres in San Bernardino and Riverside counties and is located approximately 1.5 miles northeast of the proposed Falcon Ridge Substation site. Serving as southern California's outdoor year-round recreation destination, the San Bernardino National Forest offers hiking and backpacking, horse trails, mountain biking, off-highway vehicle roads, gold panning, camping, picnicking, and fishing, as well as winter activities such as snowshoeing, cross-country and alpine skiing (U.S. Forest Service [USFS], 2011).

State Parks

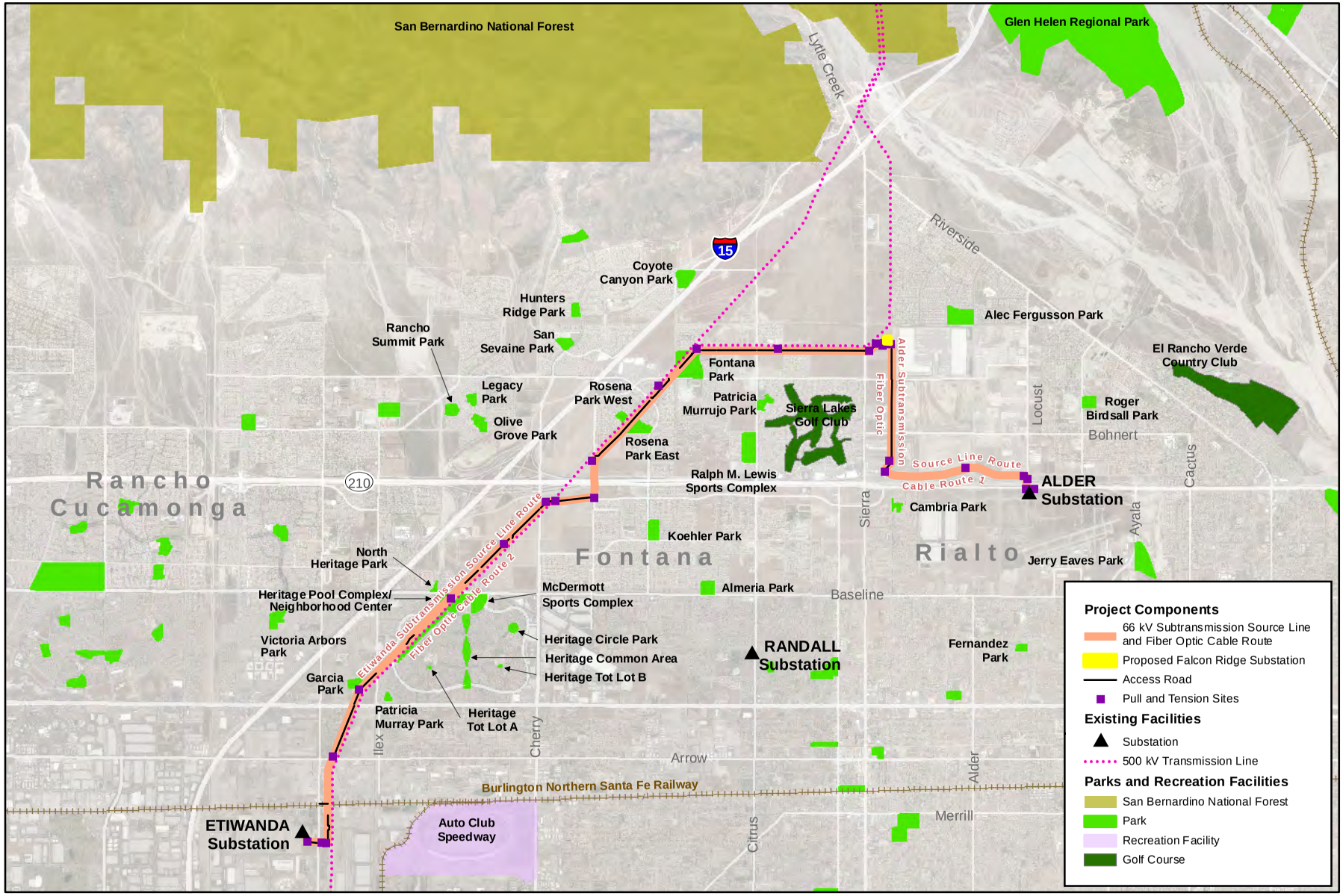
The study area contains no designated state recreational facilities or open space lands. The closest state park is Silverwood Lake State Recreation Area, approximately 10 miles northeast of the proposed Falcon Ridge Substation site (California State Parks [CSP], 2011).

Regional Recreation Areas

San Bernardino County manages nine regional parks, none of which are in the study area (San Bernardino County Regional Parks [SBCRP], 2011). The closest regional parks are Glen Helen Regional Park, located approximately 3.9 miles northeast of the proposed Falcon Ridge Substation site, and Cucamonga Guasti Regional Park, located approximately 4 miles southwest of the proposed Etiwanda Subtransmission Source Line Route.

Local Parks

Table 4.16-1 contains local parks in the study area. These include parks and recreation areas managed by the cities of Fontana, Rialto, and Rancho Cucamonga.



SOURCE: SCE, 2011

Falcon Ridge Substation Project . 207584.09

Figure 4.16-1

Parks and Recreation Facilities in the Project Vicinity

TABLE 4.16-1
LOCAL PARKS IN THE STUDY AREA

Park Name	Address	Approximate Distance from Project	Park Amenities
City of Fontana			
Fontana Park	15556 Summit Avenue	Adjacent to the east of the proposed Etiwanda Subtransmission Source Line Route	Jessie Turner Health & Fitness Center, aquatics center, skate and BMX park, dog park, sports pavilion, and passive play area
Rosena Park East	15299 Curtis Avenue	Adjacent to the east of the proposed Etiwanda Subtransmission Source Line Route	Picnic tables, playground, restrooms, and amenities for bocce ball and horseshoes
Rosena Park West	15057 Greys Peak	Adjacent to the west of the proposed Etiwanda Subtransmission Source Line Route	Picnic tables, playground, restrooms, and amenities for bocce ball and horseshoes
Heritage Pool/ Heritage Neighborhood Center	7350 W. Liberty Parkway	Adjacent to the west of the proposed Etiwanda Subtransmission Source Line Route	Pool and restrooms
North Heritage Park	1736 N. Heritage Circle	0.2 mile west of the proposed Etiwanda Subtransmission Source Line Route	Barbecue areas, basketball facilities, picnic tables, playground, and restrooms
McDermott Sports Complex & McDermott Park West	7846 S. Heritage Loop	0.2 mile east of the proposed Etiwanda Subtransmission Source Line Route	Ball fields, barbecue areas, basketball, picnic tables, playground, restrooms, snack bar, soccer field, tennis courts, and volleyball
Patricia Murray Park	8040 Jamestown Circle	0.2 mile east of the proposed Etiwanda Subtransmission Source Line Route	Picnic tables and shelters, play areas
Heritage Common Areas	Across from the Heritage intermediate school at 13766 South Heritage Circle	0.2 mile east of the proposed Etiwanda Subtransmission Source Line Route	Fields
Cambria Park	17140 Cambria Avenue	0.3 mile south of the proposed Etiwanda Subtransmission Source Line Route	Playground and trails
Patricia Marrujo Park	5730 Avenal Place	0.4 mile south of the proposed Etiwanda Subtransmission Source Line Route	Benches, bicycle racks, BBQ and picnic areas, fields, play area and apparatus, restroom, tot play facility
Heritage Tot Lot A	13640 W. Constitution Way	0.4 mile east of the proposed Etiwanda Subtransmission Source Line Route	Playground
Heritage Tot Lot B	14190 W. Constitution Way	0.5 mile east of the proposed Etiwanda Subtransmission Source Line Route	Playground
Heritage Circle Park	Caryn Circle	0.5 mile east of the proposed Etiwanda Subtransmission Source Line Route	Barbecue areas, picnic tables, playground, and restrooms
Coyote Canyon Park		0.5 mile north of the proposed Etiwanda Subtransmission Source Line Route	Top of Form Barbecue areas, picnic shelters and tables, playground, restrooms, snack bar, and softball fieldsBottom of Form
Koehler Park		0.5 mile southeast of the proposed Etiwanda Subtransmission Source Line Route	Basketball courts, barbecue areas, basketball, picnic shelters and tables, playground, restrooms, snack bar, soccer field and tennis courts

TABLE 4.16-1 (Continued)
LOCAL PARKS IN THE STUDY AREA

Park Name	Address	Approximate Distance from Project	Park Amenities
City of Fontana (cont.)			
Ralph M. Lewis Sports Complex	6198 Citrus Avenue	0.8 mile south/southeast of the proposed Etiwanda Subtransmission Source Line Route	Football field, restrooms, snack bar, and soccer field
San Sevaine Park	5440 Cherry Avenue	0.9 mile northwest of the proposed Etiwanda Subtransmission Source Line Route	Barbecue areas, basketball, picnic tables, playground, restrooms, tennis courts, and volleyball
Hunter's Ridge Park	5220 Cherry Avenue	1.0 mile northwest of the proposed Etiwanda Subtransmission Source Line Route	Barbecue areas, basketball, picnic tables, playground, restrooms, tennis courts, and volleyball
Almeria Park	7250 Almeria Avenue	1.3 miles southeast of the proposed Etiwanda Subtransmission Source Line Route	Ball fields, barbecue areas, picnic areas, and restroom
Fernandez Park	18006 Miller Avenue	1.5 miles south of the proposed Alder Subtransmission Source Line Route	Barbecue, picnic tables and shelters, play area, tot play area, and restrooms
City of Rialto			
Alec Fergusson Park	2395 W. Sunrise	0.6 mile northeast of the proposed Falcon Ridge Substation site	Roller hockey rink, walking track, horse shoe pits, little league baseball field, basketball court, tot lot, and restrooms
Roger Birdsall Park	2601 N. Linden Avenue	0.5 mile east of the proposed Alder Subtransmission Source Line Route	Little league baseball fields, t-ball field, picnicking facilities, children's playground, and restrooms
Jerry Eaves Park	1485 N. Ayala Drive	1.2 miles southwest of the proposed Alder Subtransmission Source Line Route	Soccer fields, picnic shelters, children's playground, and restrooms
City of Rancho Cucamonga			
Garcia Park	13150 Garcia Drive	Adjacent to the west of the proposed Etiwanda Subtransmission Source Line Route	Picnic shelters and tables, barbeques, playground, basketball court, ball field, exercise course, and restrooms
Olive Grove Park	13931 Youngs Canyon Road	0.9 mile northwest of the proposed Etiwanda Subtransmission Source Line Route	Playground, picnic tables, barbecues, community trail access, equestrian staging area, and restrooms
Victoria Arbors Park	7429 Arbor Lane	0.9 mile northwest of the proposed Etiwanda Subtransmission Source Line Route	Picnic shelters/tables, barbeques, playground, basketball court, baseball/softball field, exercise course, and restrooms
Legacy Park	5858 Santa Ynez Place	1.1 miles northwest of the proposed Etiwanda Subtransmission Source Line Route	Picnic tables, barbecues, children's play equipment area, exercise course, and restrooms
Rancho Summit Park	5958 Soledad Way	1.2 miles northwest of the proposed Etiwanda Subtransmission Source Line Route	Ball fields, basketball court, playground, picnic area with tables, barbecues, and restrooms

SOURCES: City of Fontana, 2003; City of Fontana, 2011; City of Rialto, 2011; City of Rancho Cucamonga, 2011a; Torres, 2011

Other Recreational Areas

Sierra Lakes Golf Course, at 16600 Clubhouse Drive in the City of Fontana, is an 18-hole golf course located approximately 0.6 mile southwest of the proposed Falcon Ridge Substation site (see Figure 4.16-1). Sierra Lakes Golf Course also features wedding, banquet, restaurant, and clubhouse facilities (Sierra Lakes, 2011). El Rancho Verde Country Club is an 18-hole golf course approximately 1.8 miles northeast of the proposed Alder Subtransmission Source Line Route, at 355 Country Club Drive in the City of Rialto. Facilities at El Rancho Verde Country Club also include a sports bar and grill, practice facilities, and a banquet room (El Rancho Verde, 2011).

The Auto Club Speedway is a motorsports facility approximately 0.5 mile east of the Etiwanda Subtransmission Source Line Route, at 9300 Cherry Avenue in unincorporated San Bernardino County (see Figure 4.16-1). The Speedway has a 2-mile race track, seating for over 92,000 spectators, corporate hospitality entertainment areas, infield RV parking with approximately 1,800 spaces, and shower facilities for overnight camping guests (Auto Club Speedway, 2011).

Trails

San Bernardino County contains one active regional recreational trail within the study area. The Pacific Electric Inland Empire Trail is a 20-mile-long regional multipurpose trail that follows the route of the legendary Pacific Electric Railway, an electrified railway system that ran from the Pacific coast through Los Angeles east to San Bernardino (City of Rancho Cucamonga, 2011b). The Pacific Electric Inland Empire Trail connects the cities of Montclair, Upland, Rancho Cucamonga, Fontana, and Rialto, and provides recreational opportunities for pedestrians, runners, cyclists and equestrians. The proposed Etiwanda Subtransmission Source Line Route would traverse the trail in an east-west direction north of Baseline Avenue, in the City of Fontana (City of Rancho Cucamonga, 2011b).

Bike Paths

Setting information and analysis of potential impacts to bike paths in the study area is provided in Section 4.17, *Transportation and Traffic*.

Regulatory Setting

Local

CPUC General Order No. 131-D explains that local land use regulations would not apply to the Project and alternatives. However, for information purposes, the following policies from the general plans for San Bernardino County and the cities of Fontana, Rialto, and Rancho Cucamonga would otherwise be relevant to the Project.

County of San Bernardino General Plan

The Safety Element of the San Bernardino County General Plan contains the following policy related to recreation that would be relevant to the Project and alternatives (San Bernardino County, 2007):

- ***Policy S 6.5:*** Where possible, consistent with safety and operational considerations, encourage the use of active and inactive utility easement corridors (especially railway corridors, which have gentle grades that make them suitable for whole-access trails) as public open space areas and trail alignments.

City of Fontana General Plan

The City of Fontana General Plan includes the following goals and policies related to recreation that would be relevant to the Project and alternatives (City of Fontana, 2003):

Open Space & Conservation Element

Goal #2.1: Provide public access to and allow joint recreational use of utility corridors, wherever feasible.

- **(*Goal #2.1) Policy 1:*** Link multi-use utility corridors to other elements of the local and regional parks and trails systems wherever feasible.
- ***(Goal #2.2) Policy 1:*** Evaluate opportunities for mixed-uses of private and public open space and utility rights-of-way and incorporate such mixed uses into the approved plan as part of the new development and public infrastructure planning process.

Parks, Recreation & Trails Element

Goal #5: Our system of bikeways and trails is benefited by efficient use of utility easements, flood-control easements and railroad rights-of-way.

- ***(Goal #5) Policy 1:*** The City should seek use of easements and rights-of-way from owners for use in the bike and trail network.

City of Rialto General Plan

The Circulation Chapter of the City of Rialto General Plan includes the following policy related to recreation that would be relevant to the Project and alternatives (City of Rialto, 2010):

- ***Policy 4-8.1:*** Expand Class I bicycle trails with amenities, particularly adjacent to open space areas, utility and flood control corridors, and abandoned rail corridors.

City of Rancho Cucamonga General Plan

The Community Services Element of the City of Rancho Cucamonga General Plan includes the following policies related to recreation that would be relevant to the Project and alternatives (City of Rancho Cucamonga, 2010):

- ***Policy CS-1.6:*** Pursue and expand joint use of public lands that are available and suitable for recreational purposes, including school district properties and flood control district, water district, and other utility properties.

- ***Policy CS-6.3:*** Continue to incorporate, where feasible, regional and community trails along utility corridors and drainage channels.

4.16.2 Significance Criteria

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on recreational resources if it would:

a) 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; or

b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

4.16.3 Applicant Proposed Measures

There are no APMs included to address issues related to recreational impacts.

4.16.4 Impacts and Mitigation Measures

a) 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.

Impact 4.16-1: The Project could increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated. ***Less than Significant with Mitigation*** **(Class II)**

Increases in demand for recreational facilities are typically associated with substantial increases in population. The Project would not involve a residential component that would result in increased use of existing parks and recreational facilities. As discussed in Section 4.14, *Population and Housing,* SCE anticipates a total of approximately 90 construction personnel working on any given day during the 12-month construction period. Although it is anticipated that all temporary positions would be filled from the local labor pool available in San Bernardino County, if any temporary workers should move into the region from elsewhere, the existing parks and recreational facilities described above have adequate remaining capacity to accommodate the associate increase in use.

The proposed Falcon Ridge Substation would be an automated facility requiring only occasional visits for routine maintenance and emergency repair. Operational staffing levels would not increase above existing levels that are required to maintain the existing subtransmission and transmission systems. Therefore, the Project would not result in an increased use of existing recreational facilities and would result in a less-than-significant impact with respect to increasing the demand for recreational facilities.

The proposed Etiwanda Subtransmission Source Line and Fiber-Optic Cable Route would traverse Fontana Park, which is partially located within the SCE ROW. The ROW also separates Rosena Park East and Rosena Park West, but is not itself developed for park use in this area. A landscaped recreational path also runs adjacent to the southwest side of the ROW in Fontana's

Heritage neighborhood, as shown in Figure 4.16-1. Both the subtransmission line and fiber-optic cable would be strung along existing aboveground structures in these portions of the alignment, and no new wood poles, TSPs, or other structures would be constructed within these portions of the ROW. Therefore, no ground-disturbing construction activities would take place within these segments of the ROW, and Project construction would not contribute to or accelerate the substantial physical deterioration of these facilities, and this impact would be less than significant.

SCE construction personnel would use access roads within the ROW at each of these recreational facilities. At Fontana Park, the portion of the park within the ROW is a grassy area with paved pedestrian pathways that connect the Fontana Aquatic Park in the northwest corner and the other park facilities in the southeast portion of the park. The existing SCE access road crosses this grassy area and the pedestrian pathways. The portion of the ROW that separates Rosena Park East from Rosena Park West has not been developed as part of either park; however, pedestrian pathways connect the two parks by crossing the ROW, and the existing SCE access road crosses these pathways.

Project operation would have no effect with respect to the use or substantial deterioration of parks. Project maintenance would be infrequent, would not substantially increase above existing levels, and would be unlikely to result in closures of these pedestrian pathways and/or passive recreational areas. However, Project construction could affect pedestrians and park users at Fontana Park and Rosena Park East and West by resulting in temporary closures of pedestrian pathways and/or passive recreational areas within the ROW. Mitigation Measure 4.16-1 would ensure that recreationalists are aware of any possible pathway or park closures during Project construction activities.

> **Mitigation Measure 4.16-1:** SCE shall coordinate with the City of Fontana Community Services Department to ensure that appropriate warning signs are posted alerting pedestrians and park users to pedestrian pathway and park closures and informing users about nearby alternative recreational resources, such as Koehler and North Fontana parks.

Significance after Mitigation: Less than Significant.

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b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

The Project does not include any plans for the addition of any recreational facilities, nor (for the reasons provided above) would it require the construction or expansion of existing recreational facilities. Therefore, the Project would not result in any adverse physical effects on the environment from construction or expansion of additional recreational facilities (No Impact, Class IV).

4.16.5 Alternatives

Alternative 1: Lowell Street Realignment Alternative

Alternative 1 would alter the route of the proposed Alder Subtransmission Source Line and Fiber-Optic Cable, but it would not substantially change the size or type of facilities to be constructed and would require the same temporary construction crew and operation and maintenance personnel. Additionally, the alternative route would not traverse or be adjacent to any parks, nor would it avoid any of the parks the Etiwanda Subtransmission Source Line and Fiber-Optic Cable route traverses. Therefore, Alternative 1 impacts to recreation would be the same as the Project.

No Project Alternative

Under the No Project Alternative, the Project would not be implemented; therefore there would be no impact related to recreation.

References – Recreation

Auto Club Speedway, 2011.Auto Club Speedway website. Available online: http://www.autoclubspeedway.com/?homepage=true. Accessed August 29, 2011.

California State Parks (CSP), 2011. California State Parks, San Bernardino County. Available online: http://www.parks.ca.gov/parkindex/results.asp. Accessed August 29, 2011.

City of Fontana, 2003. City of Fontana General Plan. Adopted October 21, 2003.

City of Fontana, 2011. Fontana Website, City Parks. Available online: http://www.fontana.org/Facilities.aspx?Page=detail&RID=9. Accessed August 29, 2011.

City of Rancho Cucamonga, 2010. Rancho Cucamonga General Plan. Adopted May 2010.

City of Rancho Cucamonga, 2011a. Rancho Cucamonga Website, City Parks. Available online: http://www.cityofrc.us/cityhall/cs/parks/loc/olive.asp. Accessed August 29, 2011.

City of Rancho Cucamonga, 2011b. Rancho Cucamonga Website, Pacific Electric Trail. Available online: http://www.cityofrc.us/cityhall/cs/parks/trails/pet/default.asp. Accessed August 29, 2011.

City of Rialto, 2010. Rialto General Plan. Adopted December 2010.

City of Rialto, 2011. Rialto Website, City Parks. Available online: http://www.rialtorec.net/ParksFacilities/Parks/tabid/108/Default.aspx. Accessed August 29, 2011.

El Rancho Verde, 2011. El Rancho Verde Golf Club Website. Available online: http://www.elranchoverdegolfclub.com/. Accessed August 29, 2011.

San Bernardino County, 2007. County of San Bernardino General Plan. Adopted March 13, 2007; effective April 12, 2007.

San Bernardino County Regional Parks (SBCRP), 2011. San Bernardino County Regional Parks Website. Available online: http://cms.sbcounty.gov/parks/Parks.aspx. Accessed August 29, 2011.

Sierra Lakes, 2011. Sierra Lakes Golf Club Website. Available online: http://www.sierralakes.com/. Accessed August 29, 2011.

Torres, 2011. Personal communication between Mary Torres, Secretary, City of Fontana Public Works Department, and Claire Myers, ESA, September 7, 2011.

United States Forest Service (USFS), 2011. San Bernardino and Angeles National Forests. Available online: http://www.fs.usda.gov/wps/portal/fsinternet/!ut/p/c4/04_SB8K8xLLM9MSSzPy8xBz9CP0os3gjAwhwtDDw9_AI8zPwhQoY6BdkOyoCAPkATlA!/?ss=110512&navtype=BROWSEBYSUBJECT&cid=FSE_003853&navid=091000000000000&pnavid=null&position=BROWSEBYSUBJECT&ttype=main&pname=San%20Bernardino%20National%20Forest-%20Home. Accessed August 29, 2011.

4.17 Transportation and Traffic

This section identifies and evaluates issues related to transportation and traffic in the context of the Project and alternatives. Discussed are the physical and regulatory setting; the baseline for determining environmental impacts; the criteria used for determining the significance of environmental impacts; potential impacts associated with construction, operation, and maintenance of the Project; and mitigation measures to reduce or avoid environmental impacts determined to be potentially significant.

4.17.1 Setting

Regional and Local Setting

Section 2.2, *Project Location*, provides general information about the regional and local setting. This section provides setting information specific to transportation and traffic conditions.

Regional Roadways

Interstate 15 (I-15) is an eight-lane freeway that generally runs in a north-south alignment. I-15 provides access to Interstate-10 (I-10), Interstate-215 (I-215), and State Route (SR) 210 and to multiple communities throughout San Bernardino and Riverside counties, including Fontana, Rancho Cucamonga, Murrieta, and Temecula. The most recent data published by Caltrans indicates the Annual Average Daily Traffic (AADT) on the roadway in the Project area is about 122,000 vehicles (Caltrans, 2011). The roadway is included in the San Bernardino County Congestion Management Program (CMP) Roadway Network (San Bernardino Association of Governments [SANBAG], 2007).

I-215 is an eight-lane freeway that generally runs in a north-south alignment. I-215 provides access to I-10, I-15, and SR 210, and to communities within San Bernardino County, including Colton, Rialto, and San Bernardino. The most recent data published by Caltrans indicates the AADT on the roadway in the Project area is about 53,000 vehicles (Caltrans, 2011). The roadway is included in the San Bernardino County CMP Roadway Network (SANBAG, 2007).

SR 210 is an eight-lane major highway that runs in an east-west alignment. SR 210 provides access to I-15 and I-215, and to multiple communities within San Bernardino County, including Rancho Cucamonga, Fontana, Rialto, and San Bernardino. The most recent data published by Caltrans indicates the AADT on the roadway in the Project area is about 107,000 vehicles (Caltrans, 2011). The roadway is included in the San Bernardino County CMP Roadway Network (SANBAG, 2007).

Local Roadways

Alder Avenue is a four-lane, north-south roadway that is designated as a Primary Highway within the City of Fontana and is a designated Major Arterial within the City of Rialto (City of Fontana, 2003; City of Rialto, 2010). The roadway provides regional access to SR 210, and provides local

access to industrial areas and the existing Alder Substation. The roadway is a designated truck route and carries about 12,000 ADT (City of Fontana, 2003). The majority of the roadway is included in the San Bernardino County CMP Roadway Network; however, Alder Avenue, north of SR 210 is not included in the network (SANBAG, 2007).

Cherry Avenue is a four-lane, north-south roadway that is designated as a Major Highway within the City of Fontana (City of Fontana, 2003). The roadway provides access to several regional roadways, including I-10 and SR 210, and provides local access to many residential, commercial, and industrial areas throughout Fontana. The roadway is a designated truck route and carries about 17,000 ADT (City of Fontana, 2003). The roadway is included in the San Bernardino County CMP Roadway Network (SANBAG, 2007).

Citrus Avenue is a four-lane, north-south roadway that is designated as a Primary Highway within the City of Fontana (City of Fontana, 2003). The roadway provides access to several regional roadways, including I-15, SR 210, and SR 66, and provides local access to multiple neighborhoods and commercial centers throughout Fontana. The roadway is a designated truck route and carries between 22,000 and 29,000 ADT (City of Fontana, 2003). The roadway is included in the San Bernardino County CMP Roadway Network (SANBAG, 2007).

Etiwanda Avenue is generally a four-lane, north-south roadway that is designated as a Major Highway within the City of Fontana (City of Fontana, 2003). The roadway provides access to several regional roadways, including I-10, I-15, SR 66, and SR 210, and provides local access to several industrial and commercial centers throughout the western portion of Fontana. The roadway is a designated truck route and carries between 20,000 and 30,000 ADT (City of Fontana, 2003). Etiwanda Avenue is included in the San Bernardino County CMP Roadway Network (SANBAG, 2007).

Sierra Avenue is primarily a six-lane, divided north-south roadway that is designated as a Primary Highway within the City of Fontana (City of Fontana, 2003). The roadway provides access to several regional roadways, including I-10, I-15, and SR 210, and provides local access to several residential, retail, and commercial centers throughout Fontana. The roadway becomes a two-lane roadway north of Summit Avenue and is a designated truck route north of SR 210. Sierra Avenue carries about 58,000 ADT (City of Fontana, 2003) and the roadway is included in the San Bernardino County CMP Roadway Network (SANBAG, 2007).

Summit Avenue is a four-lane, east-west roadway that is designated as a Primary Highway within the City of Fontana and a designated Collector Street within the City of Rialto (City of Fontana, 2003; City of Rialto, 2010). The roadway provides local access to several neighborhood subdivisions throughout both city jurisdictions and carries about 2,000 ADT (City of Fontana, 2003).

Transit Facilities

Omnitrans provides bus transportation services throughout San Bernardino County. The bus service provides connectivity to several other transit providers and transfer locations to several

communities, including Fontana, Rialto, San Bernardino, Colton, Rancho Cucamonga, Ontario, Montclair, and Pomona in Los Angeles County. Currently, the Omnitrans Bus Route 82 operates weekday and weekend, fixed-route bus service along Sierra Lakes Parkway and portions of Citrus Avenue, Summit Avenue, and Sierra Avenue, from Jurupa Avenue to Sierra Lakes Parkway. Omnitrans Bus Route 67 provides weekday service along portions of Sierra Avenue between Walnut Street and San Bernardino Avenue, and Bus Route 10 provides weekday and weekend service along Citrus Avenue, between Walnut Street and Foothill Boulevard. The closest bus stops in the vicinity of the Project site are located at the Sierra Lakes Parkway and Citrus Avenue intersection, and at the Summit Avenue and Citrus Avenue intersection; however, there is no bus stop adjacent to the Project site (Omnitrans, 2011).

Bicycle and Pedestrian Facilities

Bicycle facilities are generally classified as Class I (bicycle paths separated from roads), Class II (striped bicycle lanes within the paved areas of roadways), or Class III (signed bike routes that allow cyclists to share streets with vehicles). Currently, there are three bicycle facilities in the vicinity of the Project site: a Class II bicycle lane located along the south side of Summit Avenue, a Class II bicycle lane along Citrus Avenue, and Class III bicycle route along Sierra Lakes Parkway-Casmalia Avenue.

Pedestrian facilities include sidewalks, crosswalks, curb ramps, pedestrian signals, and streetscape amenities. The local roadways described above generally include raised, concrete sidewalks along both sides of the roadway, and striped crosswalks and signage at intersections along each roadway; however, portions of Sierra Avenue (from Summit Avenue to the south and its junction at I-15 to the north) does not include any pedestrian facilities.

Regulatory Setting

Federal

Code of Federal Regulations

The Code of Federal Regulations (CFR) includes the general and permanent rules published in the Federal Register by the executive departments and agencies of the Federal Government. The rules under Title 49 address safety considerations for the transport of goods, materials, and substances and govern the transportation of hazardous materials, including types of materials and marking of the transportation vehicles (U.S. Federal Government, 2011).

State

Department of Transportation (Caltrans)

Caltrans manages interregional transportation, including management and construction of the California highway system. In addition, Caltrans is responsible for permitting and regulation of the use of state roadways. Caltrans' facilities that are likely to be used as access routes by construction workers and construction vehicles to the Project site include: I-15, I-215, and SR 210.

Caltrans' construction practices require temporary traffic control planning "during any time the normal function of a roadway is suspended" (Caltrans, 2010). Furthermore, Caltrans requires that permits be obtained for transportation of oversized loads and transportation of certain materials, and for construction-related traffic disturbance.

Local

CPUC General Order No. 131-D explains that local land use regulations would not apply to the Project and alternatives. However, CPUC staff considered the following policies identified in the general plans for San Bernardino County and the cities of Fontana, Rialto, and Rancho Cucamonga to identify the adopted LOS standards for roadways potentially affected by the Project.

San Bernardino County

General Plan. The San Bernardino County General Plan contains goals, policies and implementation measures that would be relevant to the Project. The *Circulation and Infrastructure Element* of the General Plan includes strategies and principles as they aim to enhance compatibility between land use, infrastructure, and transportation modes (San Bernardino County, 2007). Relevant policies and programs to the Project are discussed below.

- ***Policy CI 4.1*:** Ensure appropriate legal and physical access to land prior to final approval of land divisions or new development.
- ***Policy CI 5.2*:** Protect and increase the designed roadway capacity of all vehicular thoroughfares and highways

  Program 1l: Limit truck traffic on certain roads and at specified hours.

  Program 1o: Develop minimum separation distances between access points.
- ***Policy CI 5.6*:** For privately maintained roads, the minimum width should be: (a) no less than 24-foot-wide with no parking allowed; (b) 30-foot-wide with parking allowed on one side; or (c) a 36-foot-wide with parking allowed on both sides.
- ***Policy V/CI 1.1*:** The County shall ensure that all new development proposals do not degrade Level of Service (LOS) on Major Arterials below LOS C during non-peak hours or below LOS D during peak hours in the Valley Region.

The *Safety Element* of the General Plan includes goals and policies aimed at designating appropriate evacuation routes and maintaining adequate emergency vehicle access to all communities within San Bernardino County (San Bernardino County, 2007). Relevant goals and policies to the Project are discussed below.

Goal V/S 1: The County's emergency evacuation routes will quickly and efficiently evacuate all residents in the event of wildland fires and other natural disasters, and will ensure adequate access of emergency vehicles to all communities.

- ***Policy V/S 1.1*:** Designate the following roads and highways as evacuation routes in the Valley Region: Interstates 10, 15, 210, and 215; State Highways 30, 60, 66, 71, and 83; and numerous major and secondary highways.

- ***Policy V/S 1.2*:** In addition to the above evacuation routes, Caltrans has identified a number of "Potential Evacuation Routes" in the Valley Region. The roads should also be relied on by the County to direct emergency evacuations. These roads have the least number of bridges and may be among the safest roads to travel in the event of a major earthquake:
    a. San Bernardino Avenue/4th Street from Vineyard Avenue to Cherry Avenue
    b. Valley Boulevard from Etiwanda Avenue to Mount Vernon Avenue
    c. Etiwanda Avenue from San Bernardino Avenue to its northern extremity.
    d. Sierra Avenue from Foothill Boulevard to Riverside Avenue.
    e. Slover Avenue from Milliken to Pepper Street.

Congestion Management Program

SANBAG serves as the CMA of San Bernardino County. As the county's CMA, SANBAG is authorized to set state and federal funding priorities for transportation improvements affecting the San Bernardino County CMP transportation system. As described in Section 4.17.1, *Regional and Local Setting*, I-15, I-215, SR 210, and Etiwanda, Sierra, Cherry, and Citrus avenues are roadways within the Project area that are designated as a part of the CMP roadway system.

The CMP specifies a system of highways and roadways for which traffic level of service standards are established. The CMP system includes all freeways, state highways, and principal arterials in the county. The program set a level of service standard of LOS E for all CMP roadway segments and intersections. SANBAG requires local jurisdictions to analyze impacts of new developments or land use policy changes on CMP facilities (SANBAG, 2007).

City of Fontana General Plan

The *Circulation Element* of the City of Fontana General Plan includes policies for providing specific policy direction in regards to maintaining transportation service standards, improvements, sharing the cost for improvements, and managing travel demand for land in areas throughout the City of Fontana (City of Fontana, 2003). Specific goals and policies that would be relevant to the Project include the following:

- ***Goal 1-Policy 4*:** Locate new development and their access points in such a way that traffic is not encourage to utilize local residential streets and alleys for access to the development and its parking.

- ***Goal 1-Policy 12*:** All street and intersections designed after the adoption of the General Plan will be planned to function at level of service (LOS) C or better, wherever possible. Improvements to existing streets will be designed to LOS C standards whenever feasible.

- ***Goal 3-Policy 1*:** Provide designated truck routes for use by commercial trucking that minimize impacts on local traffic and neighborhoods.

- ***Goal 3-Policy 2*:** Provide appropriately designed roadways for the designated truck routes including designated truck routes for large STAA trucks that can safely accommodate truck travel.

- ***Goal 3-Policy 3*:** Encourage the development of adequate on-site loading areas to minimize interference of truck loading activities with efficient traffic circulation on adjacent roadways.

City of Rialto General Plan

The City of Rialto General Plan provides a blueprint for growth within the City, and sets the goals, policies, and programs that apply to the Project area (City of Rialto, 2010). The following policies from the General Plan that would be relevant to the Project:

- ***Policy 4-2.1*:** Locate new development and their access points in such a way that traffic is not encouraged to utilize local residential streets for access to the development and its parking.
- ***Policy 4-2.2*:** Discourage non-local traffic from using neighborhood streets.
- ***Policy 4-10.1*:** Designate and enforce truck routes for use by commercial trucking as part of the project approval process.
- ***Policy 4-10.2:*** Coordinate truck routes with adjacent jurisdictions.

4.17.2 Significance Criteria

Based on CEQA Guidelines Appendix G, a project would cause a significant impact on transportation and traffic if it would:

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.

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.

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.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

e) Result in inadequate emergency access.

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.

4.17.3 Applicant Proposed Measures

There are no APMs included to address issues related to transportation and traffic.

4.17.4 Impacts and Mitigation Measures

Methodology

Construction

Construction of the Project would occur over approximately 12 months. Construction activities would involve development of the proposed Falcon Ridge Substation, construction of the proposed distribution getaways, modifications to the existing Alder and Etiwanda substations, installation of the planned subtransmission source line routes, and placement of planned telecommunication facilities. Construction activities for the various Project components would occur simultaneously and overlap one another, whenever possible.

As presented in Table 2-2 in Section 2.8.2, *Staging Area/Laydown Areas*, approximately six temporary construction staging areas would be developed during construction of the Project (location of potential staging areas presented in Figure 2-6). Staging areas would include parking for construction workers, vehicle and equipment parking and material storage. Materials would be scheduled on a timely basis (as required) and would be sent out immediately to the staging area or directly to the structure site, and material delivery would be staged on-site for a short period until each Project component is constructed and operational.

Existing public roads and existing transmission line roads would be used as much as possible during construction; however, new access roads would be required for ingress and egress to the multiple work sites. The majority of new access roads would be used for gaining access to subtransmission structures and installing new transmission lines; specific descriptions of each planned access road is provided in Section 2.8.1, *Access Roads*. Access roads would provide connectivity to existing public roads, and each access road would provide a minimum 14-foot-wide roadway width, with 2-foot shoulders to accommodate construction-related vehicles. Figure 2-6 in Section 2.8.1, provides an illustration of planned access roadways in and around the Project Area.

Construction-Related Vehicle Trips

Construction of each proposed facility would result in short-term increases in the traffic volumes on area roadways. The number of construction-related vehicle trips would vary each day, depending on the type of Project component, construction phase, planned activity, and material needs. The addition of construction traffic to the current roadway volumes, without increasing roadway capacity, could result in increased congestion and delays for vehicles. The presence of construction trucks, with their slower speeds and larger turning radii, could exacerbate the delays. The actual impact of construction vehicle traffic on local and regional roadways would vary by time of day, the number and type of construction-related vehicles, the number of travel lanes on the affected roadways, and the existing traffic volumes on these roadways. Impacts of construction traffic would be most noticeable on local roadways in the immediate vicinity of the Project work sites and less noticeable on regional roadways and on roadways farther away from the sites (as construction-related trips disperse over the road network). Furthermore, because construction of the proposed facilities could occur simultaneously within each phase of the

Project, construction activities could cause a compounded increase in traffic volumes and could worsen traffic conditions along affected roadways.

During the scheduled 12-month construction period, the number of truck trips per day hauling equipment and material to and from the Project work sites, and the number of workers on-site and traveling to and from the multiple Project sites, would vary depending on construction tasks and scheduling considerations. Based on the estimated workforce and trucks needed to complete the work, and on the anticipated construction phasing, a maximum total of 74 vehicles per day (8 workers and 66 trucks) would be required for the Project's stationary work sites (i.e., at the Falcon Ridge Substation site).[1] There would be up to 20 vehicles per day (13 workers and 7 trucks) required for modifications to the existing Alder Substation, up to eight vehicles (six workers and two trucks) for modifications to the Etiwanda Substation, and up to 44 vehicles (14 workers and 30 trucks) for the proposed Distribution Getaways. For work sites that move along a corridor, a maximum of 36 vehicles per day (20 workers and 16 trucks) would be required at a single location on a single day for the proposed subtransmission source line routes, and up to 23 vehicles (11 workers and 12 trucks) would be required for the proposed telecommunication facilities. However, it is expected that the moving work sites (e.g., pole foundations, pole assembly and pole erection) would not be far removed from each other, and therefore, up to 80 vehicles per day (56 workers and 24 trucks) are assumed to travel to and from the work sites on the same road(s), such as I-15 and/or SR 210. As stated, construction of the proposed facilities would work simultaneously whenever possible; however, the estimated deployment and number of crew members would depend on local jurisdiction permitting, material availability, and construction scheduling. To ensure that this analysis does not understate potential impacts, it is assumed that a maximum of about 130 trucks and 120 workers per day could travel to and from the Project sites on a single road, generating about 560 daily one-way trips, which account for miscellaneous midday trips by workers.

Construction Vehicle Trip Distribution

The Project would be located throughout multiple jurisdictions and would require construction vehicles to utilize a variety of regional freeways and highways, as well as several local roadways, in order to access work sites. The origins and destinations of worker and truck trips are not known, but it is anticipated that the Project-generated traffic would be dispersed over several roadways within San Bernardino County and throughout the cities of Rialto, Fontana, and Rancho Cucamonga. However, as stated above, the analysis of potential impacts was conservatively based on an assumption that Project traffic would be concentrated on the same roads.

Vehicle access to the proposed Falcon Ridge Substation would be from Sierra and Summit avenues, and construction vehicles would utilize regional freeways and highways (e.g., I-15, I-215, and SR 210) to gain access to these local roadways. Workers would access the existing Alder Substation from its existing access driveway via local roadways, including Alder Avenue, Casmalia Street, and regional access to the substation would be from SR 210. Vehicle access to

[1] There would be phases of the construction of the new Falcon Ridge Substation with more than eight workers, but the combination of workers and trucks would total fewer than 74 vehicles during those other phases.

the existing Etiwanda Substation would occur along Etiwanda Avenue and 6th Street, and regional access to the substation would provided by I-15 and I-10. Access to the proposed subtransmission line routes and telecommunication facilities would occur along existing right-of-way adjacent to existing line routes, along on temporary access roads that would connect to existing public roads, or along short, stub roads that branch off access roads. The constructed access and stub roads would not be used for general traffic (public use); only Project-related traffic would be permitted to use these roads.

Operation and Maintenance

The analysis for long-term increases in traffic associated with Project operation considers the extent of additional employees required to operate the Project sites and the need for additional maintenance activities. After construction of the Project is completed, these facilities would require routine maintenance and monitoring by current SCE employees. Routine maintenance would include equipment testing, monitoring, and repair and existing personnel would generally visit the substation three to four times per month. Inspection of the energized subtransmission overhead facilities would occur once per year (at minimum) via ground and/or aerial observation. The frequency of inspection and maintenance activities would depend upon weather effects and any unique problems that may arise due to such variables as substantial storm damage or vandalism. In addition, the proposed substation would be unattended, and electrical equipment within the substation would be remotely monitored and controlled by an automated system. These operational and maintenance activities would be similar to existing activities.

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.

Impact 4.17-1: Project construction would cause temporary increases in traffic volumes on area roadways, and would temporarily reduce roadway capacity and increase traffic delays on area roadways or cause conflicts 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. *Less than Significant With Mitigation* (Class II)

Construction

As stated above, a maximum of 560 daily one-way trips would be generated by Project construction. Construction workers would arrive and depart the Project site outside typical peak commute periods, as workers would arrive to their respective work sites before 7:00 a.m. and depart the Project site after 6:00 p.m., Monday through Saturday (with the exception of work within the City of Rialto, where permitted work hours are limited to 5:30 p.m. between October and April). It is expected that Project-generated truck trips, delivering materials and equipment, would occur during off-peak commute hours, would utilize dedicated truck routes within each jurisdiction, and would comply with all Caltrans permitting requirements when any truck loads are oversize. As described in Section 4.17.1.2, *Regulatory Setting*, Caltrans has the discretionary

authority to issue special permits for the movement of vehicles and/or loads exceeding statutory limitations on the size, weight, and loading of vehicles contained in the California Vehicle Code. The California Highway Patrol is notified about transportation of oversize and/or overweight loads.

Assessment of the short-term effect that Project construction traffic could have on local and regional roads includes review of existing traffic volumes and consideration of both the percentage increase the Project construction traffic would contribute to existing traffic levels and the capacity of the road to handle the additional traffic. Because the number of vehicles on roads vary from day-to-day and over the course of a day and routinely fluctuate plus or minus 5 percent, a change in traffic volume of 5 percent or less is generally not perceptible to the average motorist. Traffic volume on Project area roads is typically highest during morning and evening peak commute hours (generally between 7:00 a.m. to 9:00 a.m., and 4:00 p.m. to 6:00 p.m.); traffic increases that occur during these peak periods may exacerbate short-term congestion.

The main roads providing access from the regional freeway and highway system to the Project area and access to the Project site are I-15, I-215, and SR 210. Compared to the recent average daily traffic volumes on these roadways, the average daily Project-generated traffic (i.e., about 560 one-way trips) would represent an increase of no more than approximately 1 percent in daily traffic. Although construction traffic would be more noticeable on local roads (e.g., Etiwanda, Sierra, Alder avenues), the increased traffic volumes would remain at levels less than the carrying capacity of those roads (which is about 24,000 to 36,000 vehicles per day on four-lane roads). Because percent increases would be less than the above-cited 5 percent daily fluctuation on regional roadways, and the increase in traffic on local roadways would not be substantial relative to daily carrying capacities, the Project would have a less-than-significant effect on traffic flow over the course of a workday.

If construction-related traffic were to occur during typical commute hours, congestion on affected roadways may result. As a result, implementation of Mitigation Measure 4.17-1 would minimize Project construction traffic during peak commute hours.

Construction of most of the planned facilities would not require closure of any travel lanes and therefore would not reduce the roadway capacity on roads that provide access to the work sites; however, trenching and installation of fiber optic cables and planned 66 kV subtransmission lines, conductor stringing, and emplacement of new poles would require construction within, or adjacent to, existing roadways and would also require new ROW in order to permit construction vehicle and equipment access. Although activities associated with subtransmission lines, cables, conductor stringing, and pole installation would occur over a short period as construction progresses along the alignment, roadways along, or adjacent to the planned alignment may require temporary closures of travel lanes and reduce roadway capacities during installation. In addition, trenching activities would be required for the installation of approximately 1,800 feet of new underground 66kV subtransmission lines. The open-trench method would involve excavation and export of spoils along the trench line. In areas where trenching would occur below existing roadways, steel plates would be placed over the exposed areas in order to maintain vehicle

(general and emergency) and pedestrian traffic during non-construction activity. The trenching activities would occur adjacent to the proposed Falcon Ridge Substation and at the existing Alder and Etiwanda substations. As a result, roadways that may be affected by trenching and temporary lane closures due to underground activities include portions of Alder, Etiwanda, and Sierra avenues. Implementation of Mitigation Measure 4.17-1 would reduce this impact related to roadway capacities to a less-than-significant level.

With respect to Project construction effects on existing bus transit services, the short-term traffic increases that would occur on Citrus, Summit and Sierra avenues during Project construction would not substantially disrupt transit service provided by Omnitrans bus routes 10, 67 and 82 on those roads, but, as noted above, traffic increases during morning and evening peak commute hours, if that were to occur, could increase traffic congestion, which could delay transit service. Implementation of Mitigation Measure 4.17-1 would reduce potential impacts to transit performance. In addition, the increase in traffic and potential travel lane closures due to temporary construction activities could reduce, disrupt, or eliminate access to existing bicycle and pedestrian facilities, and construction of the Project could interfere with bicycle and pedestrian activities. However, implementation of Mitigation Measure 4.17-1 would reduce any potential impacts related to bicycle and pedestrian facilities.

Operation and Maintenance

After construction of the Project is completed, these facilities would require routine visits, by current SCE employees, to perform equipment testing and repairs, as necessary. Unmanned (remote) monitoring of the Falcon Ridge Substation would be performed. Other maintenance activities would include inspection of the subtransmission overhead facilities, which would occur approximately once per year, and other general maintenance activities would occur intermittently, about three or four times per month.

These activities would be similar to existing operations and maintenance, and would not generate increases in traffic volumes on area roadways. Therefore, there will be no operational impacts resulting from the Project.

> **Mitigation Measure 4.17-1:** SCE and/or its contractor shall prepare and implement a traffic control plan to reduce construction related traffic impacts on the roadways at, and near the work site, as well as to reduce potential traffic safety hazards and ensure adequate access for emergency responders. SCE and/or its contractor shall coordinate development and implementation of this plan with jurisdictional agencies (e.g., San Bernardino County, Fontana, Rialto, Rancho Cucamonga, San Bernardino), as appropriate. To the extent applicable, the traffic control plan shall conform to Part 6 (Temporary Traffic Control) of the *California Manual on Uniform Traffic Control Devices* (Caltrans, 2010), and shall include, but not be limited to, the following elements:
>
> - Circulation and detour plans to minimize impacts on local road circulation during road and lane closures. Flaggers and/or signage shall be used to guide vehicles through and/or around the construction zone.

- Identifying truck routes designated by San Bernardino County and local jurisdictions. Haul routes that minimize truck traffic on local roadways shall be utilized to the extent possible.

- Providing sufficient-sized staging areas for trucks accessing construction zones to minimize disruption of access to adjacent public right-of-ways.

- Controlling and monitoring construction vehicle movement through the enforcement of standard construction specifications by on-site inspectors.

- Scheduling truck trips outside the peak morning and evening commute hours to the extent possible.

- Limiting the duration of road and lane closures to the extent possible.

- Maintaining pedestrian and bicycle access and circulation during Project construction where safe to do so. If construction activities encroach on a bicycle routes or multi-use paths, advance warning signs (e.g., "Bicyclists Allowed Use of Full Lane" and/or "Share the Road") shall be posted that indicate the presence of such users.

- Identifying detours for bicycles and pedestrians, where applicable, in all areas where maintaining pedestrian and bicycle access and circulation during Project construction cannot be safely done.

- Storing all equipment and materials in designated contractor staging areas on or adjacent to the worksite, such that traffic obstruction is minimized.

- Implementing roadside safety protocols. Advance "Road Work Ahead" warning and speed control signs (including those informing drivers of state-legislated double fines for speed infractions in a construction zone) shall be posted to reduce speeds and provide safe traffic flow through the work zone.

- Providing advance notification to administrators of police and fire stations (including fire protection agencies), ambulance service providers, and recreational facility managers of the timing, location, and duration of construction activities and the locations of detours and lane closures, where applicable. Maintain access for emergency vehicles within, and/or adjacent to, roadways affected by construction activities at all times.

- Repairing and restoring affected roadway rights-of way to their original condition after construction is completed.

Significance after Mitigation: Less than Significant.

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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.

Impact 4.17-2: The Project could 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. *Less than Significant* (Class III)

The Project would be located throughout multiple jurisdictions, including portions of San Bernardino County, the City of Rialto, and the City of Fontana, which have established LOS standards implemented by their respective agencies. The CMA, SANBAG, has LOS standards and a documented CMP that are intended to regulate long-term traffic impacts due to existing and future development and do not apply to construction projects. After construction of the Project is completed, these facilities would require periodic operations review and maintenance (e.g., equipment inspections, roadway maintenance), by current SCE employees, similar to what currently occurs for existing substation and transmission line facilities, and Project operations would not result in a long-term, on-going, change in vehicle trips. Because the Project would not result in long-term impacts on area roadways, consideration of LOS impacts on CMP roadways or local roadways during operation of the Project components is not applicable (note, however, that Impact 4.17-1 addresses the temporary effects on traffic congestion during Project construction). As a result, the impacts to the CMP roadway network and established programs would be less-than-significant, and no mitigation measures would be required.

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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.

The Project would have no impact on air traffic patterns as it would not introduce new air traffic or interfere with existing air traffic. Although, the existing Alder Substation and the planned subtransmission source line to the existing substation are approximately 0.5 mile from the Rialto Municipal Airport, the proposed improvements at the existing substation and subtransmission line would not interfere with, or obstruct air traffic patterns nor would the transmission line be aligned with the airport runways to obstruct flight patterns. In addition, the Project would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location, which would result in substantial safety risks. As a result, no adverse impacts to air traffic patterns are identified, and the significance criterion is not applicable to the Project (No Impact, Class IV).

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d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

Impact 4.17-4: The Project could substantially increase hazards due to a design feature or incompatible uses. ***Less than Significant with Mitigation*** **(Class II)**

Implementation of the Project would primarily involve work adjacent to roadways, though with some work within roadways (i.e., trenching for installation of subtransmission lines adjacent to the existing and new substations). Traffic safety hazards could occur due to: (1) conflicts where construction vehicles access a public right-of-way from the Project area; (2) conflicts where road width is narrowed during trenching activities; or (3) increased truck traffic in general (and their slower speeds and wider turning radii) during construction. Traffic safety hazards could also occur where delivery and haul trucks share the roadway with other vehicles, bicyclists, and pedestrians.

As described in Impact 4.17-1, above, the percent increase in daily traffic volumes resulting from construction traffic generated by each Project component would not be substantial relative to the background traffic volumes on roads used to access those Project sites; however, Project traffic could temporarily disrupt traffic flows on the roadways. Lane closures to accommodate trenching activities also could temporarily disrupt traffic flows, but because the affected roads have four lanes, two-way traffic flow would be maintained. Impacts associated with the potential conflicts between Project traffic and all other travel modes along affected roadways would be considered potentially significant. Implementation of Mitigation Measure 4.17-1, above**,** would minimize potential adverse traffic safety hazards for vehicles, bicyclists, and pedestrians on public roadways due to construction-related activities and vehicle trips, and would reduce this potential impact related to temporary conflicts with traffic safety hazards to a less-than-significant level.

Mitigation Measure 4.17-4: Implement Mitigation Measure 4.17-1.

Significance after Mitigation: Less than Significant.

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e) Result in inadequate emergency access.

Impact 4.17-5: Project construction could temporarily result in inadequate access to adjacent roadways and land uses for both general and emergency vehicles. ***Less than Significant with Mitigation*** **(Class II)**

Although the majority of construction activities would occur along specific corridors and easements, with minimal lane closures expected, construction activities along affected roadways (including areas with trenching activities) could result in temporary impaired access to land uses and cross streets along construction corridors for both general and emergency vehicles in the vicinity of the work sites. Impaired access for general traffic would be a short-term inconvenience, but would be a significant impact for emergency vehicles, and therefore, access for emergency vehicles would be maintained at all times. Implementation of Mitigation Measure 4.17-1 would require the SCE and/or its contractor(s) notify local police and emergency

responders regarding the timing, location, and duration of construction activities and the locations of detours and lane closures, where applicable. Implementation of the mitigation measure would reduce this construction-related impact to inadequate access to a less-than-significant level.

Mitigation Measure 4.17-5: Implement Mitigation Measure 4.17-1.

Significance after Mitigation: Less than Significant.

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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.

Impact 4.17-6: The Project could 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 with Mitigation* (Class II)

As described in Section 4.17.1.2, *Regulatory Setting*, San Bernardino County and local jurisdictions therein, have established objectives and policies in their general plans to regulate transportation system performance and encourage the use of designated truck routes to promote the efficient movement of goods as well as enhance access and safety measures for all users of the roadway. Construction of most of the proposed facilities would not interfere, nor disrupt access to alternative transportation facilities, primarily because there are no alternative transportation facilities located at or near the various work sites. The exceptions, where the construction vehicles could temporarily impair access to, or decrease the performance of alternative facilities (e.g., bicycle lanes, bicycle routes, bus transit service), are described below.

Construction vehicles would access the proposed Falcon Ridge Substation via Sierra Avenue and these vehicles may also utilize other local roadways, including Summit, Citrus, and Casmalia avenues to gain access to the site. The influx of construction traffic during the 12-month construction period could conflict with, or impair access to existing bicycle facilities as well as existing Omnitrans bus routes (e.g., routes 10, 67, 82) along these roadways. As a result, the effect on alternative transportation facilities due to construction of the proposed Falcon Ridge Substation could be significant. Although construction of the Project would neither directly nor indirectly eliminate existing or planned alternative transportation corridors or facilities, nor would the Project include changes in policies or programs that support alternative transportation, implementation of Mitigation Measure 4.17-1, would reduce potential impacts related to temporary conflicts with established policies regarding impaired access to alternative transportation facilities and temporary reduction in performance and safety of such facilities to a less-than-significant level.

Mitigation Measure 4.17-6: Implement Mitigation Measure 4.17-1.

Significance after Mitigation: Less than Significant.

4.17.5 Alternatives

Alternative 1: Lowell Street Realignment Alternative

Alternative 1 would alter (and somewhat elongate) the route of the proposed Alder Subtransmission Source Line and Fiber-Optic Cable Route, but it would not substantially change the size or type of facilities to be constructed and would require the same temporary construction crew, construction trucks, and operation and maintenance personnel.

Because Alternative 1 would generate the same amount of construction traffic along the similar roadways as the Project, potential impacts to transportation and traffic under this alternative would be similar to the Project. Therefore, Mitigation Measures 4.17-1 and 4.17-2 identified for the Project would also be required for this alternative. Furthermore, traffic related to operations and maintenance of Alternative 1 would be the same as for the Project because the same number of staff and maintenance activities would be required, so impacts would be similar.

No Project Alternative

If the No Project Alternative were implemented, no changes would occur, and the existing environmental setting would be maintained. As a no-development alternative, the No Project Alternative would result in no changes to existing transportation and traffic conditions, and therefore, no impact would occur.

References – Transportation/Traffic

California Department of Transportation (Caltrans), 2010. *California Manual on Uniform Traffic Control Devices for Streets and Highways* (January 21, 2010).

California Department of Transportation (Caltrans), 2011. *2010 Traffic Volumes on California State Highways*, (2011).

City of Fontana, 2003. *City of Fontana General Plan* (October 21, 2003).

City of Rialto, 2010. *City of Rialto General Plan* (December 2010).

Omnitrans, 2011. Omnitrans Routes and Schedule Timetable (September 13, 2011).

San Bernardino County, 2007. *San Bernardino County 2007 General Plan* (March 13, 2007).

San Bernardino Association of Governments (SANBAG), 2007. *Congestion Management Program for San Bernardino County* (December 2007).

4.18 Utilities and Service Systems

This section addresses the potential impacts on water, wastewater, solid waste disposal systems, and energy systems that could result from implementation of the Project and alternatives. The study area includes public utility and service systems that serve unincorporated San Bernardino County and the cities of Fontana, Rialto, and Rancho Cucamonga. Various entities operate these systems and provide services to residents, businesses and other land uses in the vicinity of the study area.

4.18.1 Setting

Water Resources and Sanitary Sewer

The San Bernardino Valley Municipal Water District (SBVMWD) is the primary regional water agency in San Bernardino County, providing wholesale water delivery to water retailers as well as providing wastewater and stormwater disposal, recreation, and fire protection services (SBVMWD, 2007). SBVMWD imports water from the State Water Project (SWP) and manages groundwater storage within its service area, which covers about 325 square miles and 600,000 people in southwestern San Bernardino County and includes the Crafton Hills, a portion of the Yucaipa Valley, and the cities and communities of San Bernardino, Colton, Loma Linda, Redlands, Rialto, Bloomington, Highland, East Highland, Mentone, Grand Terrace, and Yucaipa (SBVMWD, 2011).

The Fontana Water Company provides water and wastewater services to the City of Fontana, portions of Rialto and Rancho Cucamonga, and adjacent unincorporated San Bernardino County. The Fontana Water Company serves nearly 45,000 customers within a service area covering 52 square miles (Fontana Water Company, 2011).

The City of Rialto Water Department provides water and wastewater utilities to 11,897 domestic, commercial, institutional and irrigation customers, with a service population of almost 50,000. The Water Department's service area encompasses approximately 8.5 square miles in the central portion of the city, while the remainder of the city's population obtains water either from the West Valley Water District or the Fontana Water Company (City of Rialto, 2011).

The West Valley Water District serves around 20,000 homes and businesses within a service area of 29 square miles within the cities and communities of Rialto, Colton, Bloomington, and some portions of unincorporated San Bernardino County, and a small area of Riverside County (West Valley Water District, 2009).

The Cucamonga Valley Water District (CVWD) provides water and wastewater services to the City of Rancho Cucamonga, portions of the cities of Upland, Ontario, and Fontana, and some unincorporated areas of San Bernardino County. CVWD serves over 186,000 customers within an area of 47 square miles, with approximately 45,000 water connections and 35,000 sewer connections (CVWD, 2011).

Solid Waste and Recycling Services

The County of San Bernardino Solid Waste Management Division provides waste and recycling services to San Bernardino County and operates five regional landfills, eight transfer stations, and two community collection centers. Solid waste and recycling collection in the unincorporated areas of San Bernardino County is provided by private haulers (San Bernardino County, 2010a). The Mid-Valley Landfill, located at 2390 N. Alder Avenue in the City of Rialto, is located one half mile south of the Project site. The landfill property covers nearly 500 acres, with a permitted disposal area of 408 acres. In 2000, the landfill had a total estimated permitted capacity of 101,300,000 cubic yards, of which 33,780,000 cubic yards (33.3 percent) had been used and 67,520,000 cubic yards (66.7 percent) were remaining. The Mid-Valley Landfill has an estimated closure date of April 1, 2033 (CalRecycle, 2011).

Electricity and Natural Gas

Several major utilities provide electricity and natural gas to customers within San Bernardino County. SCE is the principal provider of electricity in the Project area. The Southern California Gas Company is the principal provider of natural gas.

Flood Control and Stormwater Management

The San Bernardino County Flood Control District (SBCFCD) provides regional flood control planning and stormwater management infrastructure. SBCFCD manages a county-wide system of flood control and storm drainage facilities, including dams, conservation basins, channels, and storm drains to intercept and convey flood flows through and away from the major developed areas of the county. Local storm drainage systems that connect to the county's infrastructure are constructed and managed by individual cities and communities within the county (San Bernardino County, 2011).

The SBCFCD is the principal permittee under the San Bernardino County MS4 NPDES permit issued by the State of California through the Santa Ana RWQCB and is responsible for overseeing the development and implementation of the area-wide stormwater program, including development and maintenance of a model Water Quality Management Plan (WQMP) for new development and significant redevelopment programs under local agency jurisdiction.

Regulatory Setting

State

Assembly Bill 939

Assembly Bill (AB) 939, enacted in 1989 and known as the Integrated Waste Management Act, required each city and/or county[1] to prepare a Source Reduction and Recycling Element to demonstrate reduction in the amount of waste being disposed to landfills, with diversion goals of

[1] Joint documents are permissible.

50 percent by the year 2000. Senate Bill (SB) 2202 made a number of changes to the municipal solid waste diversion requirements under the Integrated Waste Management Act. These changes included revision of the statutory requirements to state that local governments shall divert 50 percent of all solid waste on and after January 1, 2000. Diversion includes waste prevention, reuse, and recycling. Other related bills have addressed particular aspects of diversion, requiring programs or methodologies to address such issues as bottle recycling, re-chargeable battery recycling, plastic bag disposal, and others.

Table 4.18-1 provides the 2005 and 2006 diversion rates (the most recent available data) for the cities within the study area, as well as for the unincorporated areas of San Bernardino County (CIWMB, 2011).

TABLE 4.18-1
DIVERSION RATES (AS A PERCENT OF THE TOTAL WASTE STREAM)

Jurisdiction	2005	2006
Fontana	47	50
Rialto	51	53
Rancho Cucamonga	53	57
San Bernardino County (Unincorporated)	49	49

SOURCE: CIWMB, 2011

More recent data is available as per capita disposal rates. The per capita disposal rate is a jurisdiction-specific index used as one of several factors in determining a jurisdiction's compliance with AB 939. The per capita disposal rate allows jurisdictions, as well as the California Department of Resources Recycling and Recovery (CalRecycle), to set their primary focus on successful implementation of diversion programs (CIWMB, 2011). **Table 4.18-2** provides the 2008 per capita disposal rates in pounds per day for population and employment disposal.

TABLE 4.18-2
PER CAPITA DISPOSAL RATES

	Population Disposal (PPD)		Employment Disposal (PPD)	
Jurisdiction	Target	Annual	Target	Annual
Fontana	6	5.2	22.5	20.6
Rialto	5.7	4.9	31.3	23.4
Rancho Cucamonga	6.8	4.5	16.7	11.5
San Bernardino County (Unincorporated)	6.2	5.1	43.3	31.1

SOURCE: CIWMB, 2011

Local

CPUC General Order No. 131-D explains that local land use regulations would not apply to the Project and alternatives. However, for information purposes, the following goals and policies included in the general plans for San Bernardino County and the cities of Fontana, Rialto, and Rancho Cucamonga would otherwise be relevant to the Project and alternatives.

San Bernardino County MS4 NPDES Permit

The San Bernardino County Storm Water Program is a collaboration of the county, the SBCFCD, and 16 incorporated cities within the county that works to implement the San Bernardino County area-wide NPDES permit compliance program. The Model WQMP provides guidance for incorporating procedures and practices to reduce pollutant discharges into storm drainage systems and water bodies into project-level WQMPs by identifying best management practices (BMPs) for planning, construction, maintenance, and operation of stormwater control facilities. Projects under the land use authority of a MS4 NPDES permittee must prepare and implement a WQMP to be in full compliance with the permit (San Bernardino County Storm Water Program, 2005).

San Bernardino Countywide Integrated Waste Management Plan

California counties are required by the Integrated Waste Management Act to implement a Countywide Integrated Waste Management Plan (CIWMP), which is a guidance document for attaining the reduction mandate. The CIWMP consists of a Countywide Siting Element (CSE) and a Countywide Summary Plan, as well as a Source Reduction and Recycling Element, a Household Hazardous Waste Element, and a Non-Disposal Facility Element. Individual jurisdictions in the County are responsible for their own integrated solid waste management planning, implementation, monitoring, public information, budgeting and enforcement (San Bernardino County, 2007). The objectives of the CSE are to:

- Divert 50 percent of all solid waste on and after January 1, 2000, through source reduction, recycling, and composting activities;
- Develop reduction, recovery, and reuse goals for recyclable materials and focus programs on materials that make up a large portion of the waste stream;
- Coordinate or combine similar programs in neighboring jurisdictions to achieve economies of scale and potentially reduce costs to ratepayers;
- Enhance waste collection service by including recycling programs;
- Eliminate ordinances and other barriers that discourage recycling and composting; and
- Explore incentives to encourage source reduction and recycling.

Although many county Solid Waste Management Division customers divert solid waste through curbside recycling, and the unincorporated areas of the county achieved a reported diversion rate of 49 percent in 2007, commercial and residential customers who self-haul solid waste to disposal facilities do not have the same diversion opportunities as curbside customer. Therefore, the

county implemented its Comprehensive Disposal Site Diversion Program at its disposal facilities to improve diversion of self-hauled residential and commercial waste (San Bernardino County, 2007, 3).

City of Fontana Landscaping and Water Conservation Ordinance

The City of Fontana Ordinance 1625, Landscaping and Water Conservation, applies to all installations of new and rehabilitated landscaping for public agency projects and private development projects. A project applicant must prepare and submit to the city's engineering department a landscape documentation package that demonstrates the landscaping plan's use of vegetation appropriate to the site's hydrozone and calculates the maximum applied water allowance for the landscape and includes a soil management report and an irrigation design plan. No certificate of occupancy or other final city approval shall be issued until the city engineer or designee reviews and approves the landscape documentation package and confirms that the landscaping and irrigation has been installed in accordance with approved plans (City of Fontana, 2010).

City of Rancho Cucamonga Construction and Demolition Diversion Program

Rancho Cucamonga's Construction and Demolition Diversion Program requires all permit applicants to submit a properly completed recycling and waste reduction form with the permit application. Applicants for all covered projects of 20,000 or more square feet must post a cash deposit of $15,000. This deposit is refundable if a project diverts at least 50 percent of the waste generated including concrete and asphalt and 15 percent of the waste excluding concrete and asphalt (City of Rancho Cucamonga, 2003).

4.18.2 Significance Criteria

Based on criteria in Appendix G of the CEQA Guidelines, a project would be considered to have a significant effect on utilities and service systems if it would:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;

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;

c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;

d) Not have sufficient water supplies available to serve the project from existing entitlements and resources, or if new or expanded water supply resources or entitlements are needed;

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;

f) Be served by a landfill without sufficient permitted capacity to accommodate the project's solid waste disposal needs; or

g) Not comply with federal, State, and local statutes and regulations related to solid waste.

4.18.3 Applicant Proposed Measures

There are no APMs included to address issues related to utilities and service systems.

4.18.4 Impacts and Mitigation Measures

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

Although the proposed Falcon Ridge Substation site has a potable water connection, it does not currently have sewer service. During Project construction, portable chemical toilet units would be provided at this site to serve the construction crew of about 26 workers per day. These portable toilets would be maintained by an outside service company in compliance with applicable wastewater treatment requirements of the Santa Ana Regional Water Quality Control Board (RWQCB). Wastewater would not be discharged during construction of the proposed distribution getaways, proposed subtransmission source line routes, or the proposed telecommunication facilities.

During Project operation, a portable chemical toilet would be placed within the substation perimeter wall for use by SCE personnel and maintenance contractors, and would be regularly maintained by an outside service company. Because the proposed Falcon Ridge Substation would be unstaffed and remotely operated, visits to the proposed Falcon Ridge Substation site would be limited to three to four times per month. If, at the time of final engineering, a sewer connection becomes available, a standalone prefabricated permanent restroom may be installed in proximity to the mechanical and electrical equipment room. Since the proposed Falcon Ridge Substation would be unstaffed and remotely operated, wastewater discharge would be minimal. Wastewater would not be discharged during operation of the proposed distribution getaways, proposed subtransmission source line routes, or the proposed telecommunication facilities.

The use of portable chemical toilets during Project construction and operation would not result in wastewater discharge on-site, and their maintenance would not exceed applicable wastewater treatment requirements of the Santa Ana RWQCB. Additionally, no other aspect of Project construction or operation would discharge concentrated wastewater or large volumes of wastewater to a wastewater treatment facility that would exceed treatment requirements set forth by the Santa Ana RWQCB. As a result, construction and operation of the Project would have no impact on the treatment requirements of wastewater treatment plants serving the area (No Impact, Class IV).

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.

Impact 4.18-1: The Project could require new or expanded water or wastewater treatment facilities, the construction of which could cause significant environmental effects. *Less than Significant* (Class III)

During construction, dust suppression, site clean-up, drinking, and handwashing would require the use of water. This water use would be temporary in nature and would not generate wastewater that would require treatment or disposal. Water used for dust suppression would evaporate or be absorbed by the soil and therefore would not create any demand for wastewater treatment or disposal.

The Project's restroom facilities would be portable chemical toilets as described in a), and would not generate wastewater that would require treatment or disposal.

Project operation and maintenance would require the use of water for landscaping irrigation. SCE would develop an appropriate landscaping plan consistent with applicable standards, including the City of Fontana Landscaping and Water Conservation Ordinance. Pursuant to the requirement of this ordinance, the water requirements for ongoing irrigation would be small, and therefore would not require construction or expansion of water treatment facilities. The water used for irrigation would be absorbed by the soil and therefore would not create any demand for wastewater treatment or disposal.

If sewer service becomes available and a permanent restroom is installed at the Project site, the wastewater treatment demand that the restroom would generate during operation and maintenance would be minimal due to the limited staff visits to the substation and would not require construction or expansion of wastewater treatment facilities serving the Project area. Therefore, this impact would be less than significant.

Mitigation: None required.

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c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

The Project would require several ground surface improvements that would result in 46,120 square feet of new impermeable surface in the Project area. **Table 4.18-3** lists the proposed Project elements that would create new impermeable surfaces.

As discussed in Section 4.10, *Hydrology and Water Quality,* the increase in impermeable surfaces could result in earlier and larger peak water flow rates into existing storm drainage infrastructure during storm events. However, the new impermeable surface would be dispersed throughout the Project area in smaller portions, so increases in runoff from these surfaces would not exceed the capacity of the storm drainage system.

TABLE 4.18-3
SUBSTATION GROUND SURFACE IMPROVEMENT MATERIALS AND AREAS

Element	Material	Approximate Surface Area (ft^2)
Foundations	Concrete	2,000
Cable Trenches	Concrete	1,900
66 kV Bus Enclosures	Asphalt Concrete	5,000
Internal Driveway	Asphalt Concrete/ Class II Aggregate	8,600
External Driveway	Asphalt Concrete/ Class II Aggregate	24,000
Perimeter Wall Foundation	Concrete	4,620
Total		**46,120**

SOURCE: SCE, 2009b

As discussed in Chapter 2, *Project Description*, the Project would require approximately 120,000 cubic yards of soil to be imported to fill low spots on the site to support the Project equipment and associated facilities. The grading plan and the SWPPP would be designed to control the discharge of stormwater runoff from the site, which currently flows into existing drainage. Site design BMPs would be installed within the enclosed substation to reduce and control runoff rates during operation and maintenance, and source control BMPs would be incorporated into the site plans to reduce the potential for stormwater runoff.

The Project site would also be surfaced with gravel as a source control BMP, which would reduce stormwater runoff. The remaining portion of the 7.5-acre parcel would maintain its existing drainage pattern and provide areas for future street improvements and widening, street setbacks, safety buffers and landscaping, if needed.

Construction of the proposed subtransmission source line routes would span drainages, but SCE does not anticipate placing structures within drainages. The proposed telecommunications facilities and proposed distribution getaways would not add any new aboveground structures. Maintenance of these structures would also not affect drainage. Therefore, construction, operation, and maintenance would not alter existing drainage patterns or stormwater runoff.

Project construction, operation, and maintenance would not require construction of new stormwater drainage facilities or expansion of existing facilities in the area (No Impact, Class IV).

d) Require new or expanded water supply resources or entitlements.

Impact 4.18-2: The Project could require new or expanded water supply resources or entitlements. *Less than Significant* (Class III)

Project construction would use water for dust suppression measures on access roads, site clean-up, drinking, and hand washing. This water use is intended to be minimal and would most likely brought to the construction sites by water trucks. Restroom facilities for the Project would be portable and would not require a connection to the local water supply system. Construction-related water use would be temporary (12 months), and water used during construction would be available from existing municipal water sources and would not affect the local water supply.

Landscaping irrigation during operation and maintenance would require minimal water due to compliance with local water conservation requirements. At this time, it is anticipated that restroom facilities for the Project, both during construction and during operation and maintenance, would be portable and would not require connection to the local water supply system. However, if at the time of final engineering a sewer connection becomes available, a standalone prefabricated permanent restroom may be installed. Discharge of wastewater from this restroom would be minimal, since personnel would generally only be on site three to four times per month. Project operation and maintenance would not require new or expanded water supply resources or entitlements. Therefore, this impact would be less than significant.

Mitigation: None required.

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e) Result in a determination by the wastewater treatment provider that would serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

Impact 4.18-3: The Project could affect the wastewater treatment providers' ability to serve the Project's projected demand in addition to the providers' existing commitments. *Less than Significant* (Class III)

As described in d), the primary use of water during Project construction 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 would evaporate or be absorbed into the ground. In addition, construction crews would use portable chemical toilets, generating small volumes of wastewater for a limited time during the construction period.

During Project operation and maintenance, a portable chemical portable restroom would be placed within the substation perimeter wall for use by SCE personnel and maintenance contractors. Since it would not be connected to the local sewer and wastewater treatment system, wastewater would not be discharged. If, at the time of final engineering, a sewer connection becomes available, a standalone prefabricated permanent restroom may be installed. Discharge of wastewater from this restroom would be minimal, since personnel would generally only be on site

three to four times per month. Therefore, the Project would not affect a wastewater treatment provider's capacity to serve its existing commitments, and this impact would be less than significant.

Mitigation: None required.

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f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

Impact 4.18-4: The Project could be serviced by a landfill with insufficient capacity to accommodate the Project's solid waste disposal needs. *Less than Significant* (Class III)

As described in Chapter 2, *Project Description*, the Project would require the removal and disposal of approximately 25 existing wood poles. The existing wood poles removed during Project construction would be evaluated by SCE and, depending on their condition, reused by SCE, disposed of in a Class I hazardous waste landfill, or disposed of in the lined portion of a RWQCB-certified municipal landfill.

Soil excavated for the Project would either be used as fill for the proposed Falcon Ridge Substation site or disposed of off-site at an appropriately licensed waste facility. Sanitation waste from portable toilets would be disposed of according to sanitation waste management practices. Other miscellaneous non-hazardous construction materials that cannot be reused or recycled would be disposed of at municipal county landfills, such as the Mid-Valley Landfill in San Bernardino County. As discussed in Section 4.18.1, *Setting*, the Mid-Valley Landfill currently has a remaining permitted capacity of approximately 67,520,000 cubic yards and is not estimated to close until 2033 (CalRecycle, 2011). Any hazardous material would be recycled, treated and/or disposed of in accordance with federal 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).

Project operation would not generate solid waste. Project maintenance would consist of routine site maintenance and emergency repair of the facilities, and these activities would not generate waste in an amount that would affect the permitted capacity of landfills in the area. In addition, the applicable state and local policies implementing the Integrated Waste Management Act require that waste resulting from the construction and operation of the Project that would be covered under the CIWMP meet or exceed the Act's 50 percent diversion requirement. Because local landfills would have sufficient capacity to accept the remainder of SCE's construction waste after this diversion, this would be a less-than-significant impact.

Mitigation: None required.

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g) Comply with federal, state, and local statutes and regulations related to solid waste.

Project construction would comply with federal, state, and local statutes and regulations related to solid waste. The Project includes the removal and disposal of treated wood poles, which would be returned to the Project staging areas and, depending on the condition of each pole, would be reused, disposed of in a Class I hazardous waste landfill, or disposed of in the lined portion of an RWQCB-certified municipal landfill. Disposal and diversion of solid waste generated during Project construction would comply with all applicable state and local statutes regarding waste diversion. Project operation would not generate solid waste. Project maintenance would consist of routine site maintenance and emergency repair, and these activities are not expected to generate solid waste subject to federal, state, or local statutes or regulations related to solid waste. As a result, no impact to federal, state, and local statues and regulations related to solid waste would occur (No Impact, Class IV).

4.18.5 Alternatives

Alternative 1: Lowell Street Realignment Alternative

Alternative 1 would alter the route of the proposed Alder Subtransmission Source Line and Fiber-Optic Cable, but it would not substantially change the size or type of facilities to be constructed and would require the same temporary construction crew and operation and maintenance personnel. Because the alternative route is slightly longer than the Project route, Alternative 1 could result in the generation of more construction debris, but the existing landfills described in Section 4.18.1, Setting, would have adequate permitted capacity to accept this waste. Therefore, Alternative 1 impacts to utilities and service systems would be the same as the Project.

No Project Alternative

Under the No Project Alternative, the Project would not be implemented; therefore there would be no impact related to utilities and service systems.

References – Utilities and Service Systems

City of Fontana, 2010. Landscaping and Water Conservation Ordinance. Available online: http://library.municode.com/HTML/12233/level3/CO_CH28VE_ARTIVLAWACO.html. Accessed September 8, 2011.

City of Rancho Cucamonga, 2003. Construction and Demolition Diversion Program Form. Available online: http://www.cityofrc.us/civica/filebank/blobdload.asp?BlobID=656. Accessed September 12, 2011.

City of Rialto, 2011. The City's Water System. Available online: http://www.ci.rialto.ca.us/perchlorate/water_city-water-system.php. Accessed July 22, 2011.

CIWMB, 2011. Countywide, Regionwide, and Statewide Jurisdiction Diversion Progress Report. Available online: www.ciwmb.ca.gov/LGTools/mars/jurdrsta.asp. Accessed July 25, 2011.

Cucamonga Valley Water District (CVWD), 2011. About Us. Available online: http://www.cvwdwater.com/index.aspx?page=5. Accessed July 22, 2011.

Fontana Water Company, 2011. Fontana Water Company History. Available online: http://www.fontanawater.com/about.php?id_pge=2. Accessed July 22, 2011.

San Bernardino County Storm Water Program, 2005. Model Water Quality Management Plan Guidance. Available online: http://www.sbcountystormwater.org/_PDF/Guidance%20Revision%20WQMP.doc. Accessed September 12, 2011.

San Bernardino County, 2007. Integrated Waste Management Plan. Available online: http://www.co.san-bernardino.ca.us/dpw/solidwaste/PDFs/20080729_dpw_swmd_ciwmb_2007_5_year_review_optimized_20080723.pdf. Accessed September 12, 2011,

San Bernardino County, 2011. Flood Control District. Available online: http://www.sbcounty.gov/dpw/floodcontrol/default.asp. Accessed July 25, 2011.

San Bernardino Valley Municipal Water District (SBVMWD), 2007. What We Do. Available online: http:// sbvmwd.com/what_we_do/. Accessed September 7, 2011.

San Bernardino Valley Municipal Water District (SBVMWD). 2010. About the District. Available online: http://www.sbvmwd.com/about/. Accessed July 22, 2011.

West Valley Water District, 2009. Boundary Map of West Valley Water District. Available online: http://www.wvwd.org/DocumentView.aspx?DID=12. Accessed September 7, 2011.

CHAPTER 5
Comparison of Alternatives

This section summarizes and compares the environmental advantages and disadvantages of the Project and the alternatives evaluated in this EIR. This comparison is based on the assessment of environmental impacts of the Project and each alternative, as identified in Sections 4.1, *Aesthetics,* through 4.18, *Utilities and Service Systems*. Chapter 2, *Project Description,* introduces and describes the Project. Chapter 3, *Alternatives Analysis,* introduces and describes the alternatives considered in this EIR.

Section 5.1 describes the methodology used for comparing alternatives. Section 5.2 summarizes the environmental impacts of the Project and alternatives. Section 5.3 defines the Environmentally Superior Alternative, based on comparison of each alternative with the Project. Section 5.4 presents a comparison of the No Project Alternative with the alternative that is determined in Section 5.3 to be environmentally superior.

5.1 Comparison Methodology

CEQA does not provide specific direction regarding the methodology of alternatives comparison. Each project must be evaluated for the issues and impacts that are most important; this will vary depending on the project type and the environmental setting. Issue areas that are generally given more weight in comparing alternatives are those with long-term impacts (e.g., visual impacts and permanent loss of habitat or land use conflicts). Impacts associated with construction (i.e., temporary or short-term) or those that are easily mitigable to less-than-significant levels are generally considered to be less important.

This comparison is designed to satisfy the requirements of CEQA Guidelines §15126.6(d), Evaluation of Alternatives, which states that:

> *"The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the proposed project as proposed."*

If the Environmentally Superior Alternative is the No Project Alternative, CEQA requires identification of an Environmentally Superior Alternative among the other alternatives (CEQA Guidelines §15126.6[e][2]).

The following methodology was used to compare alternatives in this EIR:

Step 1: Identification of Alternatives. An alternatives screening process (described in Chapter 3, *Alternatives Analysis*) was used to identify approximately seven alternatives to the Project. That screening process identified one alternative for detailed EIR analysis. A No Project Alternative was also identified. No other feasible alternatives were identified that would lessen or alleviate significant environmental impacts while meeting the basic project objectives.

Step 2: Determination of Environmental Impacts. The environmental impacts of the Project and alternatives were identified in Sections 4.1, *Aesthetics* through 4.18, *Utilities and Service Systems*, including the potential impacts of construction, operation, and maintenance.

Step 3: Comparison of Project with Alternatives. The environmental impacts of the Project were compared to those of each alternative to determine the Environmentally Superior Alternative. The Environmentally Superior Alternative was then compared to the No Project Alternative.

Although this comparison focuses on the 18 issue areas (described in Sections 4.1 through 4.18), determining an Environmentally Superior Alternative is difficult because of the many factors that must be balanced. Although this EIR identifies an Environmentally Superior Alternative, it is possible that the CPUC could choose to balance the importance of each impact area differently and reach a different conclusion during the project approval process. Therefore, the CPUC may approve a project that is not the Environmentally Superior Alternative.

5.2 Evaluation of Project Alternatives

One alternative in addition to the No Project Alternative was identified for evaluation in this EIR. This section compares the potential environmental impacts for the Project and alternatives. A detailed analysis of environmental impacts and mitigation for all Project alternatives is provided in Sections 4.1, *Aesthetics*, through 4.18, *Utilities and Service Systems*. The following discussion is organized based on level of impacts as defined by CEQA, first by significant unavoidable (Class I) impacts, and then by less than significant with mitigation (Class II) and less than significant with no mitigation required (Class III) impacts.

There would be significant unavoidable (Class I) aesthetic, air quality, and noise impacts under the Project and Alternative 1 (**Table 5-1**).

The significant unavoidable impacts of the Project and Alternative 1 on aesthetics and noise would occur along the proposed Etiwanda Subtransmission Source Line route, which would be the same under both scenarios. Therefore, there would be no different between the Project and Alternative 1 with respect to these significant unavoidable impacts.

Significant unavoidable impacts on regional air quality during construction activities of the Project and Alternative 1 would generate ozone precursor (i.e., NO_x) emissions that could contribute substantially to a violation of ozone air quality standards and would be cumulatively considerable. Similarly, construction activities associated with the Project and Alternative 1

would generate PM10 emissions that could contribute substantially to a violation of PM10 air quality standards and would be cumulatively considerable.

TABLE 5-1
SUMMARY OF SIGNIFICANT UNAVOIDABLE (CLASS I) ENVIRONMENTAL IMPACTS OF THE PROJECT AND ALTERNATIVE

Alternative	Significant (Class I) Impacts
Project	*Scenic Vista – Significant Unavoidable:* The Project would result in an adverse effect on a scenic vista from South Highland Avenue at San Sevaine Road, looking northwest. *Regional Air Quality (NO_x and PM10) – Significant Unavoidable*: The Project construction activities would generate ozone precursor (i.e., NO_x) and PM10 emissions that could contribute substantially to a violation of ozone and PM10 air quality standards and would be cumulatively considerable. Significant unavoidable impacts would result from the combined emissions associated with all components of the Project. *Noise – Significant and Unavoidable:* Short-term Project construction activities would exceed City of Rancho Cucamonga exterior noise standards.
Alternative 1: Lowell Street Realignment Alternative	*Scenic Vista – Significant Unavoidable:* Alternative 1 would result in an adverse effect on a scenic vista from South Highland Avenue at San Sevaine Road, looking northwest. *Regional Air Quality (NO_x and PM10) – Significant Unavoidable*: Alternative 1 construction activities would generate ozone precursor (i.e., NO_x) and PM10 emissions that could contribute substantially to a violation of ozone and PM10 air quality standards and would be cumulatively considerable. Significant unavoidable impacts would result from the combined emissions associated with all components of the alternative. *Noise – Significant and Unavoidable:* Short-term construction activities associated with Alternative 1 would exceed City of Rancho Cucamonga exterior noise standards.

Table 5-2 provides a comparison of potential impacts by alternative for each resource category. The identification of an alternative as Preferred or No Preference refers to its relation to the Project.

5.3 Environmentally Superior Alternative

As discussed in the previous section, the Project and Alternative 1 would have significant and unavoidable impacts on aesthetics, air quality, and noise. The selection of an Environmentally Superior Alternative is based on differences in intensity and duration of significant impacts (Table 5-2). Based on these differences the identified Environmentally Superior Alternative is Alternative 1.

There are no material environmental impact differences between impacts of the Project and Alternative 1 for a number of resources including: aesthetics, agricultural and forestry resources, biological resources, cultural resources, energy conservation, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation and traffic, and utilities and service systems.

Regarding impacts to aesthetic resources, impacts under the Project and Alternative 1 would be significant and unavoidable. Alternatives to reduce this impact were considered, including Alternative 8, Alternative 9, and Alternative 10, which considered alternate routes and an

TABLE 5-2
PROPOSED PROJECT VS. ALTERNATIVES
SUMMARY OF ENVIRONMENTAL IMPACT CONCLUSIONS

Resource Area	Project	Alternative 1
Aesthetics	Impacts would be significant and unavoidable. **No Preference**	Impacts would be similar to the Project. **No Preference**
Agricultural and Forestry Resources	The Project would result in no impact. **No Preference**	Impacts would be the same as the Project. **No Preference**
Air Quality	Total construction NO_x and PM10 emissions would result in significant unavoidable and cumulatively considerable impacts to regional air quality. **Not Preferred**	Total construction NO_x and PM10 emissions would result in significant unavoidable and cumulatively considerable impacts to regional air quality, but PM10 emissions would be reduced by approximately 16 percent compared to the Project. **Preferred**
Biological Resources	Impacts would be less than significant with mitigation. **No Preference**	Impacts would be the similar to the Project. **No Preference**
Cultural Resources	Impacts would be less than significant with mitigation. **No Preference**	Impacts would be less than significant with additional mitigation. **No Preference**
Energy Conservation	Impacts would be less than significant. **No Preference**	Impacts would be similar to the Project. **No Preference**
Geology, Soils, Seismicity and Mineral Resources	Impacts would be less than significant. **No Preference**	Impacts would be similar to the Project. **No Preference**
Greenhouse Gas Emissions	Impacts would be less than significant. **No Preference**	Impacts would be similar to the Project. **No Preference**
Hazards and Hazardous Materials	Impacts would be less than significant with mitigation. **No Preference**	Impacts would be similar to the Project. **No Preference**
Hydrology and Water Quality	Impacts would be less than significant. **No Preference**	Impacts would be similar to the Project. **No Preference**
Land Use and Planning	Impacts would be less than significant. **No Preference**	Impacts would be similar to the Project. **No Preference**
Mineral Resources	Impacts would be less than significant. **No Preference**	Impacts would be the same as the Project. **No Preference**
Noise	Impacts would be less than significant. **No Preference**	Impacts would be the same as the Project. **No Preference**
Population and Housing	Impacts would be less than significant. **No Preference**	Impacts would be the same as the Project. **No Preference**
Public Services	The Project would result in no impact. **No Preference**	Impacts would be the same as the Project. **No Preference**
Recreation	Impacts would be less than significant with mitigation. **No Preference**	Impacts would be similar to the Project. **No Preference**
Transportation and Traffic	Impacts would be less than significant with mitigation. **No Preference**	Impacts would be similar to the Project. **No Preference**
Utilities and Service Systems	Impacts would be less than significant. **No Preference**	Impacts would be similar to the Project. **No Preference**

alternative crossing of the 210 Freeway (i.e., overhead vs. underground). These alternatives were determined to be infeasible as described in Section 3.5.7, *Alternative 8: Parallel to 500 kV Transmission Line (Overhead)*, Section 3.5.8, *Alternative 9: Parallel to 500 kV Transmission Line (Underground)*, and Section 3.5.9, *Alternative 10: Exit Etiwanda Substation to the West*. Accordingly, impacts to aesthetic resources are not a determining factor in the selection of the Environmentally Superior Alternative for the Project.

Noise-related impacts would also be significant and unavoidable under both the Project and Alternative 1. The significant unavoidable noise impact is associated with construction near residences in the City of Rancho Cucamonga that would temporarily exceed local daytime exterior noise standards. Due to the location of the existing Etiwanda Substation, any subtransmission source line route that would connect this substation to the proposed Falcon Ridge Substation for which the use of existing ROW would be feasible would have to traverse developed residential areas within the City of Rancho Cucamonga, and would therefore result in a similar noise-related impact. One alternative, Alternative 11, was identified to avoid or significantly reduce these short-term noise impacts, but was determined to be infeasible as described in Section 3.5.10, *Alternative 11: Eastern ROW Realigned Subtransmission Source Line Route*. Accordingly, impacts from noise are not a determining factor in the selection of the Environmentally Superior Alternative for the Project.

Environmental impacts related to air quality would be materially lessened by implementing Alternative 1. While Alternative 1 would have the same peak daily emissions of ROC, CO, NO_x, and SO_x as the Project; peak daily emissions of PM10 would be reduced by approximately 16 percent (i.e., PM10 would be reduced by approximately 40 pounds per day) when compared to the Project. Although Alternative 1 would have lower peak emissions of PM10 than the Project, regional impacts associated with PM10 under Alternative 1 would continue to be significant and unavoidable (Class I) with implementation of Mitigation Measures 4.3-1a and 4.3-1b. Short-term construction impacts would be significant and unavoidable for both the Project and Alternative 1.

Therefore, because Alternative 1 would result in a material lessening of adverse impacts associated with the Project, Alternative 1 is considered the Environmentally Superior Alternative. While these air quality impacts cannot be reduced to a less-than-significant level under either alternative; in comparison to the Project, Alternative 1 would reduce PM10 emissions materially during the 12-month construction period. Therefore, Alternative 1 would be the Environmentally Superior Alternative.

5.4 No Project Alternative vs. the Environmentally Superior Alternative

5.4.1 Summary of the No Project Alternative and Its Impacts

The No Project Alternative is described in Section 3.4.2. Under the No Project Alternative, the Project would not be built and would therefore have no environmental impacts related to Project construction and maintenance. However, from an operational perspective, projected demand for

electricity in the ENA would not be adequately met. Under the rules, guidelines, and regulations of the CPUC, Federal Energy Regulatory Commission (FERC), the North American Electric Reliability Corporation (NERC), and the Western Electricity Coordinating Council (WECC), electrical systems must have sufficient capacity to maintain safe, reliable, and adequate service to customers under normal conditions (i.e., when all facilities are in service) as well as abnormal conditions (e.g., conditions resulting from line or equipment failures, scheduled or unscheduled (emergency) maintenance events). SCE's stated purpose for the Project is "to serve the current and projected electrical demand for electricity, and enhance reliability and system operational flexibility in the cities of Rancho Cucamonga, Rialto, Fontana and the surrounding areas of unincorporated San Bernardino County (Electrical Needs Area)" (SCE, 2010a). Without the Project, SCE could not provide for the long-term capacity, reliability, and system operational flexibility needs of the ENA in accordance with applicable law, creating the potential for increased incidence of brown-outs and black-outs in the future. Such disruptions to electric service could result in indirect impacts to the provision of public services.

5.4.2 Summary of the Environmentally Superior Alternative and Its Impacts

The Environmentally Superior Alternative is defined in Section 5.3 as Alternative 1. Impacts of Alternative 1 are defined in each resource area's impact analysis in Sections 4.1, *Aesthetics*, through 4.18, *Utilities and Service Systems*, and are also summarized in **Table 5-2**. The Environmentally Superior Alternative would have significant and unavoidable impacts to aesthetics, air quality, and noise, and would meet all of the basic project objectives for the Project.

5.4.3 Conclusion: Comparison of the Environmentally Superior Alternative with the No Project Alternative

The Environmentally Superior Alternative (Alternative 1) would result in significant and unavoidable impacts to air quality. The most significant impact of the No Project Alternative is that SCE's ability to provide safe and reliable electric service to customers within the ENA would be jeopardized, creating the potential for increased incidence of brown-outs and black-outs in the future which could in turn result in indirect impacts to the provision of public services. Overall, the Environmentally Superior Alternative is preferred over the No Project Alternative, as the No Project Alternative would not meet the basic project objectives.

CHAPTER 6
Cumulative Impacts

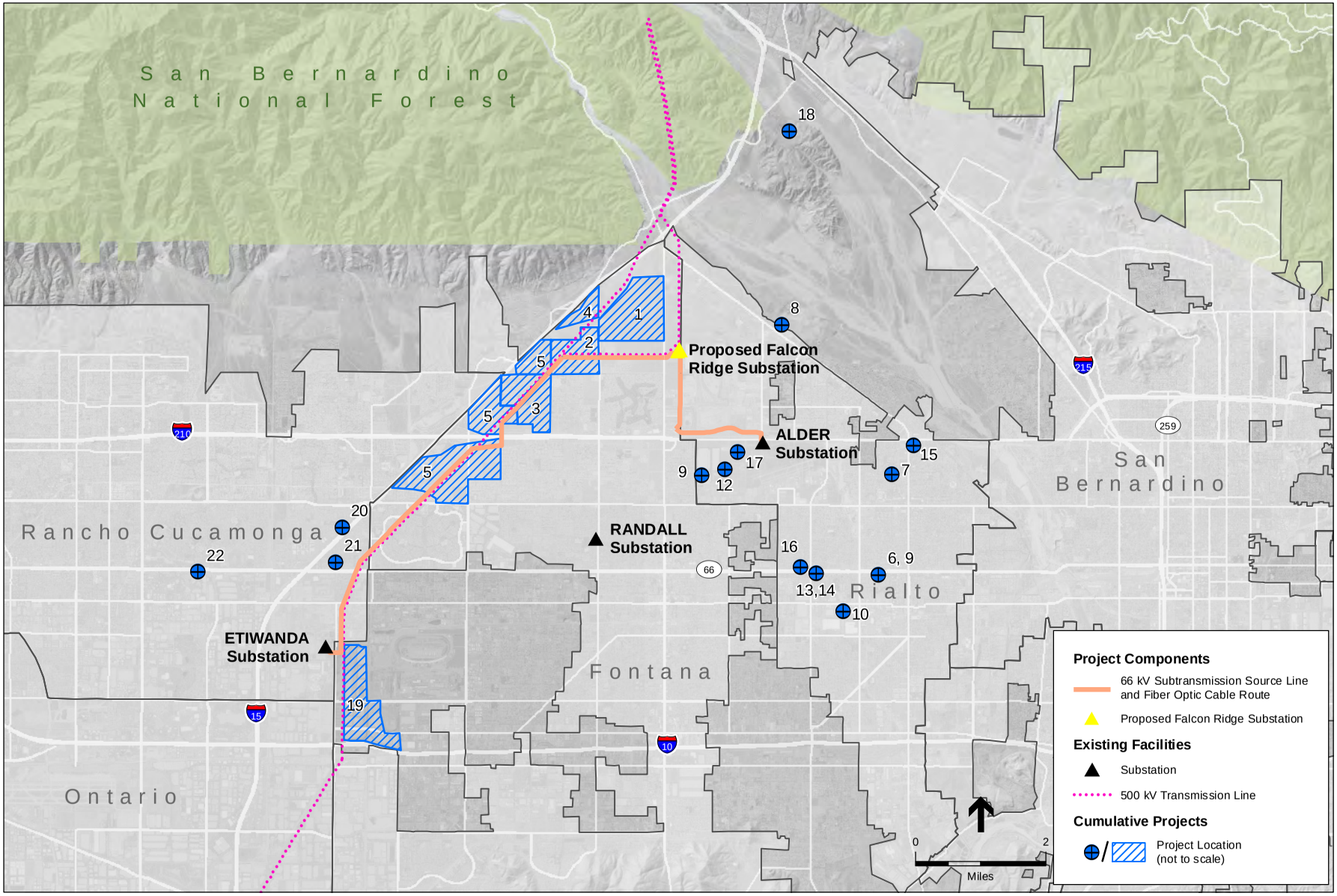
As defined in CEQA Guidelines §15355, the term "cumulative impacts" refers to two or more individual effects, which, when considered together, are considerable or that compound or increase other environmental impacts. "The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time." CEQA Guidelines §15355(b); see also, CEQA Guidelines §15130(a)(1).

Section 6.1 identifies past, present, and reasonably foreseeable future projects that have been considered as part of the cumulative scenario. Section 6.2 analyzes whether the Project's incremental effects, combined with the effects of other projects, would cause a significant cumulative impact. The Project's incremental contribution to any significant cumulative impact also is evaluated in Section 6.2 to determine whether it is cumulatively considerable. An incremental Project-specific impact would be cumulatively considerable if it is "significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (CEQA Guidelines § 15065(a)(3)).

6.1 Projects Considered in the Cumulative Analysis

Section 6.1 uses a blend of two approaches to analyze cumulative effects: the "list-of-projects" approach and the "summary of projections" approach (CEQA Guidelines §15130(b)).

The list-of-projects approach considers the incremental effects of a proposed project viewed in combination with the effects of past, present, and reasonably foreseeable probable future projects that could cause environmental impacts that are closely related to those of the project proposed. Factors considered in determining whether to include a project on the list include whether it would cause impacts of the same nature as the proposed project, its location, the timing of its impacts, and the type of project. SCE is not planning any other projects over 50 kV within 1 mile of any of the Project components (SCE, 2010a, p. 6-1). A list of projects, the impacts of which could interact with those of the Project, is provided in Table 6-1. The locations of these projects are shown in **Figure 6-1**.



SOURCE: SCE, 2011; City of Rialto, 2011; City of Fontana, 2011;
City of Rancho Cucamonga; San Bernardino County, 2011

Falcon Ridge Substation Project . 207584.09

Figure 6-1
Cumulative Projects

The summary of projections approach evaluates the impacts of a proposed project in the context of projections made in one or more local, regional, or statewide planning documents or environmental analysis that has been adopted or certified. The following adopted plans and analyses are considered in combination with the Project for assessing cumulative impacts. In most cases these plans have been prepared by local agencies to meet the requirements of state law, and comprise the preparing agencies' comprehensive, long-term visions for physical development or resources conservation within the region.

- San Bernardino County General Plan
- Fontana General Plan
- Rialto General Plan
- Rancho Cucamonga General Plan
- Planning documents of the Southern California Association of Governments (SCAG). SCAG is the metropolitan planning organization (MPO) of a six-county, approximately 38,000 square mile area in Southern California that includes Riverside County (SCAG, 2011). SCAG conducts regional planning for transportation, growth management, hazardous waste management, air quality, and greenhouse gas emission (GHG) reductions, among other things. Relevant plans and reports include:
  - The 2008 Regional Transportation Plan (RTP) (SCAG, 2008a)
  - Supplemental materials related to the 2008 RTP, including the associated project list (SCAG, 2008b), growth forecast report (2008c), highways and arterials report (2008d), goods movement report (2008e), aviation and airport ground access report (2008f), transportation safety report (2008g), environmental justice report (2008h), Amendment Nos. 1 (2008i), 2 (2009), 3(2010a), and 4 (2010b) to the 2008 RTP, and the updated comprehensive listing of projects modeled and included in Amendment No. 4 to the 2008 RTP (2010c).
  - The State of the Region 2007, Measuring Regional Progress (SCAG, 2007)
  - Southern California Compass Growth Vision Report (SCAG, 2004)
  - Regional Comprehensive Plan and Guide, Energy Chapter Update 2002 (SCAG, 2002)
- Planning documents of the Santa Ana Regional Water Quality Control Board, including the 1995 Water Quality Control Plan for the Santa Ana River Basin (Region 8), which was updated in February 2008 (SARWQCB, 2008).

TABLE 6-1
CUMULATIVE PROJECTS LIST FOR THE FALCON RIDGE SUBSTATION PROJECT

Map Key	Project Name	Location	Approximate Distance from Project Site	Description	Status/Schedule
1	Arboretum Specific Plan	Northern portion of the City of Fontana, approximately 0.5 mile north of Summit Avenue, west of Sierra Avenue, east of Citrus Avenue, and south of Duncan Canyon Road.	Adjacent	A master-planned community on 531.3 acres to contain the following: maximum of 3,526 residential units, a public arboretum, a public park, private parks, three elementary schools, and an activity center.	Approved on September 23, 2009. Construction has not begun.
2	Citrus Heights North Specific Plan	Northern portion of Fontana, bordered on the south by Summit Avenue, on the east by Citrus Avenue, and on the west by Lytle Creek Road.	Adjacent	Approximately 212 acres with a maximum of 1,154 residential dwelling units, a community sport center, an area for private recreation use, and a commercial site.	Approved August 14, 2004. Approximately 350 single family residential units have been built, and approximately 114 attached condominium units have been completed.
3	Summit at Rosena Specific Plan	Northern portion of the City of Fontana, southeast of Interstate 15 within the northwest quadrant of the interception of Summit Avenue and Sierra Avenue.	Adjacent	Approximately 179.8 acres to include 856 dwelling units, a mixed-use activity center featuring both attached dwellings and neighborhood retail and service uses, an elementary school, and open space areas providing both passive and active recreational uses.	Approved by the City Council on March 22, 2006. No development has occurred.
4	Ventana at Duncan Canyon Specific Plan	In the City of Fontana, bounded by the Interstate 15 freeway on the north and west, Citrus Avenue on the east, and the Southern California Edison power line transmission corridor on the south.	Adjacent	Ventana at Duncan Canyon Specific Plan will have a mixed-use community with a maximum of 842 residential units, retail commercial space, office / business park space, restaurant space, and hotel space.	Approved by City Council on April 10, 2007. No development has occurred.
5	West Gate Specific Plan	Northwest portion of the City of Fontana, adjacent to the juncture of Interstate 15 / Devore Freeway and Interstate 210. It is situated north of Baseline Avenue, south and west of Lytle Creek Road with the major portion west of San Sevaine Road and Highland Avenue.	Adjacent	The West Gate Specific Plan is proposed on approximately 964 acres with a maximum of 5,554 residential units, commercial retail, business park/public facilities, public parks, private parks, and two schools.	Currently being processed for a total revision of the permitted land uses. No development has occurred.
6	PPD 1919R	East side of Lilac Avenue south of Foothill Boulevard in the City of Rialto.	2.7 miles	Request to construct two 2,616 sf auto repair buildings	Awaiting submittal of revised plans for Development Review Committee.

TABLE 6-1 (Continued)
CUMULATIVE PROJECTS LIST FOR THE FALCON RIDGE SUBSTATION PROJECT

Map Key	Project Name	Location	Approximate Distance from Project Site	Description	Status/Schedule
7	PPD 2196	300 W. Jackson Street in the City of Rialto.	2.3 miles	Construction of one new four-plex and rehabilitation of nine existing four-plexes	Approved by Development Review Committee May 2011, awaiting submittal of building plans.
8	795R	3511 North Riverside Avenue in the City of Rialto. APNs: 0239-121-17, 0239-181-09, 0239-181-15	1.5 miles	Proposed 17,155 square foot expansion of existing manufacturing facility	Application filed 4/12/2010
9	1795 R1	1590 N. Tamarind Ave. in the City of Rialto.	0.7 mile	Proposed development of a 5,064 sf clearance outlet for Black & Decker	Application filed 10/6/2009
10	1871R1	165 S. Spruce Street in the City of Rialto.	3 miles	Proposed construction of a 22,680 sq ft building addition to an existing industrial warehouse for storage	Application filed 2/28/2011
11	1919R	East/south of Lilac Ave, approximately 150-feet south of Foothill Blvd in the City of Rialto.	2.7 miles	Proposed development of two 2,616 sq ft auto repair facilities.	Application filed 2/23/2011
12	2146	Northwest corner of Walnut Ave. and Alder Ave. in the City of Rialto. APNs: 0240-191-18, 0240-191-22, 0240-191-26, 0240-191-27, 0240-191-23, 0240-191-25, 0240-191-28, 0240-191-29	0.6 mile	Proposed development of one 105,287 sf warehouse and two 25,360 sf multi-tenant industrial park buildings.	Application filed 10/7/2009
13	2149	Southwest corner of Foothill and Cedar in the City of Rialto. APNs: 0128-061-31, and 0128-061-32	2.3 miles	Proposed development of a 56,000 sf shopping center.	Application filed 1/20/2010
14	2170	Southeast corner of Foothill Boulevard and Cedar Avenue in Rialto. APNs: 0128-061-31, 0128-061-32	2.3 miles	Proposed development of a 15,002 sf grocery store	Application filed 5/27/2010
15	2178	Northeast corner of Riverside Ave. and Easton St in Rialto. APNs: 0127-031-02, and 0127-031-04, 0127-031-07	2.3 miles	Proposed development of a 3,750 sf restaurant with a drive-thru.	Application filed 12/9/2010

TABLE 6-1 (Continued)
CUMULATIVE PROJECTS LIST FOR THE FALCON RIDGE SUBSTATION PROJECT

Map Key	Project Name	Location	Approximate Distance from Project Site	Description	Status/Schedule
16	2190	1424 W. Foothill Blvd in Rialto. APN: 0128-011-42	2.2 miles	Proposed construction of a 75 foot mono-palm wireless telecommunications facility	Application filed 4/26/2011
17	2192	South of Easton, east of Alder, west of Laurel in Rialto.	0.2 mile	Corporation/Kimley-Horn & Associates/Golden Bear. Proposed construction of a 499,000 sf warehouse/ office building for automated food distribution.	Application filed 4/26/2011
18	Glen Helen Specific Plan	In the Devore area, located south of the intersection of I-15 and I-215 in unincorporated San Bernardino County.	3 miles	To create a comprehensive guide for quality land development with a viable program for building and financing the infrastructure necessary to support it.	Notice of Preparation received 12/12/2005 Specific Plan and EIR Resources Management Plan created March 2003, Revised July 25, 2005. Appears as GH on land use zoning district maps to identify specific plan area adopted by Board (SB Development Code created 2007, amended 2011).
19	Kaiser Commerce Center Specific Plan	Southwest portion of San Bernardino County, near the interchange of I-10) and I-15. Northeast of the San Bernardino Freeway/Etiwanda Ave. interchange in unincorporated San Bernardino County.	1.5 miles	Implementation of the Kaiser Commerce Center Specific Plan will complete the process of converting the former steel mill from a derelict site to a productive status.	Negative Declaration received 5/6/2004 (end of review 6/4/2004). Appears as KC on land use zoning district maps to identify specific plan area adopted by Board (SB Development Code created 2007, amended 2011).
20	DRC2004-0716 (PRJ 2004-00181)	7581 Etiwanda Avenue, Rancho Cucamonga	0.6 mile	Mixed Use Development – 5 acres.	Approved 4/2005, expires 4/2014
21	DRC2002-00340 (PRJ2002-00109)	7938 Etiwanda Avenue, Rancho Cucamonga	0.3 mile	Multi-family residential development on 6 acres	Approved 7/2002, building permit issued
22	DRC2006-00438 (PRJ2006-00080)	SEC Foothill & Elm, Rancho Cucamonga	2.3 miles	Office Professional 56,000 sf	Approved 2/2008, expires 3/2013

SOURCES: City of Fontana, 2010; Fahie, 2011; Molinos, 2010a and 2010b; Granger, 2010; City of Rialto Planning Division, 2011a and 2011b; City of Rancho Cucamonga Planning Division, 2011; San Bernardino County, 2003 and 2005; Casey, 2011

6.2 Cumulative Effects Analysis

6.2.1 Aesthetics

Impacts resulting from construction, operation, and maintenance of the Project could result in a cumulative effect on visual resources with other past, present, or reasonably foreseeable future actions. The geographic scope of the cumulative effects analysis for visual resources consists of city-designated scenic corridors, major roadways, recreational areas, and other locations from which a viewer could see the Project along with views of other projects in the cumulative scenario. This geographic scope of cumulative impacts analysis was established based on the natural boundaries of the affected resource, i.e., potential shared viewsheds, and not on jurisdictional boundaries. Potential cumulative effects on visual resources could occur during the construction period (e.g., from cumulative construction disturbances), or during Project operation or maintenance (e.g., cumulative visual disturbances within the landscape, glint and glare).

The visual impacts of the Project alone are analyzed in Section 4.1.4, *Impacts and Mitigation Measures*. The analysis concluded that impacts on scenic vistas from construction, operations and maintenance would range from less than significant with mitigation (Baseline, Beech, Cherry, Citrus, Etiwanda, Sierra, and Wilson avenues; Foothill Boulevard; I-210; and SR 15), to significant and unavoidable (Highland Boulevard). Impacts pertaining to the visual character and quality of the site and its surroundings would be less than significant, and impacts from light and glare would be less than significant with mitigation. There would be no impact pertaining to state-designated scenic highways.

Past, present, and reasonably foreseeable future actions making up the cumulative scenario are identified above in Section 6.1, *Projects Considered in the Cumulative Analysis*. Cumulative projects in Table 6.1 that are both within the visual study area of the Project and would result in substantial visual change may potentially produce cumulative visual impacts. These projects include:

- ***Project 1*:** Arboretum Specific Plan, a master-planned community on 531.3 acres.
- ***Project 2*:** Citrus Heights North Specific Plan, approximately 212 acres with residential, recreational, and commercial components.
- ***Project 3*:** Summit at Rosena Specific Plan, approximately 179.8 acres with residential, recreational, and school components.
- ***Project 4*:** Ventana at Duncan Canyon Specific Plan, mixed use community with residential recreational and commercial components.
- ***Project 5*:** West Gate Specific Plan, 964 acres with residential recreational, school and commercial components.
- ***Project 19*:** Kaiser Commerce Center Specific Plan, converting a former steel mill from a derelict site to a productive status.

- ***Project 20*:** Mixed Use Development, 5 acres.
- ***Project 21*:** Multi-family residential development on 6 acres.

Other potential cumulative projects are outside the viewshed of the Project. With the exception of Project 19, all of the above projects are likely to produce substantial visual changes, especially where development is proposed on formerly agricultural land.

Should full build-out of the proposed master-planned community (Project 1) and specific plan communities (Projects 2, 3, 4, 5) occur, there could be a cumulative impact on views experienced by motorists on scenic corridors in the study area, including I-15, Cherry Avenue, Beech Avenue, Citrus Avenue, Sierra Avenue, Highland Boulevard, and I-210. The new communities would develop a large portion of the view corridor available from these roadways and would result in a close-range, high degree of visual change in land that is currently vacant. The impact analysis concluded that the impact of the Project on scenic vistas from these corridors was less than significant with mitigation, with the exception of Highland Boulevard, from which impacts would be significant and unavoidable. Given the moderate to moderate-high visual sensitivity of the roadways in question, and the close proximity of Project components and these cumulative projects, the Project's incremental contribution would be cumulatively considerable to scenic vistas from these roadways because the cumulative visual change would be moderate to high. No mitigation is feasible that would reduce impacts from these locations to less than significant, as screening techniques to reduce impacts from Project components would be wholly ineffective in mitigating visual impacts from other cumulative projects given the size, scale and character of the cumulative projects (i.e. large scale residential and commercial developments.

Project impacts to Etiwanda Avenue and SR 15 were found to be less than significant. Cumulative Projects 20 and 21 are also located within the Etiwanda Avenue and SR 15 viewsheds, and Project 19 is within the Etiwanda viewshed. However, these projects are located in a more urban, less visually sensitive setting. The Project's incremental contribution to visual resources would be minor, and not cumulatively considerable. Because the incremental, Project-specific contribution to the potential significant cumulative impact to Etiwanda Avenue and SR 15 would not be cumulatively considerable, no mitigation is required (CEQA Guidelines §15130(a)(3)).

6.2.2 Agriculture and Forestry Resources

Because the Project would result in no impacts to agriculture and forestry resources, it would not contribute to a cumulative impact in combination with any of the projects listed in Table 6-1.

6.2.3 Air Quality

The geographic scope considered for potential cumulative impacts to air quality is the SCAB. If a project would result in an increase in a criteria pollutant of more than the respective daily mass thresholds, then it also would be considered to contribute considerably to a significant cumulative impact. In developing thresholds of significance for air pollutants, SCAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable.

Therefore, if a project would exceed the identified significance thresholds, its emissions would be cumulatively considerable, and if a project would not exceed the significance thresholds, its emissions would not be cumulatively considerable.

Long-term Project operation and maintenance would not cause emissions that would exceed the SCAQMD significance thresholds (see Impact 4.3-2 discussion in Section 4.3, *Air Quality*). Therefore, long-term emissions of the Project would not be cumulatively considerable.

Project-related construction activities, as described in the Impact 4.3-1 discussion in Section 4.3, *Air Quality*, would result in short-term emissions of NO_x and PM10 that would exceed the SCAQMD thresholds. Therefore, short-term construction-related NO_x and PM10 emissions would be cumulatively considerable and associated cumulative impacts would be significant when combined with the emissions-related impacts of the cumulative projects described in Section 6.1, *Projects Considered in the Cumulative Analysis*, to the extent such projects would be constructed concurrently with the Project. Mitigation Measures 4.3-1a and 4.3-1b, described in Section 4.3, *Air Quality*, would reduce emissions of criteria pollutants (specifically NO_x and PM10) during construction activities, but the short-term impacts would remain significant and unavoidable, and therefore would be considered cumulatively considerable. The implementation of Mitigation Measures 4.3-1a and 4.3-1b would reduce emissions of criteria pollutants; however, the Project's construction-related NO_x and PM10 emissions would not be mitigated to less-than-significant levels. Therefore, when considered with the NO_x and PM10 emissions of other projects, the Project-specific impact would be cumulatively considerable and the cumulative impact would be significant and unavoidable (Class I). All other criteria pollutant emissions would not be cumulatively considerable relative to SCAQMD's established thresholds and would result in less-than-significant cumulative impacts.

With regard to impacts on sensitive receptors, the Etiwanda Subtransmission Source Line Route would be constructed within the boundaries of three specific plan areas. Although it is possible that construction activities associated with build-out of the specific plans could occur at the same time as construction of the Etiwanda Subtransmission Source Line Route, it is unlikely that specific plan construction activities would occur within the Project ROW/easement or at specific plan locations that already have been developed; therefore, specific plan construction activities would not occur at the same location as those that would be associated with the Project at existing sensitive receptor locations. Therefore, the local concentrations of Project-related criteria pollutants (see Impact 4.3-4 in Section 4.3, *Air Quality*) would not be cumulatively considerable and the cumulative impact would be less than significant (Class III). With regard to TACs, the total DPM emissions from on-site equipment that would be required to construct the Project would be limited to the 12-month construction period (see Impact 4.3-5 discussion in Section 4.3, *Air Quality*). Because these emissions would occur over 12 months compared to the 70-year exposure used in health risk assessments, the health risk from the short-term DPM emissions would not be cumulatively considerable and the associated cumulative impact would be less than significant.

Construction of the Project would cause a less-than-significant impact related to the generation of odors from diesel equipment emissions because construction activities would be intermittent and spatially dispersed, and associated odors would dissipate quickly from the source. Projects in the cumulative scenario are not expected to cause diesel-related odors that would intermingle with those of the Project and, thereby, cause a significant cumulative effect. The incremental odor-related impact of the Project would not be cumulatively considerable and the associated cumulative impact would be less than significant.

6.2.4 Biological Resources

The cumulative effects study area for biological resources examined a roughly 3-mile radius around the Project area (Figure 6-1; Table 6-1) to respond to the types of impacts that could result from the Project (mainly localized temporary and permanent land disturbance) and the local distribution of terrestrial, special-status plant and wildlife species (e.g., Delhi sands flower-loving fly and San Bernardino kangaroo rat). With the exception of potential raptor electrocution and collision hazards which could occur during operation, most Project impacts would occur during construction; either as a temporary disturbance associated with construction such as noise, lighting, and human activity, or as a permanent disturbance associated with the loss of undeveloped habitat to support permanent facilities such as access roads, power poles and the Falcon Ridge Substation.

Under the Project, a total of 8.15 acres of Riversidean sage scrub vegetation, which is designated by CDFG as a Sensitive Natural Community, would be permanently impacted. This loss of habitat under the Project would occur in areas that are mostly separate and distinct from large open space areas in the regional area, though a 3.55-acre portion of the scrub impact within the proposed Etiwanda Subtransmission Source Line and Fiber-Optic Cable Route is within designated critical habitat for the San Bernardino kangaroo rat (Figure 4.4-1). The potential use of the subtransmission source line ROW as a linkage corridor to other nearby natural lands would remain intact during the operation and maintenance phase of the Project due to the large amount open space within the utility corridor and in the surrounding region. Given the demonstrated absence of the San Bernardino kangaroo rat and large amount of surrounding habitat for this species within occupied designated critical habitat north of the cumulative impact study area, the Project impact to Riversidean sage scrub habitat and San Bernardino kangaroo rat is considered less than cumulatively considerable.

Construction activities could result in temporary impacts on nesting birds and special-status wildlife species at the proposed Falcon Ridge Substation, at the existing Etiwanda Substation, and within the proposed subtransmission source line and fiber-optic cable routes. Construction near the Etiwanda Creek and within existing undeveloped utility easements also could cause temporary animal avoidance of work sites. Following the implementation of Applicant Proposed Measures (APM-BIO-01), the Project would have no impact on nesting raptors or other protected birds. Consequently, the Project would not cause or contribute to significant cumulative effects with respect to these resources. Because many sensitive local wildlife species are nocturnal, maintenance activities are not expected to result in temporary or localized wildlife disturbances;

consequently, the Project would not cause or contribute to a significant cumulative effect related to nocturnal wildlife species.

The Project could electrocute raptors during operation of subtransmission source lines; however, compliance with Mitigation Measure 4.4-4, described in Section 4.4, *Biological Resources,* would substantially reduce this likelihood through the design and construction of "avian-safe" structures. None of the past, present, or reasonably foreseeable future projects identified in Table 6-1 include power line projects, and none would present raptor collision or electrocution hazards. Therefore, implementation of the Project would not cause or contribute to any cumulative effect.

The Project and other cumulative development projects in the analysis would impact special-status plants resulting from land conversion and construction activities. The Project would impact two non-listed special-status plants that occur in the study area: Plummer's mariposa lily and Parry's spineflower. Surveys performed for the Project, including areas within the cumulative study area, identified a total of 15,804 individuals of Parry's spineflower, of which up to 47 individuals would be impacted by the Project. A total of 182 individuals of Plummer's mariposa lily were observed during surveys, of which up to 64 individuals would be impacted by the Project. Based on BonTerra's survey (2010), these species appear to have widespread distribution in the cumulative impacts study area. The Project is expected to have minor impacts on these species and their habitat with impacts reduced through the implementation of habitat restoration and replacement of disturbed sites with sage scrub habitat (APM-BIO-02).

As required by CDFG and CEQA, focused botanical studies were presumably performed for past and present projects within the cumulative effects study area for biological resources. The California Natural Diversity Database (CNDDB) does not identify sensitive or special-status botanical resources in the footprint for developed project sites that are identified in Table 6-1; therefore, it is reasonable to conclude that impacts to special-status plants were minimal at these locations. The CNDDB does not report any sensitive botanical resources at the locations for future projects identified in Table 6, and focused botanical surveys will be required at these sites prior to their planned uses. Based on the best available scientific data, past, present, or reasonably foreseeable future projects would not impact known populations or individuals of special-status plants. Therefore, implementation of the Project would not cause or contribute to any cumulative effect. Furthermore, habitat for special-species plants within the subtransmission source line ROWs will remain available for these species following Project implementation. Thus, impacts of the Project to special-status plants do not constitute a cumulatively considerable impact.

The Project would temporarily impact approximately 0.004 acre of waters of the U.S. under the jurisdiction of the Corps and about 0.006 acre of waters of the state under the jurisdiction of the RWQCB and CDFG. The two affected drainages are considered to have marginal habitat value and do not support any special-status plants or wildlife species. Temporary habitat disturbance to jurisdictional waters would not significantly affect the functions and values of these features, and Project impacts would be offset through site restoration. No wetland impacts were identified during the analysis of other projects in the cumulative study area. Therefore, impacts of the Project to jurisdictional wetlands do not constitute a cumulatively considerable impact.

6.2.5 Cultural Resources

The geographic scope for cumulative impacts to historic and archeological resources includes a 1-mile radius from the Project site. This geographic scope of analysis is appropriate because the archaeological and historical resources within this radius are expected to be similar to those in the Project site because of their proximity; similar environments, landforms, and hydrology would result in similar land-use—and thus, site types. The geographic scope for cumulative impacts to paleontological resources would be all areas in the Fontana Plain underlain by the same geologic units, which would yield fossils representative of a similar time period and geographic range. This would include all areas underlain by early Holocene or Pleistocene alluvium in the region, including all projects in the cumulative scenario that involve ground excavations on the valley floor, irrespective of their timing. The temporal scope of impacts would include Project construction.

The Project vicinity contains a significant archaeological and historical record that, in many cases, has not been well documented or recorded. Thus, there is the potential for ongoing and future development projects in the vicinity to disturb landscapes that may contain known or unknown cultural resources. Environmental analysis is either underway or completed for many of these projects.

The potential construction impacts of the Project are mitigated such that significant historical resources are avoided, and that excavation would cease if a cultural resource or human remains are uncovered during Project construction (Mitigation Measures 4.5-1 and 4.5-2, described in Section 4.5, *Cultural Resources*). There would be no impact from maintenance or operation of the Project. Because mitigation is designed to avoid a change in the significance of any known or potential cultural resources, there would be no residual impact after mitigation. Therefore, implementation of the Project would not cause or contribute to any cumulative effect.

Excavation activities associated with the Project in conjunction with other projects in the area could contribute to the progressive loss of fossil remains, as-yet unrecorded fossil sites, associated geological and geographic data, and fossil bearing strata. However, with incorporation of APMs PA-1 and PA-2, the Project would either avoid impacts to fossil resources altogether, or result in the recovery of scientific data should previously unrecorded fossils of significance be uncovered. Fossils are valued as a resource for the potential scientific data they provide and hence with mitigation, the Project would either have no impact or a positive impact on paleontological resources through the recovery of scientific knowledge. Therefore, implementation of the Project would not cause or contribute to any adverse cumulative effect related to fossils.

6.2.6 Energy Conservation

As analyzed in Section 4.6, *Energy Conservation*, the Project would have no impact on local and regional energy supplies and capacity, peak and base period demands for electricity and other forms of energy, or energy resources. Therefore, the Project would not cause or contribute to any cumulative impact related to these criteria. The geographic scope of potential cumulative effects with respect to energy conservation includes the electric grid to which Project power would

contribute and areas from which transportation fuels would be provided (for this EIR, publicly available fuel sources in the vicinity of the Project site). The Project would cause less-than-significant incremental impacts relating to the consumption of energy, use of transportation energy, and use of transportation alternatives. The operational electricity requirements would be negligible. The Project's less-than-significant incremental impact relating to the consumption of energy would not be cumulatively considerable.

The Project's less-than-significant incremental impact relating to the use of transportation energy and efficient use of transportation alternatives is not expected to combine with the incremental impacts of other projects to cause an adverse cumulative impact on energy conservation. Project-related transportation impacts would be limited to the construction phase, which could overlap with the transportation needs (including fuel needs) of previously approved past projects, as well as other present or future projects that occur during the Project's construction activities. Regardless, there is no significant cumulative condition to which the Project could contribute, and given the Project's less-than-significant incremental impact, the Project itself would not cause a significant cumulative impact. Therefore, the Project's less-than-significant incremental usage of transportation energy would not be cumulatively considerable.

Cumulative projects in the region, including those listed in Table 6-1, could require increased peak and base energy demands and, therefore, could cause or contribute to a significant adverse cumulative conditions. The objectives of the Project are to serve existing and long-term projected electrical demand requirements and to improve the reliability and system operational flexibility within in the Electrical Needs Area beginning in mid-2014. Adverse Project-related impacts to electricity demand would be negligible, would not significantly impact peak or base power demands during Project construction, operation, or maintenance, and would be offset by Project-related benefits in this regard. Accordingly, the Project's less-than-significant incremental contribution to cumulative peak and base demands would not be cumulatively considerable.

The Project, in combination with the projects listed in Table 6-1, would require the use of nonrenewable, fossil fuel-based energy resources during construction. If the cumulative projects and the proposed Project were to use energy resources in a wasteful manner, it would conflict with state and local energy standards. Project construction would be short-term and all aspects of Project construction, operation, and maintenance would be consistent with the goals and strategies of local and state energy standards. Therefore, the Project would not make a cumulatively considerable contribution to cumulative conditions related to conflicts with energy conservation standards.

6.2.7 Geology and Soils

The Peninsular Ranges Geomorphic Province lies between two seismically active regions with a wide range of geologic and soil conditions that can vary markedly over short distances. Therefore, the geographic extent considered for potential cumulative impacts to people and structures related to geologic and seismic hazards is more localized or site-specific. As analyzed in Section 4.7, *Geology and Soils*, the Project would experience less-than-significant impacts related to strong seismic groundshaking, seismically induced ground failure, erosion or loss of

topsoil, soil subsidence, collapsible soils, and expansive soils. All of these issues relate to local, site-specific soil conditions, ground response to earthquakes, and the potential for adverse soil conditions to damage the Project's structural components. There is no element of the Project that would increase geologic or seismic risks for adjacent properties. Therefore, the geology and soils impacts of the Project are not cumulative in nature. The only projects in the cumulative scenario that overlap geographically with the Project are the Citrus Heights North Specific Plan, the Summit at Rosena Specific Plan, and the West Gate Specific Plan. These projects overlap with portions of the Etiwanda Subtransmission Line, which would be located within dedicated ROWs. Any future development associated with the specific plans would have to be planned to avoid conflicts with the SCE ROW, and thus impacts with respect to geology and soils would not compound. Because few of the projects in the cumulative scenario geographically overlap with the Project and because the impacts with respect to geology and soils are not cumulative in nature, the Project would not contribute to any cumulative impact related to geology or soils.

6.2.8 Greenhouse Gas Emissions

GHG emissions are inherently a cumulative concern, in that the significance of GHG emissions is determined based on whether such emissions would have a cumulatively considerable impact on global climate change. Although the geographic scope of cumulative impacts related to GHG emissions is global, this analysis focuses on impacts associated with potential conflicts with California's reduction goals set forth in AB 32 and this Project's direct and/or indirect generation of GHG emissions. The Project would result in less-than-significant emissions of GHG and would not conflict with the state's GHG reduction goals. Therefore, the Project-specific incremental impact on GHG emissions would not be cumulatively considerable and the cumulative impact would be less than significant.

6.2.9 Hazards and Hazardous Materials

Depending on the pathway of exposure, the geographic scope for cumulative effects relating to hazards and hazardous materials would be the air basin, watershed boundary, groundwater basin, or extent of affected soils. Materials delivery routes also would be included in the event of a traffic accident-related spill. For this Project, most hazards and hazardous materials-related effects would occur during the construction phase, although some effects also could occur during operation and maintenance activities.

Construction, operation, and maintenance of the Project would result in less-than-significant impacts related to the routine use of hazardous materials, including within 0.25 miles of existing and proposed schools, and the potential for accidents to release hazardous materials into the environment. The Project impact on aviation safety would also be less than significant. With mitigation incorporated, Project construction would have a less-than-significant impact on emergency access, in particular along the subtransmission source line routes. Mitigation measures would reduce Project impacts related to wildland fires.

There is an existing significant adverse cumulative condition relating to hazardous materials in the groundwater in vicinity of the Project; however, the Project would be extremely unlikely to have

any effect on groundwater due to the depth of water and Project activities. Alone, the incremental impacts of the Project would not cause a significant adverse cumulative impact. The cumulative projects in the Project area listed in Table 6-, are primarily residential developments that are either under construction or not yet approved. Impacts caused by the cumulative projects, combined with the Project, would not result in a significant cumulative impact even if all of the projects were to be constructed simultaneously because the Project and all cumulative projects would be required to adhere to the robust body of regulations that govern hazardous materials storage and handling, water quality best management practices, construction work, and fire prevention and management. Together, these measures would ensure that impacts related to exposure to hazardous materials would be minimized and/or avoided. Therefore, the Project's incremental contribution to any hazards and hazardous material-related cumulative impact would not be cumulatively considerable.

6.2.10 Hydrology and Water Quality

The geographic context for the cumulative impacts associated with surface water hydrology and water quality is the Chino Watershed and the Middle Santa Ana River Watershed; with respect to groundwater, it would be the Chino and Rialto-Colton Subbasins of the Upper Santa Ana River Groundwater Basin. Projects in the cumulative scenario include large specific plans immediately adjacent to the Project and other significant development and redevelopment projects in the greater vicinity—all of which would affect lands that eventually drain to the Santa Ana River and/or the underlying groundwater basin. The specific plans surrounding the Project, including the Arboretum Specific Plan, the Citrus Heights North Specific Plan, the Summit at Rosena Specific Plan, the Ventana at Duncan Canyon Specific Plan, and the West Gate Specific Plan, at a minimum would cover an area of about 1,800 acres at full build-out. More distant projects range in intensity from small additions to existing properties to mixed use and residential developments up to 11 acres in size. In the absence of regulatory controls, the primary cumulative effect of these projects would be to significantly alter the natural hydrology of the valley region through increases in the area covered by impervious surfaces and to increase the potential for the release on non-point source pollutants (i.e., motor fuels, trash, and sediment). The typical effect of substantial increases in impervious surfaces is that peak flows within the watershed's drainages are greater in magnitude, shorter in duration, and more responsive to storm events, since a greater portion of precipitation is carried by surface runoff rather than percolated into the soil. These effects are undesirable with respect to flood hazards, water quality, and habitat quality.

However, this Project, along with other projects occurring in the area, would be required to comply with applicable federal, state, and local water quality regulations. The Project, along with other projects over 1 acre in size (which includes most of the projects in the cumulative scenario), would be required to obtain coverage under the NPDES Construction General Permit, which requires project proponents to identify and implement stormwater BMPs that effectively control erosion and sedimentation and other construction-related pollutants. Further, nearly all projects identified in the cumulative scenario would meet the definition of "new development and redevelopment projects" under the San Bernardino County MS4 Permit. Such projects are required to implement site design, source control and, in some cases, treatment control BMPs necessary to control the volume, rate, and water quality of stormwater runoff from the project

during long-term operations. The various NPDES permits required are aimed at maintaining the beneficial uses of the water bodies in the SARWQCB Basin Plan, and meeting water quality objectives associated with specific pollutants of concern. Because adverse water quality and major hydrologic alterations are linked to the large-scale, cumulative effects of urban developments and industrial and agricultural land uses, the provisions within the various NPDES permits, by their nature, seek to address cumulative conditions.

During construction, operation, and maintenance, stormwater runoff from the Project site would be controlled by the requirements of the NPDES permit. Other new development in the area also would be required to control construction and operational stormwater runoff by implementing state and local requirements regarding hydrology and water quality. These would ensure that the Project impacts to hydrologic resources and water quality would be less than cumulatively considerable.

6.2.11 Land Use and Planning

As analyzed in Section 4.11.4, *Impact Analysis*, the Project would not conflict with any applicable land use plan, policy, or regulation, or with any approved habitat conservation plan or natural community conservation plan. Therefore, the Project would not cause or contribute to any cumulative impact related to these criteria. The Project would have a less-than-significant impact related to physically dividing an established community. The geographic context for the cumulative impacts associated with land use and planning issues includes San Bernardino County and the cities of Fontana, Rialto, and Rancho Cucamonga. This analysis assumes full build-out of the Project in combination with build-out of the projects listed in Table 6-1. Because construction-related impacts would be most likely to occur before any construction or occupancy of the potentially affected cumulative project (the West Gate Specific Plan), the temporal scope would include the operation and maintenance of the Project. Although the Project would not physically divide an established community, it would traverse the area of Fontana covered by the West Gate Specific Plan, which proposes to construct over 5,500 residential units, as well as commercial retail, business park/public facilities, public parks, private parks, and schools. If both the Project and the West Gate Specific Plan are fully built-out, the Project would traverse this planned community. However, because the Project would follow existing roads (Highland Avenue and San Sevaine Road) and would not restrict access or constitute a physical barrier to this planned community, it would not divide the community. The Project would not combine with impacts of other cumulative projects to cause or contribute to a cumulative impact related to land use and planning.

6.2.12 Mineral Resources

The Project would cause a less-than-significant impact related to the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. The geographic scope of potential cumulative impacts related to this issue includes all areas in the region that would overlap geographically with an aggregate resource sector mapped by CGS. Cumulative impacts could occur during construction (i.e., if excavated material is considered a valuable mineral resource), or during operation and maintenance of the Project (whereby the

Project's presence makes the site unavailable for future mineral resource extraction). The projects in the cumulative scenario with the greatest impact on the availability of mineral resources would be large urban development projects that occur in areas that might otherwise be available for mineral resource extraction. The numerous specific plans surrounding the Project, which cover an area of at least 1,800 acres, would all occur on the same alluvial fan where the presence of construction-grade aggregate is likely, and where CGS has established mineral resource sectors encouraging the preservation of mineral resources. These projects, as described in Table 6-1, include the Arboretum Specific Plan, the Citrus Heights North Specific Plan, the Summit at Rosena Specific Plan, the Ventana at Duncan Canyon Specific Plan, and the West Gate Specific Plan. These projects would result in a substantial loss in the land area identified as aggregate resource sectors (primarily from Sector J) and would preclude future use of the land for mineral resource production. Therefore, the cumulative scenario would result in a significant impact on the availability of mineral resources of value to the region.

The Falcon Ridge Substation would result in the loss of approximately 3 acres, or less than 1 percent of Resource Sector J as a whole. While the Project's incremental contribution to this significant impact would small, any further loss of land identified as a mineral resource sector would be considered cumulatively considerable. Consequently, the Project's incremental contribution to mineral resource impacts would be cumulatively considerable. There is no feasible mitigation that would reduce or avoid the cumulative impact, and therefore, the cumulative impact is significant and unavoidable.

6.2.13 Noise

Project construction would result in a short-term significant unavoidable impact from construction activities within the City of Rancho Cucamonga even with implementation of Mitigation Measure 4.13-1; however, potential Project nighttime construction impacts would be reduced to less than significant with implementation of Mitigation Measure 4.13-5. Project vibration-related impacts would be less than significant and long-term operation- and maintenance-related impacts associated with the Project would result in permanent increases to existing noise levels that would be considered to be less than significant. This incremental noise-related impact could combine with noise generated by projects in the cumulative scenario to cause or contribute to a significant cumulative effect.

Noise levels tend to diminish quickly with distance from a source; therefore, the geographic scope for cumulative impacts associated with noise would be limited to projects located within approximately 0.5 mile of the Project. As discussed in Section 6.1, *Projects Considered in the Cumulative Analysis*, there are several projects located within 0.5 mile of the Project that are reasonably foreseeable and could be constructed simultaneously with the Project. These projects include three specific plan areas, which would be crossed by the Etiwanda Subtransmission Source Line route. Although it is possible that construction activities associated with build-out of the specific plans could occur at the same time as construction of the Etiwanda Subtransmission Source Line route, it is unlikely that specific plan construction activities would occur within the Project ROW/easement or at specific plan locations that have already been developed; therefore,

specific plan construction activities would not occur at the same location as those that would be associated with the Project at existing sensitive receptor locations. Therefore, it is unlikely that Project-related construction noise levels and other project construction noise levels would result in a combined noise level that would increase the level of impact. Therefore, the Project would not be cumulatively considerable and the cumulative impact would be less than significant (Class III).

During operation of the Project, the main sources of noise would be corona discharge and substation equipment. During maintenance, the main noise sources would be worker vehicles. However, these sources would not substantially increase ambient noise levels at the nearest sensitive receptor locations, and therefore would not cause a cumulatively considerable contribution to noise generated by other projects in the affected area.

6.2.14 Population and Housing

As analyzed in Section 4.14.4, *Impact Analysis*, the Project would have no impact with respect to displacing people or existing housing, necessitating the construction of replacement housing elsewhere. Therefore, the Project would not cause or contribute to any cumulative impact related to constructing replacement housing.

The Project would have a less-than-significant effect on direct and/or indirect population growth because it would only provide temporary employment opportunities during construction, and during operation would serve existing and planned electrical demand based on projected growth in the Electrical Needs Area. The geographic context for the cumulative impacts associated with population and housing issues are the cities of Fontana, Rialto, and Rancho Cucamonga and surrounding unincorporated areas of San Bernardino County. The temporal scope of impacts would include construction, operation and maintenance of the Project, in combination with build-out of the past, present, and reasonably foreseeable future projects described in Table 6-1.

As shown in Table 4.14-1, unincorporated San Bernardino County and the cities of Fontana, Rialto, and Rancho Cucamonga are expected to undergo moderate growth over the next two decades (CA DOF, 2011; SCAG, 2011). The projects listed in Table 6-1 include subdivisions and applications for single- and multi-family residences and construction of numerous commercial and industrial uses. These projects would increase the amount of housing available in Riverside County, and could accommodate increases in population. However, state law requires each city and county to adopt a general plan to govern its physical development. The role of the general plan is to act as a comprehensive plan for development, the foundation upon which all land use decisions are made and with which all land use decisions must be consistent. Consequently, build-out of the projects listed in Table 6-1 would not induce substantial direct or indirect population growth in the area beyond what is planned. Furthermore, the Project is designed to increase reliability and accommodate existing and planned electrical load growth, rather than to induce growth. Therefore, the incremental impact of the Project related to population and housing whether direct (employment-related) or indirect (by creating new opportunities for local industry or commerce) would not be cumulatively considerable.

6.2.15 Public Services

Because the Project would result in no impacts to public services, it would not cause or contribute to a cumulative impact in combination with any of the projects listed in Table 6-1.

6.2.16 Recreation

As analyzed in Section 4.16.4, *Impact Analysis*, the Project would cause no impact related to the construction or expansion of recreational facilities. Therefore, the Project would not cause or contribute to any cumulative impact related to such resources. Further, any Project-related increase in the use of existing neighborhood and regional recreation facilities would be limited to the construction phase. Accordingly, the timeframe within which the Project could contribute to any adverse cumulative condition would be limited to the construction period. The geographic scope of potential cumulative impacts to recreation includes the regional park and recreation-related facilities and values in the Project area, which are located in unincorporated San Bernardino County and the cities of Fontana, Rialto, and Rancho Cucamonga.

The past, present, and reasonably foreseeable future projects described in Table 6-1 include several residential development projects in the cities of Fontana, Rialto, and Rancho Cucamonga that could increase the demand on existing and/or result in the need for new recreational facilities within the project vicinity by increasing the population in the Project area. These projects include the Arboretum Specific Plan, Citrus Heights North Specific Plan, Summit at Rosena Specific Plan, Ventana at Duncan Canyon Specific Plan, and the West Gate Specific Plan, which cumulatively propose nearly 12,000 new residential units, and several other applications for smaller multi- and single-family residences. The Project's incremental, construction-related impact with respect to the occurrence or acceleration of deterioration at existing neighborhood and regional recreation facilities would be less than significant with mitigation and would not contribute to a cumulative impact because no projects listed in Table 6-1 would result in construction activities that would affect Fontana Park, Rosena Park East, or Rosena Park West. Therefore, the Project's incremental impact to recreation would not be cumulatively considerable.

6.2.17 Transportation and Traffic

Impact CUMULATIVE-TRANS: The Project's contribution to traffic increases and safety hazards on local and regional roads could be cumulatively considerable. ***Less than Significant with Mitigation*** **(Class II)**

The geographic scope of cumulative traffic impacts includes the local and regional roadways and highways that would be used for Project construction activities and for access by construction workers and vehicles. It is expected that construction of the Project would occur within a 12-month period. As indicated in Figure 6-1 and presented in Table 6-1, construction of the Project could occur within the same vicinity and timeframe as other planned and proposed projects. If such an overlap occurred, construction activities at the Project's various work sites would contribute incrementally to cumulative traffic increases from a number of other projects in the area that could be under construction at the same time. The combination of construction

activities from these multiple projects could result in significant cumulative impacts related to travel lane or road closures adjacent to the work sites, and construction traffic on local and regional roadways described in Section 4.17, *Transportation and Traffic*.

Overlapping and concurrent construction activities would result in increased traffic volumes along local roadways due to the presence of construction vehicles and construction worker vehicles from multiple projects in the same vicinity. As presented in Table 6-1, construction of other projects could occur during the same time period and could coincide with Project construction activities. As a result, roadways adjacent to and within the vicinity of the Project and other planned projects could experience an increase in traffic volumes and reduced roadway capacities due to combined construction activities, which could substantially worsen traffic conditions. In addition, due to the heightened presence of worker and truck traffic and potential lane closures associated with these projects, motorists would need to detour to other potentially less convenient routes, and closures would increase traffic volumes on nearby local streets. While the effects of the detours and the additional construction-related vehicles could be accommodated within the capacity of the roadways and intersections, the increased traffic volumes, detours, and road and lane restrictions associated with overlapping and concurrent projects would increase potential traffic hazards for vehicles, bicycles, and pedestrians on affected roadways during construction of each project. This combined and prolonged effect would constitute a potentially significant cumulative impact on traffic operations.

Mitigation Measure 4.17-1, described in Section 4.17, *Transportation and Traffic*, includes provisions to address potential adverse effects to the circulation system associated with construction activities for the Project. However, as discussed above, the Project's contribution to cumulative impacts pertaining to increased traffic volumes, detours, and increased traffic safety hazards could be cumulatively considerable. Implementation of Mitigation Measure 6-1 (Coordinated Transportation Management Plan), below, would reduce the Project's potentially considerable contribution to cumulative traffic impacts to a less-than-significant level.

> **Mitigation Measure CUMULATIVE-TRANS: Coordinated Transportation Management Plan.** The Applicant and its construction management contractor(s) shall work with San Bernardino County and local jurisdictions (as appropriate) to prepare and implement a transportation management plan for roadways adjacent to and directly affected by the planned well facilities and pipeline alignments, and to address the transportation impact of the multiple overlapping construction projects within the vicinity of the projects in the region. The transportation management plan shall include, but not be limited to, the following requirements:
>
> - Coordination of individual traffic control plans for the Project and other projects.
> - Coordination between the contractor(s) and Applicant in developing circulation and detour plans that include safety features (e.g., signage and flaggers). The circulation and detour plans shall address:
>   - Full and partial roadways closures

  - Circulation and detour plans to include the use of signage and flagging to guide vehicles through and/or around the construction zone, as well as any temporary traffic control devices
  - Bicycle and transit detour plans, where feasible
  - Parking along arterial and local roadways
  - Haul routes for construction trucks and staging areas for instances when multiple trucks arrive at the work sites
  - A public information outreach program to notify nearby residents and businesses in the area of construction activities

- Establishment of protocols for updating the transportation management plan to account for delays or changes in the schedules of individual projects.

Significance after Mitigation: Less than Significant.

6.2.18 Utilities and Services Systems

Project implementation would result in no impact related to an exceedance of the wastewater treatment requirements of the Santa Ana Regional Water Quality Control Board; the construction of new or expansion of existing stormwater drainage facilities; or compliance with federal, state, and local statutes and regulations related to solid waste. Therefore, it would not cause or contribute to any cumulative impact in this regard.

As analyzed in Section 4.18.4, the Project would cause less than significant impacts related to other utilities and service systems-related considerations. The geographic scope of cumulative impacts related to utilities and service systems is San Bernardino County, which encompasses the service areas of the providers that would serve the Project. All of the projects identified in Table 6-1 are within this area.

The temporal scope of cumulative impacts related to utilities and service systems includes the construction, operation, and maintenance of the Project because utilities and service systems would be necessary for the duration of the Project. SCE expects that Project construction would commence in July 2013 and take approximately 12 months to complete. Therefore, not all of the projects listed in Table 6-1 are relevant to this cumulative analysis because at least one of them has a building permit that will expire before July 2013. Impacts caused by this project (DRC2006-00438) would not combine with those of the Project to cause or contribute to cumulative impacts. However, impacts from the other projects listed in Table 6-1 could combine with the incremental impacts of the Project.

Project construction, operation, and maintenance would result in less-than-significant impacts on the construction or expansion of new water or wastewater treatment facilities, water supply resources, wastewater treatment capacity, and landfill capacity. Among the projects in the cumulative scenario that would cause impacts that could combine with those caused by the Project, the Arboretum, Citrus Heights North, Summit at Rosena, Ventana, and West Gate specific plan developments would cause the largest impact on landfill capacity and water supply in the affected

area because they would add substantial amount of new housing that would also be served by the Mid-Valley Landfill (City of Fontana, 2003). As described in Section 4.18, *Utilities and Public Services*, the remaining estimated capacity of the Mid-Valley Landfill is 67,520,000 cubic yards (66.7 percent total capacity). This remaining capacity is projected to serve the needs of the communities it serves until approximately 2043 (City of Fontana, 2003). Due to the substantial remaining capacity of these landfills to serve the Falcon Ridge Substation Project, the Project-specific, incremental impacts on landfill capacity would not be cumulatively considerable.

The primary water suppliers in the Project area are the SBVMWD, Fontana Water Company, West Valley Water District and the CVWD. Potable water most likely would be provided to the specific plan developments described above by the Fontana Water Company. The Project would be served primarily by the West Valley Water District (West Valley Water District, 2009). Therefore, the Project-specific, incremental impact on water supply would not be cumulatively considerable.

References – Cumulative Effects

Bonterra, 2010. Results of the Special-Status Plant Surveys for the Falcon Ridge Substation Project, Prepared for Southern California Edison, August 2010.

California Department of Finance (CA DOF), 2011. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2010-2011, with 2010 benchmark, [http://www.dof.ca.gov/research/demographic/reports/estimates/e-5/2011-20/view.php], accessed July 21, 2010.

Casey, 2011. Telephone conversation between Daniel Casey, Assistant Planner, City of Rialto Planning Division, and Alexandra Kostalas, Environmental Science Associates. October 26, 2011.

City of Fontana, 2010. Specific Plans/Community Plans.

City of Rancho Cucamonga Planning Division, 2011. Monthly Status Report July 2011.

City of Rialto Planning Division, 2011a. PPD Log 2004 – Present.

City of Rialto Planning Division, 2011b. Project Status Report July 7, 2011.

Fahie, 2011. Email from Charles Fahie, Senior Planner, City of Fontana, to Janna Scott, Environmental Science Associates. May 18, 2011.

Granger, 2010. Telephone conversation between Donald Granger, City Rancho Cucamonga Planning Department, and Allison Chan, Environmental Science Associates. June 10, 2010.

Molinos, 2010a. Email from Felipe Molinos, City of Fontana Department of Engineering, to Allison Chan, Environmental Science Associates. June 6, 2010.

Molinos, 2010b. Email from Felipe Molinos, City of Fontana Department of Engineering, to Allison Chan, Environmental Science Associates. June 6, 2010.

San Bernardino County, 2003. Kaiser Commerce Specific Plan. Adopted May 1999, revised July 2003. http://www.sbcounty.gov/landuseservices/Specific%20Plans/K-0-Table%20of%20Contents.pdf, accessed October 26, 2011.

San Bernardino County, 2005. Glen Helen Specific Plan. http://www.sbcounty.gov/landuseservices/Specific%20Plans/GHSP%20Adopted%20-%20Nov%202005.pdf, accessed October 26, 2011.

Santa Ana Regional Water Quality Control Board (SARWQCB), 2008. *Water Quality Control Plan (Basin Plan) for the Santa Ana River Basin (Region 8)*. January 24, 1995, updated in February 2008.

Southern California Association of Governments (SCAG), 2002. Regional Comprehensive Plan and Guide, Energy Chapter Update 2002 (2002). Available online: http://www.scag.ca.gov/environment/pdfs/2002energychapter.pdf. Visited May 27, 2011.

SCAG, 2004. Southern California Compass Growth Vision Report (June 2004). Available online: http://www.compassblueprint.org/files/scag-growthvision2004.pdf. Visited May 27, 2011.

SCAG, 2007. The State of the Region 2007, Measuring Regional Progress (Dec. 2007). Available online: http://www.compassblueprint.org/files/sotr2007.pdf. Visited May 27, 2011.

SCAG, 2008a. 2008 Regional Transportation Plan (2008 RTP): Making the Connections (May 8, 2008). Available online: http://rtpscs.scag.ca.gov/Documents/2008/f2008RTP_Complete.pdf. Visited May 27, 2011.

SCAG, 2008b. Project List. http://rtpscs.scag.ca.gov/Documents/2008/fProjectList.pdf. Visited May 27, 2011.

SCAG, 2008c. Growth Forecast Report. Available online: http://rtpscs.scag.ca.gov/Documents/2008/fGrowthForecast.pdf. Visited May 27, 2011.

SCAG, 2008d. Highways and Arterials Report. Available online: http://rtpscs.scag.ca.gov/Documents/2008/fHighwaysandArterials.pdf. Visited May 27, 2011.

SCAG, 2008e. Goods Movement Report. Available online: http://rtpscs.scag.ca.gov/Documents/2008/fGoods_Movement.pdf. Visited May 27, 2011.

SCAG, 2008f. Aviation And Airport Ground Access Report. Available online: http://rtpscs.scag.ca.gov/Documents/2008/fAviation.pdf. Visited May 27, 2011.

SCAG, 2008g. Transportation Safety Report. Available online: http://rtpscs.scag.ca.gov/Documents/2008/fSafety.pdf. Visited May 27, 2011.

SCAG, 2008h. Environmental Justice Report. Available online: http://rtpscs.scag.ca.gov/Documents/2008/fEnvironmentalJustice.pdf. Visited May 27, 2011.

SCAG, 2008i. RTP Amendment #1 and 2008 Regional Transportation Improvement Program (RTIP) Amendment #08-01. Available online: http://rtpscs.scag.ca.gov/Documents/2008/FAmend01_2008RTP.pdf. Visited May 27, 2011.

SCAG, 2009. RTP Amendment #2 and 2008 Regional Transportation Improvement Program (RTIP) Amendment #08-24. Available online: http://rtpscs.scag.ca.gov/Documents/2008/FAmend02_2008RTP.pdf. Visited May 27, 2011.

SCAG, 2010a. Amendment #3 and 2008 Regional Transportation Improvement Program (RTIP) Amendment #08-34. Available online: http://rtpscs.scag.ca.gov/Documents/2008/FAmend03_2008RTP.pdf. Visited May 27, 2011.

SCAG, 2010b. RTP Amendment #4. Available online: http://rtpscs.scag.ca.gov/Documents/2008/2008RTP_RTIP_adoptedNov10.pdf. Visited May 27, 2011.

SCAG, 2010c. Comprehensive Modeling Listing As of Draft 2008 RTP Amendment #4 (Nov. 2010). Available online: http://rtpscs.scag.ca.gov/Documents/2008/ModelingList_2008RTPA4.pdf. Visited May 27, 2011.

Southern California Edison (SCE), 2010a. Proponent's Environmental Assessment Falcon Ridge Substation Project, Volume 1 (December 29, 2010).

West Valley Water District, 2009. Boundary Map of West Valley Water District. Available online: http://www.wvwd.org/DocumentView.aspx?DID=12. Accessed September 7, 2011.

CHAPTER 7
Other CEQA Considerations

7.1 Significant Unavoidable Environmental Impacts

Section 15126.2(b) of the CEQA Guidelines requires that an EIR identify significant environmental effects that cannot be avoided by the Project, including those that can be mitigated, but not to a less-than-significant level. The Project would result in impacts to Air Quality that, even with implementation of mitigation measures, would remain significant and unavoidable. Project construction activities would generate fugitive dust and criteria pollutant exhaust emissions that could contribute substantially to a violation of air quality standards.

7.2 Significant Irreversible Changes

Section 15126.2(c) of the CEQA Guidelines requires that an EIR identify significant irreversible environmental changes that would be caused by a proposed project. These changes may include, for example, uses of nonrenewable resources, or provision of access to previously inaccessible areas, as well as project accidents that could change the environment in the long-term. Development of the Project would require a permanent commitment of natural resources resulting from the direct consumption of fossil fuels, construction materials, the manufacture of new equipment that largely cannot be recycled at the end of the Project's useful lifetime, and energy required for the production of materials. Furthermore, Project construction would necessitate the permanent conversion of 3.39 acres of Farmland to non-agricultural use due to subtransmission source line and pole installation and access road construction and rehabilitation.

Project operation would allow for the transport of additional electrical power generated from renewable and non-renewable resources, although the Project itself would not require the future use of specific amounts of non-renewable resources. While the Project would facilitate the delivery of electrical power generated from non-renewable resources (e.g., natural gas and coal), these resources would be exploited and expended now and in the near future regardless of Project development, as the production and use of the carbon-based products that would become electricity transported by the Project has been, or will be, approved by permitting agencies. Therefore, the primary and secondary impacts resulting from the Project would be less than significant.

Accidents, such as the release of hazardous materials, could trigger irreversible environmental damage. As discussed in Section 4.9, *Hazards and Hazards Materials*, Project construction would involve limited quantities of miscellaneous hazardous substances, such as gasoline, diesel

fuel, solvents, paints, etc. An accidental spill of any of these substances could affect water and/or groundwater quality and, if a spill were to occur of significant quantity, the release could pose a hazard to construction workers, the public, and the environment. Limited quantities of similar hazardous materials also would be used to operate and maintain the electric subtransmission infrastructure at the proposed Falcon Ridge Substation and along the subtransmission source line and fiber-optic cable alignments. Improper storage, use, handling, or accidental spilling of such materials could result in a hazard to the public or the environment. Due to the types and minimal quantities of hazardous materials that would be used for the Project, and the emergency response plans and other procedures that would be required by the recommended mitigation measures, accidental release is unlikely. State and federal regulations and safety requirements, as described in the regulatory setting in Section 4.9, *Hazards and Hazardous Materials*, would ensure that public health and safety risks are maintained at acceptable levels. Therefore, significant irreversible changes from accidental releases are not anticipated.

7.3 Growth-Inducing Effects

An EIR must describe any growth-inducing impacts of a proposed project (Pub. Res. Code §21100(b)(5); CEQA Guidelines §15126(d)), including "the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment" (CEQA Guidelines §15126.2(d)). New employees hired for proposed commercial and industrial development projects and population growth resulting from residential development projects represent direct forms of growth. Other examples of projects that are growth-inducing are the expansion of urban services into a previously unserved or under-served area, the creation or extension of transportation links, or the removal of major obstacles to growth. It is important to note that these direct forms of growth have secondary effects of expanding the size of local markets and attracting additional economic activity to the area.

Typically, the growth-inducing potential of a project would be considered significant if it fosters growth or a concentration of population above what is assumed in local and regional land use plans, or in projections made by regional planning authorities. Significant growth impacts could also occur if the project provides infrastructure or service capacity to accommodate growth levels beyond those permitted by local or regional plans and policies.

7.3.1 Growth Caused by Direct and Indirect Employment

The number of workers required to construct the Project would be approximately 90 construction personnel working on any given day, and would consist of SCE construction crews or contractors. Project construction activities would be temporary, estimated to be approximately 12 months. It is anticipated that all temporary positions would be filled from the local labor pool available in San Bernardino County, with workers expected to commute to the site rather than move. However, even if the 60 construction personnel needed temporary accommodations, an adequate number of units exist in the area to serve the demand. There are several dozen hotels and motels in the cities of Fontana, Rialto, Rancho Cucamonga and surrounding communities (GoogleMaps, 2011). In

addition, the 4 to 29 percent housing vacancy rates in Fontana, Rialto, Rancho Cucamonga, and unincorporated San Bernardino County would provide additional options for workers needing accommodations (CA DOF, 2011). Therefore, Project construction is not expected to result in any significant increase to the local population or adverse effects on the housing market, and would not indirectly induce growth by creating new opportunities for local industry or commerce. As such, there would be less-than-significant impacts related to short-term population growth in the Project area.

Project operation and maintenance would require minimal staffing, which would be handled by current SCE employees. No new permanent jobs would be created. Therefore, overall, employment generated by the Project would have no impact on population growth because any short-term housing demand created during construction could be accommodated by existing units and no long-term growth would result from Project operation and maintenance.

7.3.2 Growth Related to Provision of Additional Electric Power

The Project is needed to ensure the availability of reliable electric service to meet customer electrical demand in the Electrical Needs Area. Therefore, the Project is designed to increase reliability and accommodate existing and planned electrical load growth, rather than to induce growth.

Growth in Fontana, Rialto, Rancho Cucamonga, and San Bernardino County is planned and regulated by applicable general plans and planning and zoning ordinances, as described in Section 4.14, *Population and Housing*. The provision of electricity is generally not considered to remove an obstacle to growth, nor does the availability of electrical capacity by itself 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, the Project would not indirectly induce growth by creating new opportunities for local industry or commerce.

References – Other CEQA Considerations

California Department of Finance (CA DOF), 2011. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2010-2011, with 2010 benchmark. Available online: http://www.dof.ca.gov/research/demographic/reports/estimates/e-5/2011-20/view.php. Accessed July 21, 2010.

GoogleMaps, 2011. Search for "hotel" near Fontana, CA. Available online: www.maps.google.com. Accessed August 24, 2011.

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CHAPTER 9

Mitigation, Monitoring, Reporting, and Compliance Program

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PUBLIC UTILITIES COMMISSION
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SAN FRANCISCO, CA 94102-3298

MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM

SOUTHERN CALIFORNIA EDISON'S
FALCON RIDGE SUBSTATION PROJECT
(APPLICATION NO. A.10-12-017)

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's (SCE) application to construct, operate and maintain the Project. All mitigation measures are presented in Table 9-1 provided at the end of this MMRCP.

If the Project is approved, this MMRCP would serve as a self-contained general reference for the Mitigation Monitoring, Reporting and Compliance Program adopted by the Commission for the Project. If and when the Project is approved by the Commission, the CPUC will compile the Final Plan from the Mitigation Monitoring Program in the Final Environmental Impact Report (EIR), 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 be implemented properly, monitored, and reported on. In 1989, this requirement was codified statewide as §21081.6 of the Public Resources Code. Section 21081.6 requires a public agency to adopt a MMRCP when it approves a project that is subject to preparation of an EIR and where the EIR for the project identifies potentially significant environmental effects. California Environmental Quality Act (CEQA) Guidelines §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 of mitigation measures by the project proponent, but also the monitoring, compliance, and reporting activities of the CPUC and any monitors it may designate.

The Commission will address its responsibility under Public Resources Code §21081.6 when it takes action on SCE's applications. If the Commission approves the applications, it will also adopt a 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 decisions and to consider mitigation for any identified significant environmental impacts.

If the CPUC approves SCE's application for authority to construct and operate the substation, subtransmission source lines, distribution getaways, and telecommunications facilities, SCE would be responsible for implementation of any mitigation measures governing both construction and future operation of the Project. Though other state and local agencies would have permit and approval authority over construction of the transmission line, the CPUC would continue to act as the lead agency for monitoring compliance with all mitigation measures required by this EIR. 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 and operation of the new Falcon Ridge Substation, subtransmission source line segments, distribution getaways, and telecommunications facilities. The CPUC review concluded that Project implementation could result in significant unmitigable impacts on Aesthetics, Air Quality, and Noise. All other potential impacts could be mitigated to less-than-significant levels. SCE has agreed to incorporate all the proposed mitigation measures into the Project. The CPUC has included the stipulated mitigation measures as conditions of approval of the applications and has circulated a Draft EIR.

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

- Agriculture and Forestry Resources
- Energy Conservation
- Geology and Soils
- Greenhouse Gas Emissions
- Hydrology and Water Quality
- Mineral Resources
- Population and Housing
- Public Services
- Utilities and Service Systems

The EIR indicates that approval of the application would result in potentially significant impacts in the areas of:

- Biological Resources
- Cultural Resources
- Land Use and Planning
- Hazards and Hazardous Materials
- Recreation
- Transportation and Traffic

The EIR indicates that approval of the application would result in significant unmitigable impacts in the in the areas of:

- Aesthetics
- Air Quality
- Noise

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 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 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 proposed Project change 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 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 their 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 Project or adopted Mitigation Monitoring 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 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:

- Procedures to be followed by construction companies hired to do the work will be written into contracts between SCE and any construction contractors. Procedures to be followed by construction crews will be written into a separate agreement that all construction personnel will be asked to sign, denoting agreement.

- 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 MMRCP to ensure compliance during Project implementation (CEQA Guidelines §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 a compilation of the mitigation measures in the EIR. 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 APMs to minimize impacts on biological and paleontological resources from Project implementation. The impact analysis in this EIR assumed that these APMs would be implemented as part of the Project.

APM-BIO-01 Migratory Bird Treaty Act (MBTA) and Nesting Raptors: In order to avoid impacts on nesting birds and raptors (common or special status), Project initiation shall be scheduled outside the breeding season (i.e., March 15–September 15 for nesting birds; February 1–June 30 for nesting raptors). If Project timing requires that work be initiated during this time period, a pre-construction survey shall be conducted by a qualified Biologist for nesting birds and/or raptors within 7 days prior to clearing of any vegetation or any work within 500 feet of construction areas. If the Biologist does not find any active nests within the impact area, the vegetation clearing/construction work shall be allowed to proceed.

If the Biologist finds an active nest within the construction area and determines that the nest may be impacted or breeding activities substantially disrupted, the Biologist will delineate an appropriate buffer zone around the nest depending on the sensitivity of the species and the nature of the construction activity. The active site will be protected until nesting activity has ended to ensure compliance with the MBTA and California Fish and Game Code. Encroachment into the buffer area

around a known nest shall only be allowed if the Biologist determines that the proposed activity would not disturb the nest occupants. APM-BIO-02: Riversidean Alluvial Fan Sage Scrub, Disturbed Riversidean Alluvial Fan Sage Scrub, Disturbed Riversidean Sage Scrub, and Annual Grassland/Disturbed Riversidean Alluvial Fan Sage Scrub Project impacts on sage scrub vegetation.

APM-BIO-02 Riversidean Alluvial Fan Sage Scrub, Disturbed Riversidean Alluvial Fan Sage Scrub, Disturbed Riversidean Sage Scrub, and Annual Grassland/Disturbed Riversidean Alluvial Fan Sage Scrub: Project impacts on sage scrub vegetation types would be avoided and/or minimized to the maximum extent practicable. Permanent impacts to disturbed Riversidean alluvial fan sage scrub, disturbed Riversidean sage scrub, and annual grassland/disturbed Riversidean alluvial fan sage scrub vegetation would be mitigated at a minimum replacement ratio of 1:1. Residual temporary impacts on undisturbed/disturbed Riversidean alluvial fan sage scrub would be restored on site and/or mitigated at a replacement ratio of 1:1. Permanent impacts on undisturbed Riversidean alluvial fan sage scrub would be mitigated at a replacement ratio of up to 3:1. Final compensation ratios for impacts to Riversidean alluvial fan sage scrub would be determined in consultation with USFWS and CDFG.

A detailed restoration program shall be prepared for approval by SCE and the appropriate resource agencies. Restoration shall consist of seeding and planting containers of appropriate Riversidean alluvial fan sage scrub species. The program shall include, at a minimum, the following items:

- Responsibilities and qualifications of the personnel to implement and supervise the plan.
- Site selection.
- Site preparation and planting implementation.
- Schedule.
- Maintenance plan/guidelines.
- Monitoring plan.
- Long-term preservation.

Additionally, the grading limits shall be clearly marked, and temporary fencing or other appropriate markers shall be placed around any sage scrub vegetation adjacent to work areas prior to the commencement of any ground-disturbing activity or native vegetation removal. No construction access, parking, or storage of equipment or materials shall be allowed within the marked areas. SCE shall be fully responsible for implementing the Riversidean Alluvial Fan Sage Scrub Revegetation Program until the restoration areas have met the success criteria outlined in the program. SCE and the appropriate resource agencies shall have final authority over mitigation area sign-off. The site shall be monitored and maintained for a suitable number of years to ensure successful establishment of Riversidean alluvial fan sage scrub habitat within the restored and created areas, as determined by the resource agencies.

APM- PA-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 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- PA-02 Paleontological Monitoring for the Project: A paleontological monitor shall be on site to spot check ground-disturbing activities at depths greater than 5 feet during installation of the Project. 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.

TABLE 9-1
MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM FOR THE FALCON RIDGE SUBSTATION PROJECT

Environmental Impact	Mitigation Measures Proposed in this EIR	Implementing Actions	Monitoring/Reporting Requirements	Timing
Aesthetics				
Impact 4.1-1: The Project would have an adverse effect on a scenic vista.	**Mitigation Measure 4.1-1:** SCE and/or its contractors shall use subtransmission line conductors that are non-specular and non-reflective and insulators that are non-reflective and non-refractive.	SCE and its contractors to implement measure as defined.	SCE to incorporate measures into final design plans. SCE to submit final design plans to the CPUC.	At least 30 days prior to commencement of construction activities.
Impact 4.1-3: Use of construction conductor/wire stringing set-up locations during the approximately 12-month construction period could result in temporary adverse impacts to visual quality.	**Mitigation Measure 4.1-3:** SCE and/or its contractors shall not place equipment at the conductor/wire stringing set-up locations more than 2 weeks prior to the required use.	SCE and its contractors to implement measure as defined.	CPUC mitigation monitor to monitor compliance.	During all phases of construction activities.
Impact 4.1-6: The Project would introduce new sources of substantial light or glare that would adversely affect day or nighttime views in the area.	**Mitigation Measure 4.1-6:** Implement Mitigation Measure 4.1-1.	See Mitigation Measure 4.1-1.	See Mitigation Measure 4.1-1.	See Mitigation Measure 4.1-1.
Agriculture and Forestry Resources				
No Impact	None Required	--	--	--
Air Quality				
Impact 4.3-1: Project construction activities would generate NO_x and PM10 emissions that could contribute substantially to violations of ozone and PM10 air quality standards.	**Mitigation Measure 4.3-1a:** For off-road construction equipment of more than 50 horsepower and on-road diesel fueled vehicles, SCE shall ensure achievement of a Project-wide fleet-average 20 percent NOx reduction and 45 percent PM10 exhaust reduction compared to the most recent CARB fleet average. An Exhaust Emissions Control Plan to achieve these reductions shall be submitted to the CPUC for review and approval at least 30 days prior to commencement of construction activities. Construction activities cannot commence until the plan has been approved. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as such become available.	SCE and its contractors to implement measure as defined.	SCE to submit a copy of the Exhaust Emissions Control Plan to CPUC for review.	At least 30 days prior to commencement of construction activities.

TABLE 9-1 (continued)
MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM FOR THE FALCON RIDGE SUBSTATION PROJECT

Environmental Impact	Mitigation Measures Proposed in this EIR	Implementing Actions	Monitoring/Reporting Requirements	Timing
Air Quality (cont.)				
Impact 4.3-1 (cont.)	**Mitigation Measure 4.3-1b:** SCE and/or its contractors shall develop a Fugitive Dust Control Plan that specifically describes how compliance with each of SCAQMD Rule 403 Best Available Control Measures (BACMs) shall be achieved. If it is determined that any of the BACMs are not applicable to construction of the Project, the plan shall present rationale as to why the BACMs are not applicable and would not be implemented. This plan shall be submitted to the CPUC for review and approval at least 30 days prior to commencement of construction activities, and the approved plan shall be distributed to all employees and construction contractors working on the Project.	SCE and its contractors to implement measure as defined.	SCE to submit a copy of the Fugitive Dust Control Plan to CPUC.	Submit plan to CPUC at least 30 days prior to commencement of construction activities.
Impact 4.3-3: Construction activities would generate emissions of criteria pollutants that would be cumulatively considerable.	**Mitigation Measure 4.3-3:** Implement Mitigation Measures 4.3-1a (Exhaust Emissions Control Plan) and 4.3-1b (Fugitive Dust Control Plan).	See Mitigation Measures 4.3-1a and 1b.	See Mitigation Measures 4.3-1a and 1b.	See Mitigation Measures 4.3-1a and 1b.
Biological Resources				
Impact 4.4-1: Construction activities could result in adverse impacts to special-status plant species.	**Mitigation Measure 4.4-1:** Where avoidance of Riversidean sage scrub habitat is not possible, SCE shall compensate for losses through habitat creation and enhancement, and long-term preservation for temporary and permanent impacts by implementing the following measures: • SCE shall establish buffer zones and mitigate for the loss of special-status plant species and sensitive plant communities. SCE and their contractors shall avoid and minimize impacts to special-status plant species and sensitive plant communities to the maximum extent feasible. Avoidance will be carried out by establishing a visible buffer zone around sensitive areas prior to construction in coordination with a qualified biologist, redesigning or relocating proposed disturbance areas, locating staging areas within disturbed areas when possible, or using other measures recommended by the CNPS (1998).	SCE and its contractors to implement measure as defined.	SCE to incorporate measures into final design plans. CPUC mitigation monitor to monitor compliance.	Submit final design plans to CPUC at least 30 days prior to commencement of construction activities. During all phases of construction activities.

TABLE 9-1 (continued)
MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM FOR THE FALCON RIDGE SUBSTATION PROJECT

Environmental Impact	Mitigation Measures Proposed in this EIR	Implementing Actions	Monitoring/Reporting Requirements	Timing
Biological Resources (cont.)				
Impact 4.4-1 (cont.)	• SCE shall mitigate for Riversidean sage scrub vegetation losses at a minimum replacement ratio of 1:1. Residual temporary impacts on undisturbed/disturbed Riversidean sage scrub shall be restored on site and/or mitigated at a replacement ratio of 1:1. Permanent impacts on undisturbed Riversidean sage scrub shall be mitigated at a replacement ratio of up to 3:1. Final compensation ratios for impacts to Riversidean sage scrub shall be determined in consultation with the USFWS and CDFG. • As a component of the Program, SCE shall develop and implement a five-year restoration mitigation and monitoring program. The Program will be described in a Restoration Plan that shall be subject to approval by the USFWS, CDFG, and the CPUC. The Restoration Plan shall include: - detailed design drawings and specifications for the mitigation site(s), including site drawings, final grade elevations, an appropriately spaced planting plan, a plant species list showing the number of each plant species, and notes on proper site preparation (including temporary erosion and sediment control); - a discussion of ongoing maintenance practices to protect the mitigation site, including a minimum 5-year performance monitoring program with specific, measurable performance standards to evaluate mitigation success; - a contingency plan indicating actions and corrective measures to be taken if monitoring indicates performance standards are not being met; - a statement of financial assurance that the mitigation will be constructed, maintained, monitored, and contingencies implemented, if necessary; and - a plan for restoring temporarily disturbed areas.			

TABLE 9-1 (continued)
MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM FOR THE FALCON RIDGE SUBSTATION PROJECT

Environmental Impact	Mitigation Measures Proposed in this EIR	Implementing Actions	Monitoring/Reporting Requirements	Timing
Biological Resources (cont.)				
Impact 4.4-1 (cont.)	• SCE shall submit an annual vegetation monitoring report to the USFWS, CDFG, CPUC to document site compliance, advise of remedial actions that were undertaken during the previous monitoring year, and advise of restoration site management needs for the coming year. Reports shall be required for a minimum of five years following initial site restoration to document progress of mitigation areas toward attaining the minimum performance standards. • SCE shall revegetate all natural areas temporarily disturbed by project activities. Revegetation criteria will include general restoration concepts and methods, including the use of locally native plants, protection and restoration of soil conditions, and control of aggressive non-native plant species. The planting effort shall commence in the fall following completion of construction at a given site. If the project is expected to have an extended construction timeline, revegetation shall be completed as extensively as possible during each fall season. Interim revegetation by hydroseeding or with a seeding mixture and mulch using broadcast methods shall be implemented as necessary to control erosion in disturbed areas prior to final revegetation. The plant palette will include locally native plants such as California buckwheat, black sage, white sage, cane cholla, and California sagebrush.			
Impact 4.4-2: Construction activities associated with the Project could result in adverse impacts to Los Angeles pocket mouse and other non-listed special-status wildlife species.	**Mitigation Measure 4.4-2:** SCE shall avoid impacts to occupied Los Angeles pocket mouse habitat to the maximum extent feasible in the final Project design. SCE shall define Los Angeles pocket mouse habitat as “off limits” in construction plans and specifications. The presence of a Biological Monitor during Project construction would further ensure that any potential impacts to special-status wildlife species are avoided and minimized.	SCE and its contractors to implement measure as defined.	CPUC mitigation monitor to monitor compliance.	During all phases of construction activities.

TABLE 9-1 (continued)
MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM FOR THE FALCON RIDGE SUBSTATION PROJECT

Environmental Impact	Mitigation Measures Proposed in this EIR	Implementing Actions	Monitoring/Reporting Requirements	Timing
Biological Resources (cont.)				
Impact 4.4-4: Operation of new transmission lines could impact raptors as a result of electrocution or collision.	**Mitigation Measure 4.4-4:** SCE shall follow Avian Power Line Interaction Committee guidelines for avian protection on powerlines. SCE shall use current guidelines to reduce bird mortality from interactions with powerlines. The Avian Power Line Interaction Committee (APLIC, 2006) and USFWS recommend the following: • Provide 60-inch minimum horizontal separation between energized conductors or energized conductors and grounded hardware; • Insulate hardware or conductors against simultaneous contact if adequate spacing is not possible; • Use pole designs that minimize impacts to birds, and; • Shield wires to minimize the effects from bird collisions	SCE and its contractors to implement measure as defined.	SCE to incorporate measures into final design plans.	Submit final design plans to CPUC at least 30 days prior to commencement of construction activities.
Impact 4.4-6: Construction within the existing Etiwanda Substation could impact federally protected wetlands.	**Mitigation Measure 4.4-6a:** SCE shall through Project design, avoid jurisdictional waters of the U.S. and waters of the state where feasible. This includes minimizing the footprint of facilities at the existing Etiwanda Substation that could impact jurisdictional areas and spanning drainages that occur in the Project area.	SCE and its contractors to implement measure as defined.	SCE to incorporate measures into final design plans. CPUC mitigation monitor to monitor compliance.	Submit final design plans to CPUC at least 30 days prior to commencement of construction activities. During all phases of construction activities.
	Mitigation Measure 4.4-6b: In the event of any Project changes that involve ground disturbance outside the boundary of the Jurisdictional Delineation Report (BonTerra, 2010e), a new wetland delineation shall be performed.	SCE and its contractors to implement measure as defined.	SCE to incorporate measures into final design plans. CPUC mitigation monitor to monitor compliance.	Submit final design plans to CPUC at least 30 days prior to commencement of construction activities. During all phases of construction activities.
	Mitigation Measure 4.4-6c: Where jurisdictional wetlands and other waters cannot be avoided at the Etiwanda Substation, to offset anticipated temporary impacts that would occur as a result of the Project, the original contours and character of disturbed jurisdictional areas shall be restored. A minimum replacement ratio of 1:1, or as otherwise agreed to by the resource agencies,	SCE and its contractors to implement measure as defined.	CPUC mitigation monitor to monitor compliance.	During all phases of construction activities.

TABLE 9-1 (continued)
MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM FOR THE FALCON RIDGE SUBSTATION PROJECT

Environmental Impact	Mitigation Measures Proposed in this EIR	Implementing Actions	Monitoring/Reporting Requirements	Timing
Biological Resources (cont.)				
Impact 4.4-6 (cont.)	would be required to ensure that there would be no net loss of habitat value. Disturbed portions of jurisdictional areas shall be reseeded with an appropriate mix of native species that are appropriate to the site to prevent locally abundant non-native plants such as cocklebur from colonizing disturbed areas.			
Cultural Resources				
Impact 4.5-1: Project construction could cause an adverse change in the significance of a historical resource [inclusive of archaeological resources] which is either listed or eligible for listing on the National Register of Historic Places, the California Register of Historical Resources, or a local register of historic resources; or to a unique archaeological resource.	**Mitigation Measure 4.5-1:** 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 are significant, the archaeologist shall notify the CPUC and the resource shall be avoided if feasible. If avoidance is infeasible, a Treatment Plan that documents the research approach and methods for data recovery shall be prepared and implemented in consultation with CPUC and with appropriate Native American representatives (if the resources are prehistoric or Native American in nature). Work may proceed on other parts of the Project area while treatment is being carried out.	SCE and its contractors to implement measure as defined.	SCE to submit Historic Properties Treatment Plan to the CPUC staff for review.	Submit plan to CPUC at least 30 days prior to commencement of construction activities.
Impact 4.5-2: Project implementation would have a potentially significant impact on a unique paleontological resource or site or unique geological feature.	**Mitigation Measure 4.5-2:** Prior to the initiation of any site preparation or start of construction, SCE and/or its contractors shall contract with a qualified vertebrate paleontologist, who shall be responsible for preparing and implementing a paleontological monitoring plan. The paleontologist must be a practicing scientist who is recognized in the paleontologic community, and is proficient in vertebrate paleontology, as demonstrated by institutional affiliations or appropriate credentials, ability to recognize and recover vertebrate fossils in the field, local geological and biostratigraphic expertise, and publications in scientific journals. The qualified paleontologist shall be available “on-call” to SCE and/or	SCE and its contractors to implement measure as defined.	SCE to submit paleontological monitoring plan to the CPUC staff for review. CPUC mitigation monitor to monitor compliance.	Submit plan to CPUC at least 30 days prior to commencement of construction activities. During all phases of construction activity.

TABLE 9-1 (continued)
MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM FOR THE FALCON RIDGE SUBSTATION PROJECT

Environmental Impact	Mitigation Measures Proposed in this EIR	Implementing Actions	Monitoring/Reporting Requirements	Timing
Cultural Resources (cont.)				
Impact 4.5-2 (cont.)	its contractors throughout the duration of ground-disturbing activities. At a minimum, the scope of services shall include: • Preparation of a paleontological monitoring plan based on final project design. The qualified professional paleontologist shall review information presented in this EIR, existing fossil localities in the region, Project grading plans and all geological/geotechnical reports developed to date to determine with greater precision the depth and extent of geologic units of high paleontological potential (e.g. older alluvial fan deposits) within the areas to be excavated. Based on the volume, depth and extent of soil excavations and the professional judgment of the paleontologist, he or she shall prepare a paleontological monitoring plan describing the locations/phases of project construction activity where paleontological monitoring of ground-disturbing activities would be needed. The monitoring plan shall outline procedures to follow in the event of discovery of a potentially significant fossil resource and shall describe the assessment and salvage procedures to be followed. The report shall also identify a paleontological repository (i.e., a publicly supported, not-for-profit museum or university employing a permanent curator) that is willing and able to accept and curate any fossil specimens recovered from Project construction sites. Construction of the Project shall not proceed until the report has been reviewed and approved by the CPUC. • Active monitoring of construction sites for paleontological resources. During construction of the Project, paleontological monitoring will consist of periodically inspecting disturbed, graded, and excavated surfaces, as well as soil stockpiles and disposal sites, as identified in the paleontological monitoring plan. The monitor (which will be the professional paleontologist or a designee) will have authority to divert grading or excavation away from exposed surfaces temporarily in order to examine disturbed areas more closely, and/or recover fossils.			

TABLE 9-1 (continued)
MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM FOR THE FALCON RIDGE SUBSTATION PROJECT

Environmental Impact	Mitigation Measures Proposed in this EIR	Implementing Actions	Monitoring/Reporting Requirements	Timing
Cultural Resources (cont.)				
Impact 4.5-2 (cont.)	The monitor will coordinate with the construction manager to ensure that monitoring is thorough but does not result in unnecessary delays. If the monitor encounters a paleontological resource, he or she shall assess the fossil, and record or salvage it, as described below. • Assessment and salvage of potential fossil finds. If potential fossils are discovered incidentally by construction crews, or in areas being actively monitored, all earthwork or other types of ground disturbance within 50 feet of the find shall stop immediately until the qualified professional paleontologist can assess the nature and importance of the find. Based on the scientific value or uniqueness of the find, the monitor may record the find and allow work to continue, or recommend salvage and recovery of the fossil. The monitor may also propose modifications to the stop-work radius based on the nature of the find, site geology, and the activities occurring on the site. If treatment and salvage is required, recommendations will be consistent with SVP guidelines (SVP, 1995; SVP, 1996) and currently accepted scientific practice, and shall be subject to review and approval by the CPUC. If required, treatment for fossil remains may include preparation and recovery of fossil materials so that they can be housed in the paleontological repository, and may also include preparation of a report for publication describing the finds. SCE and/or its contractors will be responsible for ensuring that treatment is implemented and reported to the CPUC. If no report is required, SCE and/or its contractors will nonetheless ensure that information on the nature, location, and depth of all finds is readily available to the scientific community through university curation or other appropriate means.			

TABLE 9-1 (continued)
MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM FOR THE FALCON RIDGE SUBSTATION PROJECT

Environmental Impact	Mitigation Measures Proposed in this EIR	Implementing Actions	Monitoring/Reporting Requirements	Timing
Cultural Resources (cont.)				
Impact 4.5-3: Project construction could result in damage to previously unidentified human remains.	**Mitigation Measure 4.5-3:** If human remains are uncovered during Project construction, SCE and/or its contractors shall immediately halt all work, contact the county coroner to evaluate the remains, and follow the procedures and protocols set forth in CEQA Guidelines §15064.5 (e)(1). If the county coroner determines that the remains are Native American, SCE and/or its contractors shall contact the NAHC, in accordance with Health and Safety Code §7050.5, subdivision (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 and/or its contractor has discussed and conferred, as prescribed in this section (PRC 5097.98), with the most likely descendents regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.	SCE and its contractors to implement measure as defined.	If human remains are discovered, SCE is to notify the CPUC and San Bernardino County coroner immediately.	During all phases of construction activities.
Impact Alternative 1-CUL-1: Project construction could cause an adverse change in the significance of a historical resource [inclusive of archaeological resources] which is either listed or eligible for listing on the National Register of Historic Places, the California Register of Historical Resources, or a local register of historic resources, or a unique archaeological resource.	**Mitigation Measure Alternative 1-CUL-1:** SCE and/or its contractors shall retain a qualified archaeologist (defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology) to survey those portions of the final selected Project footprint that have not been previously subjected to systematic pedestrian cultural resources survey. After additional archaeological survey is carried out, the archaeologist shall prepare a report, for approval by the CPUC, that summarizes the survey efforts, and evaluates any identified cultural resources for their eligibility for listing in the National Register, California Register, or local register, or as a unique archaeological resource pursuant to §15064.5. Any resources determined to be significant shall be avoided if feasible. If avoidance is infeasible, a Treatment Plan that documents the research approach and methods for data recovery shall be prepared and implemented in consultation with CPUC and with appropriate Native American representatives (if the resources are prehistoric or Native American in nature).	SCE and its contractors to implement measure as defined.	SCE to submit Archaeological Survey Report to CPUC for review. If needed, SCE to submit Treatment Plan to CPUC for review.	Complete survey and submit report and Treatment Plan (if needed) to the CPUC at least 30 days prior to commencement of construction activities.

TABLE 9-1 (continued)
MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM FOR THE FALCON RIDGE SUBSTATION PROJECT

Environmental Impact	Mitigation Measures Proposed in this EIR	Implementing Actions	Monitoring/Reporting Requirements	Timing
Energy Conservation				
Less than Significant	None Required	--	--	--
Geology and Soils				
Less than Significant	None Required	--	--	--
Greenhouse Gas Emissions				
Less than Significant	None Required	--	--	--
Hazards and Hazardous Materials				
Impact 4.9-1: Project construction, operation and maintenance would require the use of certain materials such as fuels, oils, solvents, and other chemical products that could pose a potential hazard to the public or the environment during routine transport, use or disposal.	**Mitigation Measure 4.9-1:** SCE and/or its contractors shall prepare and implement a Health and Safety Plan in accordance with applicable regulations prior to construction. The health and safety plan shall identify the chemicals potentially present in soil, health and safety hazards associated with those chemicals, monitoring to be performed during site activities, soil handling methods required to minimize the potential for harmful exposures, appropriate personnel protective equipment, and emergency response procedures. The plan shall be submitted to the CPUC for approval prior to commencement of construction activities and shall be distributed to all construction crew members prior to construction and operation of the Project.	SCE and its contractors to implement measure as defined.	SCE to submit Health and Safety Plan to CPUC for review.	At least 30 days prior to commencement of construction activities.
Impact 4.9-5: The Project would reduce compliance with an adopted emergency response plan or emergency evacuation plan.	**Mitigation Measure 4.9-5:** Implement Mitigation Measure 4.17-1.	See Mitigation Measure 4.17-1.	See Mitigation Measure 4.17-1.	See Mitigation Measure 4.17-1.
Impact 4.9-6: Construction, operation and maintenance-related activities in high fire hazard areas could ignite dry vegetation and start a fire.	**Mitigation Measure 4.9-6:** SCE and/or its contractors shall prepare and implement a Fire Prevention and Emergency Response Plan to ensure the health and safety of construction workers, SCE personnel, and the public during Project construction and operation. The Fire	SCE and its contractors to implement measure as defined.	SCE to submit Fire Prevention and Emergency Response Plan and evidence of consultation with SBCFD and local fire departments to CPUC for review.	At least 30 days prior to commencement of construction activities.

TABLE 9-1 (continued)
MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM FOR THE FALCON RIDGE SUBSTATION PROJECT

Environmental Impact	Mitigation Measures Proposed in this EIR	Implementing Actions	Monitoring/Reporting Requirements	Timing
Hazards and Hazardous Materials (cont.)				
Impact 4.9-6 (cont.)	Prevention and Emergency Response Plan shall include, but not be limited to, the following: • Two water trucks each of 4,000-gallon capacity, equipped with 50 feet of fast-response hose with fog nozzles, shall be on-site during construction for immediate response to fire incidents, unless this provision is amended by the fire jurisdictions. • Each Project construction site (if construction occurs simultaneously at various locations) and the proposed Falcon Ridge substation shall be equipped with fire extinguishers and fire-fighting equipment sufficient to extinguish small fires. • All construction workers and SCE personnel visiting the substation and/or subtransmission source lines to perform maintenance activities shall receive training on the proper use of fire-fighting equipment and procedures to be followed in the event of a fire. • The SBCFD and local fire departments shall be consulted during plan preparation and fire safety measures recommended by the agencies included. • The plan shall list fire prevention procedures and specific emergency response and evacuation measures that would be required to be followed during emergency situations. • The plan shall be submitted to the CPUC for approval prior to commencement of construction activities and shall be distributed to all construction crew members prior to construction and to all SCE personnel visiting the substation during operation and maintenance of the Project.			
Hydrology and Water Quality				
Less than Significant	None Required	--	--	--
Land Use				
Less than Significant	None Required	--	--	--

TABLE 9-1 (continued)
MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM FOR THE FALCON RIDGE SUBSTATION PROJECT

Environmental Impact	Mitigation Measures Proposed in this EIR	Implementing Actions	Monitoring/Reporting Requirements	Timing
Mineral Resources				
Less than Significant	None Required	--	--	--
Noise				
Impact 4.13-1: Construction activities would violate City of Rancho Cucamonga exterior noise standards.	**Mitigation Measure 4.13-1:** SCE and/or its contractors shall develop a Construction Noise Reduction Plan in coordination with the City of Rancho Cucamonga to be implemented for construction activities within the City of Rancho Cucamonga. The Plan shall be submitted to the CPUC for review and approval prior to the commencement of construction activities. The Plan shall include, but not be limited to, the following measures for construction activities: • Publish and distribute to the potentially affected community within 200 feet, a telephone number, which shall be attended during active construction working hours, for use by the public to register complaints. All complaints shall be logged noting date, time, complainants' name, nature of complaint, and any corrective action taken. • All construction equipment shall have intake and exhaust mufflers recommended by the manufacturers thereof, to meet relevant noise limitations. • Maximize physical separation, as far as practicable, between noise sources (construction equipment) and noise receptors. Separation may be achieved by providing enclosures for stationary items of equipment and noise barriers around particularly noisy areas at the project sites and by locating stationary equipment to minimize noise impacts on the community. • Utilize construction noise barriers such as paneled noise shields, barriers, or enclosures adjacent to or around noisy equipment associated with construction activities, including access road construction, steel pole installation and wood pole removal, etc., in the immediate vicinity (i.e., within 200 feet) of sensitive receptors. Noise control shields shall be made featuring a solid panel and a weather-protected, sound-absorptive material on the construction-activity	SCE and its contractors to implement measure as defined.	SCE to submit Construction Noise Reduction Plan to CPUC for review and approval. CPUC mitigation monitor to monitor compliance.	At least 30 days prior to commencement of construction activities. During all phases of construction activities.

TABLE 9-1 (continued)
MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM FOR THE FALCON RIDGE SUBSTATION PROJECT

Environmental Impact	Mitigation Measures Proposed in this EIR	Implementing Actions	Monitoring/Reporting Requirements	Timing
Noise (cont.)				
Impact 4.13-1 (cont.)	side of the noise shield. Shields used during linear construction activities shall be readily removable and moveable so that they may be repositioned, as necessary, to provide noise abatement for construction activities located near City of Rancho Cucamonga residential receptors.			
Impact 4.13-5: Construction-related noise levels would increase ambient noise levels in the vicinity of the Project.	**Mitigation Measure 4.13-5:** In the event that nighttime construction activity is determined to be necessary within 1,000 feet of sensitive receptors, SCE shall develop a Nighttime Noise and Nuisance Reduction Plan that shall be submitted to the CPUC for review and approval prior to the commencement of construction activities. The 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 nuisances are reduced to the 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 determined by SCE to not be feasible, an explanation as to why the specific strategy is not feasible shall be included in the Nighttime Noise and Nuisance Reduction Plan. • Plan construction activities to minimize the amount of nighttime construction. • Offer temporary relocation of residents within 200 feet of nighttime construction activities. • Temporary noise barriers, such as shields and blankets, shall be installed immediately adjacent to all nighttime stationary noise sources (e.g., auger rigs, bore rigs, generators, pumps, etc.). • Install temporary noise barriers that block the line of sight between nighttime activities and the closest residences within 1,000 feet. • Publish and distribute to the potentially affected community within 1,000 feet of pending nighttime construction activities, a telephone number, which shall be attended during nighttime construction working hours, for use by the public to register	SCE and its contractors to implement measure as defined.	SCE to submit Construction Noise Reduction Plan to CPUC for review and approval. CPUC mitigation monitor to monitor compliance.	At least 30 days prior to commencement of construction activities. During all phases of construction activities.

TABLE 9-1 (continued)
MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM FOR THE FALCON RIDGE SUBSTATION PROJECT

Environmental Impact	Mitigation Measures Proposed in this EIR	Implementing Actions	Monitoring/Reporting Requirements	Timing
Noise (cont.)				
Impact 4.13-5 (cont.)	complaints. All complaints shall be logged noting date, time, complainants' name, nature of complaint, and any corrective action taken.			
Population and Housing				
Less than Significant	None Required	--	--	--
Public Services				
No Impact	None Required	--	--	--
Recreation				
Impact 4.16-1: The Project could increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated.	**Mitigation Measure 4.16-1:** SCE shall coordinate with the City of Fontana Community Services Department to ensure that appropriate warning signs are posted alerting pedestrians and park users to pedestrian pathway and park closures and informing users about nearby alternative recreational resources, such as Koehler and North Fontana parks.	SCE and its contractors to implement measure as defined.	SCE to submit proposed warning signed to the CPUC for review. CPUC mitigation monitor to monitor compliance.	At least 15 days prior to commencement of construction activities. During all phases of construction activities.
Transportation and Traffic				
Impact 4.17-1: Project construction would cause temporary increases in traffic volumes on area roadways, and would temporarily reduce roadway capacity and increase traffic delays on area roadways or cause conflicts 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.	**Mitigation Measure 4.17-1:** SCE and/or its contractor shall prepare and implement a traffic control plan to reduce construction related traffic impacts on the roadways at, and near the work site, as well as to reduce potential traffic safety hazards and ensure adequate access for emergency responders. SCE and/or its contractor shall coordinate development and implementation of this plan with jurisdictional agencies (e.g., San Bernardino County, Fontana, Rialto, Rancho Cucamonga, San Bernardino), as appropriate. To the extent applicable, the traffic control plan shall conform to Part 6 (Temporary Traffic Control) of the California Manual on Uniform Traffic Control Devices (Caltrans, 2010), and shall include, but not be limited to, the following elements:	SCE and its contractors to implement measure as defined.	SCE to submit Traffic Control Plan and evidence of coordination with local jurisdictions (encroachment permits, traffic control permits, etc.) to CPUC. CPUC mitigation monitor to monitor compliance.	At least 15 days prior to commencement of construction activities. During all phases of construction activities.

TABLE 9-1 (continued)
MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM FOR THE FALCON RIDGE SUBSTATION PROJECT

Environmental Impact	Mitigation Measures Proposed in this EIR	Implementing Actions	Monitoring/Reporting Requirements	Timing
Transportation and Traffic (cont.)				
Impact 4.17-1 (cont.)	• Circulation and detour plans to minimize impacts on local road circulation during road and lane closures. Flaggers and/or signage shall be used to guide vehicles through and/or around the construction zone. • Identifying truck routes designated by San Bernardino County and local jurisdictions. Haul routes that minimize truck traffic on local roadways shall be utilized to the extent possible. • Providing sufficient-sized staging areas for trucks accessing construction zones to minimize disruption of access to adjacent public right-of-ways. • Controlling and monitoring construction vehicle movement through the enforcement of standard construction specifications by on-site inspectors. • Scheduling truck trips outside the peak morning and evening commute hours to the extent possible. • Limiting the duration of road and lane closures to the extent possible. • Maintaining pedestrian and bicycle access and circulation during Project construction where safe to do so. If construction activities encroach on a bicycle routes or multi-use paths, advance warning signs (e.g., “Bicyclists Allowed Use of Full Lane” and/or “Share the Road”) shall be posted that indicate the presence of such users. • Identifying detours for bicycles and pedestrians, where applicable, in all areas where maintaining pedestrian and bicycle access and circulation during Project construction cannot be safely done. • Storing all equipment and materials in designated contractor staging areas on or adjacent to the worksite, such that traffic obstruction is minimized. • Implementing roadside safety protocols. Advance “Road Work Ahead” warning and speed control signs (including those informing drivers of state-legislated double fines for speed infractions in a construction			

TABLE 9-1 (continued)
MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM FOR THE FALCON RIDGE SUBSTATION PROJECT

Environmental Impact	Mitigation Measures Proposed in this EIR	Implementing Actions	Monitoring/Reporting Requirements	Timing
Transportation and Traffic (cont.)				
Impact 4.17-1 (cont.)	zone) shall be posted to reduce speeds and provide safe traffic flow through the work zone. • Providing advance notification to administrators of police and fire stations (including fire protection agencies), ambulance service providers, and recreational facility managers of the timing, location, and duration of construction activities and the locations of detours and lane closures, where applicable. Maintain access for emergency vehicles within, and/or adjacent to, roadways affected by construction activities at all times. • Repairing and restoring affected roadway rights-of way to their original condition after construction is completed.			
Impact 4.17-4: The Project could substantially increase hazards due to a design feature or incompatible uses.	**Mitigation Measure 4.17-4:** Implement Mitigation Measure 4.17-1.	See Mitigation Measure 4.17-1.	See Mitigation Measure 4.17-1.	See Mitigation Measure 4.17-1.
Impact 4.17-5: Project construction could temporarily result in inadequate access to adjacent roadways and land uses for both general and emergency vehicles.	**Mitigation Measure 4.17-5:** Implement Mitigation Measure 4.17-1.	See Mitigation Measure 4.17-1.	See Mitigation Measure 4.17-1.	See Mitigation Measure 4.17-1.
Impact 4.17-6: The Project could conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.	**Mitigation Measure 4.17-6:** Implement Mitigation Measure 4.17-1.	See Mitigation Measure 4.17-1.	See Mitigation Measure 4.17-1.	See Mitigation Measure 4.17-1.
Utilities and Service Systems				
Less than Significant	None Required	--	--	--

TABLE 9-1 (continued)
MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM FOR THE FALCON RIDGE SUBSTATION PROJECT

Environmental Impact	Mitigation Measures Proposed in this EIR	Implementing Actions	Monitoring/Reporting Requirements	Timing
Cumulative Effects				
Impact CUMULATIVE-TRANS: The Project's contribution to traffic increases and safety hazards on local and regional roads could be cumulatively considerable.	**Mitigation Measure CUMULATIVE-TRANS: Coordinated Transportation Management Plan.** The Applicant and its construction management contractor(s) shall work with San Bernardino County and local jurisdictions (as appropriate) to prepare and implement a transportation management plan for roadways adjacent to and directly affected by the planned well facilities and pipeline alignments, and to address the transportation impact of the multiple overlapping construction projects within the vicinity of the projects in the region. The transportation management plan shall include, but not be limited to, the following requirements: • Coordination of individual traffic control plans for the Project and other projects. • Coordination between the contractor(s) and Applicant in developing circulation and detour plans that include safety features (e.g., signage and flaggers). The circulation and detour plans shall address: - Full and partial roadways closures - Circulation and detour plans to include the use of signage and flagging to guide vehicles through and/or around the construction zone, as well as any temporary traffic control devices - Bicycle and transit detour plans, where feasible - Parking along arterial and local roadways - Haul routes for construction trucks and staging areas for instances when multiple trucks arrive at the work sites - A public information outreach program to notify nearby residents and businesses in the area of construction activities • Establishment of protocols for updating the transportation management plan to account for delays or changes in the schedules of individual projects.	SCE and its contractors to implement measure as defined.	SCE to submit Coordinated Transportation Management Plan and evidence of coordination with local jurisdictions to CPUC. CPUC mitigation monitor to monitor compliance.	At least 15 days prior to commencement of construction activities. During all phases of construction activities.