BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

In the Matter of the Application of SOUTHERN CALIFORNIA EDISON COMPANY (U 338-E) for a Permit to Construct Electrical Facilities with Voltages Between 50 kV and 200 kV or New or Upgraded Substations with High Side Voltages Exceeding 50 kV: Alberhill System Project	)))))))	Application No. ____________ (Filed September 30, 2009)

PROPONENT'S ENVIRONMENTAL ASSESSMENT ALBERHILL SYSTEM PROJECT

Volume 1 of 2

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LIST OF ACRONYMS

AB	Assembly Bill
ACSR	Aluminum conductor steel reinforced
ADT	Average Daily Traffic
APM	Applicant Proposed Measure
AQMP	Air Quality Management Plan
AS	Alluvial scrub
BMP	Best Management Practice
CAAQS	California Ambient Air Quality Standards
CALFIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CAM	Cismontane alkali marsh
CARB	California Air Resources Board
CC	Chamise chaparral
CDC	California Department of Conservation
CDFG	California Department of Fish and Game
CDMG	California Division of Mines and Geology
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulation
CH_4	Methane
CIWMB	California Integrated Waste Management Board
CLOWR	Coast live oak woodland riparian
CLOWU	Coast live oak woodland upland
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalents
CPCN	Certificate of Public Convenience and Necessity
CPUC	California Public Utilities Commission
CRHP	California Register of Historic Places
CRHR	California Register of Historical Resources
CWA	Clean Water Act

List of Acronyms

CWR	Southern cottonwood/willow riparian forest
dB	Decibel
dBA	A-weighted decibel
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EIR	Environmental Impact Report
EMWD	Elsinore Municipal Water District
EPRI	Electrical Power Research Institute
ESA	Environmental Site Assessment
EVMWD	Elsinore Valley Municipal Water District
EWD	Elsinore Water District
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FESA	Federal Endangered Species Act
FIRM	Flood Insurance Rate Map
ft	Foot
GHG	Greenhouse gas
GIS	Geographic Information System
GO	Grove-orchard
G.O.	General Order
HCP	Habitat Conservation Plan
IEEE	Institute of Electrical and Electronics Engineers
kV	Kilovolt
kVA	Kilovolt ampere
lbs	Pounds
LEAPS	Lake Elsinore Advanced Pump Storage
Leq	Equivalent noise level
LOS	Level of Service
LWS	Lightweight steel
MBTA	Migratory Bird Treaty Act
MC	Mixed chaparral
MRZ	Mineral Resource Zone
MS	Mulefat scrub
MSAA	Master Streambed Alteration Agreement
MSHCP	Multiple Species Habitat Conservation Plan

List of Acronyms

MVA	Megavolt Ampere
MVAR	Megavolt Ampere Reactive
N_2O	Nitrous oxide
NAAQS	National Ambient Air Quality Standards
NCCP	Natural Communities Conservation Plan
NERC	North American Reliability Council
NNG	Non-native grassland
NO_2	Nitrogen dioxide
NOAA	National Oceanographic and Atmospheric Administration
NOx	Oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O_3	Ozone
OHGW	Overhead groundwire
OPGW	Optical groundwire
OPR	Office of Planning and Research
OW	Open water
PEA	Proponent's Environmental Assessment
PM_{10}	Particulate matter measuring less than 10 microns
$PM_{2.5}$	Particulate matter measuring less than 2.5 microns
ppm	Parts per million
PRC	Public Resources Code
PVC	Polyvinyl chloride
RCFCD	Riverside County Flood Control District
RCFD	Riverside County Fire Department
RCHCA	Riverside County Habitat Conservation Agency
RCIP	Riverside County Integrated Plan
RCTC	Riverside County Transportation Commission
ROW	Right-of-way
RPLI	Regional Paleontologic Locality Inventory
RSS	Riversidian sage scrub
RTA	Riverside Transit Authority
RUE	Residential/urban/exotic
RWQCB	Regional Water Quality Control Board
SAMP	Special Area Management Plan

List of Acronyms

SARWQB	Santa Ana Regional Water Quality Control Board
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison Company
SDG&E	San Diego Gas and Electric Company
SDRWQB	San Diego Regional Water Quality Control Board
SF_6	Sulfur hexafluoride
SKA	Stephen's kangaroo rat
SLF	Sacred Lands File
SO_2	Sulfur dioxide
SOx	Sulfur oxides
SPCC	Spill Prevention Control and Countermeasure
SR	State Route
SSC	Species of Special Concern
SSR	Southern sycamore riparian forest
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
SWS	Southern willow scrub
TAC	Toxic Air Contaminant
TS	Tamarisk scrub
TSP	Tubular steel pole
$\mu g/m^3$	Micrograms per cubic meter
USACE	US Army Corps of Engineers
USC	United States Code
USEPA	US Environmental Protection Agency
USFWS	US Fish and Wildlife Service
VFM	Valley freshwater marsh
VOC	Volatile Organic Compound
WECC	Western Energy Coordinating Council
WRMSHCP	Western Riverside County Multiple Species Habitat Conservation Plan

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Executive Summary

EXECUTIVE SUMMARY

This Proponent's Environmental Assessment (PEA) evaluates the potential environmental impacts of Southern California Edison Company's (SCE) Alberhill System Project (Proposed Project). The purpose of this project is to serve current and projected demand for electricity, and maintain electric system reliability in portions of southwestern Riverside County including the cities of Lake Elsinore, Canyon Lake, Perris, Menifee, Murrieta, Murrieta Hot Springs, Temecula, and Wildomar, as well as the surrounding unincorporated portions of Riverside County (Electrical Needs Area).

In addition to serving the forecasted demand for the Electrical Needs Area, the Proposed Project would relieve the Valley South 115 kilovolt (kV) System by transferring electrical demand from this system to the new Alberhill system. The Proposed Project would also improve electrical reliability and operational flexibility in southwestern Riverside County.

The Proposed Project would include the following major components:

- Construction of a new 1,120 megavolt ampere (MVA) 500/115 kV substation to increase electrical service capacity to the area presently served by the Valley South 115 kV System

- Construction of two new 500 kV transmission line segments to connect the new substation to SCE's existing Serrano-Valley 500 kV transmission line

- Construction of a new 115 kV subtransmission line (approximately three miles in length) and modifications to four existing 115 kV subtransmission lines to transfer five existing 115/12 kV substations (Ivyglen, Fogarty (expected to be constructed 2011), Elsinore, Skylark, and Newcomb Substations) presently served by the Valley South 115 kV System to the new Alberhill 500/115 kV Substation

- Installation of telecommunications improvements to connect the new facilities to SCE's telecommunications network

This PEA includes the information required by the California Public Utilities Commission's (CPUC) Proponent's Environmental Assessment (PEA) Guidelines (State of California Public Utilities Commission Information and Criteria List, Appendix B, Section V), as well as the CPUC's requirements for a Permit to Construct (PTC) pursuant to General Order 131-D (D.94-06-014, Appendix A, as modified by D.95-08-038). The CPUC requires applicants to provide this information for review in compliance with the mandates of the California Environmental Quality Act (CEQA). This PEA is designed to meet the above-mentioned CPUC requirements.

Following a discussion of the purpose and need for the project (Chapter 1), the alternatives (Chapter 2), and the project description (Chapter 3), this PEA evaluates the potential environmental impacts of the Proposed Project and the Alternative (Chapter 4). Potential impacts are assessed for all environmental factors contained in the most recent

CEQA Environmental Checklist Form (Appendix A). With the implementation of Applicant Proposed Measures listed in Table ES.1, Applicant Proposed Measures, the PEA concludes that the Proposed Project would have a significant effect to air quality.

Table ES.1 Applicant Proposed Measures

Applicant Proposed Measure	**Description**
APM-AQ-01	Construction workers would carpool when possible
APM-AQ-02	All off-road construction diesel engines which have a rating of 50 hp or more, shall meet, at a minimum, the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, Section 2423(b)(1) unless such engine is not available for a particular item of equipment. In the event a Tier 2 engine is not available for any off-road engine larger than 100 hp, that engine shall be equipped with a Tier 1 engine. In the event a Tier 1 engine is not available for any off-road engine larger than 100 hp, that engine shall be equipped with a catalyzed diesel particulate filter (soot filter), unless certified by engine manufacturers that the use of such devices is not practical for specific engine types
APM-AQ-03	SCE will develop an Air Quality Plan prior the start of construction that would include details of project-specific activities to be implemented during construction of the Proposed Project to ensure compliance with all applicable laws, rules and regulations relating to air quality, and to comply with APM-AQ-01 and APM-AQ-02 set forth above
Biological Resource APMs	At this time, no sensitive biological resources are anticipated to be affected by construction of the Proposed Project. However, SCE may propose APMs following receipt of results of focused surveys and wetland delineation that would be obtained as part of the Proposed Project and in consultation with appropriate agencies.
Paleontological Resource APMs	At this time, no sensitive paleontological resources are anticipated to be affected by construction of the Proposed Project. However, SCE may propose APMs following receipt of results of the paleontological resource survey conducted as the Proposed Project approaches final design.

A comparison of alternatives is described in Chapter 5. No cumulative impacts or growth-inducing impacts (Chapter 6) were identified for the proposed project.

The names and titles of persons assisting in the preparation of this document are listed in Appendix B.

1.0 Purpose and Need

1.0 PURPOSE AND NEED

Southern California Edison Company (SCE) proposes to construct the Alberhill System Project (Proposed Project) to serve current and projected demand for electricity, and maintain electric system reliability in portions of southwestern Riverside County including the cities of Lake Elsinore, Canyon Lake, Perris, Menifee, Murrieta, Murrieta Hot Springs, Temecula, and Wildomar, as well as the surrounding unincorporated portions of Riverside County (Electrical Needs Area).

In addition to serving the forecasted demand for the Electrical Needs Area, the Proposed Project would relieve the Valley South 115 kilovolt (kV) System by transferring electrical demand from this system to the new Alberhill system. The Proposed Project would also improve electrical reliability and operational flexibility in southwestern Riverside County.

The Proposed Project would include the following major components:

- Construction of a new 1,120 megavolt ampere (MVA) 500/115 kV substation to increase electrical service capacity to the area presently served by the Valley South 115 kV System

- Construction of two new 500 kV transmission line segments to connect the new substation to SCE’s existing Serrano-Valley 500 kV transmission line

- Construction of a new 115 kV subtransmission line (approximately three miles in length) and modifications to four existing 115 kV subtransmission lines to transfer five existing 115/12 kV substations (Ivyglen, Fogarty (expected to be constructed 2011), Elsinore, Skylark, and Newcomb Substations) presently served by the Valley South 115 kV System to the new Alberhill 500/115 kV Substation

- Installation of telecommunications improvements to connect the new facilities to SCE’s telecommunications network

1.1 Project Purpose

Under the rules, guidelines and regulations of the Federal Energy Regulatory Commission (FERC), North American Electric Reliability Council (NERC), Western Energy Coordinating Council (WECC), and California Public Utilities Commission (CPUC), electrical transmission, subtransmission, and distribution systems must have sufficient capacity to maintain safe, reliable, and adequate service to customers. The safety and reliability of the systems must be maintained under normal conditions when all facilities are in service, as well as under abnormal conditions during equipment or line failures, maintenance outages, or outages that cannot be predicted or controlled, which are caused by weather, earthquakes, traffic accidents or any other unforeseeable events.

1.2 Project Need

SCE's Valley Substation, located in Romoland, California, is the sole source serving customer electrical demand in the San Jacinto Region of southwestern Riverside County, an area encompassing roughly 1,260 square miles and serving approximately 325,000 metered customers. Valley Substation transforms voltage from 500 kV to 115 kV with four 560 MVA transformers. In 2004, the Valley 115 kV System was split into two separate and distinct 115 kV systems, the Valley North 115 kV System and the Valley South 115 kV System. Each of these systems is served by two 560 MVA transformers. These two 115 kV systems are served from the same 500 kV sources, however, they are not connected at the 115 kV level. The Valley North 115 kV System consists of 10 distribution substations and the Valley South 115 kV System is served by 11 distribution substations.

Operating limits (the amount of electrical load that can be served by equipment) have been established to ensure that SCE maintains the required capacity and system operational flexibility to safely and reliably meet the projected peak electrical demands during periods of extreme heat, under both normal and abnormal conditions. The amount of electrical load that can be served by the Valley South 115 kV System is limited to the maximum amount of electrical power that the two Valley South 115 kV System transformers can serve before exceeding operating limits.

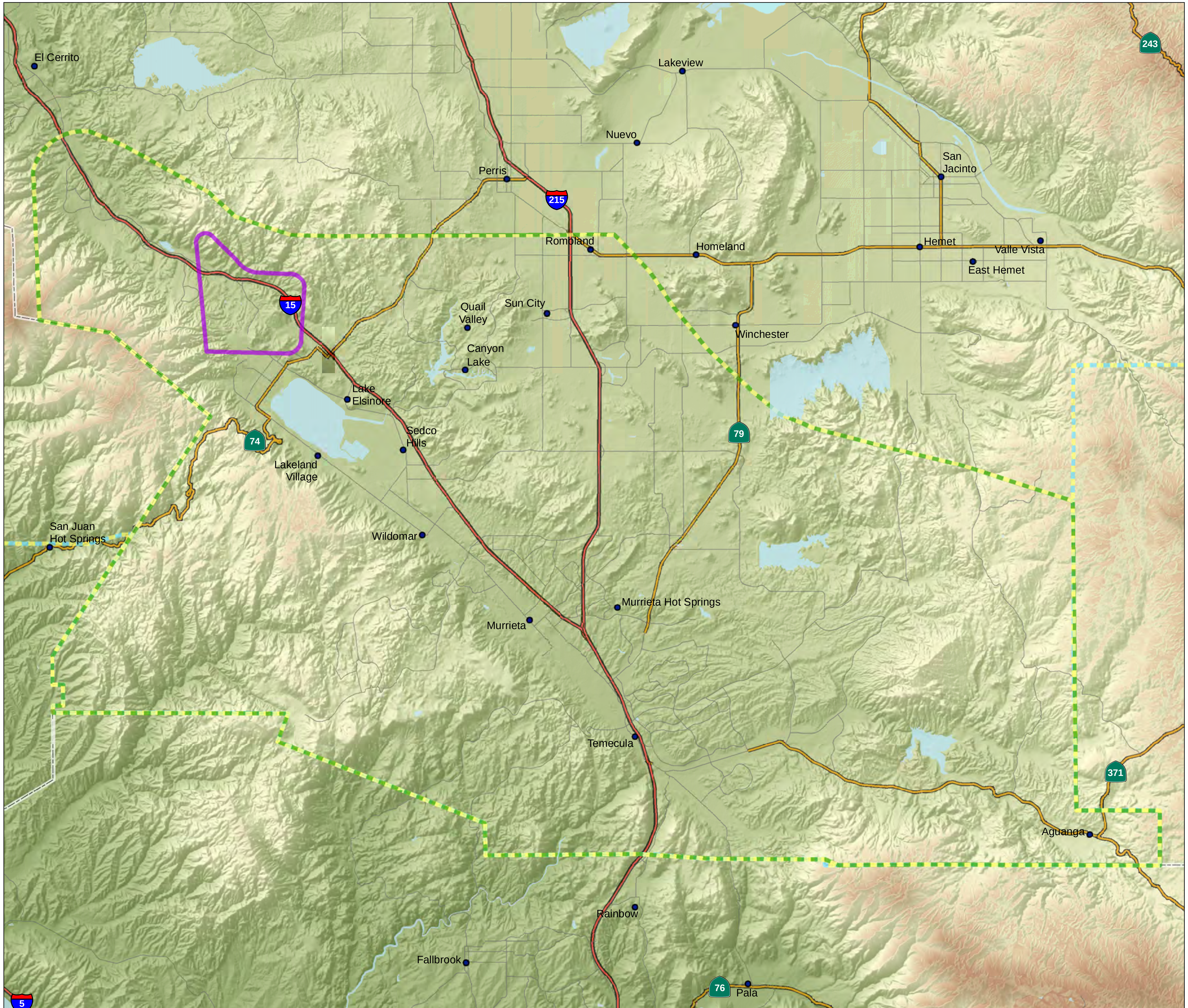
The Electrical Needs Area for the Proposed Project is bounded by the Cleveland National Forest on the west, San Diego Gas & Electric Company's service territory to the south, the San Bernardino National Forest to the east. The northern boundary of the Electrical Needs Area is generally formed by an approximate line beginning at Lake Mathews and extending eastward through Hemet along State Route 74 to the San Bernardino National Forest. This portion of southwestern Riverside County includes the cities of Lake Elsinore, Canyon Lake, Perris, Menifee, Murrieta, Murrieta Hot Springs, Temecula, and Wildomar, and is shown on Figure 1.1, Electrical Needs Area.

1.2.1 Substation Capacity and Electrical Demand

For substations connected directly to a 500 kV transmission system, a 10-year forecast is developed annually that identifies the projected peak electrical demands under normal conditions as well as the projected peak electrical demands for 1-in-5 year heat storms (time periods during which the effective temperature exceeds the 10-year average peak effective temperature by four degrees Fahrenheit).

Peak electrical demand forecasts are typically based on residential, commercial and industrial developments that are planned or under construction, as well as historical growth trends of the area. The Electrical Needs Area has experienced considerable growth in electrical demand and has demonstrated an average annualized growth rate of 8.4 percent since 2004.

Figure 1.1
Electrical Needs Area



Electrical Needs Area

- Electric Needs Area
- Substation Target Area
- SCE Service Territory Boundary (SCE, 2006)
- County Boundaries (TBM, 2008)

N
W E
S

0 2 4 8
Miles

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale. Always consult with the proper legal documents or agencies regarding such features.

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Historical adjusted values are developed by adjusting actual recorded values to account for temperature and other factors to produce representative load values used for planning purposes. The 2007 the historical adjusted value was 944 MVA. To date, this value was the highest peak electrical demand of the Valley South 115 kV System. In 2008, the historical adjusted value was 817 MVA. This represented a reduction from 2007 to 2008 of 13.5 percent. The magnitude and anomalous nature of this 13.5 percent reduction prompted SCE to further evaluate the validity of this number. SCE evaluated the following data for Riverside County:

- Population growth since 2000 has grown approximately four percent annually
- Population growth rate in 2007 was 2.4 percent
- Population growth rate in 2008 was 1.4 percent
- Foreclosure rate is currently 1-in-17 homes or approximately 5.9 percent
- In 2008, SCE installed 4,719 meters and removed 1,061 meters, resulting in a net installation of 3,658 meters
- From January 2009 through July 2009, SCE installed 1,802 meters and removed 365 meters, resulting in a net installation of 1,437 meters

The above data supports that electrical demand growth is still occurring, but at a slower rate. Although the population growth rates for 2007 and 2008 demonstrate a decline in the rate of increase from that of the average from 2000 through 2008, the population is still increasing. Additionally, analysis of the installation and removals of meters demonstrates a continued net increase in meters. The data does not substantiate that the reduction in electrical demand is a result of the removal of electrical facilities. As such, SCE concluded that the amount of electrical demand that was documented in 2007, using the typical adjustments, should remain the benchmark.

For the reasons discussed above, the 2008 peak electrical demand was adjusted from 817 MVA to 971 MVA. This 971 MVA value includes an adjustment to the 2008 historical adjusted value to equal that of the 2007 benchmark plus 50 percent of the published 2008 forecasted load growth. This approach was taken to ensure that SCE adequately planned for the required electrical facilities to meet the electrical demand. A similar process will be applied during review of the 2009 recorded peak electrical demand as part of the annual planning process for 2010-2019. The best information available through analysis of population trends, SCE net meter installations, and other data as necessary will be incorporated.

The historical adjusted peak electrical demand for the years 2004 to 2008 and the forecasted peak electrical demand for the years 2009 to 2018 are shown in Table 1.1, Valley South 115 kV System Capacity and Peak Demand, and on Figure 1.2, Valley South 115 kV System Capacity and Peak Demand[1].

Table 1.1 Valley South 115 kV System Capacity and Peak Demand

Historical Adjusted	**2004**	**2005**	**2006**	**2007**	**2008**
Maximum Operating Limit (MVA)	1119	1119	1119	1119	1119
Peak Demand (MVA)	703	777	907	944	971
Forecasted	**2009**	**2010**	**2011**	**2012**	**2013**
Planned Maximum Operating Limit (MVA)	1119	1119	1119	1119	1119
Forecasted Peak Demand Normal Conditions (MVA)	993	1032	1077	1118	1164
Forecasted Peak Demand 1-in-5 Year Heat Storm (MVA)	1057	1098	1145	1190	1239
Forecasted	**2014**	**2015**	**2016**	**2017**	**2018**
Planned Maximum Operating Limit (MVA)	1119	1119	1119	1119	1119
Forecasted Peak Demand Normal Conditions (MVA)	1208	1249	1290	1328	1361
Forecasted Peak Demand 1-in-5 Year Heat Storm (MVA)	1285	1330	1373	1413	1448

As shown in Table 1.1, Valley South 115 kV System Capacity and Peak Demand, and on Figure 1.2, Valley South 115 kV System Capacity and Peak Demand, SCE forecasts that the 1-in-5 year heat storm projected peak electrical demand will increase to 1,145 MVA by 2011, exceeding the available transformer capacity of the Valley South 115 kV System. SCE's forecasted peak electrical demand indicates that there is a need to reduce loading on the transformers that provide service to the Valley South 115 kV System. As part of the annual planning process for the 10-year forecast for the years 2009-2018, SCE adjusted the forecasted peak electrical demand by reducing the rate of load growth to account for current economic conditions. Even with these revised projections, a project to reduce the loading of the Valley South 115 kV System transformers is needed by 2011.

SCE has an existing project planned to install a fifth 500/115 kV transformer at Valley Substation in 2011. This fifth transformer will be a spare installed to comply with SCE's Transmission Planning Criteria and Guidelines. These criteria and guidelines state that all 500/115 kV substations shall have an on-site three-phase spare transformer available for use in the event of a transformer failure. If electrical demand exceeds operating limits of the existing equipment of the Valley South 115 kV System prior to the operating date of 2014, the spare transformer would be temporarily put into service as a contingency.

[1] This information was also provided to the California Independent System Operator (CAISO) in July 2009. A summary report of the Alberhill System Project as presented to the CAISO is included as Appendix C.

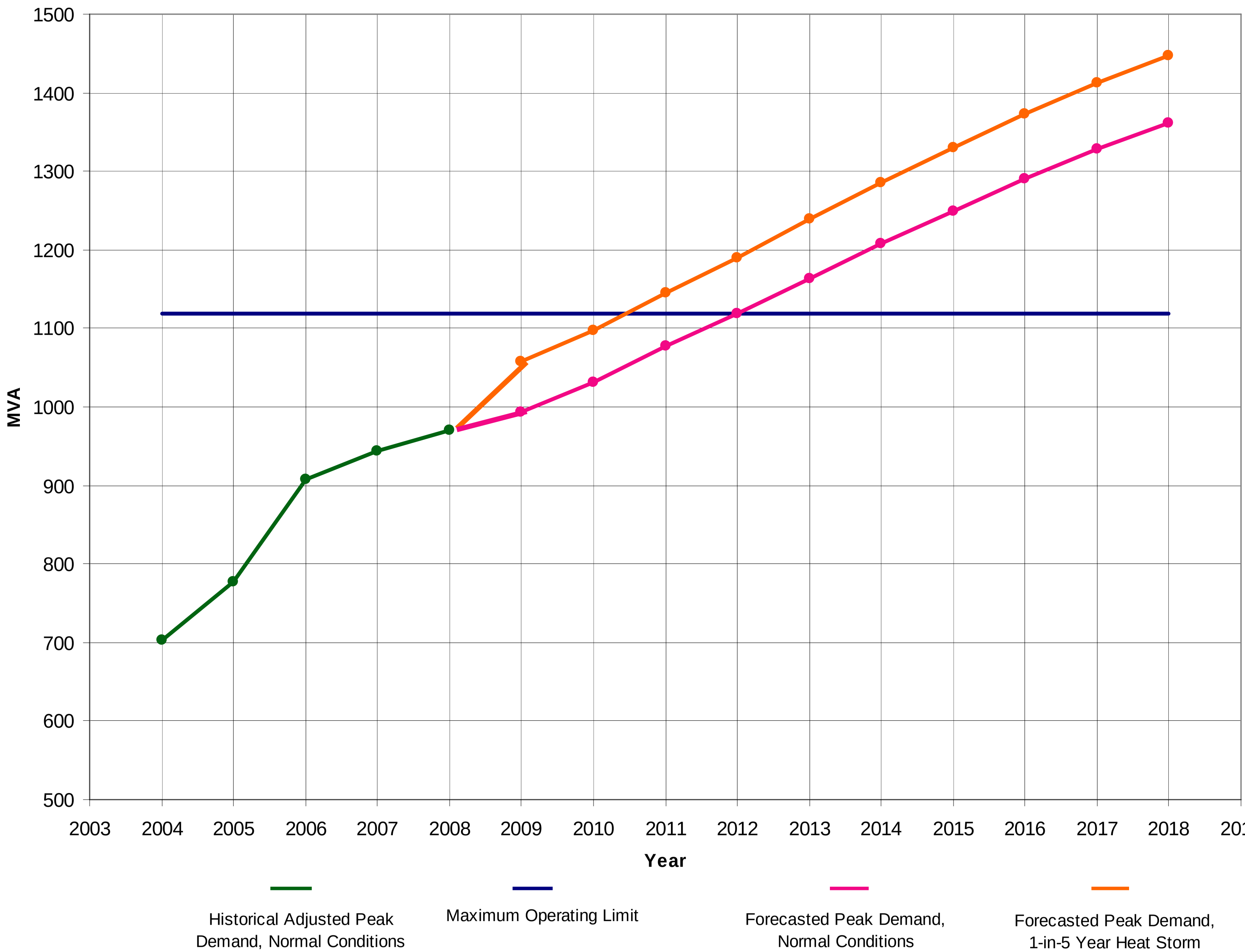

Figure 1.2

Valley South 115 kV System Capacity and Peak Demand

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1.2.2 Operational Flexibility

As a result of geographic boundaries and SCE service territory boundaries, the Valley South 115 kV System has no ties to any other system at the 115 kV level. As such, SCE's ability to transfer load between systems is nonexistent The inability to transfer load from the Valley South 115 kV System to another system limits the operational flexibility of the system which increases the potential for electrical service interruptions to prevent potential transformer or subtransmission line overloads. Having no system ties also limits the ability to operate the system during construction of new facilities and routine maintenance activities.

1.3 Electrical System Evaluation

SCE utilizes a multi-step planning process to ensure that necessary system facilities are developed in time to meet projected electrical demand. This planning process begins with the development of a peak electrical demand forecast for each substation. Peak electrical demand forecasts are developed using historical data and trends in population data, urbanization data, and meteorological data.

1.3.1 Electrical System Evaluation Methodology

Electrical systems have defined operating limits. Technical engineering studies are conducted to determine whether the forecasted peak electrical demand can be accommodated on the existing transmission, subtransmission, and distribution systems. When projections indicate that these limits will be exceeded within a specific planning horizon (typically 10 years), a project is proposed to keep the electrical system within specified operating limits.

During this process, SCE evaluates existing facilities within the Electrical Needs Area. SCE first evaluates whether the existing electrical infrastructure could be modified to meet the project need. If not, SCE evaluates what new infrastructure would be required and where it would be located in order to meet the project need. Evaluating SCE's system ability to address identified needs consists of the four-step process described below.

Step 1. Technical engineering analyses are performed to determine whether the forecasted peak electrical demand could be accommodated by modifying the existing electrical infrastructure.

Step 2. If the forecasted electrical demand cannot be accommodated by modifying the existing electrical infrastructure, then a series of system scenarios are developed.

Step 3. Each system scenario is evaluated in accordance with the following criteria:

- The extent to which the system scenario would substantially meet the project need; and
- The feasibility of the system scenario, including system capacity limits, ability to upgrade the system on existing utility sites, and economic considerations

Step 4. If a system scenario is determined not to be feasible, it is eliminated from further consideration.

1.3.2 Evaluation of System Scenarios

1.3.2.1 System Scenario 1: Alberhill System Project

This section evaluates System Scenario 1, the construction of the new Alberhill 500/115 kV Substation with an initial capacity of 1,120 MVA and the formation of the Alberhill System. The substation would be located within the Electrical Needs Area, west of the existing Valley Substation and in proximity to an existing 500 kV line right-of-way (ROW). Construction of two 500 kV transmission line segments, approximately one mile in length each, would be required to loop the existing Serrano-Valley 500 kV transmission line into the new substation. Major project components are listed below.

- Construction of the new 1,120 MVA Alberhill 500/115 kV Substation
- Construction of two new 500 kV transmission line segments to connect the Alberhill Substation to SCE's existing Serrano-Valley 500 kV transmission line
- Construction of a new 115 kV subtransmission line and modifications to existing 115 kV subtransmission lines to facilitate the transfer of five existing 115/12 kV substations which are presently served by the Valley South 115 kV System to the new Alberhill 115 kV System
- Installation of necessary of telecommunication improvements

System Scenario 1 would provide the following electrical benefits:

- Addition of 1,120 MVA of transformer capacity to the Electrical Needs Area resulting from the construction of the Alberhill 500/115 kV Substation
- Reduction in transformer loading with the transfer of approximately 420 MVA from the Valley South 115 kV System to the Alberhill 115 kV System through the transfer of five existing 115/12 kV substations
- Increased system operational flexibility due to the formation Alberhill System and the creation of 115 kV system ties between the Valley South 115 kV System and the Alberhill 115 kV System

- Potential for the future transfer of additional 115 kV substations to the Alberhill 115 kV System when the equipment within the Valley South 115 kV System approaches operating limits

1.3.2.2 System Scenario 2: Install an Additional Transformer at Valley South 115 kV System

This section evaluates the feasibility of installing an additional 560 MVA 500/115 kV transformer to increase the load serving capacity of the Valley South 115 kV System. Following the planned 2011 project to install a fifth 500/115 kV transformer as a spare, the proposed addition of a new transformer at Valley Substation would then increase the total number of 500/115 kV transformers from five to six. If an additional transformer were installed, SCE would operate five load-serving transformers, two serving the Valley North System and three serving the Valley South System. The sixth transformer would serve as a system spare transformer as required to comply with SCE’s Transmission Planning Criteria and Guidelines.

1.3.2.3 System Scenario 3: Transfer Electrical Demand from the Valley South 115 kV System to the Valley North 115 kV System

This section evaluates the transfer of existing 115 kV substations from the Valley South 115 kV System to the Valley North 115 kV System. The number of substations that could be transferred is limited to two, based on the available transformer capacity of the Valley North 115 kV System, ensuring that the operating limits are not exceeded following the transfer. This scenario would require establishing 115 kV connections between the two systems and would provide only short-term relief to the transformer loading of the Valley South 115 kV System. Major project components are listed below.

- Construction of a new 115 kV subtransmission line between Valley Substation and the Skylark leg of the Valley-Newcomb-Skylark 115 kV subtransmission line. This would consist of the construction of 3.5 miles of new 115 kV subtransmission line and the rebuilding 6.5 miles of existing 115 kV subtransmission lines by replacing single circuit structures with double circuit structures

- Transfer of Newcomb and Sun City 115/12 kV Substations from the Valley South 115 kV System to the Valley North 115 kV System

System Scenario 3 would provide the following electrical benefits:

- Reduction in loading on the Valley South 115 kV System transformers that would keep the electrical demand below the operating limits for approximately four years

1.3.2.4 System Scenario 4: No Project Alternative

Under the No Project Alternative, no action would be taken. The No Project Alternative would involve no construction and no modification of the existing system. There would be no electrical benefit to the No Project Alternative.

1.3.3 System Evaluation Results

Construction of the Alberhill System Project (System Scenario 1) would initially provide 1,120 MVA of additional capacity within the Electrical Needs Area and provide the ability to reliably serve long-term electrical demand from the Valley South 115 kV System through the transfer of five existing 115/12 kV substations from the Valley South 115 kV System to the proposed Alberhill 115 kV System. The transfers of these substations would reduce the loading of the Valley South 115 kV System by a projected 420 MVA in 2014, bringing the loading of the Valley South 115 kV System transformers to well within operating limits.

The Alberhill System Project would increase system reliability and operational flexibility in the Electrical Needs Area by providing 115 kV subtransmission ties to the Valley South 115 kV System (which currently has none). These ties would allow SCE to transfer service of substations between the two systems under both normal and abnormal conditions. The formation of Alberhill System in the Electrical Needs Area would also allow for the transfer of additional 115/12 kV substations from the Valley South 115 kV System to the Alberhill System if that becomes necessary in the future.

System Scenario 2, the installation of an additional load-serving transformer in the Valley South 115 kV System, is not a feasible scenario because there is not sufficient space at Valley Substation to accommodate six 500/115 kV transformers (five load-serving plus one spare) and the property of Valley Substation cannot be expanded due to roads, railroads, and development surrounding the substation. This scenario is not a feasible scenario for addressing capacity shortfalls of the Valley South 115 kV System.

In addition, although System Scenario 3 would provide the capacity needed for SCE to safely and reliably serve electrical demand within the Valley South 115 kV System, it would only serve customer demand until 2015, at which point a new system project would again be required. Additionally, by 2013, approximately two years after the initial transfer of electrical demand from the Valley South 115 kV System to the Valley North 115 kV System, a new project would be required to add capacity to the Valley North System. System Scenario 3 does not meet the long-term needs of the Electrical Need Area and is eliminated from further consideration.

The No Project Alternative is not a viable scenario since it would prevent SCE from providing safe and reliable electrical service to its customers in the Electrical Needs Area. It would lead to frequent and prolonged electrical service interruptions and is therefore eliminated from further consideration.

As a result, SCE is proposing construction of System Scenario 1, the Alberhill System Project, to add transformer capacity to the Electrical Needs Area and to increase operational flexibility within the area presently served by the Valley South 115 kV System.

1.4 Basic Objectives

The California Environmental Quality Act (CEQA) and CEQA Guidelines (Section 15126.6(a)) require consideration of a reasonable range of alternatives to a proposed project, or the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project. SCE has identified the following basic objectives to meet the Proposed Project's purpose and need as described in this chapter:

- Serve current and long-term projected electrical demand requirements in the Electrical Needs Area
- Increase system operational flexibility and maintain system reliability by creating system ties that establish the ability to transfer substations from the current Valley South 115 kV System
- Transfer a sufficient amount of electrical demand from the Valley South 115 kV System to maintain a positive reserve capacity on the Valley South 115 kV System through the 10-year planning horizon
- Provide safe and reliable electrical service consistent with SCE's Transmission Planning Criteria and Guidelines
- Increase electrical system reliability by constructing a project in a location suitable to serve the Electrical Needs Area
- Meet project need while minimizing environmental impacts
- Meet project need in a cost-effective manner

SCE considered these basic objectives in developing a reasonable range of alternatives. Chapter 2, Project Alternatives, describes the process of developing alternatives and the selection of alternatives for analysis in this Proponent's Environmental Assessment (PEA).

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2.0 Project Alternatives

2.0 PROJECT ALTERNATIVES

The following sections describe the development of alternatives for the selection of the Alberhill Substation site, 500 kV transmission line segments to serve the Alberhill Substation, the required 115 kV subtransmission line modifications, and alternatives for a new 115 kV subtransmission line.

2.1 500/115 kV Substation Site Alternatives

Site selection for the Alberhill Substation began with the development of a Substation Target Area that delineated an area within which the Alberhill Substation would have the maximum electrical benefit for the Electrical Needs Area, and meet both the Purpose and Need for the project and be consistent with the Basic Objectives of the project. The Substation Target Area was developed using the following basic requirements:

- The substation site should be in proximity to the Serrano-Valley 500 kV transmission line to facilitate connection of the new substation to SCE's existing 500 kV transmission system

- The substation site should be in proximity to existing 115 kV subtransmission lines to facilitate the transfer of existing 115/12 kV substations from the Valley South 115 kV System to the new Alberhill System

- The substation site should be in proximity to planned development along the I-15 corridor to facilitate service of additional 115 kV substations, should they become required in the future

Substation sites would require a minimum parcel size of 40 acres. After a review of available land of 40 acres or more, three potential substation sites were identified. These sites are shown on Figure 2.1, Substation Sites Alternatives, and are described below. In addition, SCE also evaluated the Nevada Hydro Company's LEAPS Lake Switchyard site, as described in Section 2.1.1, LEAPS Lake Switchyard Site, below.

2.1.1 LEAPS Lake Switchyard Site

Previous applications from the Nevada Hydro Company to the CPUC for a Certificate of Public Convenience and Necessity (CPCN) to construct the Lake Elsinore Advanced Pump Storage (LEAPS) project have included a proposed switchyard on property between the I-15 freeway and Temescal Canyon Road adjacent to Lee Lake. SCE evaluated the LEAPS Lake Switchyard Site, and determined the site would be unsuitable for a 500/115 kV substation. The site is susceptible to liquefaction, and there is evidence of past faulting on and adjacent to the site. The site is less than 40 acres and is in a shape that can not accommodate the substation equipment. In addition, the 500 kV lines would have to be constructed over Lee Lake, presenting engineering and maintenance issues and potential environmental impacts. As a result, SCE did not pursue this site as a viable substation site alternative.

2.1.2 Alternative Site A

Alternative Site A is approximately 124 acres, on the north side of the intersection of Temescal Canyon Road and Concordia Ranch Road. It has been previously disturbed and is presently used as a horse farm. Although much of the northern part of the property has steep topography, a sufficient portion of the southern portion of the property is flat. This parcel has been designated light industrial in the Riverside County General Plan. This site is a viable site for the Alberhill Substation.

2.1.3 Alternative Site B

Alternative Site B is located on a west-facing slope of the Gavilan Hills. This site consists of two 80 acre parcels, totaling 160 acres. These parcels are not located adjacent to an existing paved road and would require cutting into the slope midway up the mountain along with extensive grading to accommodate the substation. This grading would be more than required for Alternative Site A. As a result, SCE did not pursue this site as a viable substation site alternative.

2.1.4 Alternative Site C

Alternative Site C consists of 45 acres located adjacent to and east of Alternative Site A. Although the size of the site is above the 40 acres needed for the substation, the site would require that the substation incorporate gas-insulated switchgear on both the high side and low side of the transformer banks in order to conserve space, increasing the cost of constructing and operating the substation. Extensive blasting/fracturing would be required for site preparation. Extensive waste material would be required to be removed from the site. As a result, SCE did not pursue this site as a practical substation site alternative.

2.1.5 Alberhill Substation Site Selection

The only viable and practical substation site identified during the siting process was Alternative Site A. As a result, SCE selected this site to construct the Alberhill Substation, and is in the process of purchasing the site. The entire substation property would total 124 acres. Due to the mountainous nature of the property, approximately 34 acres would be devoted to the substation and its surrounding improvements such as landscaping and access roads. With the exception of a portion of the site dedicated to the 500 kV transmission lines leading to the substation, the remaining property would not be disturbed.

2.2 500 kV Transmission Lines Segments

After the site selection for the Alberhill Substation concluded, SCE commenced development of 500 kV transmission line segment options to access the existing Serrano-Valley 500 kV transmission line to source the new substation. During this process, seven alternative routes were developed. These segments are shown on Figure 2.2, 500 kV Transmission Line Segment Alternatives.

Figure 2.1
Substation Site Alternatives

Substation Site Alternatives

Subtransmission Lines

Existing 115 kV (SCE, 2009)

Major Transmission Lines

Existing 500 kV (SCE, 2009)

N W E S

0 0.4 Miles

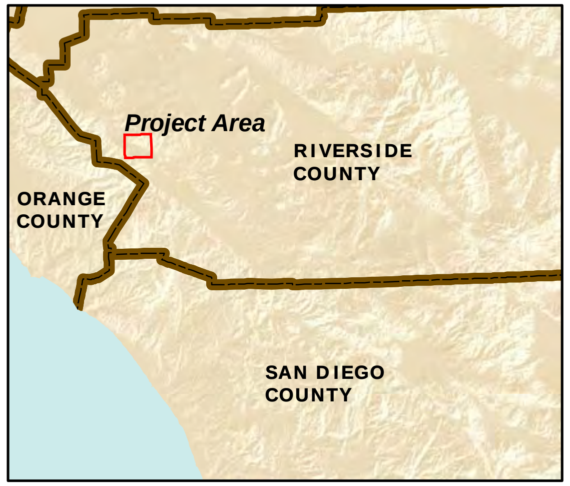

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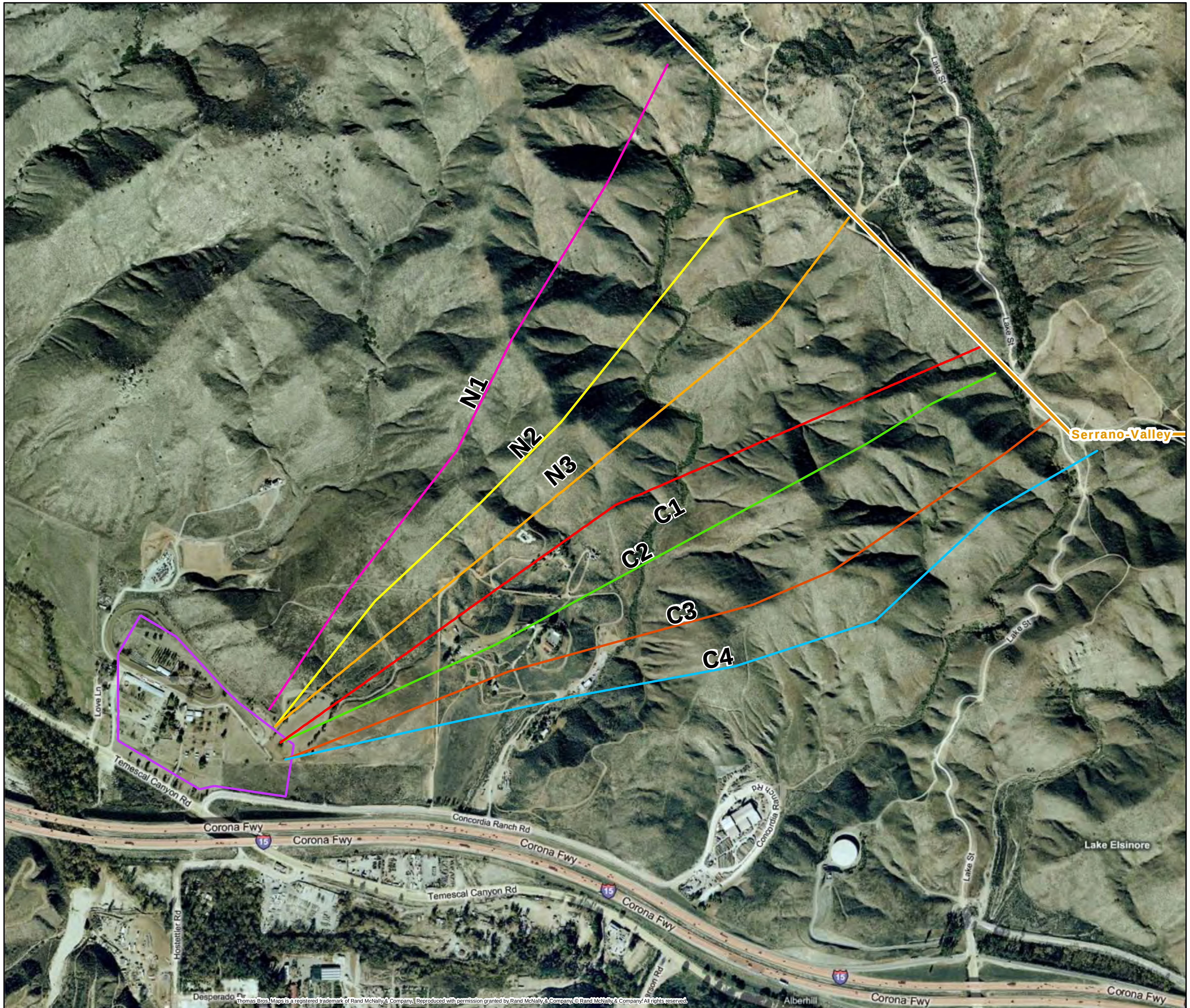
Figure 2.2
500 kV Transmission Line Segment Alternatives



500kV Transmission Alternatives

- Segment C1
- Segment C2
- Segment C3
- Segment C4
- Segment N1
- Segment N2
- Segment N3
- Existing 500 kV (SCE, 2006)
- Proposed Alberhill Substation

N
W E
S

0 0.2 Miles

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All the segments are viable segments, and originate at the Alberhill Substation and extend into a mountainous area through Critical Habitat and conservation land to the existing Serrano-Valley 500 kV transmission line. Only the segments' distinctive features are listed below.

- Segment N1: This segment crosses an area with the steepest topographic features, and some tower sites may not be accessible by road and would require helicopter construction
- Segment N2: This segment would have a greater number of dead-end structures, adding to the cost, and some tower sites may not be accessible by road and would require helicopter construction
- Segment N3: One of the straightest segments, minimizing the need for extensive engineering and minimizing use of large-sized towers
- Segment C1: One of the straightest segments, minimizing the need for extensive engineering and minimizing use of large-sized towers
- Segment C2: There is a residence in very close proximity to the segment, and the construction effort would require entry onto land managed by the Bureau of Land Management
- Segment C3: The construction effort would require entry onto land managed by the Bureau of Land Management
- Segment C4: The longest segment and would have a comparatively greater number of large-sized towers and access roads

2.2.1 500 kV Transmission Line Segment Selection

SCE selected Segments N3 and C1 as the 500 kV transmission line segments to connect the Alberhill Substation to the existing Serrano-Valley 500 kV transmission line. These two segments are anticipated to have the fewest construction issues, and would require the fewest number of large-sized towers.

2.3 115 kV Subtransmission Lines

SCE evaluated the ability of the existing subtransmission lines to support the transfer of the Ivyglen, Fogarty, Elsinore, Skylark, and Newcomb Substations to the new Alberhill 115 kV system. As a result of this evaluation, portions of four existing 115 kV subtransmission lines were identified as requiring additions or extensions in order to reliably serve existing substations from the new Alberhill Substation. This change in configuration is shown on Figure 2.3, Alberhill System Configuration. The existing lines that require additional circuits are described in detail in Chapter 3, Project Description.

As shown on Figure 2.3, Alberhill System Configuration, there is no existing connection between Newcomb Substation and Skylark Substation. Both Newcomb Substation and

Skylark Substation are presently connected to Valley Substation from two separate subtransmission lines, each originating at Valley Substation. Because both Newcomb Substation and Skylark Substation would be served from the new Alberhill System, a connection is necessary between Newcomb and Skylark Substations to maintain the minimum number of source lines for each substation. Two potential new 115 kV subtransmission routes were identified to accomplish this connection and are described below.

2.3.1 New 115 kV Subtransmission Line Segment Alternatives Considered

2.3.1.1 New 115 kV Subtransmission Line Segment Alternative 1

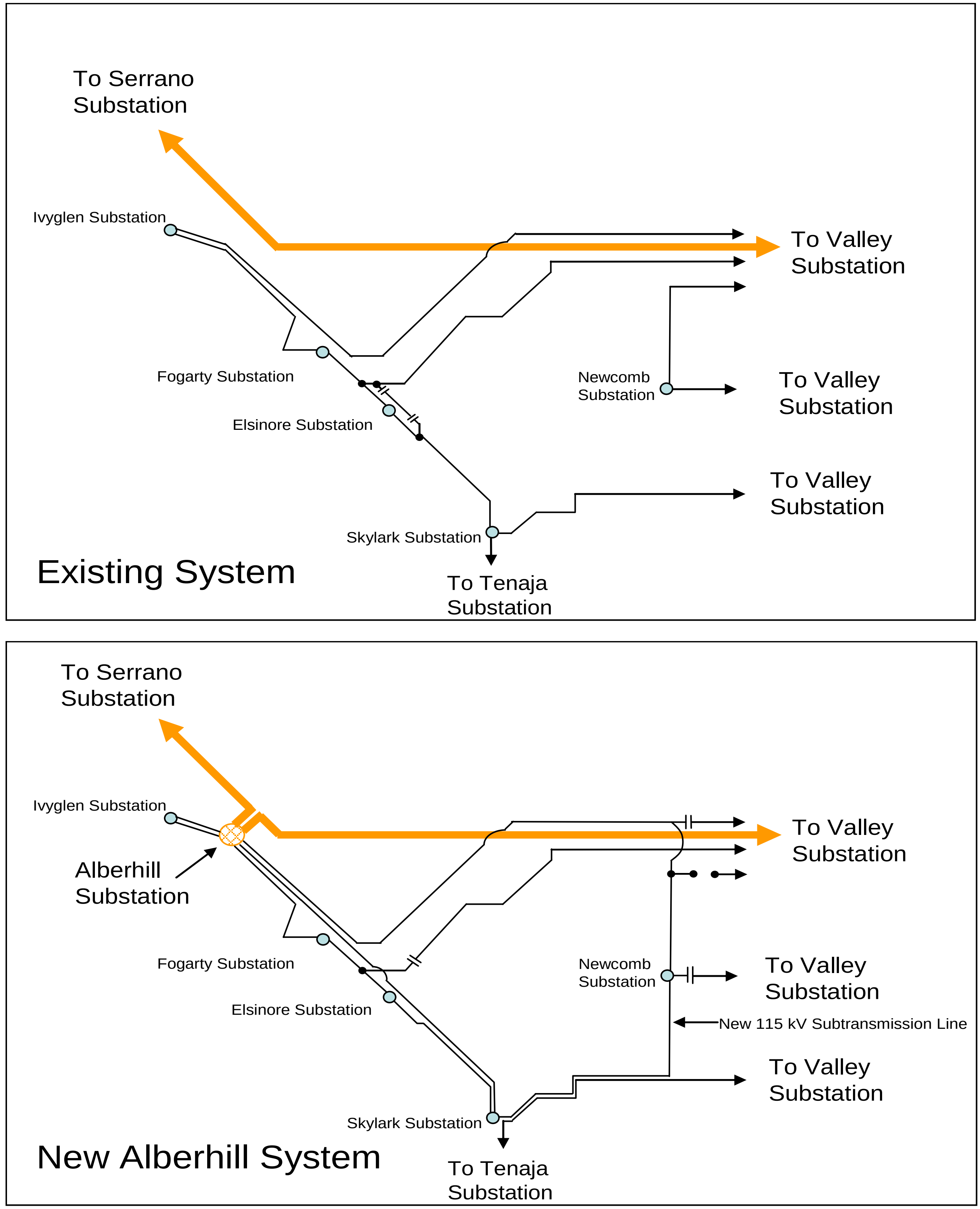
New 115 kV Subtransmission Line Segment Alternative 1 originates at the intersection of Newport Road and Murrieta Road in the City of Menifee. The route travels south along an existing SCE distribution line route on the west side of Murrieta Road to the intersection of Murrieta Road and Bundy Canyon Road where it would connect to the Valley-Skylark 115 kV subtransmission line ROW. The entire segment alternative would follow SCE’s existing distribution lines.

In total, New 115 kV Subtransmission Line Segment Alternative 1 is approximately 3 miles long, and crosses land that is presently undeveloped, rural residential, or is used as an exterior buffer for new housing developments.

2.3.1.2 New 115 kV Subtransmission Segment Alternative 2

New 115 kV Subtransmission Line Segment Alternative 2 originates at the intersection of Newport and Murrieta Roads in the City of Menifee. The route travels south along an existing distribution line on the west side of Murrieta Road for approximately 1 mile to the intersection of Murrieta Road and Holland Road, and then turns west on Holland Road for approximately 0.5 miles to the intersection of Holland Road and Byers Road. The route would travel south and west on Byers Road for approximately 2 miles and then follow Waldon Road for approximately 0.5 miles to the intersection of Waldon Road and Bundy Canyon Drive and the Valley-Skylark 115 kV subtransmission line ROW. The entire segment alternative would follow SCE’s existing distribution lines.

In total, New 115 kV Subtransmission Line Segment Alternative 2 is approximately 4 miles long, and crosses land that is presently undeveloped or is used for rural residential purposes.



LEGEND

- 500 kV Transmission Line
- 115 kV Subtransmission Line
- 115 kV Subtransmission Line Open Switch
- 115 kV Subtransmission Line Open Span

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Figure 2.3
Alberhill System Configuration

2.3.2 New 115 kV Subtransmission Line Segment Alternative Recommendation

Both New 115 kV Subtransmission Segment Alternatives 1 and 2 have the ability to serve the Alberhill Substation Project. However, New 115 kV Subtransmission Line Segment Alternative 1 would be built along paved roads, facilitating access for construction and maintenance. New 115 kV Subtransmission Line Segment Alternative 1 is also shorter in length, slightly reducing the amount of new construction required for the project.

New 115 kV Subtransmission Segment Alternative 2 would require construction on unpaved roads in hilly terrain along a route that is slightly longer in length. This would require more earthwork and dust control during construction.

For these reasons, New 115 kV Subtransmission Line Segment Alternative 1 was selected as the preferred route.

2.4 Proposed Project

SCE proposes to construct the Alberhill System Project utilizing the Substation Site Alternative A, 500 kV transmission line segments N3 and C1, and New 115 kV Subtransmission Line Segment Alternative 1 (Proposed Project). The Proposed Project meets the basic objectives of the Alberhill System Project, and is described in detail in Chapter 3, Project Description.

New 115 kV Subtransmission Line Segment Alternative 2 is evaluated in this PEA as an Alternative 115 kV Segment to the Proposed Project.

These components are shown on Figure 2.4, Proposed Project and Alternative.

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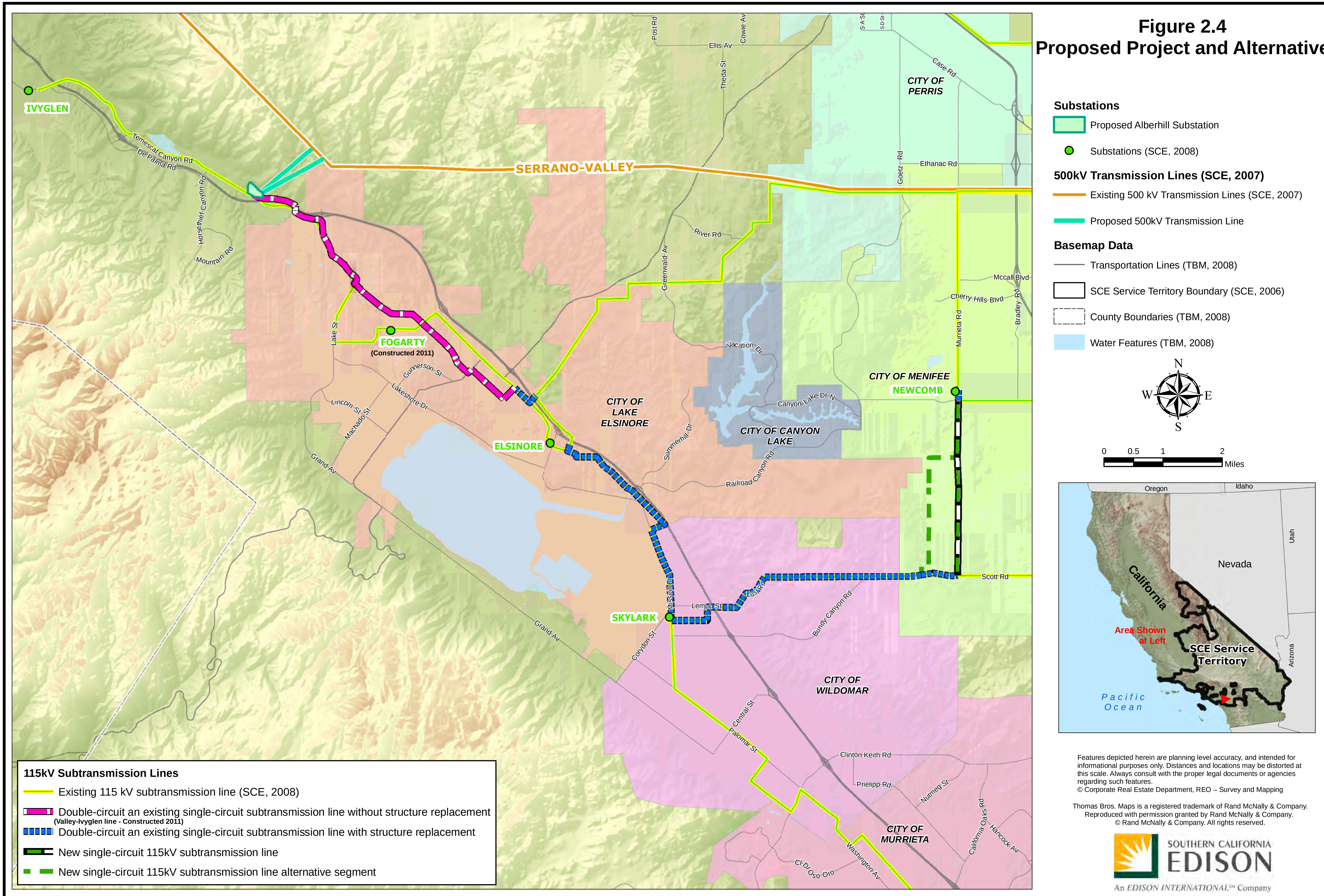

Major Transmission Projects - Alberhill Sub Project

3.0 Project Description

3.0 PROJECT DESCRIPTION

The proposed Alberhill System Project includes the following components:

- Construction of a new 1,120 MVA 500/115 kV substation to increase electrical service capacity to the area presently served by the Valley South 115 kV System
- Construction of two new 500 kV transmission line segments to connect the new substation to SCE's existing Serrano-Valley 500 kV transmission line
- Construction of a new 115 kV subtransmission line and modifications to existing 115 kV subtransmission lines to transfer five existing 115/12 kV substations (Ivyglen, Fogarty, Elsinore, Skylark, and Newcomb Substations) presently served by the Valley South 115 kV System to the new 500/115 kV substation
- Installation of telecommunications improvements to connect the new facilities to SCE's telecommunications network

The Proposed Project is described in more detail below. The Alberhill Substation would be constructed in unincorporated Riverside County. Construction of the 500 kV transmission line segments between the Alberhill Substation and the existing Serrano-Valley 500 kV transmission line would occur in unincorporated Riverside County and within the northwestern boundary of the City of Lake Elsinore. The new and modified 115 kV subtransmission lines would be constructed in unincorporated Riverside County and the cities of Lake Elsinore, Wildomar, and Menifee.

3.1 Proposed Project Components

3.1.1 Alberhill Substation Description

The Proposed Alberhill Substation would be an unstaffed, automated, 1,120 MVA 500/115 kV substation capable of an ultimate buildout of 1,680 MVA. Because the substation would be located in an area susceptible to earthquake forces, the substation structures would be designed consistent with the Institute of Electrical and Electronic Engineers (IEEE) 693, Recommended Practices for Seismic Design of Substations. Its components are described in more detail below.

3.1.1.1 500 kV Switchrack

The proposed 500 kV switchrack would be comprised of gas-insulated switchgear contained within a steel enclosure measuring approximately 350 feet long, 60 feet wide, and 49 feet in height. Four dead end structures would be erected outside the gas-insulated switchgear enclosure to facilitate connections between the two 500 kV transmission line segments and the switchrack, and each would be approximately 90 feet long and 108 feet high.

The 500 kV switchrack would consist of six positions with two operating buses and arranged in a breaker-and-a-half configuration. Initially, four positions would be installed. Four positions would be equipped for two 500 kV line positions and two transformer bank positions.

3.1.1.2 115 kV Switchrack

The 115 kV switchrack would consist of eleven bays with two operating buses in a breaker-and-a-half configuration. Initially, seven positions would be installed. One position would be equipped for bus sectionalization, and five positions would be equipped for five 115 kV lines and two 115 kV transformer bank positions. One position would remain empty but is necessary to maintain the alignment of the 115 kV lines as they exit the substation. The 115 kV switchrack would use a high and low dead-end structure with heights of 60 feet and 43 feet, respectively.

3.1.1.3 Transformers

Transformation would initially occur using two 560 MVA 500/115 kV transformers, with an ultimate capability for three transformers in service, plus the spare transformer as required by SCE's Transmission Planning Criteria and Guidelines. Each 560 MVA transformer would be approximately 37 feet high.

3.1.1.4 Capacitor Banks

One 115 kV capacitor bank rated at 46.8 megavolts ampere reactive (MVAR) would be installed with a circuit breaker and a disconnect switch. The capacitor bank would be approximately 14 feet high. In addition, should they be required at a future date, space is reserved at the substation site for three additional 115 kV capacitor banks and two 500 kV capacitor banks.

3.1.1.5 Control Building

The monitoring equipment for the substation would be located in a permanent control building structure that would typically be constructed of concrete block, and would include a full basement. This building would require a building permit, and would be designed consistent with the applicable California Building Code standards for the area. The control building would be equipped with air conditioning, control and relay panels, a battery and battery charger, AC and DC distribution, a human-machine interface rack, communication equipment, and local alarms. The control building dimensions would be approximately 64 feet wide, 110 feet long, and 20 feet high.

3.1.1.6 Substation Electrical Power

The new substation would have three independent sources of electrical power for the control building and other ancillary facilities. The primary source of power to the control building would be an output of one of the substation's main transformers. A second source would be a nearby distribution line that would be connected to the substation site.

For use in case of emergency, one 500 kVA 120/240 volt 3-phase stationary backup generator would be installed at the substation site for emergency backup power. It would have a diesel tank capable of storing approximately 960 gallons of fuel. The stationary generator would be permitted by the South Coast Air Quality Management District.

3.1.1.7 Restroom Facility

A stand-alone prefabricated permanent restroom would be installed within the substation perimeter near the control building. Domestic water is currently available at the site and would serve the restroom as well as irrigation required for landscaping. The site is not served by a public sewer system, so a new septic system would be installed and permitted by Riverside County. The restroom enclosure would be approximately 10 feet high, 10 feet long and 10 feet wide.

3.1.1.8 Substation Access

Presently, access to the proposed substation site and to privately owned properties to the north of the substation site is attained from Temescal Canyon Road along an unpaved private road leading to Love Lane at the north of the substation site. The present location of this road is within the footprint of Alberhill Substation, and would have to be relocated prior to substation construction.

The private road would be relocated to the western boundary of the substation property and serve as the primary access to the substation's main gate. The relocated private road would become a 36-foot wide paved road extending approximately 250 feet north of Temescal Canyon Road. At that point a 30-foot wide paved substation access driveway would connect to the main substation gate. The remainder of the relocated private road would be unpaved and would extend to the north joining with the existing unpaved Love Lane, approximately 400 feet north of the substation entrance.

The substation entrance would have an electrically operated gate for two-way traffic access into the substation (shown on Figure 3.1, Alberhill Substation Layout). A similar secondary access gate would be located on Temescal Canyon Road. A third manually operated gate located at the eastern end of the substation would provide access to the 500 kV transmission line corridors. All access gates would be a minimum of 8 feet in height. The primary and secondary gates would be approximately 40 feet wide while the transmission line access gate would be 24 feet wide. In addition, SCE would install a walk-in gate within the substation wall for additional access into the substation.

Within the substation enclosure, one 45-foot wide driveway and a series of 30-foot wide driveways would facilitate vehicular movement around the substation equipment. In addition, a 7,600 square foot parking area would be constructed within the substation enclosure for vehicular parking.

3.1.1.9 Substation Site Preparation

Water Line Relocation

An existing 30 inch gravity agricultural water line owned and operated by the Elsinore Valley Municipal Water District (EVMWD) currently crosses through the proposed substation site. Relocation of this water line would be required prior to any substation grading or construction. The relocation of this line is not expected to have any impact on local water service.

The new water line alignment would begin with a connection to the existing pipe at the southeast corner of the substation site near Temescal Canyon Road, and continue in a northwest direction to follow the relocated private road, and connect to the existing water line at the northwest corner of the substation site. On average, the trench excavated to install the new water line would be approximately 4 feet wide and 6 feet deep, and be approximately 1,700 feet long. SCE would consult with EVMWD prior to construction, and would build the new water line to EVMWD specifications. The existing pipe would be removed and disposed of off-site.

Demolition

The site is an existing horse ranch with improvements consisting of frame buildings, stables, corrals, and fences. Removal of all improvements would be required prior to the commencement of site grading. The location of the existing site septic system would be identified and the proper measures would be taken to remove and fill the facility.

3.1.1.10 Substation Drainage

The substation site would be graded to a slope between one and two percent and compacted to 90 percent of the maximum dry density. Construction of the substation would interrupt the existing drainage patterns throughout the site and would require diversion around the substation to areas where percolation would continue or through channels and pipes to be installed to the existing discharge point at the Temescal Wash along the southwest corner of the substation property. The drainage would be designed to maintain a discharge of stormwater runoff from the site consistent with that currently experienced at the site. SCE would consult with Riverside County prior to finalizing the substation drainage design.

3.1.1.11 Substation Site Ground Surface Improvements

The ground surface of the substation site would be finished with materials imported to the site and materials excavated and used on the site. These materials, and their approximate square footage and volumes are listed in Table 3.1, Substation Ground Surface Improvement Materials and Volumes.

Figure 3.1
Alberhill Substation Layout

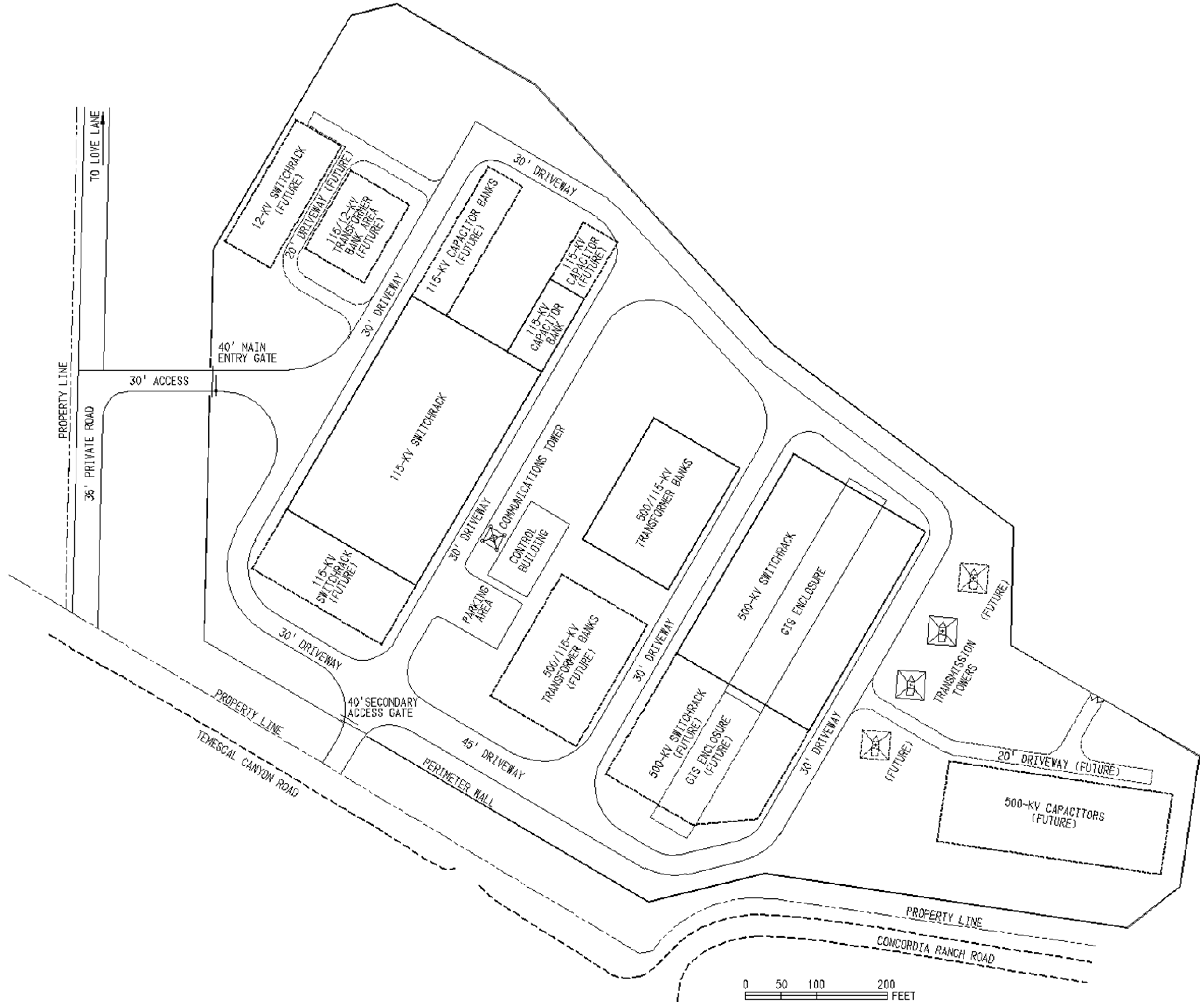

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Table 3.1 Substation Ground Surface Improvement Materials and Volumes

Element	Material	Approximate Surface Area (sq ft)	Approximate volume (cu yd)
Site grading, cut	Soil	740,000	70,000
Site grading, fill[1]	Soil	740,000	63,000
Drainage structures	Concrete	12,500	650
Substation equipment foundations	Concrete	49,000	10,000
Cable trenches[2]	Concrete	80	6
Water line relocation	Soil	68,000	1,500
Internal driveways	Asphalt Concrete/ Class II aggregate	140,000	3,400
External roads	Asphalt Concrete/ Class II aggregate	16,000	500
Rock surfacing	Crushed rock	870,000	10,800
Wall foundation	Concrete	4,300	320

Notes:
[1]Includes allowances for shrinkage and settlement.
[2]The concrete cable trenches are factory fabricated and delivered to the site.

Based on preliminary design, approximately 8,000 cubic yards of soil, vegetation, and rock would be removed from the site. Any waste material would be handled as described in Section 3.7, Waste Management.

Approximately 10,000 cubic yards of soil would be excavated as a result of excavation for foundation and building footings. This soil would be stock piled during excavation and ultimately would be graded and compacted on site.

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

3.1.1.12 Substation Lighting

The proposed substation would have access and maintenance lighting. The access lighting would be low-intensity and controlled by a photo sensor. Maintenance lights would be controlled by a manual switch and would normally be in the "off" position. Maintenance lights would be used only when required for maintenance outages or emergency repairs occurring at night. The lights would be located in the switchracks, around the transformer banks, and in areas of the substation where maintenance activity may take place, and would be directed downward and shielded to reduce glare outside the facility.

Each gate at the substation would have a beacon light installed for safety and security purposes. It would be illuminated only while the gate is open or in motion. Typically, SCE utilizes double flash strobe lights as beacon lights on substation gates.

3.1.1.13 Substation Perimeter

An 8-foot high perimeter wall would surround the substation. The wall would be made of concrete panels or decorative block, consistent with safety standards for major electrical facilities, and consistent with surrounding community standards (subject to the requirements of SCE). At a minimum, a band of at least three strands of barbed wire would be affixed near the top of the perimeter wall inside of the substation and would not be visible from the outside.

Landscaping and irrigation would be installed after the substation wall is constructed. Prior to the start of the substation construction, SCE would develop a landscaping and irrigation plan that is consistent with surrounding community standards.

3.1.2 500 kV Transmission Line Connection

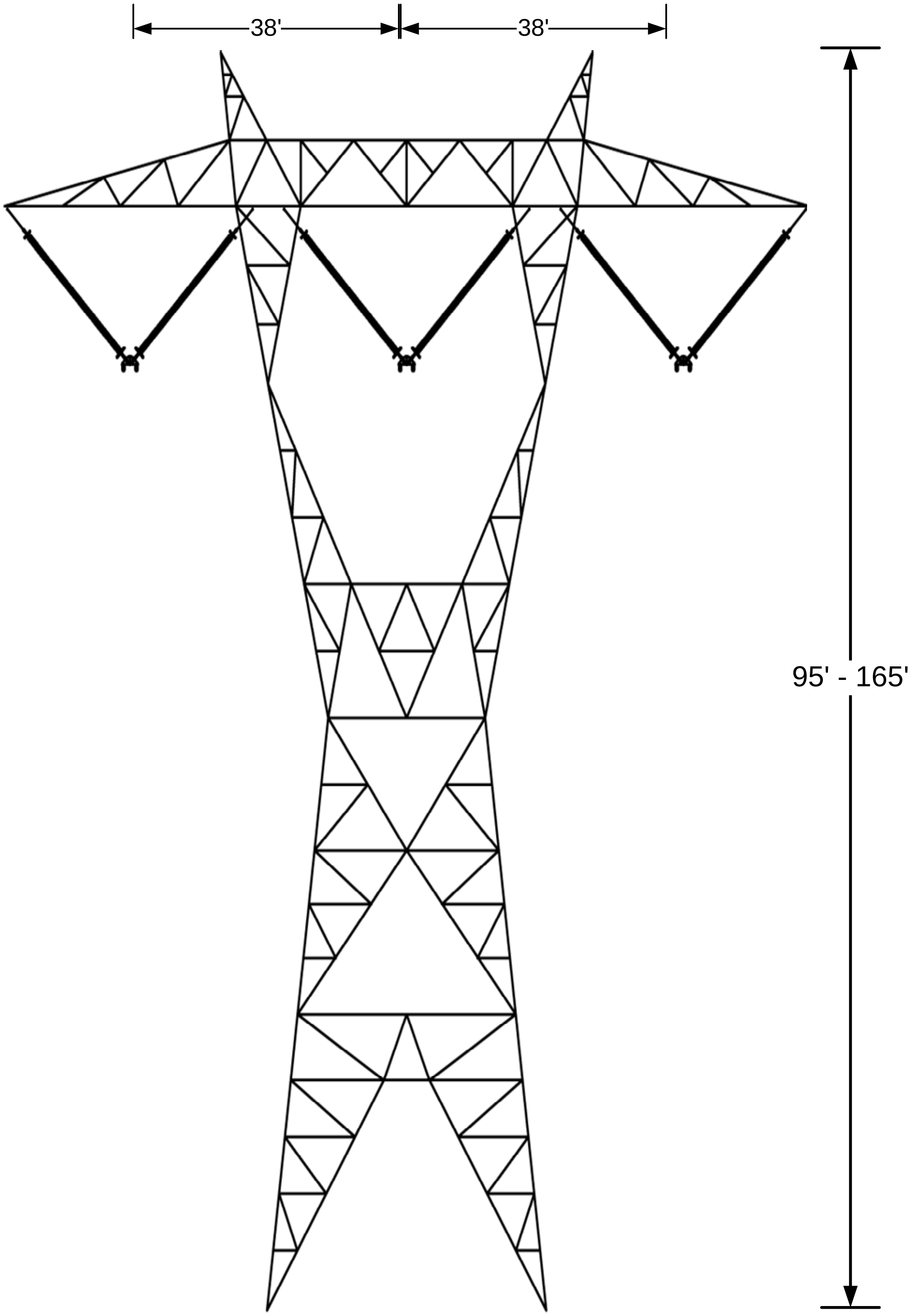
Two new 500 kV transmission line segments would connect the Alberhill Substation to the existing Serrano-Valley 500 kV transmission line. To reliably operate the Proposed Project, two 500 kV transmission line segments on separate structures are required to interconnect the substation to the Serrano-Valley 500 kV transmission line as shown on Figure 2.1, Proposed Project and Alternative. The northern segment is approximately 1.1 miles long, and the southern segment is approximately 1.2 miles long.

Construction of the two 500 kV transmission line segments would require approximately twelve single circuit lattice towers. Approximately five towers would be utilized for the southern segment and approximately five towers would be utilized for the northern segment. Approximately four existing towers on the Serrano-Valley 500 kV transmission line would be removed and replaced with two new towers to facilitate the connection.

Based on preliminary designs, the towers would have a dull galvanized steel finish and would range in height from approximately 95 to 172 feet, with span lengths between towers ranging between approximately 400 to 2,100 feet. Lattice steel structures typically require an excavated hole of 3 to 6 feet in diameter and 20 to 45 feet deep. On average each foundation would extend above the ground between approximately 1 to 4 feet. See Figure 3.2, Typical 500 kV Transmission Structure, for a depiction of tower designs for the 500 kV line segment structures. The information presented in this section is based on preliminary engineering and design, and refinement during final engineering design may result in components that are modified from the descriptions provided in this PEA.

Figure 3.2

Typical 500 kV Tower



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The towers used for the 500 kV transmission line segments would support 2,156 kcmil non-specular aluminum conductor steel reinforced (ACSR) conductors, polymer insulators, one optical ground wire (OPGW), and one overhead groundwire (OHGW) for telecommunications and shielding.

Each structure site would require 24-hour vehicular access during operation of the Proposed Project for emergency and maintenance activities. Approximately 2 miles of 14-wide access roads and spur roads would be installed with the 500 kV transmission line segments ROW. The road may be wider in areas that require slope stabilization. Existing and new access roads and spur roads for the Proposed Project are shown in Appendix D, Proposed Project Road Story.

3.1.3 115 kV Subtransmission Line Description

The Alberhill System Project would require modification of existing 115 kV subtransmission facilities and construction of new 115 kV subtransmission facilities. The modification of existing 115 kV facilities include:

- Double-circuit an existing single-circuit 115 kV subtransmission line without structure replacement (approximately 6.5 miles)
- Double-circuit an existing single-circuit 115 kV subtransmission line with structure replacement (approximately 8 miles)
- Replace an existing pole with a new switch pole
- Replace two existing poles with new poles at an existing I-15 freeway crossing

In addition, the Alberhill System Project would require the following new facilities:

- Construct a new 115 kV subtransmission line (approximately 3 miles)
- Install new 115 kV subtransmission structures at the Alberhill Substation site
- Install new 115 kV subtransmission structures within SCE's existing Serrano-Valley 500 kV corridor

These components are shown on Figure 3.3, 115 kV Subtransmission Line Description, and are described in detail in the sections below.

Construction of the new and modified 115 kV subtransmission lines would utilize light weight steel (LWS) poles, tubular steel poles (TSPs), H-frames, and switch poles. Each structure would support polymer insulators and 954 stranded aluminum conductor. The dimensions of these structures are shown on Figure 3.4, Typical 115 kV Subtransmission Structures, and summarized in Table 3.2, Typical 115 kV Subtransmission Structure Dimensions. Because the Proposed Project is located in a raptor concentration area, all

115 kV subtransmission structures would be designed to be consistent with the Suggested Practices for Raptor Protection on Power Lines: the State of the Art in 2006[2].

Table 3.2 Typical Subtransmission Structure Dimensions

Pole Type	**Approximate Diameter**	**Approximate Height Above Ground**	**Approximate Auger hole Depth**	**Approximate Auger Diameter**
Light Weight Steel (LWS)[†]	Between 1.5 and 2.5 feet	Between 65 and 91 feet	Between 7 and 10 feet	Between 2 and 3 feet
Tubular Steel Pole (TSP)	Between 2 and 4 feet	Between 70 and 100 feet	Not applicable	Not applicable
TSP Concrete Foundation	Between 5 to 8 feet	2 feet	Between 20 and 40 feet	Between 5 and 8 feet

Note: Specific pole height and spacing would be determined upon final engineering and would be constructed in compliance with CPUC General Order 95.
[†]The H-frames would utilize two LWS poles approximately 12 feet apart

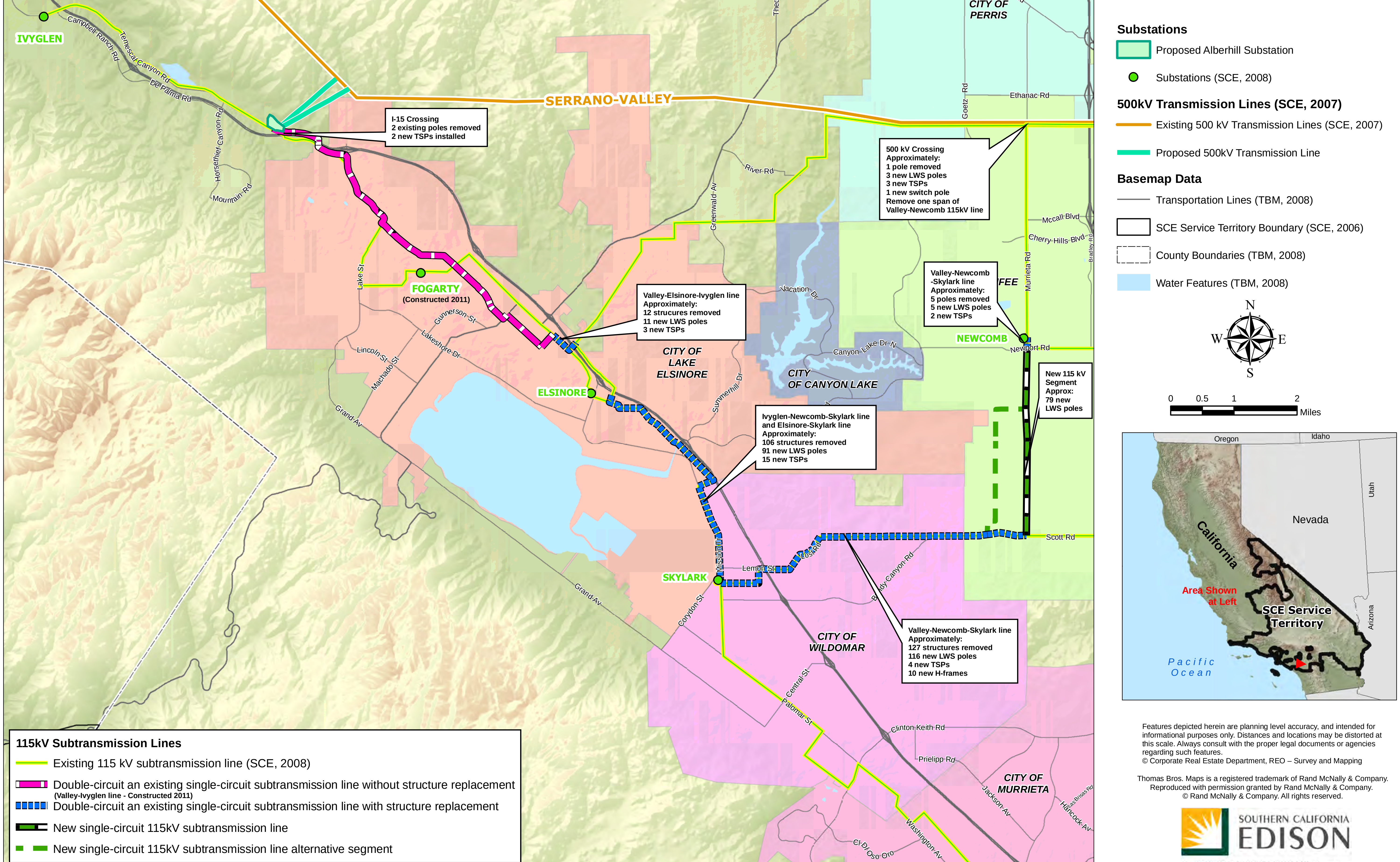
Light weight steel poles would be direct buried and extend approximately 65 to 91 feet above ground. The diameter of LWS poles are typically 1.5 to 2 feet at the base, and taper to approximately 1 foot at the top of the pole. Approximately 304 LWS poles would be utilized for the Proposed Project.

The TSPs are used in areas where the length and strength of LWS poles are inadequate, such as freeway crossings, turning points, and other locations where extra structure strength is required. The TSPs utilized for the Proposed Project would extend between 70 feet and 100 feet above ground, and the tallest poles would be used at crossings of the I-15 freeway. The TSPs would be attached to a concrete foundation approximately 5 to 8 feet in diameter that extends between approximately 20 to 40 feet below ground and may extend up to 2 feet above ground. Approximately 40 TSPs would be utilized for the Proposed Project.

H-frame structures would also be used for the Proposed Project. H-frames are used in areas where extra structure strength is required. These structures are shown on Figure 3.4, Typical 115 kV Subtransmission Structures, and would range in height from approximately 65 feet to 75 feet above ground. Approximately 10 H-frames would be utilized for the Proposed Project.

[2] Suggested Practices for Raptor Protection on Power Lines: the State of the Art in 2006 is published by the Edison Electric Institute and the Avian Power Line Interaction Committee in collaboration with the Raptor Research Foundation.

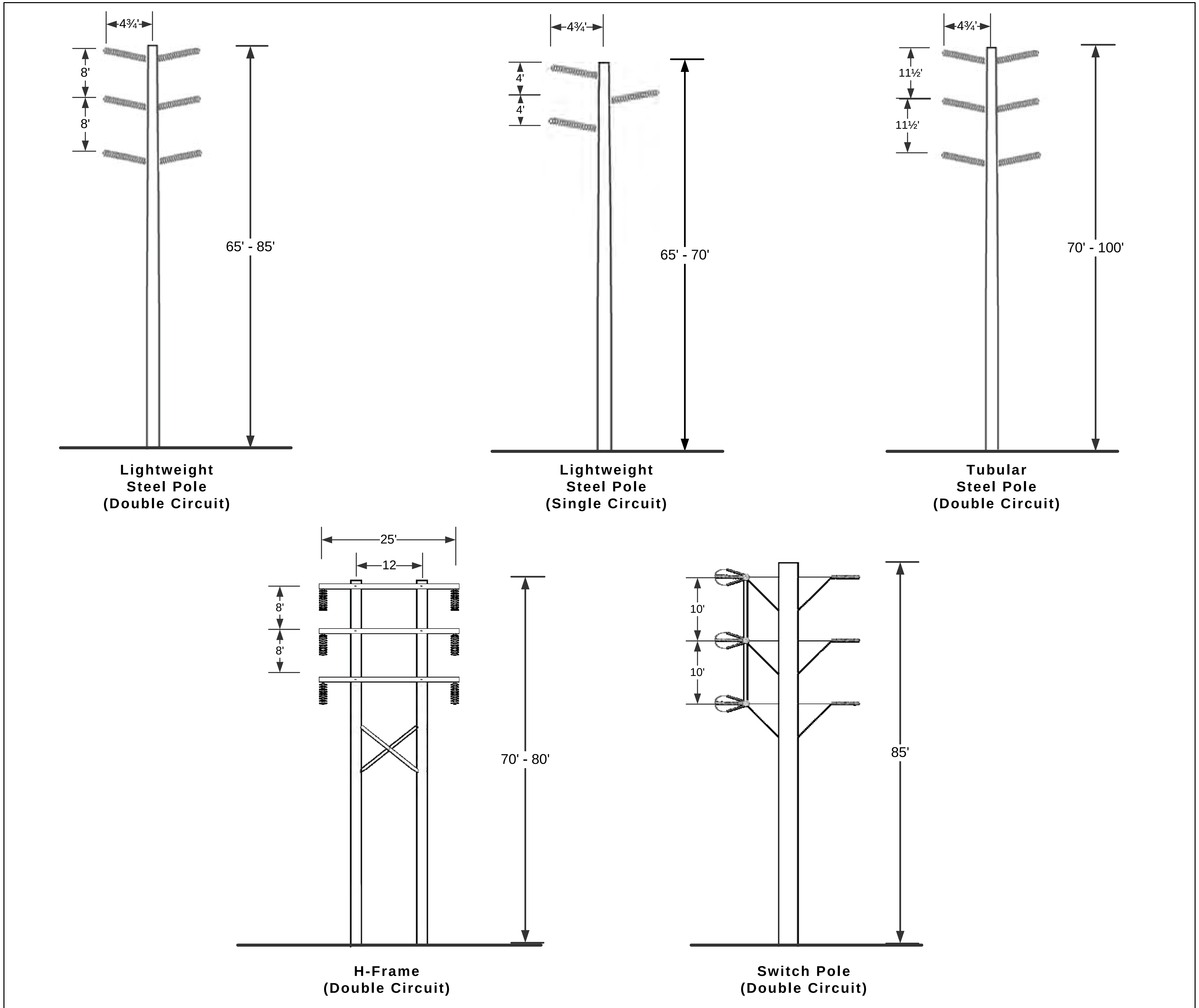
Figure 3.3
115 kV Subtransmission Line Description



Major Transmission Projects - Alberhill Sub Project

Figure 3.4

Typical 115 kV Subtransmission Structures



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Switch poles are used in specific locations to create system ties that can be opened or closed. The switch pole for the Proposed Project would be approximately 85 feet high and would be made of LWS.

3.1.3.1 Double-circuit an existing single-circuit 115 kV subtransmission line without structure replacement

Pending approval from the CPUC, SCE will be constructing a new 115 kV subtransmission line between Valley Substation and Ivyglen Substation as part of the Valley-Ivyglen/Fogarty Project (CPUC Application Nos. A.07-01-031 and A.07-04-028).

The Alberhill System Project would require that an approximate 6.5 mile portion of the Valley-Ivyglen 115 kV subtransmission line be double-circuited between the Alberhill Substation site and the intersection of Third Street and Collier Avenue. Because the new Valley- Ivyglen 115 kV subtransmission line has been designed to support two circuits, it is not anticipated that additional structures or structure replacement would be required. This portion of the Alberhill 115 kV subtransmission line modifications would require the addition of crossarms, anchors, insulators, and 954 SAC to existing structures.

The double-circuiting of an existing single-circuit subtransmission line without structure replacement would begin at the Alberhill Substation and follow Concordia Ranch Road to its terminus, cross the I-15 freeway to Temescal Canyon Road, to Lake Street. From that point, the line would be located within a proposed Castle & Cooke utility corridor that follows the present alignment of Lake Street to Coal Avenue. The line would then follow Coal Avenue to Nichols Road, then turn southeast on Baker Street Avenue to Riverside Avenue (State Route 74). The route crosses a drainage channel and continues southeast on Pasadena Avenue, then turns northeast on Third Street to the intersection of Third Street and Collier Avenue. However, the final route of this portion of the subtransmission modifications would be dependent on CPUC final approval of the Valley-Ivyglen line, expected in late 2009/early 2010.

3.1.3.2 Double-circuit an existing single-circuit 115 kV subtransmission line with structure replacement

Portions of four existing single-circuit 115 kV subtransmission lines would need to be removed and new structures capable of supporting a double-circuit subtransmission line would need to be installed.

<u>Valley-Elsinore-Ivyglen 115 kV Subtransmission Line</u>

An approximate 0.3 mile section of the existing Valley-Elsinore-Ivyglen 115 kV subtransmission line in the City of Lake Elsinore between the intersection of Third Street and Collier Avenue and the intersection of Second Street and Camino del Norte, would require new structures to support a second circuit. This section would rebuild an existing crossing of the I-15 freeway, and require the removal of approximately 12 existing structures and the installation of approximately 11 new LWS poles and three TSPs.

Ivyglen-Newcomb-Skylark and Elsinore-Skylark 115 kV Subtransmission Lines

Approximately 4.5 miles of existing 115 kV subtransmission lines in the cities of Lake Elsinore and Wildomar between the intersection of East Hill Street and Flint Street and Skylark Substation would require new structures to support a second circuit. Three poles paralleling East Hill Street on the Ivyglen-Newcomb-Skylark 115 kV subtransmission line would be replaced, and approximately 104 poles of the existing Elsinore-Skylark 115 kV subtransmission line along Franklin Street, Auto Center Drive, Casino Drive, Malaga Road, and Mission Trail to Skylark Substation would be replaced. This section would require removal of approximately 106 existing structures and the installation of approximately 91 new LWS poles and approximately 15 new TSPs .

Valley-Newcomb-Skylark 115 kV Subtransmission Line

An approximate 5.5 mile section of the existing Valley-Newcomb-Skylark 115 kV subtransmission line between Skylark Substation and the intersection of Scott Road and Murrieta Road in the cities of Wildomar and Menifee would require new structures to support a second circuit. From Skylark Substation, this section of line follows Waite Street, turns north on Almond Street, turns east on Lemon Street, and crosses the I-15 freeway. The line then follows Lost Road, and generally follows Crab Hollow Circle to Beverly Street, where it then follows Bundy Canyon Road and Scott Road to the intersection of Scott Road and Murrieta Road. This section would require the removal of approximately 127 existing structures and installation of approximately 116 new LWS poles, four new TSPs, and 10 new H-frame structures.

There is a second section of the Valley-Newcomb-Skylark 115 kV subtransmission line in the City of Menifee that would be modified as part of the project. An approximate 0.2 mile section of the existing Valley-Newcomb-Skylark 115 kV subtransmission line between Newcomb Substation and the intersection of Newport Road and Murrieta Road would need to be replaced with structures capable of supporting a double circuit. This section would require the removal of approximately five existing structures and installation of approximately five new LWS poles and approximately two new TSPs.

New Switch Pole and New Poles at Existing I-15 Freeway Crossing

A new switch pole would be installed immediately east of the intersection of Murrieta Road and the Serrano-Valley 500 kV corridor in the City of Menifee in order to facilitate transfers between the Valley South 115 kV System and the Alberhill System. In addition, one span of wire on the Valley-Newcomb 115 kV subtransmission line would be removed.

Two existing 115 kV subtransmission poles would be replaced at the existing I-15 freeway crossing immediately south of the Alberhill Substation site. This area is shown on Figure 3.3, 115 kV Subtransmission Line Description.

3.1.3.3 New 115 kV Subtransmission Lines

A distribution line approximately 3 miles long between the intersection of Newport Road and Murrieta Road and Murrieta Road and Bundy Canyon Road would be rebuilt as a single-circuit 115 kV subtransmission line and the existing distribution line would be transferred to the new 115 kV structures below the 115 kV circuit. This section would require the removal of approximately 66 existing poles and installation of approximately 78 new LWS poles.

Approximately 11 new TSPs would be installed at the Alberhill Substation site and Concordia Ranch Road to facilitate the 115 kV subtransmission connection from the Alberhill Substation to existing 115 kV subtransmission lines along Concordia Ranch Road.

In addition, a connection between the Valley-Ivyglen 115 kV subtransmission line on the north side of the Serrano-Valley 500 kV corridor and the Valley-Newcomb 115 kV subtransmission line located on the south side of the corridor, would be made. This section is approximately 300 feet long and would require removal of approximately one existing structure, and installation of approximately three LWS poles and three TSPs. An access road would also be installed. This area is shown on Figure 3.3, 115 kV Subtransmission Line Description.

3.1.4 Telecommunications Improvements

The proposed Alberhill Substation requires the installation of new telecommunication infrastructure to protect the transmission and subtransmission lines and provide protective relaying, data transmission, and telephone services to the substations served by the Alberhill 115 kV System. These new facilities include modifications to the existing SCE microwave system and the addition of new fiber optic cable.

3.1.4.1 Microwave System

To connect the Alberhill Substation to SCE’s microwave communications system, a 120-foot tall antenna tower would be built at Alberhill Substation to provide a line of sight with an antenna tower at Santiago Peak Communications Site, approximately 7 miles to the southwest.

In total, three new microwave dish antennas would be installed on existing tower structures: two at Santiago Peak Communications Site (one directed at the Alberhill Substation, and one directed at Serrano Substation), and one microwave dish antenna would be installed at Serrano Substation and directed at the Santiago Peak Communications Site. Typical microwave dish antennas are approximately 10 feet in diameter.

New microwave radios and new channel equipment would also be installed inside the existing telecommunications control room at Santiago Peak, Serrano Substation, and the new telecommunications control room to be installed at Alberhill Substation.

3.1.4.2 Fiber Optic Cable

Alberhill Substation would be connected to an existing fiber optic system serving Valley, Mira Loma, and Serrano Substations. In addition, the five 115/12 kV substations that would be transferred to the new Alberhill System would be connected by new and existing fiber optic cable, and new telecommunications equipment would be installed within the telecommunications rooms at Serrano, Barre, Walnut, Mira Loma, Valley, Ivyglen, Fogarty, Newcomb, Tenaja, and Skylark Substations to facilitate the new connections. In addition to each segment of the 500 kV transmission line segments carrying OPGW, approximately 8.5 miles of overhead cable would be installed on 115 kV structures installed as part of the Proposed Project. This distance and location are subject to change as the surrounding area develops and space on or within existing facilities is put to use by other utilities, and new facilities become available for SCE's use. The preliminary areas of fiber optic installation are shown in Appendix E, Telecommunications Improvements.

3.2 Proposed Project Construction Plan

The Proposed Project would include construction of the Alberhill Substation, two 500 kV transmission line segments, new and modified 115 kV subtransmission lines, and telecommunications improvements. Construction would also include construction support activities, such as establishing material staging yards, and the development of access roads and spur roads. The following sections provide more detailed information on the tasks that would be associated with construction of the Proposed Project.

3.2.1.1 Storm Water Pollution Prevention Plan

Because construction of the Proposed Project would disturb a surface area greater than one acre, SCE would be required to obtain a National Pollutant Discharge Elimination System (NPDES) permit. The State Water Resources Control Board may require either the Santa Ana Regional Water Quality Control Board (SARWQCB) or the San Diego Regional Water Quality Control Board (SDRWQCB) to monitor adherence to permit conditions. To acquire the permit, SCE would prepare a Storm Water Pollution Prevention Plan (SWPPP) that includes project information; monitoring and reporting procedures; and Best Management Practices (BMPs), such as dewatering procedures, storm water runoff quality control measures, and concrete waste management, as necessary. The SWPPP would be based on final engineering design and would include all project components.

3.2.1.2 Dust Control

The construction activities would occur in the South Coast Air Quality Management District (SCAQMD) and would be subject to SCAQMD Rule 403. This rule minimizes emissions of fugitive dust by requiring persons to take action to prevent, reduce or mitigate fugitive dust emissions by utilizing one or more applicable best available control measures. These measures include actions such as the application of water or chemical stabilizers to disturbed soil.

3.2.1.3 Marshalling Yards and Material Staging Yards

Temporary marshalling yards would be used to stage equipment and materials during construction. Materials and equipment typically staged at these marshalling yards would include, but would not be limited to, construction trailers, construction equipment, steel, conductor, wire reels, cable, hardware, insulators, signage, fuel, joint compound, and other consumable materials. The Proposed Project would utilize the Alberhill Substation site as a primary marshalling yard, but may use additional yards as needed. Preparation of the marshalling yard may include the application of gravel and the installation of perimeter fencing.

The marshalling yard would be used as a reporting location for workers, and for vehicle and equipment parking and material storage. The yard would have offices for supervisory and clerical personnel. Normal maintenance of construction equipment would be conducted at the marshalling yard. The maximum number of workers reporting to the marshalling yard is not expected to exceed approximately 100 workers at any one time.

In addition to the primary marshalling yard, temporary secondary material staging yards would be established for short-term utilization near construction sites. Where possible, the secondary staging yards would be sited in areas of previous disturbance near the construction areas. Final siting of these yards would depend upon availability of appropriately zoned property that is suitable for this purpose. The number and size of the secondary yards would be dependent upon a detailed field inspection and would take into account, where practical, suggestions by the successful bidder for the construction work. Typically, an area approximately 1 to 3 acres would be required. Once sites for secondary yards are proposed, an environmental review would be conducted before final site selection. Preparation of the secondary staging yards would include installation of perimeter fencing. The application of road base may also occur, depending on existing ground conditions at the yard site. Land disturbed at the temporary material staging areas, if any, would be restored to preconstruction conditions or to a condition agreed upon between SCE and the landowner following the completion of construction of the Proposed Project.

All materials associated with construction efforts would be delivered by truck to an established marshalling or material staging yard. Delivery activities requiring major street use would be scheduled to occur during off-peak traffic hours to the extent feasible in accordance with applicable local ordinances.

If necessary, SCE would hire a local security company to provide 24-hour attendance at the marshalling yard or material staging yards during construction.

3.2.1.4 Concrete Use

During construction, existing concrete supply facilities would be used where feasible. If concrete supply facilities are not available, a temporary concrete batch plant would be set up. If necessary, approximately 2 acres of property would be partitioned from an established marshalling yard or material staging yard for a temporary concrete batch plant. Equipment would include a central mixer unit (drum type); three silos for injecting concrete additives, fly ash, and cement; a water tank; portable pumps; a pneumatic injector; and a loader for handling concrete additives not in the silos. Dust emissions would be controlled by watering the area and by sealing the silos and transferring the fine particulates pneumatically between the silos and the mixers.

3.2.1.5 Traffic Control

Construction activities completed within public street rights-of-way would require the use of a traffic control service and all lane closures would be conducted in accordance with local ordinances and city permit conditions. These traffic control measures are typically consistent with those published in the WATCH Manual (Work Area Protection and Traffic Control Manual, American Public Works Association, April 2006).

3.2.1.6 Identification of Underground Utilities During Construction

Prior to drilling boreholes for foundations or for direct bury of LWS poles, SCE or its contractor would contact Underground Service Alert to identify any underground utilities in the construction area. If other utilities are located in the construction area, SCE would contact the owner of such utility to discuss protection or relocation of such utility.

3.2.1.7 Nighttime Construction

Under normal circumstances, construction of the Proposed Project would occur during daylight hours. However, there is a possibility that construction would occur at night, and temporary artificial illumination would be required. SCE would use lighting to protect the safety of the construction workers, but orient the lights to minimize their effect on any nearby receptors.

3.2.1.8 Blasting/Fracturing

During the access road construction, spur road construction, grading, and foundation work activities, blasting or fracturing may be a desired method to use for rock removal. If these methods are used, a person licensed by the Federal Bureau of Alcohol, Tobacco, and Firearms would assess the area, make any required site measurements (e.g., distance to utilities or houses), and engineer the charge for a safe and effective explosion. Pre-blast notifications would be made to the local fire department, residents, utilities, and others potentially affected by blasting operations. Once the notifications are complete, the holes would be drilled and the explosive charges loaded into the holes. If the blast is near sensitive receptors (houses, power lines, roads), special protective measures (e.g., gravel or blast mats) would be installed to control flying rock from the blast site. In addition, the area would be secured to avoid inadvertent entry by the public or other personnel. After the area is secured, the appropriate pre-blast warning signals would be given and the charge detonated. After detonation, a post-blast safety inspection would be conducted to ensure that the blast completely discharged and personnel may enter safely to excavate the blasted material.

3.2.2 Alberhill Substation Construction

The following sections describe the construction activities associated with installing the components of the proposed Alberhill Substation.

The substation site would be prepared by clearing existing vegetation and installing a temporary chain link fence to surround the construction site. The site would be graded in accordance with a grading plan developed in consultation with Riverside County. The area to be enclosed by the perimeter wall would be graded to a slope that varies between one and two percent and compacted to 90 percent of the maximum dry density. The areas outside the substation wall that would be used as a buffer would be graded in a manner consistent with the overall site drainage design as described in Section 3.1.1.10, Substation Drainage.

After the substation site is graded, below grade facilities would be installed. Below grade facilities include a ground grid, trenches, building foundations, equipment foundations, utilities, and the base of the substation wall. The design of the ground grid would be based on soil resistivity measurements collected during a geotechnical investigation that would be conducted prior to construction (as described in Section 3.5, Geotechnical Studies). Above grade installation of substation facilities (i.e. buses, capacitors, circuit breakers, transformers, steel support structures, and the control building) would commence after the below grade structures are in place.

The transformers would be delivered by heavy-transport vehicles and off-loaded on site by large cranes with support trucks. A traffic control service may be used for transformer delivery, if necessary.

3.2.3 500 kV Transmission Line Segment Construction

The following sections describe the construction activities associated with the construction of the 500 kV transmission line segments.

3.2.3.1 Access Roads and Spur Roads

Transmission line roads are classified into two groups: access roads and spur roads. Access roads are through roads that run between tower sites along a ROW and serve as the main transportation route along transmission line ROWs. Spur roads are roads that lead from line access roads and terminate at one or more of the structure sites. It is anticipated that most of the roads constructed to accommodate construction of the Proposed Project would be left in place to facilitate future access for operations and maintenance purposes. Gates would be installed where required at fenced property lines to restrict general and recreational vehicular access to ROW roads.

All access roads and spur roads (new and existing) would first be cleared and grubbed of vegetation. Roads would be blade-graded to remove potholes, ruts, and other surface irregularities, and re-compacted to provide a smooth and dense riding surface capable of supporting heavy construction equipment. The graded road would have a minimum drivable width of 14 feet (preferably with 2 feet of shoulder on each side), but may be wider depending on final field conditions.

In addition, drainage structures (e.g., wet crossings, water bars, overside drains, pipe culverts, and energy dissipaters) may be installed along roads to protect the road from the effects of uncontrolled water flow. Slides, washouts, and other slope failures would be repaired and stabilized along the roads by installing retaining walls or other means necessary to prevent future failures. The type of drainage structure or earth-retaining structure to be used would be based on site-specific conditions and final engineering of the Proposed Project.

Existing and new access roads and spur roads for the Proposed Project are shown in Appendix D, Proposed Project Road Story.

3.2.3.2 500 kV Tower Site Preparation

The new tower pad locations would first be graded and/or cleared to provide a reasonably level and vegetation-free surface for footing construction. Sites would be graded such that water would run toward the direction of the natural drainage and prevent ponding and erosive water flows that could cause damage to the tower footings. The graded area would be compacted to at least 90 percent relative density, and would be capable of supporting heavy vehicular traffic.

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

Tower installation may also require establishment of a temporary crane pad to allow an erection crane to set up 60 feet from the centerline of each structure. The crane pad would be located transversely from each applicable structure location. In most cases, this crane pad would be located within the laydown area used for structure assembly. If a separate pad is required, it would occupy an area of approximately 50 feet by 50 feet. The decision to use a separate crane pad would be determined by the final engineering for the Proposed Project and the selection of the appropriate construction methods to be used by SCE or its contractor.

In mountainous areas, benching may be required to provide access for footing construction, assembly, erection, and wire-stringing activities during line construction. Benching is a technique in which a tracked earth-moving vehicle excavates a terraced access to excavation areas in extremely steep and rugged terrain. Benching would be used on an as-needed basis in areas to help ensure the safety of personnel during construction activities, and to control costs in situations where potentially hazardous, manual excavations would be required.

Where there would be a structure located in terrain inaccessible by a crane, it is anticipated that a helicopter may be used for the installation of the structure. The final decision on helicopter use would be made by SCE and the construction contractor. The use of helicopters for the erection of structures would be in accordance with SCE specifications and would be similar to methods detailed in IEEE 951-1996, Guide to the Assembly and Erection of Metal Transmission Structures, Section 9, Helicopter Methods of Construction. Helicopter use for the Proposed Project is explained in more detail in Section 3.2.3.5, Wire Stringing Operations.

3.2.3.3 Tower Foundations

Structure foundations for the towers would typically be drilled concrete piers. Each tower would be constructed on four drilled concrete foundations. The foundation process would start with the auguring of the holes for each tower. The holes would be bored using truck or track-mounted excavators with various diameter augers to match diameter requirements of the foundation sizes.

Foundations in soft or loose soil that extend below the groundwater level may require the borehole be stabilized with mud slurry during drilling. If this is the case, a mud slurry would be mixed and pumped into the borehole after drilling to prevent the sidewalls from sloughing. The concrete for the foundation is then pumped to the bottom of the hole, displacing the mud slurry. The mud slurry that is brought to the surface is typically collected in a pit adjacent to the foundation, and then pumped out of the pit to be reused or discarded at an off-site disposal facility in accordance with all applicable laws.

Following excavation for the foundation, reinforcing steel, and stub angles would be installed and the concrete would then be placed. Steel reinforced cages and stub angles would be assembled at laydown yards and delivered to each structure location by flatbed truck. A typical tower would require 25 to 100 cubic yards of concrete delivered to each structure location. 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 steel.

Conventional construction techniques would generally be used as described above for new footing installation. In certain cases, equipment and material may be deposited at structure sites using helicopters or by workers on foot, and crews may prepare the footings using hand labor assisted by hydraulic or pneumatic equipment, or other methods.

3.2.3.4 Tower Assembly

Each tower would be assembled at laydown areas at its location, and then erected and bolted to the foundations. Tower assembly would begin with hauling and stacking bundles of steel at tower location per engineering drawing requirements. This activity requires use of several tractors with 40-foot trailers and a rough terrain forklift. After steel is delivered and stacked, crews would proceed with the assembly of leg extensions, body panels, boxed sections and the bridges. The assembled tower sections would be lifted into place with a minimum 80-ton all-terrain or rough terrain crane. The steel work would be completed by a combined erection and torquing crew with a lattice boom crane. The construction crew may opt to install insulators and wire rollers (travelers) for the conductor installation at this time.

3.2.3.5 Wire Stringing Operations

Wire-stringing includes all activities associated with the installation of conductors onto the structure. This activity includes the installation of primary conductor and OPGW or ground wire, vibration dampeners, weights, spacers, and suspension and dead-end hardware assemblies. Wire-stringing activities would be conducted in accordance with SCE specifications, which is similar to process methods detailed in IEEE Standard 524-2003, Guide to the Installation of Overhead Transmission Line Conductors. A standard wire-stringing plan includes a sequenced program of events starting with determination of wire pulls and wire pull equipment set-up positions. Advanced planning determines circuit outages, pulling times, and safety protocols needed for ensuring that safe and quick installation of wire is accomplished.

Wire pulls are the length of any given continuous wire installation process between two selected points along the line. Typically, wire pulls occur every 15,000 to 18,000 feet on flat terrain or less in rugged terrain. Wire splices typically occur every 7,500 to 9,000 feet on flat terrain or less in rugged terrain. Wire pulls are selected, where possible, based on availability of dead-end structures at the ends of each pull, geometry of the line as affected by points of inflection, terrain, and suitability of stringing and splicing equipment setups. To ensure the safety of workers and the public, safety devices such as traveling grounds, guard structures, and radio-equipped public safety roving vehicles and linemen would be in place prior to the initiation of wire-stringing activities.

The following four steps describe the wire installation activities proposed by SCE:

- Sock Line Threading: A helicopter would fly a lightweight sock line from tower to tower, which would be threaded through the wire rollers in order to engage a cam-lock device that would secure the pulling sock in the roller. This threading process would continue between all towers through the rollers of a particular set of spans selected for a conductor pull.

- Pulling: The sock line would be used to pull in the conductor pulling cable. The conductor pulling cable would be attached to the conductor using a special swivel joint to prevent damage to the wire and to allow the wire to rotate freely to prevent complications from twisting as the conductor unwinds off the reel. A piece of hardware known as a running board would be installed to properly feed the conductor into the roller; this device keeps the conductor from wrapping during installation.

- Splicing, Sagging, and Dead-ending: After the conductor is pulled in, all 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.

- Clipping-in: After conductor is dead-ended, the conductors would be attached to all structures; a process called clipping in.

The dimensions of the area needed for the stringing setups associated with wire installation are variable and depend upon terrain. The preferred minimum size needed for tensioning equipment set-up sites requires an area of 500 feet by 150 feet, the preferred minimum size needed for pulling equipment set-up sites requires an area of 300 feet by 150 feet, the preferred minimum size needed for splicing equipment set-up sites requires an area 150 feet by 100 feet; however, crews can work from within slightly smaller areas when space is limited. Each stringing operation would include one puller positioned at one end and one tensioner and wire reel stand truck positioned at the other end. Splicing sites would be strategically located to support the stringing operations; splicing sites include specialized support equipment such as skidders and wire crimping equipment.

The puller, tensioner, and 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 tower, and are necessary as the permanent splices that join the conductor together cannot travel through the rollers. For stringing equipment that cannot be positioned at either side of a dead-end transmission tower, field snubs (i.e., anchoring and dead-end hardware) would be temporarily installed to sag conductor wire to the correct tension.

The puller, tensioner, and splicing set-up locations require level areas to allow for equipment maneuvering. When possible, these locations would be located on existing level areas and existing roads to minimize the need for grading and cleanup. These temporary wire stringing areas would be restored to previous conditions following completion of pulling and splicing activities. The number and locations of the puller, tensioner, and splicing sites will be determined by the final engineering for the Proposed Project and the construction methods chosen by SCE or its contractor.

An OPGW and an OHGW would be installed on the transmission towers for shielding and communication. Both the OHGW and the OPGW would be installed in the same manner as the conductor; it is typically installed in continuous segments of 11,000 feet or less, depending upon various factors including line direction, inclination, and accessibility. Following installation of the OPGW, the strands in each segment are spliced together to form a continuous length from one end of a transmission line to the other. At a splice tower, the fiber cables are routed down the structure where the splicing occurs. The splices are housed in a splice box (an approximate 3 foot by 3 foot by 1 foot metal enclosure) that is mounted to one of the structure legs some distance above the ground.

3.2.3.6 Helicopter Use

The operations area of the small helicopter utilized during the sock line threading would be limited to helicopter staging areas, such as Skylark Field, and positions that are considered safe locations for landing. Final siting of staging areas for helicopter use would be conducted with the input of the helicopter contractor and local agencies. Helicopter fueling would occur at staging areas or at a local airport (e.g., Skylark Field) using either the helicopter contractor's fuel truck or the fuel service available at the airport. The helicopter and fuel truck may stay overnight at a local airport or at a staging area if adequate security is in place.

3.2.4 115 kV Subtransmission Line Construction

The following sections describe the construction activities associated with the 115 kV subtransmission line.

3.2.4.1 Airstrip

Construction of the modified 115 kV subtransmission lines for the Proposed Project would occur within 1,200 feet of a private airstrip (Skylark Field) near the south side of Lake Elsinore that is primarily used for skydiving. SCE would provide a construction schedule to the operator of Skylark Field prior to construction of the 115 kV subtransmission modifications near Skylark Substation, including the construction that would occur on Mission Trail, Waite Street, Lemon Street, Lost Road, and Beverly Street.

3.2.4.2 Site Preparation and Grading

The new LWS pole and TSP locations would first be graded and/or cleared to provide a reasonably level and vegetation-free surface for footing construction. An approximate 150 by 75 foot area around each 115 kV LWS pole and an approximate 200 by 100 foot area around each 115 kV TSP would be cleared of vegetation to provide a safe working area during construction. Any steel poles that are replacing existing wood poles would be installed as close as possible to the original structure and would require new excavations to set the poles. Depending on their location, the assembly and erection of some of the new TSPs may require that a new crane pad, approximately 50 feet by 50 feet, be prepared to allow an erection crane to set up 60 feet from the centerline of each TSP. The crane pad would be located transversely from each applicable TSP location.

Assembly of LWS and TSP poles typically would require a laydown area of approximately 200 feet by 100 feet. In locations where the terrain in the laydown area is already reasonably level, only vegetation removal would occur to prepare the site for construction. In locations where a level surface is not present, both vegetation clearing and grading would be necessary to prepare the laydown area for construction.

3.2.4.3 Light Weight Steel Pole Installation

LWS poles would be installed in the native soil in holes bored approximately 2 to 3 feet in diameter and 7 to 10 feet deep. LWS poles are normally shipped in sections with slip joints to the lay-down yard and then jacked together at the new pole location. LWS poles are normally installed using a line truck. Once the LWS poles are set in place, bore spoils (material from holes drilled) would be used to backfill the hole. If the bore spoils are not suitable for backfill, imported clean fill material, such as clean dirt and/or base material, would be used. Excess bore spoils would be distributed at each pole site and used as backfill for the holes left after removal of existing structures, or disposed of off-site in accordance with all applicable laws.

3.2.4.4 Tubular Steel Pole Installation

Structure foundations for the TSPs would typically be drilled concrete piers. The TSPs would be installed on top of cylindrical concrete foundations approximately 5 to 8 feet in diameter and approximately 20 to 40 feet deep (approximately 35 cubic yards would be removed) and is similar in method to that described above for the installation of 500 kV transmission tower foundations. A crane would be used to position each pole base section onto the foundation. When the base section is secured, the top section would be placed above the base section. The two sections would be bolted together and may be spot welded together for additional stability.

3.2.4.5 Subtransmission Wire Stringing Activities and Guard Structures

Conductor would be installed on the LWS poles and TSPs as similarly described above for the 500 kV transmission wire stringing activities, except that a line truck would drive from location to location to string the sock line, rather than use a helicopter.

Guard structures may be installed at transportation, flood control, and utility crossings. Guard structures are temporary facilities designed to stop the movement of a conductor should it momentarily drop below a conventional stringing height. Temporary netting could be installed to protect some types of under-built infrastructure. Typical guard structures are standard wood poles, 60 to 80 feet tall, and depending on the width of the conductor being constructed, the number of guard poles installed on either side of a crossing would be between two and four. The guard structures are removed after the conductor is secured into place. In some cases, the wood poles could be substituted with the use of specifically equipped boom-type trucks with heavy outriggers staged to prevent the conductor from dropping. Approximately 104 guard structures would be used for installing the 115 kV subtransmission lines.

Public agencies differ on their policies for preferred methods to protect public safety during conductor stringing operations. For highway and open channel aqueduct crossings, SCE would work with the applicable agency to secure the necessary permits to string conductor across the applicable infrastructure. For major roadway crossings, typically one of the following four methods is employed to protect the public:

- Erection of a highway net guard structure system;
- Detour of all traffic off a highway at the crossing position;
- Implementation of a controlled continuous traffic break while stringing operations are performed; or
- Strategic placement of special line trucks with extension booms on the highway deck.

Some agencies may require the use of a secondary safety take out sling at highway crossings.

3.2.4.6 Removal of Existing Subtransmission Structures

After the existing subtransmission, distribution lines, and telecommunication lines are transferred (where applicable) to the new subtransmission poles, the existing structures would be completely removed (including the below-ground portion) and the hole would be backfilled using imported fill in combination with fill that may be available as a result of excavation for the installation of the new steel poles. Depending on their condition and original chemical treatment, any wood poles removed may be reused by SCE, returned to the manufacturer, 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.

3.2.5 Energizing the Constructed 500 kV Transmission and 115 kV Subtransmission Lines

The final step in completing construction of the 500 kV transmission line segments and new and modified 115 kV subtransmission lines involves energizing the new conductor. To accomplish this, the existing lines in service would be de-energized, and the connections between the new and modified lines made. De-energizing and connecting the new lines to the existing system would typically occur when electrical demand is low, in order to reduce the need for electric service outages. Once the connection is complete, the existing lines would be returned to service and the new facilities would be energized.

3.2.6 Telecommunications Construction

The following sections provide detail on the construction activities associated with the telecommunications improvements.

3.2.6.1 Microwave System Construction

A 120-foot microwave tower would be installed at Alberhill Substation. All tower material would be delivered by truck and would be staged within a lay down area at the substation site. After the tower foundation is installed, each tower section would be assembled on site and erected using a 120-foot crane and a 120-foot lifting (bucket) truck.

The microwave dish antennas at Alberhill Substation, Santiago Peak, and Serrano Substation would be installed on the towers using a bucket truck.

3.2.6.2 Fiber Optic System Construction

The fiber optic system construction would include the installation of overhead facilities, underground facilities, and new telecommunications equipment at Serrano, Barre, Walnut, Mira Loma, Valley, Ivyglen, Fogarty, Newcomb, Tenaja, and Skylark Substations. The overhead telecommunications cable would be installed by attaching cable to structures in a manner similar to that described above for subtransmission wire stringing.

3.2.7 Post Construction Cleanup

SCE would restore all areas that were temporarily disturbed by construction of the Proposed Project (including temporary material staging yards, and conductor pull/tension/splicing sites) to as close to preconstruction conditions as possible, or to the conditions agreed upon between the landowner and SCE following the completion of construction of the Proposed Project. Any damage to existing roads as a result of construction would be repaired once construction is complete in accordance with local requirements.

In addition, all construction materials and debris would be removed from the area and recycled or properly disposed of off-site. SCE would conduct a final inspection to ensure that cleanup activities were successfully completed.

3.3 Land Acquisition

SCE is in the process of acquiring approximately 124 acres of land for use as the Alberhill Substation site, approximately 24 acres of which would be within the substation wall. Approximately 4 acres of land immediately outside the substation perimeter wall to the west, east and south would be used for subtransmission and transmission line access, vehicular access, buffers, and landscaping. Approximately six acres located to the outside of the north substation wall, plus the north-east and north-east corners would be primarily dedicated to the control of stormwater run-off. The remaining approximately 90 acres of the property is either excess land that is not needed, or is comprised of steep hills that is not suitable for development.

Each 500 kV transmission line segment, originating at the Alberhill Substation and extending to the Serrano-Valley 500 kV transmission line, would require a 200 foot wide ROW. Approximately 12 acres of these ROWs would be on the substation parcel acquired for Alberhill Substation, and approximately 10 acres of ROWs would be acquired from four private property owners and a parcel owned by the Riverside County Habitat Conservancy Agency (for which SCE would acquire a permit to cross).

3.4 Land Disturbance

Land disturbance would include the ground surface modifications at the substation site, the installation of the 500 kV transmission line segments and access roads, and the installation of the 115 kV subtransmission line structures. The portions of the Proposed Project construction that occurs along existing roads in the franchise position is summarized in Table 3.3, Summary of Land Disturbance Within Public ROW. Land disturbance associated with portions of the Proposed Project that would be constructed in areas away from public streets are summarized in Table 3.4, Summary of Land Disturbance Outside of Public ROW. Rights-of-way acquisition requirements are discussed above in Section 3.3, Land Acquisition.

3.5 Geotechnical Studies

Prior to the start of construction, SCE would conduct a geotechnical study of the substation site and the 500 kV transmission line segments and the new and modified 115 kV subtransmission line routes that would include an evaluation of the depth to the water table, liquefaction potential, physical properties of subsurface soils, soil resistivity, slope stability, and the presence of hazardous materials. This information would be used to develop final engineering of the Proposed Project facilities.

3.6 Hazards and Hazardous Materials

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

The SWPPP prepared for the Proposed Project 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.

Table 3.3 Summary of Land Disturbance Within Public ROW

Project Activity	Site Quantity	Disturbed Area	Acres Disturbed During Construction	Acres to be Restored	Acres Required Within Public ROW
Guard Structures	100	50’ x 75’	8.7	8.7	--
Remove Existing 115 kV TSP	7	200’ x 100’	3.2	3.2	--
Remove Existing 115 kV LWS	2	50’ x 50’	0.1	0.1	--
Remove Existing 115 kV Wood Pole	292	50’ x 50’	16.8	16.8	--
Construct New 115 kV TSP	40	200’ x 100’	18.4	16.0	2.4
Construct New 115 kV LWS	284	150’ x 75’	73.3	59.1	14.2
115 kV Wire Stringing - Puller	16	200’ x 100’	7.3	7.3	--
115 kV Wire Stringing - Tensioner	16	500’ x 100’	18.4	18.4	--
115 kV Wire Stringing - Splicing	3	150’ x 100’	1.0	1.0	--
New Roads (Access & Spur)	0.06	Linear miles x 14’ wide	0.8	--	0.8
Subtotal: 115 kV Subtransmission Within Public ROW			**148**	**130**	**18**

Note: The disturbed acreage calculations are estimates based upon SCE’s preferred area of use and the width of the proposed right-of-way for the described project feature; they are subject to revision based upon final engineering.

Table 3.4 Summary of Land Disturbance Outside of Public ROW

Project Activity	Site Quantity	Disturbed Area	Acres Disturbed During Construction	Acres to be Restored	Acres Required
Alberhill Substation	**1**	**--**	**34**	**--**	**34**
Remove Existing 500 kV Towers	4	150’ x 75’	1.0	1.0	--
Construct New 500 kV Towers	12	200’ x 200’	11.0	8.6	2.4
500 kV Wire Stringing - Puller	1	300’ x 150’	1.0	1.0	--
500 kV Wire Stringing - Tensioner	1	500’ x 150’	1.7	1.7	--
500 kV Wire Stringing - Splicing	1	150’ x 100’	0.3	0.3	--
New Roads (Access & Spur)	2.0	linear miles x 14’ wide	3.4	--	3.4
Subtotal: 500 kV Transmission			**19**	**13**	**6**
Guard Structures	4	50’ x 75’	0.3	0.3	--
Remove Existing 115 kV Wood H-Frame	15	75’ x 50’	1.3	1.3	--
Remove Existing 115 kV Wood Pole	20	50’ x 50’	1.1	1.1	--
Construct New 115 kV LWS	20	150’ x 75’	5.2	4.2	1.0
Construct New 115 kV Wood H-Frame	10	100’ x 50’	1.1	0.4	0.7
115 kV Wire Stringing - Puller	1	200’ x 100’	0.5	0.5	--
115 kV Wire Stringing - Tensioner	1	500’ x 100’	1.1	1.1	--
115 kV Wire Stringing - Splicing	1	150’ x 100’	0.3	0.3	--

Project Activity	Site Quantity	Disturbed Area	Acres Disturbed During Construction	Acres to be Restored	Acres Required
Subtotal: 115 kV Subtransmission			**11**	**9**	**2**
Total Outside Public ROW			**63**	**21**	**42**

Note: The disturbed acreage calculations are estimates based upon SCE's preferred area of use and the width of the proposed right-of-way for the described project feature; they are subject to revision based upon final engineering.

3.7 Waste Management

Construction of the Proposed Project would result in the generation of various waste materials that can be recycled and salvaged. These items would be gathered by construction crews and separated into roll-off boxes. Salvageable items (i.e., conductor, steel, and hardware) would be transported to the material staging yards, sorted, and baled, and then sold through available markets. Items that may be recycled include the steel from towers (i.e., towers, nuts, bolts, and washers), the conductor wire and the hardware (i.e., shackles, clevises, yoke plates, links, or other connectors used to support conductor).

Construction of the Proposed Project would also generate waste materials that cannot be reused or recycled (i.e., wood, soil, vegetation, and sanitation waste); local waste management facilities would be used for the disposal of these types of construction waste. The disposal of any hazardous waste would be done at an appropriately licensed facility.

3.8 Environmental Surveys

Prior to the start of construction, detailed environmental surveys would be conducted to identify sensitive biological and cultural resources in the vicinity of the Proposed Project. Where feasible, the information gathered from these surveys may be used to modify the project design in order to avoid sensitive resources, or to implement Applicant Proposed Measures (APMs) to minimize the 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 focused biological resource surveys would be conducted during Spring 2010, and some surveys would occur annually until construction. More information on these sensitive species can be found in Section 4.4, Biological Resources.

- Focused plant surveys. Focused plant surveys would be conducted in the spring following a winter season of adequate rainfall throughout the region for the special status plant species with potential to occur within the vicinity of the Proposed Project, and are necessary to determine the impacts the Proposed Project would have on any sensitive plant species. The special status plant surveys would follow guidelines developed by California Natural Plant Society (CNPS) to identify sensitive species that have the potential to be present in the area. If sensitive species are present, and avoidance is not feasible, consultation with the US Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG) would be necessary to determine if a permit would be required to impact any one of these species, and SCE would propose APMs to minimize impacts.

- Focused wildlife surveys. Focused wildlife surveys would be conducted for the special status wildlife species with potential to occur within the vicinity of the Proposed Project. These surveys would be performed at the appropriate time of year to detect the species, and are necessary to establish the impacts of the Proposed Project on any listed species. If sensitive wildlife species are present, and avoidance is not feasible, consultation with the USFWS and the CDFG would be necessary to determine if a permit would be required to impact any one of these species, and SCE would propose APMs to minimize impacts.

- Stephen's Kangaroo Rat. SCE would conduct focused surveys, including trapping, throughout the permitting period for the Alberhill System Project within the areas managed by the Riverside County Habitat Conservation Agency.

In addition, SCE would conduct the following surveys as the Proposed Project approaches final design:

- Jurisdictional Drainages. A wetland delineation would be conducted during Spring 2010 to describe and map the extent of resources under the jurisdiction of the US Army Corps of Engineers (USACE), the RWQCB, and/or the CDFG following the guidelines presented in the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region. As appropriate, SCE would secure a Streambed Alteration Agreement from the CDFG, and Clean Water Act Section 404 and 401 permits from the USACE and State Water Resources Control Board, respectively.

- Paleontological Resource Survey. SCE would conduct a paleontological resource survey to identify sensitive paleontological resources in the areas potentially affected by the project. This information would be used to modify the design of the project, or develop a Paleontological Resources Recovery Plan, should it be necessary.

The following environmental surveys would occur prior to construction.

- Burrowing owl. The preconstruction surveys for burrowing owl would be conducted no more than 30 days prior to ground-disturbing activities. Potential burrows that are identified and determined to be unoccupied outside of the nesting season would be collapsed to avoid construction impacts to the species during nesting season. If burrowing owls are observed within the construction areas of the Proposed Project, CDFG Protocols would be implemented, and SCE would propose APMs to minimize impacts.

- Active nests. The nesting season is generally February 15 to August 31. Work near nests would be scheduled to take place outside the nesting season when feasible. If a nest must be moved during the nesting season, SCE would coordinate with the CDFG and USFWS and obtain approval prior to moving the nest.

- Protected Trees. Prior to construction of the Proposed Project, SCE would determine if removal or alteration of trees protected by local ordinances would be required. If protected trees cannot be avoided, SCE would obtain the appropriate permits from the local agency prior to removing the tree.

- Biological Resource Clearance Surveys. These surveys would identify all sensitive resources within a given work area within 10 days of any ground disturbing work. Should any special-status plants and/or wildlife species be located during this survey, appropriate measures would be implemented to avoid any impacts to special-status species (i.e., flag and avoid, utilization of construction fencing, biological monitor present during work, etc.). If avoidance cannot be maintained, consultation with appropriate agencies would occur

3.9 Worker Environmental Awareness Training

Prior to construction, a Worker Environmental Awareness Plan would be developed based on the final engineering design, the results of preconstruction surveys, and a list of mitigation measures, if any, developed by the CPUC to mitigate significant environmental effects of the Proposed Project. A presentation would be prepared by SCE and shown to all site workers prior to their start of work. A record of all trained personnel would be kept with the construction foreman.

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

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

- Instruction on the South Coast Air Quality Management District Rule 403 for control of dust
- Instruction on what typical cultural resources look like, and if discovered during construction, to suspend work in the vicinity of any find and contact the site foreman and archeologist or environmental compliance coordinator
- Instruction on washing the wheels, tracks, and underbodies of construction vehicles to minimize the spread of invasive species
- Instruction on individual responsibilities under the Clean Water Act, the project SWPPP, site-specific BMPs, and the location of Material Safety Data Sheets 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
- A copy of the truck routes to be used for material delivery
- Instruction that noncompliance with any laws, rules, regulations, or mitigation measures could result in being barred from participating in any remaining construction activities associated with the Proposed Project

3.10 Construction Equipment and Personnel

The estimated elements, equipment, and number of personnel required for construction of the Proposed Project are summarized in Appendix F, Construction Equipment and Personnel Requirements.

Construction would be performed by either SCE construction crews or contractors, depending on the availability of SCE construction personnel at the time of construction. If SCE transmission and telecommunications construction crews are used they would likely be based at one of SCE's local facilities such as the Valley Substation or the Wildomar Service Center. Contractor construction personnel would be managed by SCE construction management personnel.

In general, construction efforts would occur in accordance with accepted construction industry standards. Construction activities generally would be scheduled during daylight hours (e.g., 7:00 am to 7:00 pm), Monday through Saturday. When different hours or days are necessary, SCE would obtain variances, as necessary, from the jurisdiction in which the work would take place. All materials associated with construction efforts would be delivered by truck or helicopter to established marshalling yards. Delivery activities requiring major street use would be scheduled to occur during off-peak traffic hours.

3.11 Construction Schedule

SCE anticipates that construction of the Proposed Project would take approximately 23 months. Construction would commence following CPUC approval, final engineering, and procurement activities. A preliminary construction schedule can be found in Table 3.5, Preliminary Proposed Project Construction Schedule. The Proposed Project is scheduled to be in operation June 2014.

Table 3.5 Preliminary Proposed Project Construction Schedule

Activity	Duration
Substation Construction	23 months
Subtransmission Construction	12 months
Transmission Construction	12 months
Telecommunications	12 months
Testing	1 month

3.12 Project Operation

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

The new 500 kV transmission line segments and new and modified 115 kV subtransmission lines would be maintained in a manner consistent with CPUC General Order 165. SCE inspects transmission and subtransmission lines at least once per year by driving and/or flying the line routes, and the lines may otherwise occasionally require emergency repairs.

The telecommunications system would require routine maintenance, which would include equipment testing, monitoring, and repair. No additional SCE personnel, beyond normal staffing levels, would be required to operate or maintain the telecommunications system at the substations. Once per year, one individual would perform routine maintenance of the telecommunications components located at the substations.

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4.0 Environmental
Impact Assessment

4.0 ENVIRONMENTAL IMPACT ASSESSMENT

This section examines the potential environmental impacts of the Proposed Project and the Alternative 115 kV Segment. The analysis of each resource category begins with an examination of the existing physical setting (baseline conditions as determined pursuant to Section 15125(a) of the CEQA Guidelines) that may be affected by the Proposed Project. The effects of the Proposed Project are defined as changes to the environmental setting that are attributable to project construction and operation.

Significance criteria are identified for each environmental issue area. The significance criteria serve as a benchmark for determining if a project would result in a significant adverse environmental impact when evaluated against the baseline. According to the CEQA Guidelines Section 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…" If significant impacts are identified, feasible Mitigation Measures are formulated to eliminate or reduce the level of the impacts and focus on the protection of sensitive resources.

CEQA Guidelines Section 15126.4(a)(3) states that mitigation measures are not required for effects which are not found to be significant. Therefore, where an impact is less than significant no mitigation measures have been proposed. In addition, compliance with laws, regulations, ordinances, and standards designed to reduce impacts to less than significant levels are not considered mitigation measures under CEQA. Where potentially adverse impacts may occur, SCE has proposed Applicant Proposed Measures (APMs) to minimize the environmental impacts.

4.1 Aesthetics

This section examines visual resources in the area of the Proposed Project to determine how construction and operation of the Proposed Project could affect the aesthetic character of the landscape. Visual resources are generally defined as the natural and built features of the landscape that can be viewed. Landforms, water, and vegetation patterns are among the natural landscape features that define an area's visual character, whereas buildings, roads and other structures reflect human modifications to the landscape. These natural and built landscape features are considered visual resources that contribute to the public's experience and appreciation of the environment. This section analyzes whether the Proposed Project would alter the perceived visual character of the environment and cause visual impacts. The Alternative 115 kV Segment is also discussed.

4.1.1 Environmental Setting

The Proposed Project is located in a region that includes Temescal Canyon, which is a northwest-trending valley formed by the Santa Ana Mountains and Cleveland National Forest to the west, and the rolling Gavilan Hills rise up along the east side of the canyon. Temescal Canyon acts as a hydrologic connection between the Lake Elsinore drainages and the Santa Ana River to the north. Portions of this connection are heavily vegetated, and form a direct contrast to the sparse scrub vegetation found on the steep hills surrounding Temescal Valley. The I-15 freeway follows Temescal Wash through this area.

The City of Lake Elsinore is located in a valley with panoramic views of the Santa Ana Mountains that extend from the southwestern edge of the lake (Lake Elsinore), rolling hills along the northeastern borders, and a valley that sweeps to the north and south. Lake Elsinore is a 3,000-acre natural lake with trees and scrub bushes surrounding the lake and nearby mountains, hillsides, and patches of development. Land uses around the lake include housing, commercial buildings, retail shops, and light industrial uses. A city center was developed northeast of the lake known as historic Lake Elsinore. Southeast of the lake, large areas of undeveloped land are interspersed with older housing and newer, sprawling subdivisions (City of Lake Elsinore, 2008).

City of Wildomar and the City of Menifee, located between the connection of the I-15 and I-215 freeways, were incorporated as cities in 2008. These two cities are characterized by a mix of low-density rural homes and ranches, open space land, commercial development, and new master planned development.

According to the Riverside County General Plan (2008), the ridge line and slopes of the Gavilan Hills are considered visual assets to the region. The hillsides are generally planned to remain as open space, habitat conservation areas, and/or low density residential. According to the City of Lake Elsinore General Plan (2008), scenic resources in and around the city include the lake, Cleveland National Forest, rugged hills, mountain ridgelines, rocky outcroppings, streams, vacant land with native vegetation, buildings of historical and cultural significance (i.e., the cultural center, bathhouse, and military academy), parks and trails.

There are two roads in the area of the Proposed Project that are identified as eligible for the State Scenic Highway system: I-15 and State Route 74 (SR 74) (Caltrans, 2009). In addition, Riverside County's Elsinore Area Plan (part of the 2008 General Plan) identifies Temescal Canyon Road as a historic trail.

Mount Palomar Observatory is approximately 40 miles away from the Proposed Project. Riverside County has enacted a lighting ordinance to restrict the use of certain light fixtures emitting undesirable light rays into the night sky which have a detrimental effect on astronomical observation and research. The Proposed Project would be located within an area that has lighting plans restricted by Riverside County ordinance to be fully shielded, if feasible, and partially shielded in all other cases, and must be focused to minimize spill light into the night sky and onto adjacent properties.

4.1.2 Regulatory Setting

There is no applicable federal regulatory authority for aesthetics and visual resources related to the Proposed Project.

4.1.3 Significance Criteria

The significance criteria for assessing the impacts to aesthetics come from the CEQA Environmental Checklist. According to the CEQA checklist, a project causes a potentially significant impact if it would:

- Have a substantial adverse effect on a scenic vista
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway
- Substantially degrade the existing visual character or quality of the site and its surroundings
- Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area

4.1.4 Impact Analysis

4.1.4.1 Evaluation Methods

A full discussion of the evaluation methods for the visual analysis can be found in Appendix G, Aesthetics Background. A summary of the evaluation methods is provided here. The aesthetics analysis included:

- A review of local planning documents
- Field observations of the Proposed Project area conducted in May and July 2009
- Photographs

- Identification of key observation points
- Creating computer-generated photo realistic visual simulations of the Proposed Project
- Assessment of the magnitude of changes to the existing visual baseline due to the construction and operation of the Proposed Project

Consideration was given to the following factors in determining the extent and implications of the visual changes:

- Specific changes in the landscape's visual composition, character, and any specially valued qualities
- The visual context (what surrounds the area)
- The extent to which the affected environment contains places or features that have been designated in government plans for visual protection or special consideration
- Particular consideration was given to effects on landscapes visible in the foreground (0 to 0.25 mile distance) from public viewpoints

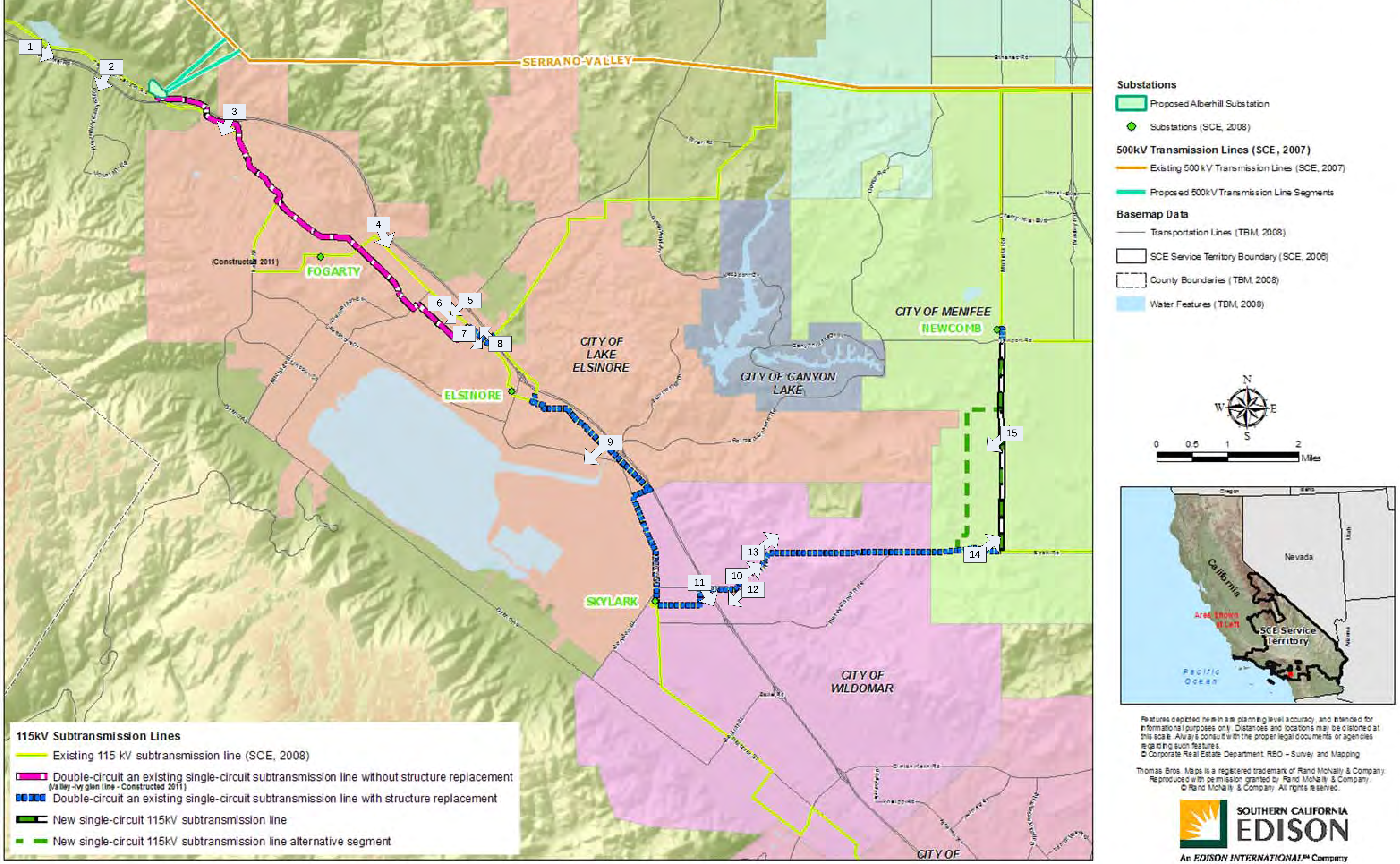
The following provides an analysis of the Proposed Project's potential to adversely impact the aesthetic character and visual resources in the area. To aid in this analysis, a series of computer-generated visual simulations were prepared, which provide "before and after" views depicting how the Proposed Project could potentially appear in the landscape.

4.1.4.2 Existing Conditions

A series of photographs were taken to characterize the natural landscape and built environment in the area surrounding the Proposed Project. Context Photographs have been taken to visually characterize the area, and are divided into three categories: Temescal Canyon, City of Lake Elsinore, and the cities of Wildomar and Menifee. The locations of these photographs are shown on Figure 4.1-1, Locations of Context Photographs.

The Temescal Canyon Context Photographs are shown on Figure 4.1-2, Context Photographs for Temescal Canyon. The most prominent visual features in this area include the I-15 freeway, the heavily vegetated areas of Temescal Wash, rolling grasslands, and the scrubby vegetation on the steep hillsides that frame Temescal Valley.

Figure 4.1-1 Locations of Context Photographs



Major Transmission Projects - Alberhill Sub Project

Context Photograph 1

Southbound I-15 Freeway

Context Photograph 2

Northbound Temescal Canyon Road

Context Photograph 3

Northbound I-15 Freeway looking west toward Horsethief Canyon

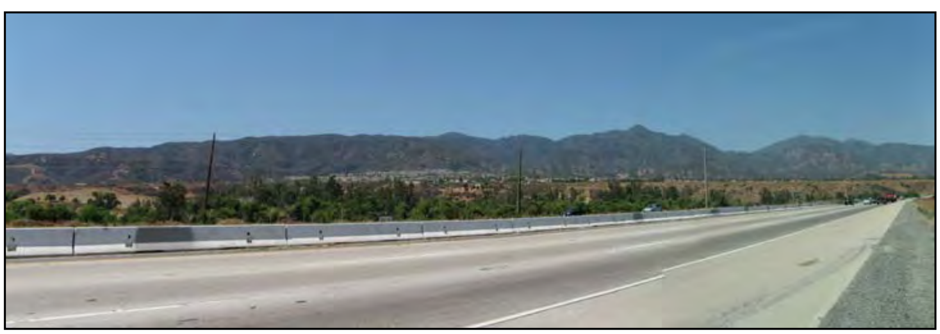


Figure 4.1-2

Temescal Valley Context Photographs

The City of Lake Elsinore Context Photographs are shown on Figure 4.1-3a and Figure 4.1-3b, Context Photographs for the City of Lake Elsinore. The most prominent visual features in this area include commercial and industrial development. The City of Lake Elsinore has identified Key Public Vantage Points in its General Plan as areas where the public can see the lake. One of these key public vantage points is at the I-15 freeway just west of Railroad Canyon Road, where motorists can see Lake Elsinore. The General Plan describes the view of the lake as visible only for a short period of time to motorists who are typically traveling by at high speeds. This Vantage Point is included in the Context Photographs as Context Photograph 9.

The developing cities of Wildomar and Menifee context photographs are shown on Figure 4.1-4a and Figure 4.1-4b, Context Photographs for the Cities of Wildomar and Menifee. The most prominent visual features in this area include scattered residential and commercial interests, and new master planned subdivisions.

4.1.4.3 No Impact

Construction of the Proposed Project would not produce impacts for the following CEQA criterion:

Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

The Proposed Project is not located within the viewshed of a State Scenic Highway as mapped by the California Department of Transportation. As a result, there would be no impact to scenic resources within a state scenic highway.

4.1.4.4 Construction Impacts

Would the project have a substantial adverse effect on a scenic vista?

The City of Lake Elsinore has identified a Key Public Vantage Point in its General Plan at the I-15 just west of Railroad Canyon Road, where motorists can see Lake Elsinore. The modifications to the 115 kV subtransmission line would not be highly visible from this vista point. The I-15 freeway is elevated on a substantial berm in this area, and the modifications to the 115 kV subtransmission line would occur down-slope, along Auto Center Drive. The construction in this area would only occur for a few days and would not interfere with views of Lake Elsinore from motorists on the I-15 freeway. Impacts would be less than significant.

Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

Construction of the Proposed Project is expected to last approximately 23 months. Visual impacts from construction activities (e.g., installation of equipment, movement of supplies, trucks and work crews) would be temporary. Thus the visual impacts from construction would be less than significant.

Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Under normal circumstances, construction of the Proposed Project would occur during daylight hours. However, there is a possibility that construction would occur at night, and temporary artificial illumination would be required. SCE would use lighting to protect the safety of the construction workers, but orient the lights to minimize their effect on any nearby receptors and Mount Palomar Observatory. Although the Proposed Project is located just within the 45-mile "Ring Analysis" area for impacts to Mount Palomar Observatory, extensive nighttime lighting is not proposed during construction, and impacts would be less than significant.

4.1.5 Operation Impacts

Would the project have a substantial adverse effect on a scenic vista?

The City of Lake Elsinore has identified a Key Public Vantage Point at the I-15 just west of Railroad Canyon Road, where motorists can see Lake Elsinore. The I-15 Freeway is elevated on a substantial berm in the area near the City of Lake Elsinore Public Vantage Point, and the Proposed Project 115 kV subtransmission line would occur down-slope, along Auto Center Drive. The modifications to the 115 kV subtransmission line in this area would replace the existing single-circuit structures with structures capable of supporting a double circuit. The existing poles are not readily visible from this viewpoint (see Figure 4.1-3b, Context Photographs City of Lake Elsinore, Context Photograph 9), and the new structures would be placed at a similar height as the existing wood poles. In the City's Public Vantage Point, the tops of the existing wood subtransmission poles in the middle ground are very difficult to see. The new steel poles, which would be lighter in color, are expected to be even less noticeable, especially to those traveling by at high speeds. Furthermore, the City's General Plan acknowledges that without pulling off the freeway, the lake is only visible for a short period to motorists who are usually traveling by at high speeds (City of Lake Elsinore, 2008). Impacts would be less than significant.

Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

Alberhill Substation

Alberhill Substation would be located on Temescal Canyon Road in an unincorporated portion of Riverside County, just north of the City of Lake Elsinore. The I-15 freeway is located opposite Temescal Canyon Road from the Alberhill Substation site, and is elevated on a substantial berm. The curve of the freeway in this location and the prominence of the rolling hills in this area diminishes the view of the substation from the freeway. Figure 4.1-5, Visual Simulation, Northbound I-15 Looking Towards Alberhill Substation, provides a simulation of how the substation would appear to northbound travelers on the I-15 freeway as they approach the substation. The substation and associated transmission line segments would be visible in the foreground of the viewshed

Context Photograph 4

Southbound I-15 Freeway near Lake Elsinore

Context Photograph 5

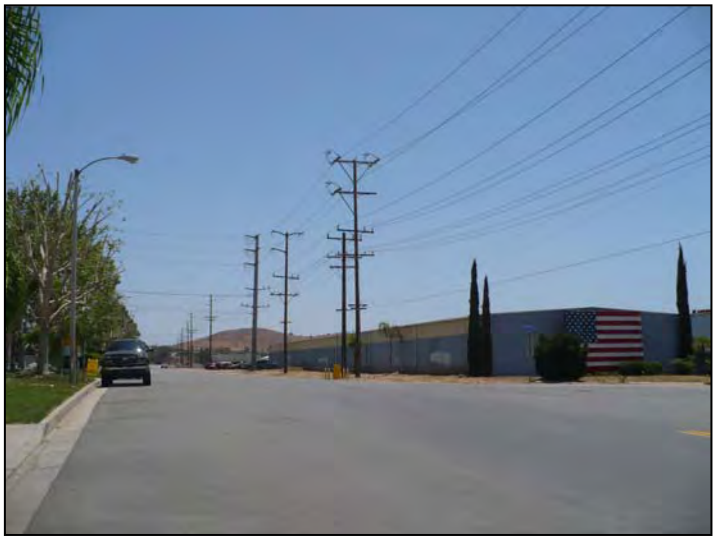
Central Avenue North of Collier Avenue

Context Photograph 6

Central Avenue North of Collier Avenue

Figure 4.1-3a

City of Lake Elsinore Context Photographs



Context Photograph 7

Collier Avenue North of Chaney Street

Context Photograph 8

North on Collier Avenue

Context Photograph 9

City of Lake Elsinore Public Vantage Point from I-15 Freeway

Figure 4.1-3b

City of Lake Elsinore Context Photographs

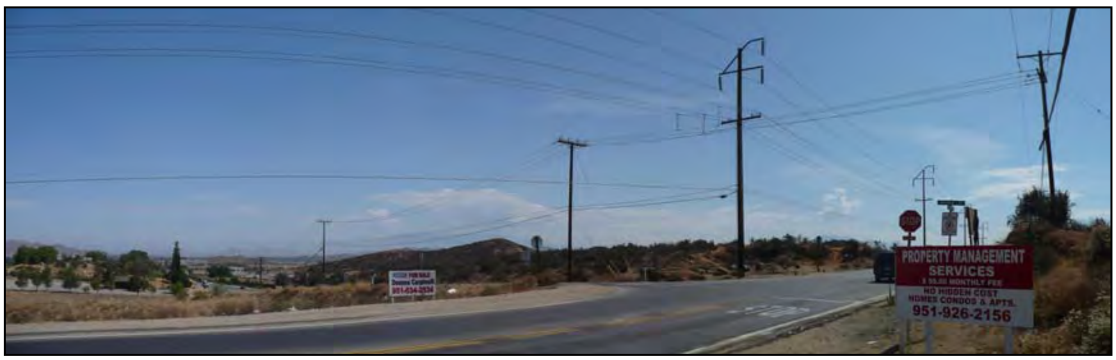
Context Photograph 10

Lemon Street in the City of Wildomar

Context Photograph 11
Southbound I-15 Freeway North of Lemon Street

Context Photograph 12
Lemon Street in Wildomar looking Southwest

Context Photograph 13 Lost Road looking Northwest



Context Photograph 14 Bundy Canyon Road west of intersection with Murietta Road

Context Photograph 15 Murrieta Road North of Intersection with Craig Road

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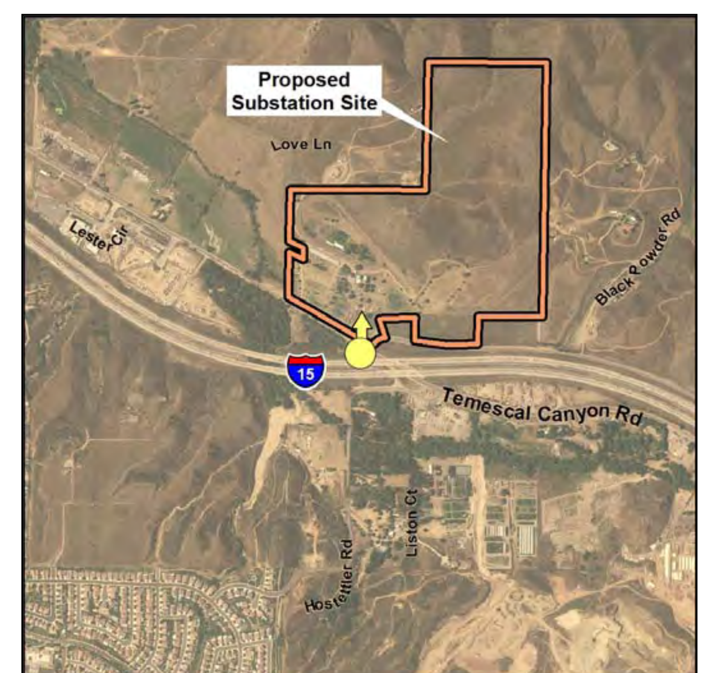
Figure 4.1-4b

Cities of Wildomar and Menifee Context Photographs

Simulated View, Northbound I-15 Freeway

Existing Conditions, Northbound I-15 Freeway



Photograph Location and Direction

Figure 4.1-5

Visual Simulation, Northbound I-15 Looking Towards Alberhill Substation

for northbound travelers. However, because of the curve of the freeway and rolling hills east of the site, northbound travelers would have a short duration view, and therefore, the impact for northbound travelers would be less than significant.

Southbound views of Alberhill Substation from motorists on I-15 would be obscured by oncoming traffic lanes in the foreground, and a large stand of trees located west of the substation site. Those traveling along Temescal Canyon Road would have a more direct eye-level view of the Proposed Project substation as they pass by, but it also would be relatively short in duration owing to a nearby overpass of I-15 and trees along Temescal Wash. The substation structures would not substantially block the visually prominent hillsides.

Compared to the existing horse ranch, the Proposed Project substation would alter the existing visual character of the site. However, the substation site is currently zoned by Riverside County for light manufacturing and industrial uses, which would permit a public utility substation. The City of Lake Elsinore's draft General Plan (2008) has this potential annexation area designated as Limited Industrial and notes that presently there are light industrial and commercial areas located along the I-15 freeway that are planned for expansion. Therefore, although the Alberhill Substation would alter the existing visual character of the site, it would be taking place in an area that is planned by local governments to become light industrial. As a result, visual impacts from the Alberhill Substation to travelers on Temescal Canyon Road would be less than significant.

<u>500 kV Transmission Line Segments</u>

The Proposed Project 500 kV transmission line segments to the northeast of the substation would cross lands zoned as Natural Assets (N-A), which allows for a variety of uses including one-family dwellings, crops, and grazing. In the N-A zone, public utility substations are considered a permitted use (Riverside County, 2008). The 500 kV transmission line segments would change the existing visual character of the scenic open space landscape where they ascend the hillside to connect with the existing Serrano-Valley 500 kV transmission line. The steel lattice towers are designed to minimize visual impacts, both by their color and largely open structure, and while they would be most prominent in the foreground view (e.g., from Temescal Canyon Road), they would be less visible at a mid- to long-range view against the hillside. The open lattice structure would help them blend into the hillside landscape, and they would not be prominent to viewers along the I-15 freeway. Thus the 500 kV transmission line segments would have a less than significant visual impact on the hillside open space landscape.

<u>New and Modified 115 kV Subtransmission Lines</u>

The new and modified 115 kV subtransmission line routes are along existing roadways. A short segment of the 115 kV subtransmission line would be located in the easternmost corner of the historic downtown district on Pottery Street between East Hill and Rancho streets, which is an area designated for medium to high density residential uses (City of Lake Elsinore, 2008). The modifications to existing 115 kV subtransmission lines would not substantially alter the visual characteristics of the area in the vicinity of State Highway 74 in the City of Lake Elsinore.

The existing 115 kV subtransmission crossings of the I-15 freeway at Lemon Street also would not constitute a substantial change in the visual characteristics of an area where the existing line would be replaced as a double circuit line. The portions of the 115 kV subtransmission line in the cities of Lake Elsinore and Wildomar that require replacement of existing structures would also cause only minor changes to the visual setting. Figure 4.1-6, Visual Simulation, Auto Center Drive at Railroad Canyon Road/Diamond Drive, shows the change in visual setting from double circuiting an existing 115 kV subtransmission line. The primary difference is the color of the poles, as well as the additional electrical circuits strung between the poles. Therefore, impacts would be less than significant.

The new 115 kV subtransmission line would follow Murrieta Road in the City of Menifee. Figure 4.1-7, Visual Simulation, Intersection of Murrieta Road and Newport Road Looking Southwest, is a simulation of the appearance of the new 115 kV subtransmission line along Murrieta Road at its intersection with Newport Road. There are numerous existing distribution and subtransmission lines along this roadway, and the addition of the 115 kV subtransmission line would cause only minor changes to the visual setting.

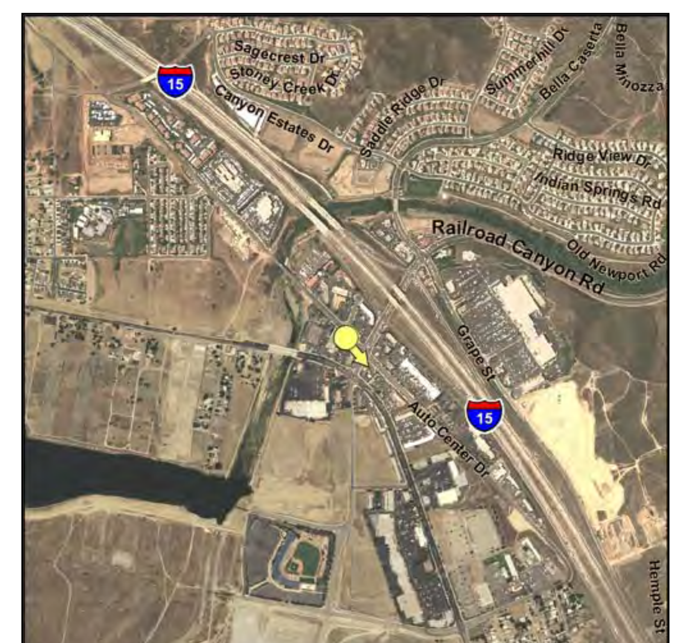
Figure 4.1-8, Visual Simulation, Murrieta Road East of Calder Ranch Development, is a simulation of the appearance of the new 115 kV subtransmission line along Murietta Road adjacent to the Calder Ranch development where the existing electrical distribution line has been placed underground. The new subtransmission line would affect the existing aesthetic character of the frontage of the Calder Ranch residential subdivision, but the existing visual character of the area would not be substantially degraded. The visual impact would be less than significant.

Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

As the Alberhill Substation would not have permanent personnel on-site, lighting at the site during operation would be minimal, if used, and directed downward to prevent glare. During occasional maintenance or emergencies at night, additional lighting may be necessary, but would be used only temporarily. Thus, operation of the Proposed Project would not create a new source of substantial light or glare, nor would it adversely affect use of the Mount Palomar Observatory, which is approximately 40 miles away. Impacts due to light and glare would be less than significant. The Proposed Project 500 kV transmission line segments and new and modified 115 kV subtransmission lines would not require lighting except in emergencies, and therefore, would not cause impacts from light or glare. Impacts would be less than significant.

Simulated View, Auto Center Drive, North of Railroad Canyon Road/Diamond Drive

Existing Conditions, Auto Center Drive, North of Railroad Canyon Road/Diamond Drive



Photograph Location and Direction

Figure 4.1-6

Visual Simulation, Auto Center Drive at Railroad Canyon Road/Diamond Drive

Simulated View, Murrieta Road north of Newport Road

Existing Conditions, Murrieta Road north of Newport Road

Photograph Location and Direction

Figure 4.1-7

Visual Simulation, Intersection of Murrieta Road and Newport Road Looking Southwest

Simulated View, Murrieta Road East of Calder Ranch Development

Existing Conditions, Murrieta Road East of Calder Ranch Development

Photograph Location and Direction

Figure 4.1-8

Visual Simulation, Murrieta Road East of Calder Ranch Development

4.1.6 Alternative 115 kV Segment

The Alternative 115 kV Segment is located in the City of Menifee. The area is characterized by rolling hills and rural residential development. The Alternative 115 kV Segment route would follow an existing distribution line, and would not produce a substantial change to the existing visual environment. The visual impacts of the Alternative 115 kV Segment would be similar to those of the Proposed Project. Impacts would be less than significant.

4.1.7 References

Brewington, B, 2009. Personal communication with Becky Brewington, City of Menifee City Planner, regarding land use plan. August 2009.

California Department of Transportation. 2009. California Scenic Highway Map. [online] http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm. [cited August 2009].

City of Lake Elsinore. 2008. Draft General Plan Update. [online] http://www.lake-elsinore.org/index.aspx?page=232 [cited August 2009].

Riverside County, 2008. General Plan Update, Land Use Element, Circulation Element and Elsinore Area Plan. [online] http://www.rctlma.org/genplan/general_plan_2008/general_plan_2008.aspx [cited August 2009].

4.2 Agricultural Resources

This section describes the agricultural resources in the area of the Proposed Project. The potential impacts of the Proposed Project and the Alternative 115 kV Segment are also discussed.

4.2.1 Environmental Setting

Agriculture remains a strong component in Riverside County's economy and competes successfully in the global agricultural market. According to the annual Riverside County Crop Report, agriculture production accounted for an estimated $1,268,589,900 in 2008. The primary agricultural products produced in Riverside County include nursery stock, milk, eggs, table grapes, and hay. Nursery stock is the number one crop produced in Riverside County (Riverside County, 2008a). In addition to cultivated areas, there are an estimated 111,695 acres used as grazing lands (CDC, 2006).

Section 21060.1 of CEQA defines agricultural land as "prime farmland, farmland of statewide importance, or unique farmland, as defined by the United States Department of Agriculture land inventory and monitoring criteria, as modified for California." The State of California has modified the classifications for Prime Farmland and Farmland of Statewide Importance by requiring that these lands be irrigated (CDC, 2008). Approximately 23 percent of the land in Riverside County is classified as Farmland by the California Department of Conservation. These Farmland categories are summarized in Table 4.2, Summary of Farmland in Riverside County.

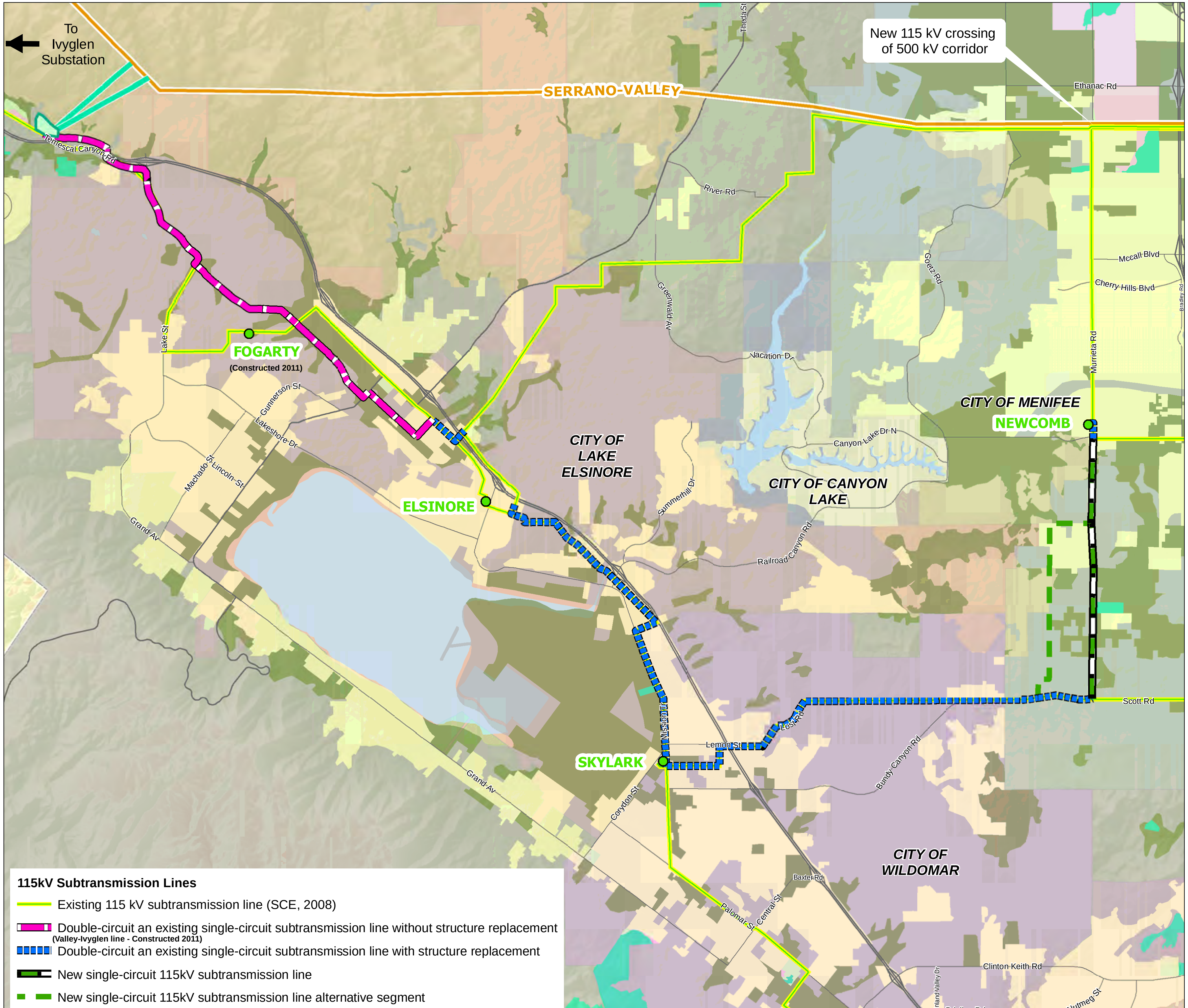
Table 4.2 Summary of Farmland in Riverside County

Category	Inventoried acreage in Riverside County	Percent of total acreage in Riverside County
Prime Farmland	128,505	6.6 percent
Farmland of Statewide Importance	46,916	2.4 percent
Unique Farmland	37,949	1.9 percent
Farmland of Local Importance	231,085	11.9 percent
Important Farmland Total	444,455	22.9 percent

Source: CDC, 2006

The classified Farmland in the Proposed Project area is shown on Figure 4.2-1, Classified Farmland.

Figure 4.2-1
Classified Farmland



Classified Farmland (Riverside Co, 2009)

- PRIME FARMLAND
- STATEWIDE IMPORTANCE
- UNIQUE FARMLAND
- LOCAL IMPORTANCE
- GRAZING LAND
- URBAN-BUILT UP LAND
- OTHER LANDS

Substations

- Proposed Alberhill Substation
- Substations (SCE, 2008)

500kV Transmission Lines (SCE, 2007)

- Existing 500 kV Transmission Lines (SCE, 2007)
- Proposed 500kV Transmission Line Segments

Basemap Data

- Transportation Lines (TBM, 2008)
- SCE Service Territory Boundary (SCE, 2006)
- County Boundaries (TBM, 2008)
- Water Features (TBM, 2008)

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale. Always consult with the proper legal documents or agencies regarding such features.

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4.2.2 Regulatory Setting

California Land Conservation Act (Williamson Act). The California Land Conservation Act of 1965, commonly known as the Williamson Act, was enacted to encourage preservation of agricultural and open space lands, and encourage efficient urban growth. The Williamson Act provides incentives to landowners, through reduced property taxes, to create agricultural preserves and agree to keep their land in agricultural production (or another compatible use) for at least 10 years. Section 51238 of the Williamson Act indicates that, unless local organizations declare otherwise, the erection, construction, alteration, or maintenance of gas, electric, water, or communication facilities are compatible with Williamson Act contracts.

Chapter 12.16 of the Riverside County Zoning Code provides the regulatory framework for agricultural preserves. A list of compatible uses is provided in section 12.16.030(A). These compatible uses include gas, electric, water, and communication utility facilities, and public service facilities of like nature operated by a public agency or mutual water company.

4.2.3 Significance Criteria

The significance criteria for assessing the impacts to agricultural resources come from the CEQA Environmental Checklist. According to the CEQA Checklist, a project causes a potentially significant impact if it would:

- Convert prime farmland, unique farmland, or farmland of statewide importance, to nonagricultural use
- Conflict with existing zoning for agricultural use, or a Williamson Act contract
- Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of farmland to nonagricultural use

4.2.4 Impact Analysis

A horse ranch facility currently occupies the Proposed Project substation site, and areas in the vicinity of the substation site and 500 kV transmission line segments consist mainly of grazing lands. Small parcels of Prime Farmland and Farmland of Statewide Importance are situated to the northwest and adjacent to the Proposed Project substation site. This area of designated farmland is not in active agricultural production, and Riverside County has zoned this area M-SC Manufacturing-Service Commercial (Riverside County, 2006a).

The new and modified 115 kV subtransmission lines are mainly along existing roadways with adjacent lands identified by the FMMP as Grazing Land, Farmland of Local Importance, and urban or undesignated lands. Although the FMMP identifies classified farmland adjacent to the new and modified 115 kV subtransmission lines, there does not appear to be any actively farmed parcels within the ROW.

The Proposed Project would not be located on lands subject to a Williamson Act contract. The nearest land subject to a Williamson Act contract is approximately one-half mile east of the new 115 kV subtransmission line route along Murrieta Road in the City of Menifee. However, this contract has not been renewed (Browne, 2009).

4.2.4.1 No Impact

Construction and operation of the Proposed Project would not produce significant impacts for the following CEQA criteria:

Would the project convert prime farmland, unique farmland, or farmland of statewide importance, to nonagricultural use?

The Proposed Project would not cross any lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Although the Proposed Project substation site is located near Farmland of Statewide Importance, the Proposed Project would not convert this land to non-agricultural use. Therefore, there would be no impact to state-designated Farmlands.

Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

The Proposed Project substation site and 500 kV transmission line segments would not be located on land zoned for agricultural use, and no agricultural lands currently under Williamson Act contract would be crossed by the Proposed Project. Therefore, the Proposed Project would not remove land from Williamson Act status and there would no impact related to existing zoning or to Williamson Act lands.

4.2.4.2 Construction Impacts

Would the project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of farmland to nonagricultural use?

Construction of the Alberhill Substation and the 500 kV transmission line segments would have minor, localized impacts related to equipment use, vegetation removal and soil disturbance. Thus, construction of these components would not create significant changes in the environment that would result in conversion of existing farmland to nonagricultural use.

Marshalling yards would be established to store materials and equipment, and to provide parking for site workers. To the extent feasible, SCE would utilize the Alberhill Substation site or existing commercial facilities near the Proposed Project as marshalling yards. Thus, it is unlikely that any additional marshalling yards or material staging yards secured for construction of the Proposed Project would result in conversion of farmland to nonagricultural use.

Construction of the new and modified 115 kV subtransmission lines would be located within existing rights-of-way, and would not convert farmland to nonagricultural use.

Therefore, construction of the Proposed Project would not include activities that would result in the conversion of farmland to nonagricultural use. Impacts would be less than significant.

4.2.4.3 Operation Impacts

Would the project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of farmland to nonagricultural use?

It is not anticipated that operation of the Proposed Project would result in other changes to the environment that would result in the conversion of farmland to nonagricultural use. Routine maintenance would include equipment testing, equipment monitoring and repair, as well as emergency procedures for service continuity. These activities are unlikely to affect the conversion of farmland to nonagricultural use. In addition, as noted in Section 6.2, Growth Inducing Impacts, the Proposed Project would not be growth-inducing and therefore, would not be expected convert agricultural land to nonagricultural use. Impacts would be less than significant.

4.2.5 Alternative 115 kV Segment

Similar to the Proposed Project new 115 kV subtransmission line, the Alternative 115 kV Segment would not cross Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or any Williamson Act lands. As a result, impacts with respect to agricultural resources for the Alternative 115 kV Segment would be similar to those for the Proposed Project. Impacts would be less than significant.

4.2.6 References

Browne, K. 2009. Personal communication with Kathleen Browne, Riverside County, regarding agricultural preserves. August 2009.

California Department of Conservation (CDC). 2006. Table A-25, Riverside County Land Use Conversion, 2004-2006 California Farmland Conversion Report. [online] http://www.conservation.ca.gov/dlrp/fmmp/pubs/2004-2006/Documents/Appendices%202004-06%20FCR.pdf. [cited July 2009].

CDC. 2008. Farmland Mapping and Monitoring Program. [online] http://www.conservation.ca.gov/DLRP/FMMP/Pages/Index.aspx. [cited August 2009].

Riverside County. 2006a. Riverside County Zoning Ordinance. [online] http://www.rctlma.org/planning/content/zoning/ordnance/ord348_toc.html. [cited August 2009].

Riverside County. 2006b. County of Riverside Land Information System. [online] http://www3.tlma.co.riverside.ca.us/pa/rclis/index.html. [cited August 2009].

Riverside County. 2008a. Agricultural Commissioner's Office. Annual Crop Report. [online] http://www.rivcoag.org/opencms/index.html. [cited July 2009].

Riverside County. 2008b. General Plan Update- Multipurpose Open Space Element. [online] http://www.rctlma.org/genplan/general_plan_2008/general_plan/ Chapter_5_Multipurpose_Open_Space_Element_2008.pdf. [cited August 2009].

Riverside County Integrated Project (RCIP). 2006. [online] http://www.rcip.org. [cited August 2009].

4.3 Air Quality

This section describes the air quality in the area of the Proposed Project. The potential impacts of the Proposed Project and the Alternative 115 kV Segment are also discussed.

4.3.1 Environmental Setting

The Proposed Project lies within the South Coast Air Basin (SCAB), a region that is comprised of portions of Los Angeles, San Bernardino and Riverside counties and all of Orange County. The air above the SCAB often exhibits weak vertical and horizontal dispersion due to persistent temperature inversions (a warm air mass moves above a cooler air mass, limiting mixing of the two masses), and the air movement is restricted by the presence of nearby mountain ranges.

The Proposed Project is in a region under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD adopts and enforces rules and regulations to achieve State and federal ambient air quality standards and enforces applicable state and federal laws.

The Clean Air Act of 1970 required the US Environmental Protection Agency (USEPA) to adopt ambient air quality standards. The National Ambient Air Quality Standards (NAAQS) are the maximum levels, given a margin of safety, of background pollution that is considered safe for public health and welfare. Air quality standards developed by individual states must be at least as stringent as those set forth by the USEPA. The California Air Resources Board (CARB) has developed California Ambient Air Quality Standards (CAAQS).

Areas that fail to meet federal NAAQS (and CAAQS in California) are identified as nonattainment areas. When an area is designated as nonattainment, regional air quality management agencies are required to develop detailed plans that will lower the emissions of pollutants in order to reach attainment, and sources of pollutants are typically subject to more stringent air permitting requirements than similar sources in attainment areas.

Presently, the ambient air in the Proposed Project area is classified by both the USEPA and the CARB as nonattainment for ozone (O_3), suspended particulate matter measuring less than 10 microns (PM_{10}), and suspended particulate matter measuring less than 2.5 microns ($PM_{2.5}$). The ambient air in the area is either unclassified or classified as attainment for all other federal and State regulated air pollutants (CARB, 2009). The attainment status of each CAAQS and NAAQS pollutant is shown in Table 4.3-1, Federal and California Ambient Air Quality Standards and South Coast Air Basin Attainment Status.

Table 4.3-1 Federal and California Ambient Air Quality Standards and South Coast Air Basin Attainment Status

Pollutant	Federal Primary Standard Averaging Time and Concentration	Designation/ Classification	State Standard Averaging Time and Concentration	Designation/ Classification
Ozone (O_3)	8-hr average 0.075 ppm (147 µg/m^3)	Nonattainment	8-hr average 0.070 ppm (137 µg/m^3)	Nonattainment
	None		1-hr average 0.09 ppm (180 µg/m^3)	
Respirable Particulate Matter (PM_{10})	None	Nonattainment	Annual Arithmetic Mean 20 µg/m^3	Nonattainment
	24-hr average 150 µg/m^3		24-hr average 50 µg/m^3	
Fine Particulate Matter($PM_{2.5}$)	Annual Arithmetic Mean 15.0 µg/m^3	Nonattainment	Annual Arithmetic Mean 12 µg/m^3	Nonattainment
	24-hr average 35 µg/m^3		None	
Carbon Monoxide (CO)	8-hr average 9 ppm (10 mg/m^3)	Attainment	8-hr average 9.0 ppm (10 mg/m^3)	Attainment
	1-hr average 35 ppm (40 mg/m^3)		1-hr average 20 ppm (23 mg/m^3)	
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean 0.053 ppm (100 µg/m^3)	Attainment	Annual Arithmetic Mean 0.030 ppm (57 µg/m^3)	Attainment
	None		1-hr average 0.18 ppm (339 µg/m^3)	
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean 0.030 ppm (µg/m^3)	Attainment	None	Attainment
	24-hr average 0.14 ppm (365 µg/m^3)		24-hr average 0.04 ppm (105 µg/m^3)	

Pollutant	**Federal Primary Standard Averaging Time and Concentration**	**Designation/ Classification**	**State Standard Averaging Time and Concentration**	**Designation/ Classification**
	None		1-hr average 0.25 ppm (655 μg/m^3)	
Lead	Rolling 3-month average 0.15 μg/m^3	Attainment	None	Attainment
	Calendar quarter average 1.5 μg/m^3		None	
	None		30-day average 1.5 μg/m^3	
Hydrogen Sulfide	None	--	1-hr average 0.03 ppm (42 μg/m^3)	Attainment/ Unclassified
Sulfates	None	--	24-hr average 25 μg/m^3	Attainment
Visibility Reducing Particles	None	--	See note (1) below	Attainment/ Unclassified
Vinyl Chloride	None	--	24-hr average 0.01 ppm (26 μg/m^3)	Not reported

Source: CARB, 2008; 2009
μg/m^3 = microgram per cubic meter
mg/m^3 = milligram per cubic meter
ppm = parts per million
Notes:
[1]State criterion for nonattainment of visibility-reducing particles is the amount of particles present to produce an extinction coefficient of 0.23 per kilometer when relative humidity is less than 70 percent.

The SCAQMD operates several monitoring stations within the SCAB to monitor levels of criteria pollutants. The most recent available data are from monitoring during 2007. The air quality monitoring station closest to the Proposed Project is the Lake Elsinore station, where CO, NO_2 and O_3 are monitored. The CO and NO_2 NAAQS and CAAQS were not exceeded at this station from 2005 through 2007, but the following exceedances of the O_3 NAAQS and CAAQS were measured (SCAQMD, 2009a):

- The 8-hour O_3 NAAQS was exceeded on 15 days during 2005, 24 days during 2006, and 35 days during 2007

- The 8-hour O_3 CAAQS was exceeded on 46 days during 2005, 58 days during 2006, and 55 days during 2007

- The 1-hour O_3 CAAQS was exceeded on 37 days during 2005, 40 days during 2006, and 26 days during 2007

The air quality monitoring station closest to the Proposed Project where PM_{10} is monitored is the Perris Valley station. The 24-hour PM_{10} NAAQS was not exceeded at this station from 2005 through 2007, but the following exceedances of the PM_{10} CAAQS were measured (SCAQMD, 2009a):

- The 24-hour PM_{10} CAAQS was exceeded on 19 days during 2005, 19 days during 2006, and 32 days during 2007

- The annual average PM_{10} CAAQS was exceeded during 2005, 2006, and 2007

The air quality monitoring station closest to the Proposed Project where SO_2, $PM_{2.5}$, lead, and sulfate are monitored is the Riverside-Rubidoux station. The SO_2 and lead NAAQS and CAAQS and the sulfate CAAQS were not exceeded at this station from 2005 through 2007, but the following exceedances of the $PM_{2.5}$ NAAQS and CAAQS were measured (SCAQMD, 2009a):

- The 24-hour $PM_{2.5}$ NAAQS was exceeded on four days during 2005, 32 days during 2006, and 33 days during 2007

- The annual $PM_{2.5}$ NAAQS and CAAQS were exceeded during 2005, 2006, and 2007

4.3.2 Regulatory Setting

Federal Clean Air Act and Amendments. These statutes provide the USEPA with the authority to set ambient air quality standards and grant a waiver for California to set stricter standards. Other states have the choice of adopting federal standards or the more stringent California ambient air quality standards. The USEPA also requires a State Implementation Plan that outlines the state regulations and programs that will be implemented to demonstrate how a state will attain or maintain the ambient air quality standards within a given period of time. Through the Clean Air Act and Amendments, the USEPA also implements on- and off-road engine emission reduction programs that periodically phase in engine efficiency requirements and/or ancillary engine or exhaust equipment that result in cleaner emissions from on- and off-road equipment.

California Clean Air Act. Through these statutes, the CARB is given the authority to develop ambient air quality standards for the state. The CARB is also responsible for setting vehicle emission standards and fuel specifications, and for regulating emissions from other sources such as consumer products and certain types of mobile equipment (e.g., lawn and garden equipment, industrial forklifts). The CARB also implements the Off-road Mobile Sources Emission Reduction Program to reduce emissions from off-road equipment, and the Portable Equipment Registration Program, a program that evaluates portable equipment and provides a registry for qualifying equipment to be exempt from obtaining separate air quality permits to operate within each individual air basin.

South Coast Air Quality Management District. In addition to supporting CARB and USEPA air quality programs, the SCAQMD also develops plans and implements control measures of regulated pollutants in the SCAB, primarily affecting stationary sources such as factories and plants. The SCAQMD is required to update plans for improving air quality in the basin as needed or every three years. The 2007 Air Quality Management Plan (AQMP) (SCAQMD, 2007) is the latest version designed to satisfy requirements of both federal and state clean air laws. The plan outlines policies and practices intended to achieve attainment levels for criteria pollutants and avoid future levels that exceed applicable standards.

SCAQMD Rule 403-Fugitive Dust. This rule prohibits construction activities from generating visible dust in the atmosphere beyond the property line of the emission source. The rule also requires construction activities to use the best available control measures specified in the rule to minimize fugitive dust emissions. Actions include stabilizing disturbed areas with water, chemical stabilizer, or by covering with a tarp or other suitable cover; materials transported off-site must be covered or stabilized with at least 6 inches of freeboard space from the top of the container; and traffic speeds on unpaved roads must be limited to 15 miles per hour. These actions are required for all projects within the SCAB capable of generating fugitive dust.

4.3.3 Significance Criteria

The significance criteria for assessing the impacts to air quality come from the CEQA Environmental Checklist. According to the CEQA Checklist, a project causes a potentially significant impact if it would:

- Conflict with or obstruct implementation of the applicable air quality plan
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)
- Expose sensitive receptors to substantial pollutant concentrations
- Create objectionable odors affecting a substantial number of people

4.3.4 Impact Analysis

The SCAQMD adopted the CEQA Air Quality Handbook in 1993 (SCAQMD, 1993). The purpose of the handbook is to provide lead agencies, consultants, and project applicants with a framework and uniform methods for preparing air quality evaluations for environmental documents. The handbook recommends specific criteria and threshold levels for determining whether a proposed project may have a significant adverse air quality impact. The SCAQMD is in the process of developing an "Air Quality Analysis Guidance Handbook" to replace the CEQA Air Quality Handbook. While the new handbook is being prepared, the SCAQMD provides supplemental and updated information on its CEQA Handbook webpage (SCAQMD, 2009b). Although these are guidelines only, and their use is not required or mandated by the SCAQMD, they are considered appropriate for evaluating potential air quality impacts from construction and operation of the Proposed Project.

CEQA significance thresholds that have been adopted by the SCAQMD are listed in Table 4.3-2, SCAQMD Air Quality Significance Thresholds. Although ambient air quality standards have not been established for nitrogen oxides or volatile organic compounds, they have air quality significance thresholds because they react in the atmosphere to form ozone.

Table 4.3-2 SCAQMD Air Quality Significance Thresholds

Mass Daily Thresholds [1]		
Pollutant	**Construction [2]**	**Operation [3]**
Nitrogen Oxides (NOx)	100 lbs/day	55 lbs/day
Volatile Organic Compounds (VOC)	75 lbs/day	55 lbs/day
PM_{10}	150 lbs/day	150 lbs/day
$PM_{2.5}$	55 lbs/day	55 lbs/day
Sulfur Oxides (SOx)	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 Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality for Criteria Pollutants [4]		
NO_2 1-hour average annual average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.25 ppm (state) 0.053 ppm (federal)	
PM_{10} 24-hour average annual geometric average annual arithmetic mean	10.4 $\mu g/m^3$ (construction)[5] & 2.5 $\mu g/m^3$ (operation) 1.0 $\mu g/m^3$ 20 $\mu g/m^3$	

$PM_{2.5}$ 24-hour average	10.4 μg/m^3 (construction)[5] & 2.5 μg/m^3 (operation)
Sulfate 24-hour average	1 μg/m^3
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)

Source: SCAQMD, 2009c
Lbs/day = pounds per day; ≥ = greater than or equal
Notes:
[1]Source: SCAQMD CEQA Handbook (SCAQMD, 1993)
[2]Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins).
[3]For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.
[4]Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.
[5]Ambient air quality threshold based on SCAQMD Rule 403.

4.3.4.1 No Impact

Construction and operation of the Proposed Project would not result in impacts for the following CEQA criteria:

Would the project conflict with or obstruct implementation of the applicable air quality plan?

The AQMP is a blueprint of control measures designed to meet ambient air quality standards. The control measures are developed by compiling a current air pollutant emissions inventory, projecting the emissions inventory to future years, evaluating the impacts of future emissions on ambient air quality through air quality modeling, determining reductions in the projected future emissions needed to attain the standards, and devising control measures that will achieve those emission reductions. The 2007 AQMP demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law.

Growth projections from local general plans adopted by cities in the district and vehicle-miles-traveled projections developed by the Southern California Association of Governments (SCAG) are some of the inputs used to develop the AQMP. Because construction and operation of the Proposed Project would not result in a population increase, the Proposed Project would not conflict with the growth projections used to develop the 2007 AQMP. Construction and operation of the Proposed Project would not conflict with the implementation of the air quality plan, and there would be no impact.

Would the project create objectionable odors affecting a substantial number of people?

Potential odors associated with construction and operation of the Proposed Project would be limited to vehicle exhaust. Construction and operation of the Proposed Project are unlikely to create objectionable odors that would affect a substantial number of people. There would be no impact.

4.3.4.2 Construction Impacts

Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Peak daily emissions during construction, including both on-site and off-site sources, were calculated for comparison with the SCAQMD's mass daily emissions CEQA significance thresholds (see Table 4.3-2, SCAQMD Air Quality Significance Thresholds) to evaluate whether the construction activities could cause or contribute to regional violations of air quality standards. The calculations applied pollutant emission factors from the SCAQMD CEQA Handbook webpage (SCAQMD, 2009b) to construction data in Chapter 3, Project Description, and in Appendix F, Construction Equipment and Personnel Requirements (please see Appendix H, Air Quality Calculations, for details). Maximum daily emissions during construction of each of the Proposed Project components (Alberhill Substation, the 500 kV transmission line segments, new and modified 115 kV subtransmission lines, and telecommunications) 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 the components were added together to calculate peak daily emissions. Table 4.3-3, Peak Daily Construction Emissions, compares peak daily construction emissions with the SCAQMD's mass daily emissions CEQA significance thresholds. The estimates are based on a worst-case construction schedule scenario for the NOx emissions. The emissions would be temporary.

The estimated peak daily emissions of VOC, NOx, PM_{10}, and $PM_{2.5}$ during construction activities exceed corresponding SCAQMD mass daily significance thresholds, and emissions of these pollutants during construction may contribute to regional air quality violations. The majority of NOx and VOC would be emitted from on-site construction equipment used during installation of the 500 kV transmission line segments and the new and modified 115 kV subtransmission lines. The majority of PM_{10}, and $PM_{2.5}$ would be emitted as fugitive dust from vehicle travel on unpaved roads and surfaces.

Table 4.3-3 Peak Daily Construction Emissions

Proposed Project Component	Maximum Daily Emissions (pounds/day)					
	VOC	**CO**	**NOx**	**SOx**	**PM_{10}**	**$PM_{2.5}$**
Substation	12.8	65.6	91.7	0.1	132.8	16.2
500 kV Transmission Line Segments	25.6	87.9	172.8	8.0	200.1	25.8
115 kV Subtransmission Lines	37.8	164.9	325.1	0.5	29.8	13.6
Telecommunications	3.4	17.2	31.9	0.1	1.9	1.1
Total	**79.6**	**335.6**	**621.4**	**8.7**	**364.6**	**56.6**
SCAQMD CEQA Significance Threshold	75	550	100	150	150	55
Significant?	**Yes**	No	**Yes**	No	**Yes**	**Yes**

Construction emissions would be reduced by complying with CARB Off-Road Idling Policy, which restricts most occurrences of off-road equipment engine idling to fewer than 5 minutes. In addition, SCE is proposing to implement **APM-AQ-01 and APM-AQ-2** to further reduce construction-related emissions.

> **APM-AQ-01.** Construction workers would carpool when possible.
>
> **APM-AQ-02.** All off-road construction diesel engines which have a rating of 50 hp or more, shall meet, at a minimum, the Tier 2 California Emission Standards for Off- Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, Section 2423(b)(1) unless such engine is not available for a particular item of equipment. In the event a Tier 2 engine is not available for any off-road engine larger than 100 hp, that engine shall be equipped with a Tier 1 engine. In the event a Tier 1 engine is not available for any off-road engine larger than 100 hp, that engine shall be equipped with a catalyzed diesel particulate filter (soot filter), unless certified by engine manufacturers that the use of such devices is not practical for specific engine types.

SCAQMD has developed and implemented Rule 403, Fugitive Dust, to reduce the amount of particulate matter entrained in the ambient air as a result of man-made fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. These actions include stabilizing disturbed areas with water, chemical stabilizer, or by covering with a tarp or other suitable cover; materials transported off-site must be covered or stabilized with at least 6 inches of freeboard space from the top of the container; and traffic speeds on unpaved roads must be limited to 15 miles per hour.

These actions are required for all projects within the SCAB capable of generating fugitive dust.

SCE would develop an Air Quality Plan prior the start of construction that would include details of project-specific measures to be implemented during construction of the Proposed Project to reduce impacts to air quality (**APM-AQ-03**). This plan would be implemented prior to construction.

> **APM-AQ-03.** SCE will develop an Air Quality Plan prior the start of construction that would include details of project-specific activities to be implemented during construction of the Proposed Project to ensure compliance with all applicable laws, rules and regulations relating to air quality, and to comply with APM-AQ-01 and APM-AQ-02 set forth above.

Although these measures will reduce impacts, impacts to air quality during construction of the Proposed Project are expected to remain significant.

Localized Exceedances

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 CEQA significance thresholds as listed in Table 4.3-2, SCAQMD Air Quality Significance Thresholds (SCAQMD, 2008). This localized significance thresholds (LST) analysis consists of comparing maximum daily on-site CO, NOx, PM_{10}, and $PM_{2.5}$ emissions at individual locations with maximum allowable emissions in the look-up tables. The maximum allowable emissions in the tables depend on the location within the SCAB, the size (disturbed area) of the construction activities, and the distance from the construction site boundary to the nearest receptor. Receptors for the analysis include residences for PM_{10} and $PM_{2.5}$ and either residences or commercial locations for CO and NOx. Table 4.3-4, Construction Localized Significance Threshold Analysis, compares maximum daily on-site emissions for construction of each Proposed Project component with the maximum allowable emissions from the SCAQMD's look-up tables (please see Appendix H, Air Quality Calculations, for details). As shown in Table 4.3-4, Construction Localized Significance Threshold Analysis, maximum daily on-site construction emissions do not exceed the maximum allowable emissions for any pollutant. Therefore, construction of the Proposed Project would not cause or contribute to a localized exceedance of an air quality standard.

Table 4.3-4 Construction Localized Significance Threshold Analysis

Proposed Project Component	**CO**	**NOx**	**PM_{10}**	**$PM_{2.5}$**
Substation and Telecommunications Construction Emissions[2]	42	81	135	17
Maximum Allowable Emissions (pounds/day)[1]	11,975	765	177	85
Exceedance?	**No**	**No**	**No**	**No**
500 kV Transmission Line Segments Construction Emissions[3]	40	106	7	4
Maximum Allowable Emissions (pounds/day)[1]	1,786	280	27	7
Exceedance?	**No**	**No**	**No**	**No**
115 kV Subtransmission Line Construction Emissions[4]	26	78	5	2
Maximum Allowable Emissions (pounds/day)[1]	661	162	13	3
Exceedance?	**No**	**No**	**No**	**No**

Notes:
[1]Maximum allowable emissions based on 5 acre site and linear interpolation to actual receptor distances using values for Lake Elsinore source/receptor area
[2]Maximum allowable emissions based on 5 acre site and linear interpolation to actual receptor distances using values for Lake Elsinore source/receptor area
[3]Maximum allowable emissions based on 1 acre site and linear interpolation to actual receptor distances using values for Lake Elsinore source/receptor area. Although one end of the 500 kV transmission line segment is on the substation site, the base of one of the transmission line towers is closer to a receptor than the substation site.
[4]Maximum allowable emissions based on 1 acre site and 25-meter receptor distance using values for Lake Elsinore source/receptor area

Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

The SCAB is classified as nonattainment for ozone, PM_{10} and $PM_{2.5}$. Table 4.3-3, Peak Daily Construction Emissions, shows that peak daily emissions of ozone precursors VOC and NOx exceed the SCAQMD's mass emissions CEQA significance thresholds. Therefore, construction of the Proposed Project could result in a cumulatively considerable net increase of ozone precursors. Table 4.3-3, Peak Daily Construction Emissions, also shows that peak daily PM_{10} and $PM_{2.5}$ emissions exceed the SCAQMD's mass emissions CEQA significance thresholds. Therefore, construction of the Proposed

Project could also result in a cumulatively considerable net increase in PM_{10} and $PM_{2.5}$ emissions. Implementation of **APM-AQ-01 though APM-AQ-03** would reduce VOC, NOx, PM_{10} and $PM_{2.5}$ construction emissions, but the cumulative impact from these emissions is expected to remain significant.

Would the project expose sensitive receptors to substantial pollutant concentrations?

Table 4.3-4, Construction Localized Significance Threshold Analysis, shows that emissions during construction of the Proposed Project would not cause or contribute to a localized exceedance of an air quality standard. Since the NAAQS and CAAQS are the levels, given a margin of safety, that are considered safe for public health, construction of the Proposed Project would not expose receptors, including sensitive receptors, to substantial pollutant concentrations. Impacts would be less than significant.

4.3.4.3 Operation Impacts

Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Peak daily emissions during operation were calculated for comparison with the SCAQMD's mass daily emissions CEQA significance thresholds (see Table 4.3-2, SCAQMD Air Quality Significance Thresholds) to evaluate whether the operational activities could cause or contribute to regional violations of air quality standards. Table 4.3-5, Peak Daily Operational Emissions, compares peak daily operational emissions with the SCAQMD's mass daily emissions CEQA significance thresholds. The calculations applied pollutant emission factors from the SCAQMD CEQA Handbook (SCAQMD, 2009b) to anticipated emergency generator testing activities and motor vehicle usage during operation. (please see Appendix H, Air Quality Calculations, for details). The estimated peak daily emissions during operation of the Proposed Project are much less than the corresponding SCAQMD mass daily significance thresholds, and emissions of these pollutants during operation would not contribute to regional air quality violations. Additionally, these emissions would not occur at a single location and would not cause or contribute to a localized exceedance of an air quality standard. Impacts would be less than significant.

Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Table 4.3-5, Peak Daily Operational Emissions, shows that peak daily emissions do not exceed the SCAQMD's mass emissions CEQA significance thresholds. Therefore, operation of the Proposed Project would not result in a cumulative considerable increase of nonattainment criteria pollutants. Impacts would be less than significant.

Table 4.3-5 Peak Daily Operational Emissions

Emission Source	Maximum Daily Emissions (pounds/day)					
	VOC	**CO**	**NOx**	**SOx**	**PM_{10}**	**$PM_{2.5}$**
Emergency Generator Testing	0.2	0.8	2.6	< 0.05	0.1	< 0.05
Motor Vehicle Exhaust	0.2	1.4	0.2	< 0.05	< 0.05	< 0.05
Particulate Matter from Paved and Unpaved Roads	--	--	--	--	2.4	0.2
Total[1]	**0.3**	**2.2**	**2.7**	**< 0.05**	**2.5**	**0.2**
SCAQMD CEQA Significance Threshold	55	550	55	150	150	55
Significant?	No	No	No	No	No	No

Notes:
[1]Totals may not match sums of individual values because of rounding.

Would the project expose sensitive receptors to substantial pollutant concentrations?

The extremely small emissions during operation of the Proposed Project would not cause or contribute to a localized exceedance of an air quality standard. Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations. Impacts would be less than significant.

4.3.5 Applicant Proposed Measures

SCE has proposed Applicant Proposes Measures (APMs) to minimize, reduce, or eliminate impacts to air quality. These measures are listed in Table 4.3-6, Air Quality Applicant Proposed Measures.

Table 4.3-6 Air Quality Applicant Proposed Measures

Applicant Proposed Measure	Description
APM-AQ-01	Construction workers would carpool when possible
APM-AQ-02	All off-road construction diesel engines which have a rating of 50 hp or more, shall meet, at a minimum, the Tier 2 California Emission Standards for Off- Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, Section 2423(b)(1) unless such engine is not available for a particular item of equipment. In the event a Tier 2 engine is not available for any off-road engine larger than 100 hp, that engine shall be equipped with a Tier 1 engine. In the event a Tier 1 engine is not available for any off-road engine larger than 100 hp, that engine shall be equipped with a catalyzed diesel particulate filter (soot filter), unless certified by engine manufacturers that the use of such devices is not practical for specific engine types
APM-AQ-03	SCE will develop an Air Quality Plan prior the start of construction that would include details of project-specific activities to be implemented during construction of the Proposed Project to ensure compliance with all applicable laws, rules and regulations relating to air quality, and to comply with APM-AQ-01 and APM-AQ-02 set forth above

4.3.6 Alternative 115 kV Segment

The Alternative 115 kV Segment would also be located within an area under the jurisdiction of the SCAQMD, and its construction and operation would be similar in scope to that of the Proposed Project new 115 kV subtransmission line. However, the Alternative 115 kV Segment would be constructed in an area that has more topographic variation than the Proposed Project, requiring more vehicle use. The Alternative 115 kV Segment would also be constructed on unpaved roads, increasing the potential for fugitive dust. As a result, the Alternative 115 kV Segment would have greater impacts to air quality than the Proposed Project.

4.3.7 References

California Air Resources Board (CARB). 2008. Ambient Air Quality Standards. [online] http://www.arb.ca.gov/research/aaqs/aaqs2.pdf, November 2008 [cited July 2009].

CARB. 2009. Area Designation Maps/State and National. [online] http://www.arb.ca.gov/desig/adm/adm.htm. [cited July 2009].

South Coast Air Quality Management District (SCAQMD). 1993. CEQA Air Quality Handbook, November 1993.

SCAQMD. 2007. Final 2007 Air Quality Management Plan. [online] http://www.aqmd.gov/aqmp/07aqmp/index.html, June 2007 [cited July 2009].

SCAQMD. 2008. Final Localized Significance Threshold Methodology. [online] http://www.aqmd.gov/ceqa/handbook/LST/LST.html, July 2008 [cited August 2009].

SCAQMD. 2009a. Historical Data by Year [online] http://www.aqmd.gov/smog/historicaldata.htm [cited June 2009].

SCAQMD 2009b. CEQA Handbook webpage [online] http://www.aqmd.gov/ceqa/hdbk.html [cited July 2009].

SCAQMD 2009c. SCAQMD Air Quality CEQA Significance Thresholds. [online] http://www.aqmd.gov/ceqa/handbook/signthres.pdf, March 2009 [cited July 2009].

4.4 Biological Resources

This section describes the biological resources in the area of the Proposed Project. The potential impacts of the Proposed Project and the Alternative 115 kV Segment are also discussed.

4.4.1 Environmental Setting

The Proposed Project is located in southwestern Riverside County within the cities of Lake Elsinore, Menifee and Wildomar, and the surrounding unincorporated Riverside County. Temescal Canyon, a northwest-trending valley formed by the Santa Ana Mountains to the west and the rolling Gavilan Hills to the east side of the canyon characterizes the northern portion of the Proposed Project area. Temescal Canyon acts as a hydrologic connection between the Lake Elsinore drainages and the Santa Ana River to the north. Portions of this connection are heavily vegetated, and form a direct contrast to the sparse scrub vegetation found on the steep hills surrounding the Temescal Valley.

The City of Lake Elsinore is located in a valley that extends to the north (Temescal Valley), east (San Jacinto Valley), and the south (Murrieta Creek Valley). Lake Elsinore is a 3,000-acre natural lake with trees and scrub bushes surrounding the lake and nearby mountains and hillsides. The cities of Wildomar and Menifee are located between the connection of the I-15 and I-215 freeways, and are characterized by a mix of low-density rural homes and ranches, open space and vacant land, commercial development, and new master planned development.

<u>Critical Habitat</u>

The federal Endangered Species Act (FESA) requires that areas be designated as critical habitat when listing new endangered or threatened species. The critical habitat in the vicinity of the Proposed Project is shown on Figure 4.4-1, Critical Habitat, and illustrates areas that have greater potential of supporting federally listed species in the region. Figure 4.4-1, Critical Habitat, identifies designated critical habitat for coastal California gnatcatcher (*Polioptila californica californica*). In addition, excluded essential habitat is defined as areas that were found to be essential habitat for the survival of a species and assumed to contain at least one of the primary constituent elements for the species, but were excluded from the critical habitat designation (USFWS, 2009). Excluded essential habitat for coastal California gnatcatcher and Munz's onion (*Allium munzii*) is also shown on Figure 4.4-1, Critical Habitat.

<u>Sensitive Species</u>

The US Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG) have identified several sensitive species occurring in the vicinity of the Proposed Project that have been documented in the California Natural Diversity Database (CNDDB). Resource agencies also generally consider vegetation types to have sensitive (i.e., special status) if they support concentrations of sensitive plant or wildlife species,

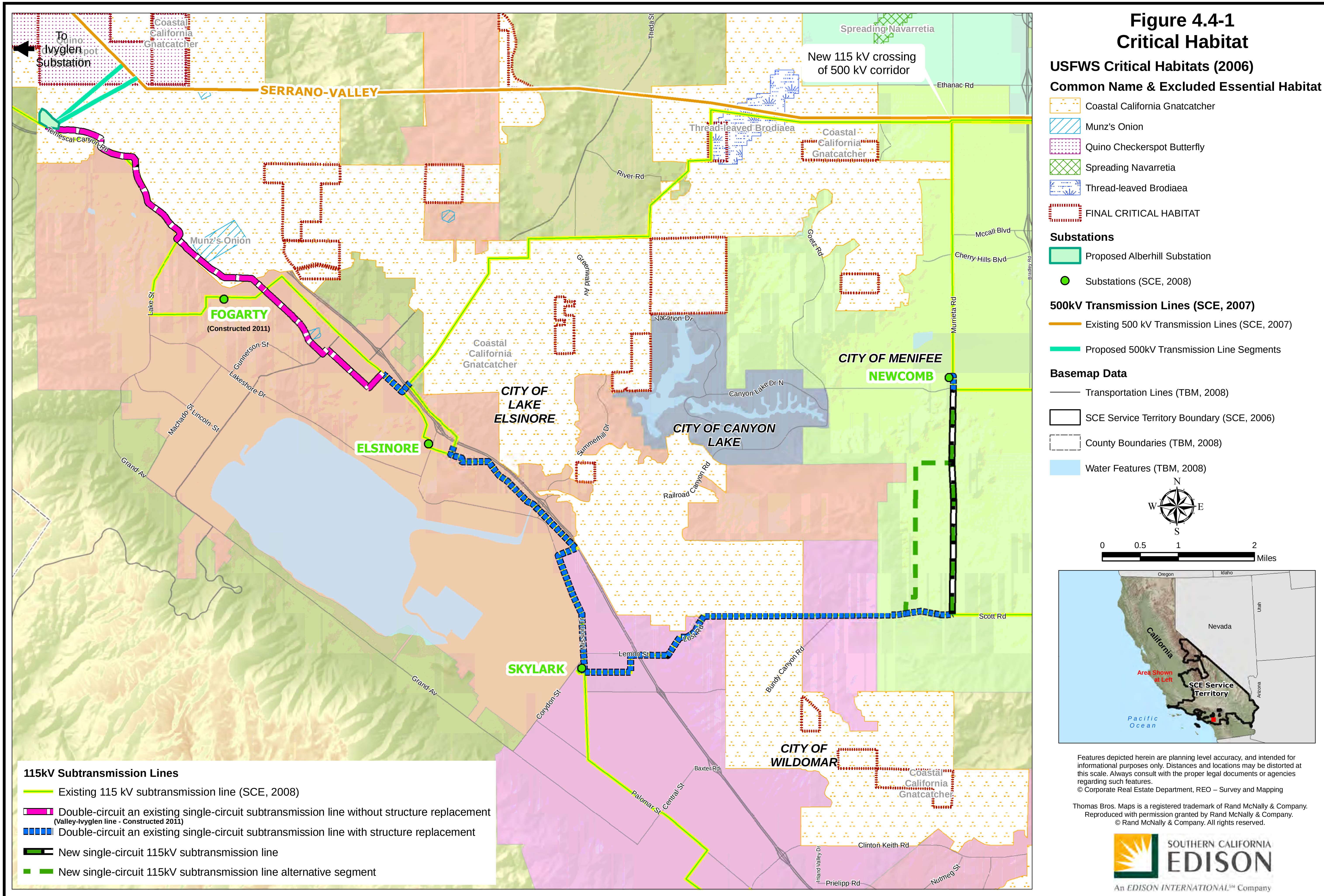


Figure 4.4-1 Critical Habitat

are of relatively limited distribution, or offer particular value to wildlife such as foraging and breeding habitat or migratory stop-over areas. The sensitive species and vegetation types observed in the vicinity of the Proposed Project are shown on Figure 4.4-2, Special Status Species Occurrences.

Wildlife Corridors

Wildlife corridors and linkage areas are essential to maintain populations of healthy and genetically diverse wildlife species. At a minimum, wildlife corridors promote colonization of habitat and genetic variability for both plant and wildlife species by connecting fragments of habitat that are separated by otherwise foreign or inhospitable habitats. On a regional level, open space in the area surrounding the Proposed Project provide areas for wildlife movement.

Habitat Conservation Plan for the Stephens' Kangaroo Rat, Western Riverside County

The Riverside County Habitat Conservation Agency (RCHCA) Habitat Conservation Plan (HCP) area covers 533,954 acres within RCHCA member jurisdictions, including approximately 30,000 acres of occupied Stephens' kangaroo rat (SKR) habitat. The SKR HCP is designed to acquire and permanently set aside, maintain, manage and fund conservation, preservation, restoration and enhancement of the SKR and its habitat. The SKR HCP establishes suitable habitat areas where incidental take is permitted through a fee process. In core reserve areas in occupied habitat, development projects are required to obtain individual permits.

Western Riverside County Multiple Species Habitat Conservation Plan

The Western Riverside County Multiple Species Habitat Conservation Plan (WRMSHCP) provides a conservation area for 146 special-status species, including federal and state listed endangered and threatened species, and provides incidental take permits for development projects that impact these covered species. The WRMSHCP is implemented by the Western Riverside County Regional Conservation Authority.

Special Area Management Plan

The USACE and CDFG are preparing environmental documentation and conducting coordination meetings with the goal of preparing a Special Area Management Plan (SAMP). The SAMP is also being paired with the corresponding CDFG regulatory process, the Master Streambed Alteration Agreement (MSAA). The MSAA approach is similar to that of the SAMP process, with the intention to complete more effective management of streambeds and riparian habitat.

Tree Removal Ordinances

Riverside County has a specific ordinance that protects oak trees and oak woodlands (Riverside County, 1993). This ordinance specifies that if oak resources exist on a project site that impact avoidance is recommended. In the case that the Proposed Project would impact oak trees, then a specific oak tree survey shall be completed. In addition to viable oak trees, any dead or dying trees that are within the proposed impact area should also be evaluated relative to their ability to provide suitable habitat to cavity nesting birds.

4.4.2 Regulatory Setting

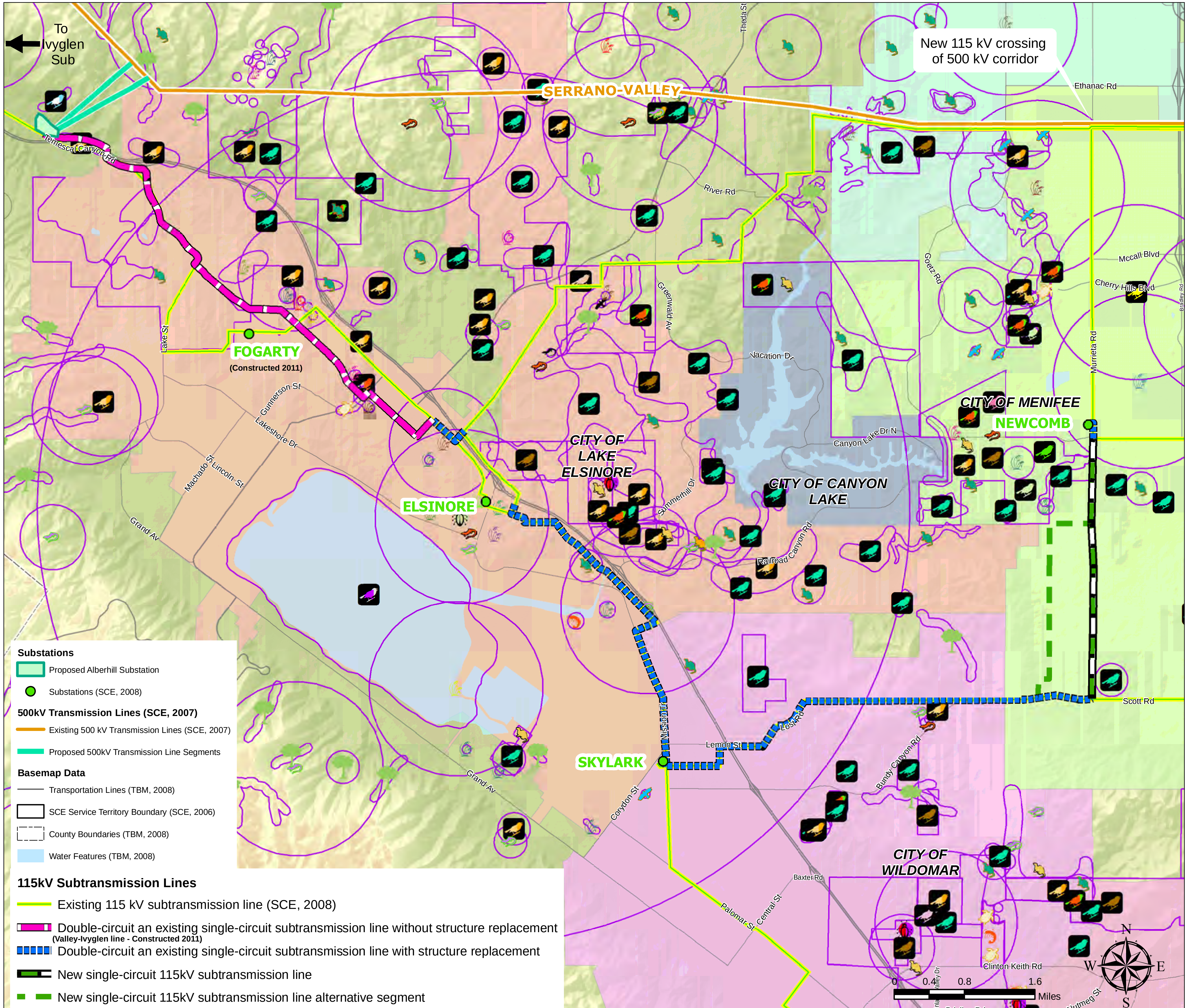
Federal Endangered Species Act (16 U.S.C. 1531–1543). The U.S. Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration (NOAA) Fisheries oversee the Federal Endangered Species Act (FESA). The USFWS has jurisdiction over plants, wildlife, and resident fish; NOAA Fisheries has jurisdiction over anadromous fish, marine fish, and marine mammals. Sections 9 and 4(d) of the FESA prohibit the "take" of any fish or wildlife species listed as endangered or threatened, including the destruction of habitat that could hinder species recovery. The FESA defines take as, "to harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect listed animal species, or attempt to engage in such conduct." Section 9 take prohibition of the FESA applies to wildlife and fish species. Section 9 also prohibits the removal, possession, damage, or destruction of any endangered plant from federal lands. Section 9 further prohibits acts to remove, cut, dig up, damage, or destroy an endangered plant species in non-federal areas in knowing violation of any state law or in the course of criminal trespass.

Section 7 of the FESA mandates that all federal agencies consult with the USFWS and/or NOAA Fisheries to ensure that federal agencies' actions do not jeopardize the continued existence of a listed species or adversely modify critical habitat for listed species. If direct impacts, indirect impacts, or alterations to critical habitat that appreciably diminish the value of critical habitat for both the survival and recovery of a species, the adverse modification would require a formal consultation with the USFWS or NOAA.

Section 10(a)(1)(B) of the FESA, permits to authorize "incidental take" of listed species may be issued. "Incidental take" is defined by the FESA as take that is incidental to, and not for the purpose of, carrying out an otherwise lawful activity. To obtain a take permit, an applicant must submit a HCP outlining what will be done to minimize and mitigate the impact of the permitted take on the listed species. The underlying principle of Section 10 exemption from the FESA is that some individuals of a species or portions of their habitat may be expendable over the short term, as long as enough protection is provided to ensure the long-term recovery of the species.

A federally endangered species is a species of invertebrate, plant, or wildlife formally listed under the FESA as facing extinction throughout all or a significant portion of its geographic range. A federally threatened species is one formally listed by the USFWS as likely to become endangered within the foreseeable future throughout all or a significant portion of its range. A proposed threatened or endangered species is one officially proposed by the USFWS for addition to the federal threatened or endangered species lists. Candidate species and species that are proposed for listing receive no protection under the FESA.

Figure 4.4-2
Special Status Species Occurences



CNDDB Rare & Sensitive Species/Communities (CDFG, 2008)

- California Orcutt grass
- California screw moss
- Coulter's goldfields
- Davidson's saltscale
- Hammitt's clay-cress
- Moran's navarretia
- Munz's onion
- Parry's spineflower
- Parry's tetracoccus
- San Jacinto Valley crownscale
- chaparral sand-verbena
- dwarf burr ambrosia
- least Bell's vireo
- long-spined spineflower
- many-stemmed dudleya
- round-leaved filaree
- smooth tarplant
- slender-horned spineflower
- thread-leaved brodiaea
- Southern Coast Live Oak Riparian Forest
- Southern Cottonwood Willow Riparian Forest
- Southern Sycamore Alder Riparian Woodland
- Riverside fairy shrimp
- San Diego black-tailed jackrabbit
- northwestern San Diego pocket mouse
- Stephens' kangaroo rat
- coast (San Diego) horned lizard
- coast patch-nosed snake
- northern red-diamond rattlesnake
- rosy boa
- burrowing owl
- golden eagle
- Cooper's hawk
- quino checkerspot butterfly
- senile tiger beetle
- western spadefoot
- Bell's sage sparrow
- California horned lark
- coastal California gnatcatcher
- coastal western whiptail
- orange-throated whiptail
- southern California rufous-crowned sparrow
- tricolored blackbird
- western mastiff bat
- western snowy plover
- western yellow bat
- white-faced ibis
- white-tailed kite

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale. Always consult with the proper legal documents or agencies regarding such features.

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Migratory Bird Treaty Act (16 U.S.C. 703-11). The Migratory Bird Treaty Act (MBTA) of 1918 states that it is unlawful to pursue, hunt, take, capture, transport, import, or kill any migratory bird. A list of migratory bird species protected by the MBTA appears in 16 USC 703, 50 CFR 21, 50 CFR 10. Strict avoidance of take is required, limiting the mortality of birds and active nests (assumed and interpreted by resource agencies as nests containing eggs or chicks). Game birds are regulated under state hunting permit programs.

Bald and Golden Eagle Protection Act. The Bald and Golden Eagle Protection Act (the Eagle Act) amended in 1962, was originally implemented for the protection of bald eagles (*Haliaeetus leucocephalus*). In 1962, Congress amended the Eagle Act to cover golden eagles (*Aquila chrysaetos*), a move that was partially an attempt to strengthen protection of bald eagles, since the latter were often killed by people mistaking them for golden eagles. This act makes it illegal to import, export, take (which includes molest or disturb), sell, purchase, or barter any bald eagle or golden eagle or part thereof.

Federal Regulation of Waters of the United States, Including Wetlands (Clean Water Act Sections 404 and 401) (33 U.S.C. 1251-1376). The US Army Corps of Engineers (USACE) and the United States Environmental Protection Agency (USEPA) regulate the discharge of dredged or fill material into "waters of the U.S.," including wetlands, under Section 404 of the Clean Water Act (CWA).

Executive Order 11990, Protection of Wetlands (May 24, 1977). Executive Order 11990 establishes a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative. On projects with federal actions or approvals, impacts on wetlands must be identified in the environmental document. Alternatives that avoid wetlands must be considered. If wetland impacts cannot be avoided, then all practicable measures to minimize harm to those wetlands must be included and documented in the final environmental document for the proposed project.

Executive Order 13112, Invasive Species (February 3, 1999). Executive Order 13112 calls on Executive Branch agencies to work to prevent and control the introduction and spread of invasive species. Nonnative flora and fauna can cause substantial change to ecosystems, upset the ecological balance, and have the potential to cause economic harm. Highway and utility corridors may provide opportunities for the movement of invasive species through the landscape.

California Endangered Species Act (CFGC 2050 et seq.) California implemented its own Endangered Species Act (CESA) in 1984. The state act prohibits the take of state-listed endangered and threatened species; however, unlike the federal definition, habitat destruction or modification is not included in the state's definition of take. Section 2090 of CESA requires state agencies to comply with endangered species protection and recovery and to promote conservation of these species. The CDFG administers the CESA and authorizes take through Section 2081 agreements (except for designated "fully protected species").

The CESA considers an endangered species one whose prospects of survival and reproduction are in immediate jeopardy; a threatened species is one present in such small numbers throughout its range that it is considered likely to become an endangered species in the near future in the absence of special protection or management; and a rare species is one present in such small numbers throughout its range that it may become endangered if its present environment worsens.

California Species of Special Concern (SSC) is an informal designation used by the CDFG for specific declining fish, amphibian, reptile, bird, and mammal species that are not listed as endangered, threatened, or rare under CESA. This designation does not provide legal protection, but signifies that these species are recognized as vulnerable by CDFG.

California Fish and Game Code Section 3503, 3503.5, and 3505. These sections set forth limits on take, possession, and destruction of certain avian species, their nests and eggs. Section 3503 of the CFGC prohibits destruction of the nests or eggs of most native resident and migratory bird species. Section 3503.5 specifically prohibits the taking of raptors or destruction of their nests or eggs. CFGC 3511(a)(1) establishes that fully-protected birds may not be taken or possessed at any time with the exception of permits granted for scientific research.

California Fish and Game Code 1601-1603 Regulation of Waters. 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 CFGC requires notification to 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 Section 1603 of the CFGC.

4.4.3 Significance Criteria

The significance criteria for assessing the impacts to biological resources come from the CEQA Environmental Checklist. According to the checklist, a project causes a potentially significant impact if it would:

- 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

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFG or USFWS

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridor, or impede the use of native wildlife nursery sites

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan

4.4.4 Impact Analysis

The biological resources assessment for the Proposed Project included a literature review and a series of site surveys for various biological resources as described below.

4.4.4.1 Literature Review

Specific reports have been prepared for biological resources for the Proposed Project and other projects within and near the project area. Reports consulted include:

- Final Proposed Alberhill Project Biological Resources Technical Report for the 500 kV and 115 kV Study Areas (AECOM, 2009b)

- Final Biological Resources Technical Report for the Proposed Alberhill Substation Site Lake Elsinore, CA (AECOM, 2009a). Included in Appendix G of this report is a separate habitat assessment for Stephens' kangaroo rat (SKR) (*Dipodomys stephensi*), conducted for the Alberhill Substation site and the 500 kV transmission line segments by SJM Biological Consultants

- Focused Burrowing Owl Burrow and Burrowing Owl Survey Proposed Alberhill Substation Site (AECOM, 2009c)

- Focused Rare Plant Survey April and May 2009 Proposed Alberhill Substation Site (AECOM, 2009d)

- Alberhill Substation 2009 Quino Checkerspot Surveys (Forensic Entomology Services, 2009)

- Alberhill Substation Project Focused Surveys for the Southwestern Willow Flycatcher, Least Bell's Vireo, and Coastal California Gnatcatcher (AMEC, 2009a)

- Fairy Shrimp Habitat Assessment for the Alberhill Substation Project (AMEC, 2009b)

- Final Biological Technical Report For The Fogarty Substation Project Riverside County, California (AMEC, 2006a)

- Final Biological Technical Report for the Valley-Ivyglen Transmission Line Project Riverside County, California (AMEC, 2006b).

Geographic Information Systems (GIS) data on sensitive biological resources was obtained from the following sources:

- California Department of Fish and Game California Natural Diversity Database (CDFG, 2009)
- US Fish and Wildlife Service Carlsbad Fish and Wildlife Office Species Occurrence Database (CFWO, 2009)
- US Fish and Wildlife Service Critical Habitat for federally endangered and threatened species (USFWS, 2009)
- Riverside County Transportation and Land Management Agency County Wide Geographical Information Systems Data Layers (RTLA, 2008)

4.4.4.2 Biological Surveys and Results

The Biological Resources Study Area (Study Area) is comprised of the following:

- The parcels upon which the Alberhill Substation would be constructed (surveyed in Fall 2008 through Summer 2009)
- 350 feet from the centerline of the 500 kV transmission line segments (surveyed in Summer 2009)
- 350 feet from the centerline of the new and modified 115 kV subtransmission lines (surveyed in Summer 2009)
- 350 feet from the centerline of the Alternative 115 kV Segment (surveyed in Summer 2009)

All these areas were surveyed by foot, and in areas of inaccessible terrain and private property with no access rights, the area was observed through binoculars. Detail of the surveys can be found in the Proposed Alberhill System Project Biological Resources Technical Report for the 500 and 115 kV Study Areas, and Proposed Alberhill System Project Biological Resources Technical Report for the Alberhill Substation Study Area. Results from these surveys are summarized below.

Plant Communities

Seventeen individual plant communities, as described in the WRMSHCP, were identified as occurring within the Study Area. These plant community descriptions are used to define habitat for all plants and wildlife (including sensitive species) occurring near the Proposed Project.

Common Vegetation Communities

Tamarisk Scrub (TS)

Tamarisk scrub is dominated by tamarisk (*Tamarix* spp.) but also may contain willows, salt bushes, catclaw acacia (*Acacia greggii*), and salt grass. Tamarisk scrub is dominated by tamarisk, but also may contain willows, salt bushes, catclaw acacia (*Acacia greggii*), and salt grass.

Non-Native Grassland (NNG)

Non-native grasslands primarily are composed of annual grass species introduced from the Mediterranean basin and other Mediterranean-climate regions. It can contain a variable presence of non-native and native herbaceous species, this mix often dependent on grazing, fire regimes, soil disturbance, and annual precipitation patterns. Non-native grasslands are likely to be dominated by several species of grasses: slender oat (*Avena barbata*), wild oat (*Avena fatua*), fox tail chess (*Bromus madritensis*), soft chess (*Bromus hordeaceus*), ripgut grass (*Bromus diandrus*), barley (*Hordeum* spp.), rye grass (*Lolium multiflorum*), English ryegrass (*Lolium perrene*), rat tail fescue (*Vulpia myuros*), and Mediterranean schismus, (*Schismus barbatus*) that have evolved to persist in concert with human activities. Non-native grasslands typically support an array of annual forbs from the Mediterranean-climate regions including redstemmed filaree (*Erodium cicutarium*), broad-loabed filaree (*Erodium botrys*), mustard (*Brassica* spp.), short podded mustard (*Hirschfeldia incana*), wild radish (*Raphanus sativu*), *Centaurea* spp., Italian thistle (*Carduus pycnocephalus*), artichoke thistle (*Cynara cardunculus*), common catchfly (*Silene gallica*), Medicago species, and *Hypochaeris* species. Native species occasionally occur, and usually include disturbance specialists including Lotus species, Eriogonum species, Lessingia species, Isocoma species, Ericameria species, cholla, blue dicks, doveweed (*Eremocarpus setigerus*), vinegar weed (*Trichostemma lanceolatum*), and tarplant.

Grove/Orchard (GO)

Agricultural groves are generally open and of single species with often low bushy trees which result from pruning. The undergrowth usually contains low-growing grasses and other herbs but is mostly composed of bare ground. Aside from agricultural purposes, groves can also be planted as windbreaks, for aesthetic purposes or for firewood or lumber. These stands shade the ground and litter the soil surface. Plantations of orchard crops may include walnuts (*Juglans* spp.), plums (*Prunus domestica*), almonds (*Prunus dulcis*), peaches (*Prunus persica*), and apples (*Malus sylvestris*).

Residential/Urban/Exotic (RUE)

This community includes developed areas that are permanently altered by human activities, including roads, buildings, landscaped areas, and other areas (i.e., fire breaks or staging areas) where native plant communities are prevented from becoming re-established. Although these areas may at times contain vegetation, they are routinely mowed or cleared to preclude further non-native vegetation establishment. In this community invasion and colonization has favored non-native weedy forbs and non-native grasses that can tolerate frequent disturbance. This community is often supported by heavily compacted soils with little available oxygen.

Weed invasion is common in urban areas, often occurring on roadsides and abandoned areas. In larger areas these weed populations may represent the early stages of natural succession. Typical species include wild oats (*Avena* spp.), bromes (*Bromus* spp.), tocalote (*Centaurea melitensis*), and mustard, pineapple-weed (*Chamomilla suaveloens*), common knotweed (*Polygonum arenastrum*), sowthistle (*Sonchus oleraceus*), horseweed (*Conyza canadensis*), and goosefoot (*Chenopodium* spp.). Often the ecological factors that support the Residential/Urban/Exotic community can create conditions that support no vegetation.

This community presents management challenges for the conservation of the surrounding, more native plant communities in Riverside County. Ornamental, non-native species can often escape, invading and colonizing into surrounding plant communities. Among the larger of these invading species are acacias (*Acacia* spp.) and pepper trees (*Schinus* spp.).

<u>Sensitive Vegetation Communities</u>

Alluvial Scrub (AS)

The only dominant species that has a strong fidelity to alluvial scrub is scalebroom (*Lepidospartum squamatum*). In addition to scalebroom, alluvial scrub typically is composed of white sage (*Salvia apiana*), redberry (*Rhamnus crocea*), California buckwheat (*Eriogonum fasciculatum*), our lord’s candle (*Yucca whipplei*), California croton (*Croton californicus*), cholla (*Opuntia* spp.), tarragon (*Artemisia dracunculus*), yerba santa (*Eriodictyon* spp.), mule fat (*Baccharis salicifolia*) and birch-leaf mountain-mahogany (*Cercocarpus betuloides*).

Chamise Chaparral (CC)

The chamise chaparral plant community vegetation structure is open to dense between 1 to 4 meters in height, with little litter and few understory species in mature stands. Recent studies describe this association as having greater than 60 percent cover chamise (*Adenostoma fasciculatum*). Where another species occurs at greater than 30 percent cover but chamise remains the dominant, the stands have been described as a mixed series (e.g., chamise-bigberry, chamise-black sage, chamise-cupleaf ceanothus, chamise-Eastwood’s manzanita, chamise-hoaryleaf ceanothus, chamise-mission manzanita-woollyleaf ceanothus series, chamise-wedgeleaf ceanothus, and chamise-white sage). Evergreen species that commonly occur at less than 30 percent cover within chamise chaparral include bigberry manzanita (*Arctostaphylos glauca*), Eastwood’s manzanita (*Arctostaphylos glandulosa*), mission manzanita (*Xylococcus bicolor*), scrub oak (*Quercus berberidifolia*), interior live oak (*Quercus wislizneii*), hoaryleaf ceanothus (*Ceanothus crassifolius*), our lord’s candle, laurel sumac (*Malosma laurina*), sugar bush

(*Rhus ovata*), toyon (*Heteromeles arbutifolia*), yerba santa (*Eriodictyon crassifolium* and E. *trichocalyx*), redberry, and chaparral beard-tongue (*Keckiella antirrhinoides*). Chamise chaparral often supports low cover of subshrubs characteristic of sage scrub (e.g., black sage [*Salvia mellifera*], California buckwheat, California sagebrush [*Artemisia californica*], and saw-toothed goldenbush [*Hazardia squarrosa*]). Perennial herbaceous species are few in mature stands of chamise chaparral but cudweed (*Gnaphalium* spp.), *Sanicula* spp., southern taushia (*Tauschia arguta*), California melic (*Melica imperfecta*), lilac mariposa (*Calochortus splendens*), Bigelow's spike-moss (*Selaginella bigelovii*), and other post burn or gap specialist annuals (e.g., *Phacelia* spp., whispering bells [*Emmenanthe pendulaflora*], *Cryptantha* spp., *Plagiobothrys* spp., spineflower, evening-primrose [*Camissonia* spp.], and *Pterostegia drymarioides*) may be present.

Mixed Chaparral (MC)

In the western portion of the area analyzed, undifferentiated chaparral is dominated by chamise in drier habitats and by a more diverse mixture of species in more mesic areas. Species composition ranges from that described for chamise chaparral (see above) to more diverse shrub associations supporting hoaryleaf ceanothus, birch-leaf mountain-mahogany, toyon, sugar bush, holly-leaf redberry (*Rhamnus ilicifolia*), heart-leaved penstemon (*Keckiella cordifolia*), southern honeysuckle (*Lonicera subspicata*), scrub oak, black sage, and other species.

The eastern portion of the Gavilan Hills, Sedco Hills, and Black Hills are lower in elevation and support a drier expression of chaparral with abundant stands of chamise along with more arid climate chaparral species (e.g., jojoba [*Simmondsia chinensis*], chaparral beard-tongue, and desert thorn [*Lycium andersonii*]) and Riversidean sage scrub (e.g., brittlebush [*Encelia farinosa*], California buckwheat, and white sage). Mesic areas (e.g., north-facing slopes, narrow ravines) in this region support southern mixed chaparral, or red shank chaparral.

Mulefat Scrub (MS)

Mule fat scrub is dominated by mule fat, but also may include willows, sedges and stinging nettle (*Urtica dioica*). Mulefat Scrub vegetation is typically found in riparian areas.

Open Water (OW)

Open water habitat typically is unvegetated due to a lack of light penetration. However, open water may contain suspended organisms such as filamentous green algae, phytoplankton (including diatoms) and desmids. Floating plants such as duckweed (*Lemna* spp.), water buttercup (*Ranunculus aquatilis*) and mosquito fern (*Azolla filiculoides*) may also be present.

Riversidean Sage Scrub (RSS)

Riversidean sage scrub is the most xeric expression of Coastal Sage Scrub south of Point Conception. Typical stands are fairly open and dominated by California sage bush, California buckwheat (*Eriogonum* spp.) and red brome (*Bromus rubens*), each attaining at least 20 percent cover. This plant community typically occurs on xeric sites such as steep slopes, severely drained soils, or clays that release stored soil moisture slowly. In higher elevations, this community intergrades with several southern California chaparral community types.

Valley Freshwater Marsh (VFM)

Valley freshwater marsh typically is dominated by perennial monocots up to two meters in height. This habitat type includes cattails (*Typha* spp.), bulrush (*Scirpus* spp.), sedges (*Carex* spp.), spike rushes (*Eleocharis* spp.), flatsedges (*Cyperus* spp.), smartweed (*Polygonum* sp.), watercress (*Rorippa* spp.) and yerba mansa (*Anemopsis californica*). Rooted aquatic plant species with floating stems and leaves also may be present, such as pennywort (*Hydrocotyle* spp.), water smartweed (*Polygonum amphibium*), pondweeds (*Potamogeton* spp.) and water-parsley (*Oenanthe sarmentosa*).

Cismontane Alkali Marsh (CAM)

This plant community is found in areas where standing water or saturated soils are present during most or all of the year. This community is characterized as having a high evaporation rate and low input of fresh water, which renders these marshes salty, especially during the summer. Intergraded components of a cismontane alkali marsh could include a scrub layer dominated by saltbush (*Atriplex* spp.) that occur in areas with moist, highly alkaline soils that usually lack surface water. Typical cismontane alkali marsh species include yerba mansa, saltgrass (*Distichlis spicata*), alkali-heath (*Frankenia salina*), cattails, common pickleweed (*Salicornia virginica*), rushes (*Juncus* spp.), marsh flea bane (*Pluchea odorata*) and sedges.

Coast Live Oak Woodland – Upland (CLOWU) and Riparian (CLOWR)

The coast live oak woodland plant community occurs more frequently on cooler, steeper slopes (Upland) and will most often occur on the terraces adjacent to the stream channels forming the interior of the woodland canopy (Riparian). The coast live oak woodlands vary from savanna-like, with few to no woody associates, to dense woodlands. Coast live oak trees (*Quercus agrifolia*) can reach a canopy height of 30 meters, but usually vary from nine to 22 meters. Canopy coverage varies between continuous to open. Many understory plants in a coast live oak woodland are shade tolerant and include wild blackberry (*Rubus ursinus*), snowberry (*Symphoricarpos mollis*), California walnut (*Juglans californica*), *Ceanothus* spp., *Rhus* spp., gooseberry (*Ribes* spp.), toyon, California bay (*Umbellularia californica*), Engelmann oak (*Quercus engelmannii*), manzanita (*Arctostaphylos* spp.), laurel sumac, poison oak (*Toxicodendron diversilobum*), and herbaceous plants including bracken fern (*Pteridium aquilinum*), polypody fern (*Polypodium californicum*), fiesta flower (*Pholistorma auritum*) and miner's lettuce (*Claytonia perfoliata*). This plant community also includes a variety of grasses and soft shrubs.

Southern Willow Scrub (SWS)

Southern willow scrub is dominated by willow trees and shrubs (*Salix* spp.) and also may contain gooseberry (*Ribes* spp.) and Mexican elderberry (*Sambucus mexicana*). When disturbance is high within this habitat type, the dominant species typically is sandbar willow (*Salix exigua*). When disturbance is less, the dominant species typically is Goodding's black willow (*Salix gooddingii*). Willows are fast-growing and can reproduce vegetatively from root sprouts.

Red willow (*Salix laevigata*) occupies fast-flowing perennial streams at elevations up to 1,200 meters and often occurs with yellow willow (*Salix lasiandra*). Yellow willow grows along stream channels and in perennially wet places at elevations of 2,500 meters, and is therefore not likely to be found in the area analyzed. Sandbar willow occurs along sandbars and riverbeds at elevations below 900 meters. Arroyo willow occupies habitat within perennial and intermittent stream channels at elevations up to 750 meters. Goodding's black willow occurs along stream banks and in wet places within drier habitats at elevations below 450 meters.

Southern Cottonwood/Willow Riparian Forest (CWR)

Southern cottonwood and willow riparian habitat is dominated by cottonwood (*Populus* spp.) and willow trees and shrubs. Understory species may include mugwort (*Artemisia douglasiana*), stinging nettle and wild cucumber (*Marah macrocarpus*). This riparian habitat is considered to be an early successional stage as both species are known to germinate almost exclusively on recently deposited or exposed alluvial soils. Like the willow, the cottonwood can reproduce vegetatively from roots. In the absence of disturbance, this habitat type will transition to include oaks (*Quercus* spp.) and sycamores (*Platanus racemosa*) or, at higher elevations, will include white alder (*Alnus rhombifolia*).

Southern Sycamore Riparian Forest (SSR)

Below 2,000 meters sycamore often occurs along seasonally-flooded banks; cottonwoods and willows also are often present. Poison oak (*Toxicodendron diversilobum*), mugwort, Mexican elderberry and wild raspberry (*Rubus* spp.) may be present in the understory. Sycamores are able to withstand long periods of flooding. In some cases this plant community may contain white alder. The distribution of white alder is restricted to permanent streams and consistent saturation of the root zone by well-aerated, cool water.

Special Status Plants

This section contains a discussion of the sensitive plant species within the area analyzed. Sensitive species may also be referred to as special-status species due to their recognition by regulatory or institutional entities with authority in determining rarity, endangerment or declining populations. Locations of past sightings of sensitive species are shown on Figure 4.4-2, Special Status Species Occurrences. Table 4.4-1, Sensitive Plant Species

Potentially Occurring in the Study Area, presents a list of sensitive plant species potentially occurring in the Study Area.

For this analysis sensitive plant species include those that could occur potentially within the area analyzed (based on a 9-quadrangle query from the CNDDB database) and meet at least one of the following standards:

- Covered Species identified in the WRMSHCP
- Species identified as CNPS designated species
- Species listed as special concern, threatened, endangered, or candidate by the USFWS
- Species listed as special concern, threatened, endangered or candidate by the CDFG

These species were then ranked for their potential to occur within the Study Area. This ranking process was based upon an analysis of the plant communities within the Study Area (and the species they would support), the known range of each species, as well as field survey observation notes and photographs. If a species was observed, it was included in this analysis. The potential for occurrence was ranked as follows:

- No Potential: Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime), and/or the site is clearly out of the known range for the species.
- Unlikely Potential: Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality, and/or the site is somewhat outside the known range of the species. The species is not likely to be found on the site.
- Moderate Potential: Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable, and the site is within the known range for the species. The species has a moderate probability of being found on the site.
- High Potential: All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The site is within the known range of the species. The species has a high probability of being found on the site.
- Present: Species is observed on the site or has been recorded (from literature search) on the site

Table 4.4-1 Sensitive Plants with the Potential to Occur within the Study Area

Common and Scientific Names and Sensitivity Status	**Plant Communities with Potential to Provide Habitat**	**Alberhill Substation Site**	**500 kV Transmission Segments**	**New and Modified 115 kV Lines**	**115 kV Alternative Segment**
Chaparral Sand-Verbena *Abronia villosa* var. *Aurita* CNPS:1B.1	AS, CC, RSS	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Yucaipa Onion *Allium marvinii* FSS CNPS:1.B.1 WRMSHCP: NEPS	CC, MC	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Munz's Onion *Allium munzii* FSS CNPS:1.B.1 WRMSHCP: NEPS	CC, MC, RSS, NNG	Moderate Potential	Moderate Potential	**High Potential**	**High Potential**
San Diego Ambrosia *Ambrosia pumila* FE CNPS:1B.1 WRMSHCP: NEPS	AS, CC, MC, RSS, NNG	No Potential	No Potential	**High Potential**	**High Potential**
Johnston's Rock Cress *Arabis johnstonii* FSS CNPS:1B.2 WRMSHCP: NEPS	MC, CC	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential
Rainbow Manzanita *Arctostaphylos rainbowensis* CNPS:1B.1	MC, CC	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential
Jaeger's Milkvetch *Astragalus pachypus* var. *jaegeri* CNPS:1B.1	AS, CC, MC, RSS, NNG	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential

Common and Scientific Names and Sensitivity Status	Plant Communities with Potential to Provide Habitat	Alberhill Substation Site	500 kV Transmission Segments	New and Modified 115 kV Lines	115 kV Alternative Segment
San Jacinto Valley Crownscale *Atriplex coronata* var. *notatior* FE CNPS:1B.1 WRMSHCP:CAS	CAM, NNG	Unlikely Potential	Unlikely Potential	**High Potential**	Moderate Potential
Coulter's Saltbush *Atriplex coulteri* FE CNPS:1B.2	RSS, NNG	Unlikely Potential	Unlikely Potential	Moderate Potential	Moderate Potential
South Coast Saltscale *Atriplex pacifica* CNPS:1B.2	RSS	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Parish's Brittlescale *Atriplex parishii* FE CNPS:1B.1 WRMSHCP:CAS	CAM, NNG	Unlikely Potential	Unlikely Potential	Moderate Potential	Moderate Potential
Davidson's Saltscale *Atriplex serenana* var. *davidsonii* CNPS:1B.2 WRMSHCP: CAS	CAM, NNG	Unlikely Potential	Unlikely Potential	Moderate Potential	Moderate Potential
Nevin's Barberry *Berberis nevinii* FE SE CNPS:1B.1 WRMSHCP:CAS	AS, CC, MC, RSS, SWS, MS, TS	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Thread-Leaved Brodiaea *Brodiaea filifolia* FT SE CNPS:1B.1 WRMSHCP:CAS	CAM, NNG	Unlikely Potential	Unlikely Potential	**High Potential**	Moderate Potential
Orcutt's Brodiaea *Brodiaea orcuttii* CNPS:1B.1	CC, MC, CAM	Unlikely Potential	Unlikely Potential	Moderate Potential	Moderate Potential

Common and Scientific Names and Sensitivity Status	Plant Communities with Potential to Provide Habitat	Alberhill Substation Site	500 kV Transmission Segments	New and Modified 115 kV Lines	115 kV Alternative Segment
Tecate Cypress *Callitropsis forbesii* CNPS:1B.1	None	No Potential	No Potential	No Potential	No Potential
Munz's Mariposa Lily *Calochortus palmeri* var. *Munzii* FSS CNPS:1B.2 WRMSHCP: NEPS	MC, CC	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential
Plummer's Mariposa Lily *Calochortus plummerae* FSS CNPS:1B.2	CC, MC, RSS	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Intermediate Mariposa Lily *Calochortus weedii* var. *intermedius* CNPS:1B.2	CC, MC, RSS, NNG	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Payson's Jewel Flower *Caulanthus simulans* CNPS:4.2	CC, MC, RSS	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Vail Lake Ceanothus *Ceanothus ophiochilus* FT ST CNPS:1B.1 WRMSHCP:CAS	CC, MC	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential
Southern Tarplant *Centromadia parryi* ssp. *Australis* CNPS:1B.1	VFM, CAM, NNG	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Smooth Tarplant *Centromadia pungens* ssp. *Laevis* CNPS:1B.1 WRMSHCP:CAS	CAM, NNG, SWS, MS, TS, CWR, SSR	Unlikely Potential	Unlikely Potential	**Present**	Moderate Potential

Common and Scientific Names and Sensitivity Status	Plant Communities with Potential to Provide Habitat	Alberhill Substation Site	500 kV Transmission Segments	New and Modified 115 kV Lines	115 kV Alternative Segment
Peninsular Spineflower *Chorizanthe leptotheca* CNPS:4.2	CC, MC, RSS	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Parry's Spineflower *Chorizanthe parryi* var. *parryi* CNPS:1B.1	CC, MC, RSS, NNG	Moderate Potential	Moderate Potential	**High Potential**	**High Potential**
Long-Spined Spineflower *Chorizanthe polygonoides* var. *longspina* CNPS:1B.2	CC, MC, RSS, NNG	**Present**	**High Potential**	**High Potential**	**High Potential**
White-Bracted Spineflower *Chorizanthe xanti* var. *leucotheca* CNPS:1B.2	None	No Potential	No Potential	No Potential	No Potential
Summer Holly *Comarostaphylis diversifolia* ssp. *Diversifolia* CNPS:4.2	CC, MC	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Small-flowered Morning Glory *Convolvulus simulans* CNPS:4.2	CC, MC, RSS, NNG	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Mojave Tarplant *Deinandra mohavensis* FSS SE CNPS:1B.3	CC, MC, RSS, SWS, MS, CWR, SSR	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential
Paniculate tarplant *Deinandra paniculata* CNPS: 4.2	RSS, NNG	**Present**	**Present**	**Present**	**High Potential**

Common and Scientific Names and Sensitivity Status	Plant Communities with Potential to Provide Habitat	Alberhill Substation Site	500 kV Transmission Segments	New and Modified 115 kV Lines	115 kV Alternative Segment
Slender-horned Spineflower *Dodecahema leptoceras* FE SE CNPS:1B.1 WRMSHCP: NEPS	AS, CC, MC, RSS	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Santa Monica Dudleya *Dudleya cymosa* ssp. *Ovatifolia* FT CNPS: 1B.2	MC, CC, RSS	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential
Many-Stemmed Dudleya *Dudleya multicaulis* CNPS:1B.2 WRMSHCP: NEPS	CC, MC, RSS, NNG	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Sticky Dudleya *Dudleya viscida* CNPS:1B.2	CC, MC, RSS	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Santa Ana River Woolystar *Eriastrum densifolium* ssp. *Sanctorum* FE SE CNPS:1B.1	AS, RSS, MC, CC	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential
Round-leaved Filaree *Erodium* (California) *macrophyllum* CNPS:1B.1 WRMSHCP:CAS	NNG	Moderate Potential	Moderate Potential	**High Potential**	**High Potential**

Common and Scientific Names and Sensitivity Status	**Plant Communities with Potential to Provide Habitat**	**Alberhill Substation Site**	**500 kV Transmission Segments**	**New and Modified 115 kV Lines**	**115 kV Alternative Segment**
San Diego Button Celery *Eryngium aristulatum* var. *parishii* FE SE CNPS:1B.1	RSS, NNG	Unlikely Potential	Unlikely Potential	Moderate Potential	Moderate Potential
San Jacinto Mountains Bedstraw *Galium angustifolium* ssp. *Jacinticum* FSS CNPS:1B.3 WRMSHCP: NEPS	None	No Potential	No Potential	No Potential	No Potential
California Bedstraw *Galium californicum* ssp. *Primum* FSS CNPS:1B.2	CC, MC	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential
Campbell's Liverwort *Geothallus tuberosus* CNPS:1B.1	RSS, NNG	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Palmer's Grapplinghook *Harpagonella palmeri* CNPS: 4.2	CC, MC, RSS, NNG	**High Potential**	**High Potential**	**High Potential**	**High Potential**
Shaggy-haired Alumroot *Heuchera hirsutissima* FSS CNPS:1B.3	MC, CC	No Potential	No Potential	No Potential	No Potential
Graceful Tarplant *Holocarpha virgata* ssp. *Elongate* CNPS: 4.2	CC, MC, RSS, NNG	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential

Common and Scientific Names and Sensitivity Status	Plant Communities with Potential to Provide Habitat	Alberhill Substation Site	500 kV Transmission Segments	New and Modified 115 kV Lines	115 kV Alternative Segment
Vernal Barley *Hordeum intercedens* CNPS: 3.2	RSS, NNG	Unlikely Potential	Unlikely Potential	Moderate Potential	Moderate Potential
Mesa Horkelia *Horkelia cuneata* ssp. *Puberula* CNPS:1B.1	CC, MC, RSS	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Beautiful Hulsea *Hulsea vestita* ssp. *Callicarpha* CNPS: 4.2	None	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential
California Satintail *Imperata brevifolia* CNPS: 2.1	CC, MC, RSS, SWS, MS, TS	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Southern California Black Walnut *Juglans californica* CNPS: 4.2	CC, MC, RSS	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Coulter's Goldfields *Lasthenia glabrata* ssp. *Coulteri* CNPS:1B.1 WRMSHCP: CAS	VFM, CAM, NNG	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential
Heart-leaved Pitcher Sage *Lepechinia cardiophylla* CNPS:1B.2 WRMSHCP: CAS	MC, CC	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential
Robinson's Pepper Grass *Lepidium virginicum* var. *robinsonii* CNPS:1B.2	CC, MC, RSS,	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Ocellated Humboldt Lily *Lilium humboldtii* ssp. *Ocellatum* CNPS: 4.2	CC, MC, RSS, SWS, CWR, SSR	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential

Common and Scientific Names and Sensitivity Status	Plant Communities with Potential to Provide Habitat	Alberhill Substation Site	500 kV Transmission Segments	New and Modified 115 kV Lines	115 kV Alternative Segment
Lemon Lily *Lilium parryi* CNPS: 1B.2	SWS, CWR, SSR	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential
Parish's Meadowfoam *Limnanthes gracilis* ssp. *Parishii* CNPS: 1B.2	CAM, VFM, ,NNG	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential
Small-flowered Microseris *Microseris douglasii* var. *platycarpha* CNPS: 4.2	RSS, NNG	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Cleveland's Bush Monkeyflower *Mimulus clevelandii* CNPS: 4.2	CC, MC	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential
Palomar Monkeyflower *Mimulus diffuses* CNPS: 4.3	CC, MC	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential
Felt-leaved Monardella *Monardella hypoleuca* ssp. *Lanata* CNPS: 1B.2	CC, MC	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Hall's Monardella *Monardella macrantha* ssp. *Hallii* CNPS: 1B.3	CC, MC	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential
California Muhly *Muhlenbergia californica* CNPS: 4.3	CC, MC, RSS, SWS, MS, TS, CWR, SSR, NNG	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Little Mousetail *Myosurus minimus* ssp. *Apus* CNPS:3.1 WRMSHCP:CAS	CAM, NNG	Unlikely Potential	Unlikely Potential	Moderate Potential	Moderate Potential

Common and Scientific Names and Sensitivity Status	**Plant Communities with Potential to Provide Habitat**	**Alberhill Substation Site**	**500 kV Transmission Segments**	**New and Modified 115 kV Lines**	**115 kV Alternative Segment**
Mud Nama *Nama stenocarpum* CNPS:2.2 WRMSHCP:CAS	VFM, CAM, SWS, MS, TS, CWR, SSR, NNG	Unlikely Potential	Unlikely Potential	Moderate Potential	Moderate Potential
Spreading (Moran's) Navarretia *Navarretia fossalis* FT CNPS:1B.1 WRMSHCP: NEPS	VFM, CAM, SWS, MS, TS, CWR, SSR, NNG	Unlikely Potential	Unlikely Potential	Moderate Potential	Moderate Potential
Prostrate Vernal Pool Navarretia *Navarretia prostrata* CNPS:1B.1 WRMSHCP:CAS	RSS, NNG	Unlikely Potential	Unlikely Potential	Moderate Potential	Moderate Potential
Peninsular nolina *Nolina cismontane* CNPS:1B.2	MC, CC, RSS	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential
California Orcutt Grass *Orcuttia californica* FE SE CNPS:1B.1 WRMSHCP: NEPS	CAM, NNG	Unlikely Potential	Unlikely Potential	Moderate Potential	Unlikely Potential
Chickweed Oxytheca *Sidotheca (Oxytheca) caryophylloides* CNPS: 4.3	None	No Potential	No Potential	No Potential	No Potential
California Beardtongue *Penstemon californicus* FSS CNPS:1B.2	MC, CC	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential
Allen's Daisy *Pentachaeta aurea* ssp. *Allenii* CNPS:1B.1	RSS, NNG	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential

Common and Scientific Names and Sensitivity Status	Plant Communities with Potential to Provide Habitat	Alberhill Substation Site	500 kV Transmission Segments	New and Modified 115 kV Lines	115 kV Alternative Segment
Brand's Phacelia *Phacelia stellaris* SC CNPS:1B.1 WRMSHCP: NEPS	AS, MS	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Santiago Peak Phacelia *Phacelia suaveolens* ssp. *Keckii* CNPS: 1B.3	MC, CC	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential
Fish's Milkwort *Polygala cornuta* var. *fishiae* CNPS: 4.3	CC, MC, SWS, CWR, SSR	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Cliff Cinquefoil *Potentilla rimicola* CNPS: 2.3	None	No Potential	No Potential	No Potential	No Potential
White Rabbit-Tobacco *Pseudognaphalium leucocephalum* CNPS: 2.2	CC, MC, RSS, SWS, SWS, MS, TS, CWR, SSR	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Nuttall's Scrub Oak *Quercus dumosa* CNPS: 1B.1	CC, MC, RSS	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Engelmann Oak *Quercus engelmannii* CNPS: 4.2	CC, MC, SWS, CWR, SSR, NNG, CLOWR, CLOWU	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Coulter's Matilija Poppy *Romneya coulteri* CNPS: 4.2	CC, MC, RSS	**High Potential**	**High Potential**	Moderate Potential	Moderate Potential
San Miguel Savory *Satureja chandleri* CNPS: 1B.2 WRMSHCP: NEPS	CC, MC, RSS, NNG	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential

Common and Scientific Names and Sensitivity Status	Plant Communities with Potential to Provide Habitat	Alberhill Substation Site	500 kV Transmission Segments	New and Modified 115 kV Lines	115 kV Alternative Segment
Southern Mountain Skullcap *Scutellaria bolanderi* ssp. *Austromontana* CNPS: 1B.2	CC, MC, CLOWR, CLOWU	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Hammitt's Clay-Cress *Sibaropsis hammittii* CNPS:1B.2 WRMSHCP: NEPS	CC, MC, NNG	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Salt Spring Checkerbloom *Sidalcea neomexicana* CNPS: 2.2	CC, MC, RSS	Unlikely Potential	Unlikely Potential	Moderate Potential	Moderate Potential
Bottle Liverwort *Sphaerocarpos drewei* CNPS: 1B.1	CC, MC, RSS	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
San Bernardino Aster *Symphyotrichum defoliatum* CNPS: 1B.1	RSS, VFM, CAM, NNG, SWS, MS, RS, TS, CWR, SSR	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Parry's Tetracoccus *Tetracoccus dioicus* CNPS: 1B.2	MC, CC, RSS	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential
California Screw moss *Tortula californica* CNPS: 1B.2	NNG, CAM	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Wright's Trichocoronis *Trichocoronis wrightii* var. *wrightii* CNPS: 2.1 WRMSHCP: NEPS	VFM, CAM, NNG, SWS, CWR, SSR	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential

Common and Scientific Names and Sensitivity Status	Plant Communities with Potential to Provide Habitat	Alberhill Substation Site	500 kV Transmission Segments	New and Modified 115 kV Lines	115 kV Alternative Segment
La Purisima Siguiera *Viguiera viguiera (purisimae)* CNPS: 2.3	MC, CC	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential

In addition to the reconnaissance-level surveys conducted for the Proposed Project, Focused Plant Surveys were conducted at the Alberhill Substation site during Spring 2009. As noted in Table 4.4-1, Sensitive Plant Species Potentially Occurring in the Study Area, paniculate tarplant and long-spined spineflower were observed on the substation parcels. These locations are shown on Figure 4.4-3, Focused Survey Sensitive Species Observations. Additional surveys are required to determine the presence/absence of special status plant species within the 500 kV transmission line segments and the new and modified 115 kV subtransmission line alignments.

Sensitive Wildlife Species

This section contains a discussion of the sensitive wildlife species within the Study Area. Locations of past sightings of sensitive species are shown on Figure 4.4-2, Special Status Species Occurrences. Table 4.4-2, Sensitive Wildlife Species Potentially Occurring in the Study Area, presents a list of sensitive wildlife species potentially occurring in the area analyzed. A similar methodology described above for identifying sensitive plants was applied to the wildlife.

Figure 4.4-3
Focused Survey Sensitive Species Observation

Incidental Species

- Coastal California Gnatcatcher
- Golden Eagle
- Rufous-crowned Sparrow
- Yellow Warbler
- Least Bell's Vireo
- Paniculate Tarplant
- Smooth Tarplant
- Long-Spined Spine Flower
- California Ground Squirrel Burrows
- Suitable Burrowing Owl Habitat

Steven's Kangaroo Rat Survey

- High likelihood that SKR are present
- Potential for SKR presence
- Active Kangaroo Rat Burrow & Scat Location
- Proposed Alberhill Substation

N W E S

0 0.05 0.1 0.2 Miles

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale. Always consult with the proper legal documents or agencies regarding such features.

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Table 4.4-2 Sensitive Wildlife with the Potential to Occur within the Areas Surveyed

Common and Scientific Names and Sensitivity Status	Plant Communities with Potential to Provide Habitat	Alberhill Substation Site	500 kV Transmission Segments	New and Modified 115 kV Lines	115 kV Alternative Segment
INVERTEBRATES					
Vernal Pool Fairy Shrimp* *Branchinecta lynchi* FT	CAM, NNG	No Potential	No Potential	Moderate Potential	Moderate Potential
San Diego Fairy Shrimp *Branchinecta sandiegonensis* FE	CAM, NNG	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential
Quino Checkerspot Butterfly* *Euphydryas editha quino* FE	CC, MC, RSS, NNG	**High Potential**	**High Potential**	Moderate Potential	Moderate Potential
Delhi Sands Flower-loving Fly* *Rhaphiomidas terminatus abdominalis*	None	No Potential	No Potential	No Potential	No Potential
Riverside Fairy Shrimp* *Streptocephalus woottoni* FE	CAM, NNG, RSS, MC, CC	No Potential	No Potential	Moderate Potential	Moderate Potential
FISH					
Santa Ana Sucker* *Catostomus santaanae* FT, SSC, FSS	OW, SWS, CWR, SSR	No Potential	No Potential	No Potential	No Potential
Arroyo Chub* *Gila orcuttii* SSC	OW, SWS, CWR, SSR	No Potential	No Potential	No Potential	No Potential

Common and Scientific Names and Sensitivity Status	Plant Communities with Potential to Provide Habitat	Alberhill Substation Site	500 kV Transmission Segments	New and Modified 115 kV Lines	115 kV Alternative Segment
Southern Steelhead (Southern California) *Oncorhynchus mykiss irideus* SSC, FE	OW, SWS, CWR, SSR	No Potential	No Potential	No Potential	No Potential
Santa Ana Speckled Dace *Rhinichthys osculus* SSC	OW, SWS, CWR, SSR	No potential	No potential	No potential	No potential
AMPHIBIANS					
Arroyo Toad* *Anaxyrus californicus* FE, SSC	VFM, CAM, OW, CLOWR, SWS, CWR, SSR	Moderate potential	Moderate potential	No potential	No potential
California Red-legged Frog* *Rana aurora draytonii* FT, SSC	VFM, CAM, OW, CLOWR, SWS, MS, TS, CWR, SSR	No potential	No potential	No potential	No potential
Mountain Yellow-legged Frog* *Rana muscosa* ST, SSC, FSS	OW, CLOWR, SWS, MS, TS, CWR, SSR	No potential	No potential	No potential	No potential
Western Spadefoot Toad* *Spea hammondii* SSC	AS, CC, MC, RSS, NNG, VFM, CAM, OW	**High potential**	**High potential**	**High Potential**	**High Potential**
Coast Range Newt* *Taricha torosa torosa* SSC	CC, MS, RSS, VFM, CAM, OW, CLOWU, CLOWR	No Potential	No Potential	No Potential	No Potential
REPTILES					
Southern Rubber Boa* *Charina umbratica* ST, FSS	None	No Potential	No Potential	No Potential	No Potential

Common and Scientific Names and Sensitivity Status	Plant Communities with Potential to Provide Habitat	Alberhill Substation Site	500 kV Transmission Segments	New and Modified 115 kV Lines	115 kV Alternative Segment
Southwestern Pond Turtle* *Actinemys (Clemmys) marmorata pallida* SSC	VFM, CAM, OW, CLOWR, SWS, CWR, SSR	Unlikely Potential	Unlikely Potential	**High Potential**	**High Potential**
Belding's Orange-throated Whiptail* *Cnemidophorus hyperythrus beldingi* SSC	AS, CC, MC, RSS, CLOWU, SWS, MS, CWR, SSR	**High Potential**	**High Potential**	**High Potential**	**High Potential**
Northern Red-diamond Rattlesnake* *Crotalus ruber ruber* SSC	AS, CC, MC, RSS, NNG, CLOWU, CLOWR	**High Potential**	**High Potential**	**High Potential**	**High Potential**
San Bernardino Mountain Kingsnake* *Lampropeltis zonata (parvirubra)* FSS, SSC	CC, MC, RSS, CLOWU, CLOWR, CWR, SSR	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential
California (San Diego) Mountain Kingsnake* *Lampropeltis zonata (pulchra)* FSS, SSC	CC, MC, RSS, CLOWU, CLOWR, CWR, SSR	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Coast (San Diego) Horned Lizard* *Phrynosoma coronatum* FSS, SSC	AS, CC, MC, RSS, CLOWU	**High Potential**	**High Potential**	**High Potential**	**High Potential**
Coast Patch-nosed Snake *Salvadora hexalepis virgultea* SSC	AS, CC, MC, RSS	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential

Common and Scientific Names and Sensitivity Status	Plant Communities with Potential to Provide Habitat	Alberhill Substation Site	500 kV Transmission Segments	New and Modified 115 kV Lines	115 kV Alternative Segment
Two-striped Garter Snake *Thamnophis hammondii* SSC	VFM, CAM, OW, CLOWR, SWS, MS, TS, CWR, SSR	Unlikely Potential	Unlikely Potential	Moderate Potential	Moderate Potential
BIRDS					
Cooper's Hawk* *Accipiter cooperii*	CLOWR, CLOWU, RUE, SWS, CWR, SSR	**Present**	**High Potential**	**High Potential**	**High Potential**
Northern Goshawk* *Accipiter gentiles* FSS, SSC	None	No Potential	No Potential	No Potential	No Potential
Sharp-shinned Hawk* *Accipiter striatus* BCC, SSC	RSS, CLOWU, CLOWR, SWS, CWR, SSR	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Tricolored Blackbird* *Agelaius tricolor* BCC, SSC	VFM, CAM, NNG	Unlikely Potential	Unlikely Potential	Moderate Potential	Unlikely Potential
Southern California Rufous-Crowned Sparrow* *Aimophila ruficeps canescens*	CC, MC, RSS, NNG	**High Potential**	**High Potential**	**High Potential**	**High Potential**
Grasshopper Sparrow* *Ammodramus savannarum* SSC	RSS, NNG	**High Potential**	**High Potential**	Moderate Potential	Moderate Potential
Bell's Sage Sparrow* *Amphispiza belli belli* BCC	CC, MC, RSS	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Golden Eagle* *Aquila chrysaetos* BCC, SP	CC, MC, RSS, NNG, CLOWU, CLOWR, CWR, SSR	**High Potential**	**Present**	Moderate Potential	Moderate Potential

Common and Scientific Names and Sensitivity Status	Plant Communities with Potential to Provide Habitat	Alberhill Substation Site	500 kV Transmission Segments	New and Modified 115 kV Lines	115 kV Alternative Segment
Great Blue Heron *Ardea herodias* BCC	FC, VFM, CAM, OW, NNG, RUE, SWS, MS, TS, CWR, SSR	Unlikely Potential	Unlikely Potential	**High Potential**	**High Potential**
Long-eared Owl *Asio otus* SSC	CLOWU, CLOWR, SWS, CWR, SSR	Moderate Potential	Moderate Potential	Unlikely Potential	Unlikely Potential
Burrowing Owl* *Athene cunicularia hypugaea* BCC, SSC	CC, MC, RSS, FC, NNG	Unlikely Potential	Unlikely Potential	Moderate Potential	Moderate Potential
American Bittern* *Botaurus lentiginosus*	VFM, CAM	No Potential	No Potential	Unlikely Potential	Unlikely Potential
Ferruginous Hawk* *Buteo regalis* BCC	FC, NNG	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Swainson's Hawk* *Buteo swainsoni* FSS, ST, BCC	FC, NNG	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Coastal Cactus Wren *Campylorhynchus brunneicapillus sandiegensis* BCC, SSC	AS, RSS	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential
Western Snowy Plover *Charadrius alexandrius nivosus* FT, SSC	CAM	No Potential	No Potential	No Potential	No Potential
Mountain Plover* *Charadrius montanus* BCC, SSC	FC, NNG	No Potential	No Potential	Unlikely Potential	Unlikely Potential
Northern Harrier* *Circus cyaneus* SSC	RSS, FC, RUE, VFM, CAM, NNG	Present	**High Potential**	Moderate Potential	Moderate Potential

Common and Scientific Names and Sensitivity Status	Plant Communities with Potential to Provide Habitat	Alberhill Substation Site	500 kV Transmission Segments	New and Modified 115 kV Lines	115 kV Alternative Segment
Western Yellow-billed Cuckoo* *Coccyzus americanus occidentalis* FC, SE, BCC	CWR	No Potential	No Potential	No Potential	No Potential
Black Swift* *Cypseloides niger* BCC, SSC	NNG, CAM, OW, VFM, MS, SWS, CWR, SSR	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Yellow Warbler* *Dendroica petechia brewsteri* SSC	MS, SWS, CWR	**High Potential**	**High Potential**	**High Potential**	**High Potential**
White-tailed Kite* *Elanus leucurus* FP	FC, VFM, CAM, OW, NNG, CLOWR, SWS, CWR, SSR	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Southwestern Willow Flycatcher* *Empidonax traillii extimus* FE, SE	CWR	No Potential	No Potential	Moderate Potential	No Potential
California Horned Lark* *Eremophila alpestris actia*	FC, NNG, RUE	Unlikely Potential	Unlikely Potential	**High Potential**	**High Potential**
Peregrine Falcon* *Falco peregrinus* BCC, SE	FC, VFM, CAM, OW, NNG, RUE, SWS, MS, TS, CWR, SSR	Unlikely Potential	Unlikely Potential	Moderate Potential	Moderate Potential
Bald Eagle* *Haliaeetus leucocephalus* FD, SE, SP	VFM, CAM, OW, SWS, CWR, SSR	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential
Yellow-breasted Chat* *Icteria virens* SSC	SWS, CWR	Unlikely Potential	Unlikely Potential	Moderate Potential	Moderate Potential

Common and Scientific Names and Sensitivity Status	Plant Communities with Potential to Provide Habitat	Alberhill Substation Site	500 kV Transmission Segments	New and Modified 115 kV Lines	115 kV Alternative Segment
Loggerhead Shrike* *Lanius ludovicianus* BCC, SSC	AC, CC, MC, RSS, FC, NNG	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Black-crowned Night Heron* *Nycticorax nycticorax*	VFM, CAM, SWS, MS, TS, CWR, SSR	Unlikely Potential	Unlikely Potential	Moderate Potential	Moderate Potential
Mountain Quail* *Oreortyx pictus*	CC, MC	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential
Osprey* *Pandion haliaetus*	OW, VFM, CAM, SWS, CWR, SSR	No Potential	No Potential	Moderate Potential	Moderate Potential
Double-crested Cormorant* *Phalacrocorax auritus*	OW, SWS, CWR, SSR	No Potential	No Potential	Moderate Potential	No Potential
Downy Woodpecker* *Picoides pubescens*	RUE, SWS, CWR, SSR	No Potential	No Potential	Moderate Potential	Moderate Potential
White-faced Ibis* *Plegadis chihi*	CAM, FC, VFM, OW	Unlikely Potential	Unlikely Potential	Moderate Potential	Moderate Potential
Coastal California Gnatcatcher* *Polioptila californica californica* FT, SSC	RSS	**Present**	**Present**	Moderate Potential	Moderate Potential
Purple Martin* *Progne subis* SSC	CLOWU, CLOWR, CWR, SSR	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential
California Spotted Owl* *Strix occidentalis occidentalis* FSS, SSC, BCC	CLOWR, CLOWU, CWR, SSR	No Potential	No Potential	No Potential	No Potential
Tree Swallow* *Tachycineta bicolor*	OW, CLOWR, MS, SWS, CWR, SSR	**High Potential**	High Potential	Moderate Potential	Moderate Potential

Common and Scientific Names and Sensitivity Status	Plant Communities with Potential to Provide Habitat	Alberhill Substation Site	500 kV Transmission Segments	New and Modified 115 kV Lines	115 kV Alternative Segment
Least Bell's Vireo *Vireo bellii pusillus* FE, SE, BCC	SWS, MS, TS, CWR, SSR	Unlikely Potential	Unlikely Potential	Present	**High Potential**
MAMMALS					
Pallid Bat *Antrozous pallidus* SSC	NNG, RUE	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Dulzura Pocket Mouse *Chaetodipus californicus femoralis* SSC	CC, MC, RSS, NNG	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential
Northwestern San Diego Pocket Mouse* *Chaetodipus fallax fallax* SSC	CC, MC, RSS, NNG	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Aguanga Kangaroo Rat* *Dipodomys merriami collinus*	CC, MC, RSS, NNG	No Potential	No Potential	No Potential	No Potential
San Bernardino Kangaroo Rat* *Dipodomys merriami parvus* FE, SSC	AS, RSS	No Potential	No Potential	Unlikely Potential	Unlikely Potential
Stephens' Kangaroo Rat* *Dipodomys stephensi* FE, ST	RSS, NNG	**High Potential**	**High Potential**	**High Potential**	Moderate Potential
Western Mastiff Bat *Eumops perotis californicus* SSC	CC, MC, RSS, NNG, CLOWU, CLOWR, CWR	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential

Common and Scientific Names and Sensitivity Status	**Plant Communities with Potential to Provide Habitat**	**Alberhill Substation Site**	**500 kV Transmission Segments**	**New and Modified 115 kV Lines**	**115 kV Alternative Segment**
San Bernardino Flying Squirrel* *Glaucomys sabrinus californicus* SSC, FSS	None	No Potential	No Potential	No Potential	No Potential
Western Red Bat *Lasiurus blossevillii* SSC	CC, MC, RSS, FC, NNG, CLOWR, SWS, CWR, SSR	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Western Yellow Bat *Lasiurus xanthinus* SSC	CLOWR, SWS, MS, TS, CWR, SSR	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
San Diego Black-tailed Jackrabbit* *Lepus californicus bennettii* SSC	AS, RSS, FC, NNG	Moderate Potential	Moderate Potential	**High Potential**	**High Potential**
Bobcat* *Lynx rufus*	CC, MC, RSS, VFM, CAM, CLOWU, CLOWR, SWS, MS, TS, CWR, SSR	**High Potential**	**High Potential**	**High Potential**	**High Potential**
Long-tailed Weasel* *Mustela frenata*	AS, CC, MC, RSS, FC, VFM, CAM, CLOWR, CLOWU, SWS, MS, TS, CWR, SSR	**High Potential**	**High Potential**	**High Potential**	**High Potential**
San Diego Desert Woodrat* *Neotoma lepida intermedia* SSC	CC, MC, RSS	**High Potential**	**High Potential**	**High Potential**	**High Potential**
Pocketed Free Tail Bat *Nyctinomops femerosaccus* SSC	SWS, MS, TS, CWR, SR	Unlikely Potential	Unlikely Potential	Unlikely Potential	Unlikely Potential

Common and Scientific Names and Sensitivity Status	Plant Communities with Potential to Provide Habitat	Alberhill Substation Site	500 kV Transmission Segments	New and Modified 115 kV Lines	115 kV Alternative Segment
Los Angeles Pocket Mouse* *Perognathus longimembris brevinasus* SSC	RSS, NNG	Moderate Potential	Moderate Potential	Moderate Potential	Moderate Potential
Mountain Lion* *Puma concolor* SSC	CC, MC, RSS, VFM, NNG, CLOWR, CLOWU, SWS, MS, TS, CWR, SSR	**High Potential**	**High Potential**	Unlikely Potential	Unlikely Potential
American Badger *Taxidea taxus* SSC	RSS, NNG	Moderate Potential	Moderate Potential	Moderate Potential	Unlikely Potential

* = Covered Species in the WRMSHCP

In addition to the reconnaissance-level surveys conducted for the Proposed Project, Focused Surveys and/or Habitat Assessments for quino checkerspot butterfly, vernal pool branchiopods (i.e., listed fairy shrimp), burrowing owl, coastal California gnatcatcher, least Bell's Vireo, southwestern willow flycatcher, and Steven's kangaroo rat were conducted on the Alberhill Substation parcels during Spring through Summer 2009. Figure 4.4-3, Focused Survey Sensitive Species Observations, shows the sensitive species observed during these surveys. The results are summarized below.

- No quino checkerspot butterfly, vernal pool branchiopods, burrowing owl, least Bell's Vireo, southwestern willow flycatcher, were observed on the Alberhill Substation parcels

- Suitable habitat for quino checkerspot butterfly and burrowing owl occur within the Study Area

- A detailed habitat assessment for Stephen's Kangaroo rat identified suitable habitat and areas of kangaroo rat activity within the substation parcels and 500 kV transmission line segments

- Two migrant coastal California gnatcatchers were observed within the substation parcels. Although these individuals were not nesting, suitable nesting habitat is present onsite

- Suitable habitat for least Bell's Vireo and southwestern willow flycatcher occur adjacent to the Alberhill Substation parcels in the Temescal Wash, and least Bell's vireo was confirmed present in Temescal Wash

Additional surveys are required to determine the presence/absence of sensitive wildlife species within the 500 kV transmission line segments and new and modified 115 kV subtransmission line routes.

Wildlife Movement

At a minimum, wildlife corridors promote colonization of habitat and genetic variability for both plant and wildlife species by connecting fragments of habitat that are separated by otherwise foreign or inhospitable habitats. Isolation of plant and wildlife populations can have many harmful effects and may contribute significantly to local species extinctions. Therefore, wildlife corridors are important because they help sustain individual species distributions within these habitat fragments. On a regional level, the open space areas provide areas for wildlife movement. Wildlife corridors and linkage areas are essential to maintain populations of healthy and genetically diverse wildlife species. The WRMSHCP Conservation Area accounts for corridors and movement by establishing areas collectively known as conservation area lands. The WRMSHCP conservation area lands are comprised of a variety of existing and proposed cores, linkages, and non-contiguous habitat blocks that are designed to accommodate movement of species from different areas within western Riverside County.

Jurisdictional Areas

Portions of the Proposed Project are located within the Santa Ana River (Temescal Wash), San Jacinto River, and Upper Santa Margarita River (Murrieta Creek) Watersheds. Many of the drainages crossed by the Proposed Project are likely to be either jurisdictional waters of the United States, including wetlands (USACE jurisdiction), streambeds (CDFG jurisdiction), and/or Waters of the State (RWQCB or SWRCB jurisdiction). These drainages are shown on Figure 4.8, Hydrology and Floodplains, in Section 4.8, Hydrology and Water Quality.

Specific drainages crossed by the 500 kV transmission line segments and the new and modified 115 kV subtransmission lines include the following:

- Santa Ana River/Temescal Wash: Temescal Wash, portions of seven unnamed tributaries to Temescal Wash, Wasson Canyon Creek, Lindell Canyon Creek, Arroyo del Toro Canyon Creek

- San Jacinto River/Lake Elsinore to Canyon Lake: San Jacinto River, Cottonwood Canyon Creek, and portions of tributaries to San Jacinto River, Cottonwood Creek, and Salt Creek

- Upper Santa Margarita River/Murrieta Creek: Bundy Canyon Creek, a tributary to Murrieta Creek, and an unnamed tributary to Bundy Canyon Creek

US Fish and Wildlife Service Designated Critical Habitat

Final designated critical habitat and excluded essential habitat for coastal California gnatcatcher occurs within the Alberhill Substation parcels, and approximately all of the 500 kV transmission line segments are within coastal California Gnatcatcher Critical Habitat. Approximately 4 miles of the new and modified 115 kV subtransmission line routes are within Critical Habitat for coastal California gnatcatcher, and approximately 700 feet of the alignment would be within Critical Habitat for Munz's onion.

Western Riverside County Multiple Species Habitat Conservation Plan

The Study Area lies completely within the Elsinore Area Plan of the WRMSHCP. As shown on Figure 4.4-7, Western Riverside County Multiple Species Habitat Conservation Plan, only portions of four of the six subunits (Estelle Mountain/Indian Canyon, Alberhill, Elsinore, and Sedco Hills) coincide with the Study Area.

SCE is currently considered to be a Participating Special Entity in the WRMSHCP. As such, take authorization would be granted to SCE provided it complies with the requirements set forth in Section 11.8 of the WRMSHCP Implementing Agreement.

Biological Issues and Considerations were developed for individual Cells in the WRMSHCP. For the areas affected by the Alberhill System Project, western burrowing owl and SKR have been identified as requiring focused habitat assessments, focused presence/absence surveys, or require the payment of an HCP fee.

4.4.4.3 Construction Impacts

Would the project 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?

Plants

Direct effects to sensitive plant species could occur as a result of activities during construction of the Proposed Project through the removal of the species or destruction of habitat. Activities which could destroy or adversely impact plant species include the use of heavy machinery, tree and vegetation removal, and movement of equipment and materials, and access to the construction sites.

Focused Plant Surveys were conducted on the Alberhill Substation parcels during Spring 2009, and paniculate tarplant and long-spined spineflower were observed. However, these resources were not observed in the areas that would be affected by construction of the Proposed Project. Additional surveys are required to determine the presence/absence of special status plant species within the 500 kV transmission line segments and new and modified 115 kV subtransmission line routes. As discussed in Section 3.8, Environmental Surveys, focused surveys for sensitive plant species are scheduled to take place during the appropriate 2010 survey season, assuming adequate rainfall during the 2009-2010

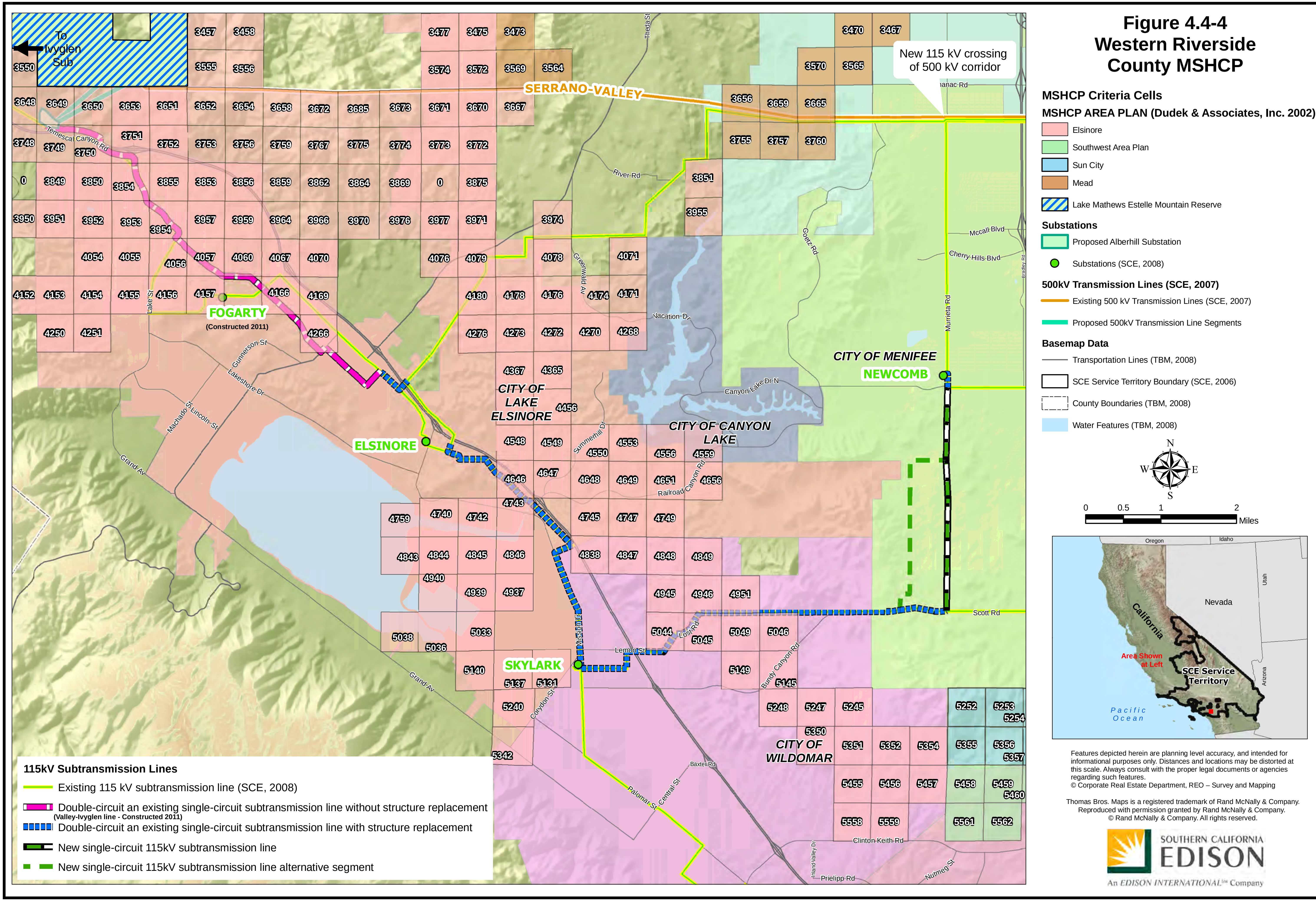
Figure 4.4-4
Western Riverside County MSHCP
MSHCP Criteria Cells
MSHCP AREA PLAN (Dudek & Associates, Inc. 2002)
Elsinore
Southwest Area Plan
Sun City
Mead
Lake Mathews Estelle Mountain Reserve
Substations
Proposed Alberhill Substation
Substations (SCE, 2008)
500kV Transmission Lines (SCE, 2007)
Existing 500 kV Transmission Lines (SCE, 2007)
Proposed 500kV Transmission Line Segments
Basemap Data
Transportation Lines (TBM, 2008)
SCE Service Territory Boundary (SCE, 2006)
County Boundaries (TBM, 2008)
Water Features (TBM, 2008)
N
E
S
W
0
0.5
1
2
Miles
Oregon
Idaho
Nevada
Utah
Arizona
California
Area Shown at Left
SCE Service Territory
Pacific Ocean
Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale. Always consult with the proper legal documents or agencies regarding such features.
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SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL℠ Company
115kV Subtransmission Lines
Existing 115 kV subtransmission line (SCE, 2008)
Double-circuit an existing single-circuit subtransmission line without structure replacement
(Valley-Ivyglen line - Constructed 2011)
Double-circuit an existing single-circuit subtransmission line with structure replacement
New single-circuit 115kV subtransmission line
New single-circuit 115kV subtransmission line alternative segment
To Ivyglen Sub
New 115 kV crossing of 500 kV corridor
SERRANO-VALLEY
FOGARTY
(Constructed 2011)
ELSINORE
SKYLARK
NEWCOMB
CITY OF MENIFEE
CITY OF LAKE ELSINORE
CITY OF CANYON LAKE
CITY OF WILDOMAR
Temescal Canyon Rd
River Rd
Goetz Rd
Mccall Blvd
Cherry Hills Blvd
Murrieta Rd
Vacation Dr
Canyon Lake Dr N
Greenwald Av
Lake St
Gunnerson St
Lakeshore Dr
Machado St
Lincoln St
Grand Av
Summerhill Dr
Railroad Canyon Rd
Mission Tr
Lemon St
Lost Rd
Scott Rd
Bundy Canyon Rd
Corydon St
Baxter Rd
Palomar St
Central St
Clinton Keith Rd
Inland Valley Dr
Prielipp Rd
Nutmeg St
Theda St

rainy season. The special status plant surveys would follow guidelines developed by the CNPS. If special status plants are observed during the Spring survey or any other subsequent survey, and the area cannot be avoided during construction, SCE would consult with the appropriate agencies to develop mitigation for the species affected. Please see Section 4.4.5, Biological Resources Applicant Proposed Measures, for more information.

Wildlife

Six protocol surveys for the quino checkerspot butterfly (Federally Endangered) were conducted within the Alberhill Substation parcels from March 8 to April 11, 2009. Although suitable habitat for this species was determined to be present (nectar sources and larval host plant were observed within Study Area), no adult quino checkerspot butterfies were observed during the 2009 flight season.

Focused surveys for the least Bell's vireo (federally endangered and State endangered) were conducted during the months of April, May, June and July 2009. Three individual occurrences of this species were observed adjacent to the Alberhill Substation parcels, however, two of these sighting were assumed to be a single bird. Although suitable nesting and foraging habitat exists onsite, no least Bell's vireos were detected within the areas affected by construction of the Alberhill Substation.

Focused surveys for the coastal California gnatcatcher (federally threatened and State species of special concern) were conducted on the Alberhill Substation parcels and the 500 kV transmission line segments during April, May, and June 2009. Adjacent to the Alberhill Substation parcels, two female California gnatcatchers were observed on May 22, 2009. It is believed this may have been the same bird seen twice in two different locations. No nesting activity was observed during the surveys; however, suitable nesting and foraging habitat exists onsite.

Focused habitat assessments for the Stephen's kangaroo rat (federally endangered and State threatened) were performed for this species within the Alberhill Substation parcels and 500 kV transmission line segments on June 27, July 6, and July 30, 2009. No Stephen's kangaroo rats were observed. Limited potentially suitable habitat for this species was identified within the areas surveyed, and as described in Section 3.8, Environmental Surveys, trapping surveys are scheduled to take place within this suitable area to determine the presence or absence of this species.

Additional surveys are required to determine the presence/absence of special status wildlife species within the 500 kV transmission line segments and new and modified 115 kV subtransmission line routes. As discussed in Section 3.8, Environmental Surveys, focused surveys for sensitive wildlife species are scheduled to take place during the appropriate 2010 survey season. The focused surveys would follow guidelines provided by the USFWS and/or the WRMSHCP.

After the focused surveys are complete, SCE would consult with the appropriate agencies to develop mitigation measures for any sensitive species that cannot be avoided during construction. In addition, as described in Section 3.8, Environmental Surveys, pre-construction biological clearance surveys would be performed by a qualified biologist to minimize impacts on special-status plants and/or wildlife species. These surveys would include:

- Clearance surveys within 10 days of any ground disturbing work
- Burrowing owl surveys would occur within 30 days of ground disturbing activity
- Nesting bird surveys would occur within one week of ground disturbing activity during the nesting season (generally February 15 through August 31)

Should any special-status plants and/or wildlife species be located during these surveys, appropriate measures would be implemented to avoid any impacts to special-status species (i.e., flag and avoid, utilization of construction fencing, biological monitor present during work, etc.). If avoidance cannot be maintained, consultation with appropriate agencies would be conducted.

In addition, indirect impacts could occur as a result of non-native weeds or invasive plant establishment in areas disturbed by construction of the Proposed Project. As described in Section 3.9, Worker Environmental Awareness Training, the under-carriages and bodies of construction equipment would be thoroughly washed by high pressure jets to eliminate any soil buildup that may contain invertebrates, such as ants and ant eggs, or the seeds of exotic plant species. This would minimize the potential non-native weeds or invasive plants to be introduced into the areas disturbed by construction of the Proposed Project.

Photosynthesis could be obstructed in plants during construction of the Proposed Project due to the production of fugitive dust. However, as discussed in Section 3.2.1.2, Dust Control, SCE would minimize the release of fugitive dust during construction through its compliance with SCAQMD Rule 403.

Lighting used during nighttime construction could result in temporary impacts to wildlife species. Lighting could alter wildlife movement and migratory routes as animals would attempt to avoid moving in or near the lighting. Also, lighting during nighttime construction has the potential to impact nocturnal/crepuscular species such as Stephen's kangaroo rat (foraging and breeding behaviors) as well as increased predation. However, SCE would only work at night if necessary for limited durations.

Therefore, impacts to sensitive plant and wildlife species are expected to be less than significant.

Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFG or USFWS?

Riparian habitats occur within the Study Area, and have the potential to be impacted by construction of the Proposed Project. As discussed in Section 3.8, Environmental Surveys, a jurisdictional wetland delineation to describe and map the extent of resources under the jurisdiction of the USACE, CDFG, RWQCB/SWRCB, and WRMSHCP following the guidelines presented in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region and other applicable agency guidance. If jurisdictional waters and/or wetlands are present, SCE would either modify the project design to avoid the resource, or would implement Applicant Proposed Measures to minimize the impact, including consultation with the appropriate agencies. It is anticipated that the 500 kV transmission line segments and the new and modified 115 kV subtransmission lines can be designed to span over riparian habitats and would avoid potential impacts. As a result, impacts are expected to be less than significant.

Construction of the Proposed Project could impact Riversidean sage scrub, Chamise Chaparral, and Mixed Chaparral. These sensitive natural communities support the special status species discussed above, and the effects to these plant communities would be evaluated in parallel with the presence of the sensitive species listed above.

Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means?

The Proposed Project is expected to avoid and span drainages. Thus, direct impacts are not anticipated. The majority of the drainages that exist within the Study Area have been identified; however, some additional drainages, wetlands, and potentially, vernal pools could be identified during the wetland delineation conducted for the Proposed Project (please see Section 3.8, Environmental Surveys, for more information). Impacts are expected to be less than significant.

Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridor, or impede the use of native wildlife nursery sites?

The Proposed Project could temporarily affect wildlife movement along WRMSHCP designated cores and linkages. Noise impacts during construction of the Proposed Project could adversely affect wildlife by frightening or repelling individuals, masking communication, and impairing foraging success and predator detection. These can be significant when they adversely affect reproductive behavior and success of sensitive species, or constrain wildlife movement through a wildlife corridor. The construction activities occurring at the 500 kV transmission line segments and the new and modified 115 kV subtransmission lines would be limited at each individual location, minimizing the impact to migratory wildlife. Prior to construction at the Alberhill Substation site, SCE would clear the work areas of vegetation, minimizing the potential for wildlife to migrate through the site. As a result, impacts to wildlife movement would be less than significant.

Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Impacts to trees identified in the Riverside County Oak Tree Management Guidelines may occur during construction of the Proposed Project. As discussed in Section 3.8, Environmental Surveys, SCE would identify any trees that would be impacted by construction of the Proposed Project and would consult with local agencies prior to any tree alteration or removal. If trees cannot be avoided, SCE would consult with a local agency certified arborist and obtain permits as necessary. As a result of identification and compliance with local permit restrictions, any impacts to oak trees, should they occur, would be less than significant.

Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The goal of the WRMSHCP is to conserve Covered Species and their habitats. As a public utility provider, SCE operates facilities and/or owns land within the WRMSHCP area and is entitled to act as a Participating Special Entity, as defined by the WRMSHCP. SCE may request take authorization for its activities pursuant to the WRMSHCP requirements. Ultimately, because SCE would comply with the terms and provisions of the WRMSHCP, no conflicts with the provisions of the WRMSHCP would occur, and no significant impacts would result from construction of the Proposed Project.

It should be noted that based on consultation between SCE and RCHCA, no SKR take will be authorized within SKR-occupied RCHCA core reserve land. As part of the RCHCA mandate and compliance with the SKR HCP, focused trapping surveys will be required to confirm the presence or absence of SKR in some areas and if present, project modifications would be required to avoid this species.

4.4.4.4 Operation Impacts

Would the project 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?

Routine maintenance activities, such as road maintenance, tree trimming, and structural repairs could potentially impact sensitive plant species if they are present in the work area. However, potential impacts from these activities would be avoided or minimized though review of these activities by SCE's Environment, Health and Safety division prior to any additional ground disturbing activity taking place.

The Proposed Project would introduce structures to areas that currently do not have trees or other tall structures that allow predator perching. As a result, some wildlife species in the vicinity of the 500 kV transmission line segments would be given a competitive advantage. The introduction of tall structures that can be used as perches during hunting would benefit some raptor populations by providing a secure vantage point from which to survey large areas of habitat. In addition, habitats that raptors had previously used only occasionally could become routine hunting areas due to the increase in available perches and potential nest sites.

Transmission and subtransmission lines are inherently avian safe due to the spacing of conductors and equipment. Due to these factors, the risk of avian electrocution from the transmission and subtransmission lines is relatively low. Operational impacts would be less than significant.

Electrocution of non-avian species is rare. When it occurs, it is generally caused by climbing animals that come into contact with energized components at substations rather than on transmission of subtransmission lines. Typical non-avian electrocution impacts could occur to non-sensitive wildlife species such as squirrels, raccoons, and domestic cats. Infrequent electrocution of non-sensitive wildlife species is not considered a significant impact.

Additional indirect impacts to wildlife could occur when wildlife displaced from construction areas could be forced into already occupied habitat, thus placing them at a competitive disadvantage from resident individuals of the same species or those of different species with similar requirements. The primary displacement would occur at the Alberhill Substation site. The permanent footprint of the substation is minimal when compared to the surrounding open space. This impact is not expected to be significant.

Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFG or USFWS?

Operation of the Proposed Project is not expected to result in substantial adverse effects to riparian habitats or sensitive natural communities because riparian habitats would be spanned and sensitive natural communities would be avoided or mitigated during construction of the Proposed Project. Impacts would be less than significant.

Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means?

Operation of the Proposed Project is not expected to result in substantial adverse effects to federally protected wetlands because federally protected wetlands would have been avoided, spanned, or the effects would have been mitigated during construction of the Proposed Project. Impacts would be less than significant.

Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridor, or impede the use of native wildlife nursery sites?

Operation of the Proposed Project would not interfere with wildlife corridors and the movement of migratory fish or wildlife species or WRMSHCP designated cores, extensions of existing cores, linkages, and constrained linkages. The substation would be constructed on already developed lands and transmission and subtransmission structures and access roads do not hinder or preclude wildlife movement through existing open space areas. Impacts would be less than significant.

Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

As discussed under Construction Impacts, Riverside County maintains Oak Tree Management Guidelines. Activities associated with operation of the Proposed Project might impact individual oak trees (i.e., when performing tree trimming or removal associated with right of way maintenance. However, potential impacts from these activities would be avoided or minimized though the review of these activities by SCE's Environment, Health and Safety division prior to work taking place. Impacts would be less than significant.

Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

A discussion of potential conflicts with the WRMSHCP associated with implementation of the Proposed Project are provided under Construction Impacts. No additional impacts are anticipated as a result of implementation of operation of the Proposed Project. Impacts would be less than significant.

4.4.5 Applicant Proposed Measures

Preconstruction surveys for the Proposed Project (please see Section 3.8, Environmental Surveys, for more information) would be conducted to identify potential impacts to special-status species, native vegetation, wildlife habitat, or unique resources. SCE would propose Applicant Proposes Measures (APMs) to avoid, minimize, reduce, or eliminate impacts to biological resources, or to compensate for impacts to sensitive resources. Biological monitors would be utilized during construction of the Proposed Project within areas found to contain sensitive biological resources. Where appropriate, biological monitors would flag the boundaries of areas where activities need to be restricted to protect native plants and wildlife, or special-status species. These restricted areas would be monitored to ensure their protection during construction.

Table 4.4-3 Biological Resource Applicant Proposed Measures

Applicant Proposed Measure	Description
Biological Resource APMs	At this time, no sensitive biological resources are anticipated to be affected by construction of the Proposed Project. However, SCE may propose APMs following receipt of results of focused surveys and wetland delineation that would be obtained as part of the Proposed Project and in consultation with appropriate agencies.

4.4.6 Alternative 115 kV Segment

No special status plant species and upland vegetation communities exist along the Alternative 115 kV Segment. Both the Proposed Project and Alternative 115 kV Segment contain similar vegetation communities, such as non-native grassland, chamise chaparral, southern willow scrub, and residential urban exotic. There are no particular differences with respect to WRMSHCP designations and wildlife survey requirements.

In summary, impacts to biological resources due to the construction and operation of the Alternative 115 kV Segment would be similar to those for the Proposed Project. The Environmental Surveys required for the Alternative 115 kV Segment would be the same as those for the Proposed Project, and the potential to encounter sensitive resources is also similar to that of the Proposed Project. As a result, the impacts to biological resources from the Alternative 115 kV Segment are also expected to be less than significant.

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4.5 Cultural Resources

This section describes the cultural resources in the area of the Proposed Project, which also includes paleontological resources. The potential impacts of the Proposed Project and the Alternative 115 kV Segment are also discussed.

4.5.1 Cultural Resources Environmental Setting

4.5.2 Environmental Setting

The Alberhill System Project is located within the Peninsular Ranges, a zone characterized by elongated mountain ranges and intervening basins and valleys oriented northwest-southeast. To the northwest, the Santa Ana Mountains rise to a maximum elevation of 1,736 meters (5,696 feet) above mean sea level, and to the west and the south, the Elsinore Mountains rise to a maximum elevation of 1,053 meters (3,456 feet) above mean sea level.

The local geology provides abundant sources of usable stone that could easily have been obtained in prehistory. A diverse assemblage of igneous, sedimentary, and metamorphic rocks are exposed both as bedrock and in alluvial fan deposits throughout the region. From an archaeological perspective, one of the most important rock sources in the Santa Ana Mountain range is the Bedford Canyon Formation.

The region enjoys a mild Mediterranean climate characterized by warm, dry summers and cool, moist winters. Precipitation in the region is variable, depending largely on elevation and aspect. Higher mountain elevations and coastal-facing slopes receive the most annual precipitation, including the occasional summer thundershower. At lower elevations, annual precipitation varies from 12 to 20 inches, and most rain falls in the winter months (Bailey, 1966).

Native vegetation of the region has been altered by historical and modern development. The area was once a rich zone of native grasses and riparian species bordered by chaparral-covered hillsides. Patches of buckwheat (*Eriogonum* spp.) and prickly pear (*Opuntia occidentalis*) still survive along with a variety of sages (*Salvia* spp.), oaks (*Quercus* spp.), and other native species. The wide array of plant species used by the ethnohistoric inhabitants of the region, the Luiseño, are listed by Sparkman (1908). Of these, acorns, yucca, cactus buds and fruit, sages, and various grasses and berries were the most important and the most likely to be found with any frequency in the area (Drucker, 1937; Kroeber, 1925).

Native fauna in the region has also been limited in numbers and range due to human encroachment. A number of predators, including grizzly bears (*Ursus arctos horribilis*), wolves (*Canis lupus*), coyotes (*Canis latrans*), and wild cats (e.g., *Felis concolor*, *Lynx rufus*), were common in the area during the historical period (Cauch, 1956). Previously, deer (*Odocoileus hemionus*), rabbits (*Sylvilagus* spp.) and hares (*Lepus californicus*), small game birds, and freshwater fishes would have been important components in the prehistoric diet. Today, many native species are found only in undeveloped mountainous regions, and the once prevalent deer are now extremely rare.

Prehistory

The general pattern of cultural development in the region is one of hunting cultures appearing as early as 12,000 years ago, followed by the development of a diversified hunting-and-gathering subsistence system. Over time, emphasis on plant-food resources increased somewhat, with a generalized hunting-and gathering way of life persisting into the historical period and characterizing the lifeway of the aboriginal inhabitants of inland southern California. The local expression of the early Holocene (7,000-12,000 years ago) cultures, known as the San Dieguito complex, was a hunting culture with a flaked stone industry that included large flake-and-core scrapers, choppers, hammer stones, drills, and gravers (Warren, 1967). Far from being narrowly focused on big game and oriented around pluvial lakes, early groups may have been just as diverse in their adaptations as groups that inhabited the region in much later times. Sites from this time period are usually found along ancient lake terraces in the deserts, in coastal San Diego County, or on the islands off the shore of the Pacific Coast. Early Holocene sites in the inland valley region may be buried beneath more recent alluvium.

Prehistoric subsistence patterns began to show marked changes starting around 8,500 years ago. These changes were almost certainly in response to warming climatic conditions and the resulting changes in flora and fauna. The changes visible in the archaeological record include a reduced number of projectile points, scrapers, and choppers and an increased number of ground stone artifacts. Although hunting and fishing were not entirely replaced by plant processing, the relative importance of animals to the prehistoric diet seems to have decreased. Middle Holocene cultures from 3,500 to 7,000 years ago, often referred to as the Millingstone horizon (Wallace, 1955) or the Encinitas tradition (Warren, 1968), are well described and much better understood than cultures from the preceding period. The La Jolla, Malaga Cove, and Topanga complexes, from south to north, are the coastal representatives from this period and suggest an ecological adaptation to shellfish and other coastal resources. Inland sites are typically described as belonging to the Pauma or Sayles complexes. These sites have a material culture similar to the coastal sites but lack shellfish. Sites in the Transverse Ranges that are attributed to the Sayles complex may represent a blend of coastal region cultures and the desert Pinto culture.

Middle Holocene sites in the general region should fit the pattern of the Pauma complex. Pauma sites in the Peninsular Ranges and inland valleys are described as reflecting a relatively sedentary lifestyle and a greater reliance on gathering, when compared to the earlier San Dieguito sites (True, 1958; 1980). Artifacts associated with Pauma sites include large, leaf-shaped points and knives, milling implements in large numbers, and items such as beads, pendants, charmstones, discoidals, and cogged stones. Projectile points used throughout the middle Holocene are relatively large and are associated with the atlatl-and-dart weapon system. The presence of deep-basined metates that are characteristic of assemblages from this period indicates a heavy reliance on seeds, probably from various grasses, sages, and buckwheats.

The latter part of the middle Holocene, from 1,500 to 3,500 years ago, was named the Intermediate horizon by Wallace (1955). The people of this time broadened their subsistence base, as indicated by the appearance of the mortar and pestle in the archaeological record. Some archaeologists believe these were used to process acorns as a staple food source (Basgall, 1987). Others, however, have argued that the earliest use of mortars and pestles was to process root products from bulrush (*Scirpus* spp.) and cattail (*Typha* spp.) and that the use of mortars and pestles to process acorns came somewhat later (Glassow, 1996). Use of mortars to process dried pits of holly-leaved cherries (*Prunus ilicifolia*) has been recorded in ethnographic times in the San Jacinto Mountains and surrounding areas. In any case, the introduction of such innovations suggests an intensification of food production and a concomitant increase in population.

In many areas of southern California, the Millingstone cultures survived into the early part of the late Holocene, although by A.D. 500, there had been several distinctive changes in material culture. One of the most striking is the shift from the earlier atlatl-and-dart to the bow-and-arrow as the primary weapon system. Late Holocene cultures in southern California reflect both in situ cultural adaptations in response to environmental changes as well as outside influences from the influx of Shoshonean (Takic-speaking) populations from the desert regions. As with the earlier periods, cultural distinctions are often blurry and based on subtle differences.

The late prehistoric period in the project area is likely represented by the San Luis Rey culture. The concept was originally defined by Meighan (1954) on the basis of investigations at “SD-132” (SDI-501) near Pala in northern San Diego County and was later refined by True and his colleagues (True et al., 1974; 1991). It has been equated with the historically known Luiseño. Based on the results of numerous surveys and excavations, archaeologists have divided the culture into two phases, based on the absence (San Luis Rey I, A.D. 1400-1750) or presence (San Luis Rey II, A.D. 1750-1850) of ceramics, cremation urns, and rock paintings.

Sites from the San Luis Rey I phase typically contain bedrock mortars and metate slicks with associated ground stone implements, small triangular projectile points (Cottonwood Triangular) used as arrowheads, bone awls, stone and shell artifacts, and cremations (Meighan, 1954). San Luis Rey II sites contain much of the same material culture but also yield pottery vessels (including cremation urns), pictographs, and nonaboriginal items such as glass beads and metal knives. Other features common to San Luis Rey II sites noted by True, et al., (1991) include pitted rock features, also known as pit-and-groove, or cupule, petroglyphs, and rock rings measuring 1.5 to 2.0 meters in diameter. A relatively sharp distinction can be drawn between San Luis Rey I and II based on material culture. Whether this distinction reflects important cultural changes or simply temporal differences is not yet known.

Based on the information gathered from survey and excavation projects in the 1940s and 1950s, the San Luis Rey subsistence pattern was thought to consist of small game hunting and the gathering of seeds and nuts, especially acorns; little information regarding settlement patterns was available (Meighan, 1954). Later, True and Waugh (1982) proposed that three relatively distinct settlement patterns marked the San Luis Rey period. The first pattern was characterized by scattered temporary sites, thus suggesting a somewhat mobile population. A shift to more sedentary settlements, located where streams emerged from canyons, took place in the late San Luis Rey I or early San Luis Rey II period. True and Waugh (1982) proposed that, accompanying this shift, a formalized winter-summer seasonal round became established.

Finally, during the latter part of late prehistoric or protohistoric times, the "one village per drainage" pattern shifted to a more complex, consolidated village pattern. This last shift was probably stimulated by contact with missionaries and other settlers and by factors such as drought and resource competition. At that time, the subsistence patterns of the San Luis Rey culture began to incorporate nonnative plants and animals and to focus less on coastal resources. This final village-based settlement pattern appears to be similar to ethnohistorically documented Luiseño settlements.

Ethnography and Ethnohistory

At the time of Spanish contact, the uplands between Temescal Canyon and the Perris Valley to the east were occupied by several autonomous lineages of Luiseño Indians who divided the valley and surrounding hillsides into tracts of land identified with specific village territories. It is presumed that the Luiseño are the descendants of the late prehistoric peoples who occupied the area and represent one linguistic group of the Takic-language speakers who are postulated to have entered the area from the Great Basin at least 1,200 years ago.

The Luiseño were culturally similar to other Takic-speaking tribes but possessed a more formal social structure and had greater population density. A complicated system of social status, well-defined ruling families that linked rancherías within tribal territories, a sophisticated philosophical system associated with toloache rituals, and elaborate ritual paraphernalia, including sand paintings, are features that reflect the social structure and dense population of the Luiseño (Bean and Shipek, 1978).

These Indians of the interior are spoken of by Boscana as "Serranos." Although his mention of the distance as 3 or 4 leagues from San Juan Capistrano is somewhat underestimated, the fact that he mentions this distance would suggest to us, and we would assume anyway, that the Indians here referred to are not those of the mountains behind San Juan Capistrano, but those living back of those mountains, in the Corona-Temescal-Elsinore region, who used to come to the coast in summer especially by way of El Potrero de los Pinos-San Juan Hot Springs trail, taking three days for the journey on foot, camping the first night at El Potrero de los Pinos, the second night at San Juan Hot Springs, and the third night at San Juan Capistrano or the beach. (Harrington, 1978).

Harrington went on to list a number of place names in the region, such as an area later known as Glen Ivy Hot Springs, which is located near the western end of the project alignment.

History

The historical era in western Riverside County can be divided into three distinct periods: the Spanish Mission period, the Mexican Rancho period, and the American period. The following summary is derived from accounts by Brown (1985), Guinn (1902), Gunther (1984), and Lech (2004), among other sources.

Spanish Mission Period

The Spanish Mission period in Riverside County can be defined by the Spanish exploration of the area beginning in 1769 and the establishment of the San Diego Presidio and the Missions San Diego, San Luis Rey, and San Juan Capistrano. However, the inland area remained relatively unexplored as the Spaniards clung to the coast near their missions and presidios. In 1772, Lieutenant Pedro Fages, military governor at San Diego, was the first to enter the region in pursuit of deserters.

By 1774, Juan Bautista de Anza's expedition entered California and the San Jacinto Valley. Grateful for much needed fresh water, they pitched camp in the San Jacinto River valley in the area east of Perris close to where the river finds its end at Lake Elsinore. Despite the beautiful setting, Riverside County was not de Anza's final destination. In September of 1776, Bautista's group reached San Francisco. In 1818, Leandro Serrano, the county's first European resident, obtained permission from the padres at Mission San Luis Rey to take five leagues of land in Temescal Valley. His proven ability with the Christianized native population during his service as majordomo at the mission made him a logical choice for settling the valley and securing the territory north of the mission for the Spanish crown.

In 1821, Mexico successfully fought for independence from Spain. The subsequent Secularization Act of 1833 marked the end of the Mission period and the return of the secularized mission lands to Mexico's citizenry in the form of land grants or "ranchos." There were sixteen ranchos in Riverside County, including Ranchos Temescal, La Laguna (Lake Elsinore), San Jacinto Nuevo y Portrero (Perris), and Temecula.

Mexican Rancho Period

The Mexican Rancho period (1821–1848) in Riverside County began with the establishment of Leandro Serrano's Rancho Temescal, on which he built a succession of three adobe structures; planted a garden with fruit trees; and raised oxen, cattle, and horses (Gunther, 1984). The rancheros were known for unrivaled horsemanship and unending hospitality, not to mention a penchant for long celebrations in the form of week-long rodeos and fiestas to celebrate weddings and holy days. After Mexico was defeated and the Treaty of Guadalupe Hidalgo was signed in 1848, California was ceded to the United States, ushering in the American period (1848 to the present).

American Period

The effects of California's statehood in 1850 were twofold. For the rancheros, the end of the Rancho period meant financial ruin. The validity of the land grants issued by Mexican governors was questioned by the Land Commission. Many of the rancheros, like the heirs of Leandro Serrano, never officially gained their land patents. With the flood of new settlers, the American period was marked by unprecedented growth and industry. In Riverside County, several trends emerged: increased settlement, the growth of commercial resource extraction, and the development of transportation.

<u>Temescal Valley</u>

The westernmost portion of the Proposed Project consists of Temescal Valley and Glen Ivy Hot Springs. The word temescal is Spanish, derived from the Aztec words tema, meaning "to bathe," and calli, meaning "hot" (Gunther, 1984). During California's Mission period, the Franciscans used the word to describe the sweat houses used by indigenous people to ritually cleanse both body and spirit.

As early as 1860, the sulphur springs at Temescal were advertised by proprietor John J. Skinker where he had "fitted up BATHS for the accommodation of all who may desire to use them...two bathtubs, four feet by seven...hewn out of the rock...and houses built over them" (Gunther, 1984). In 1861, botanist William H. Brewer of the Josiah Whitney geological survey expedition camped near the hot springs where he warmed his aching joints and described the warm sulphur-water as "very soft and slightly mineral...with a rude bathhouse erected over it" (Brown, 1985; Gunther, 1984). In 1884, the resort building burned to the ground. A few years later, rebuilt and billed as the Glen Ivy Hot Sulphur Springs, the resort re-opened under new proprietorship (Gunther, 1984). Over 100 years later, the springs still attract guests.

<u>Lake Elsinore</u>

During the same time that Temescal Valley was experiencing an early period of growth, further south La Laguna (Elsinore) was developing. In September 1883, La Laguna Rancho, which spread over 12,000 acres (Brown, 1985), was purchased by Franklin H. Heald, Donald M. Graham, and William Collier. They intended to keep the name Laguna for the new town and filed a post office application to that effect, but because there was already a post office called Laguna in California, the post office denied the application (Gunther, 1984). Margaret Collier Graham, sister of Collier and wife of Donald M. Graham, suggested Elsinore, chosen from Shakespeare's Hamlet. The application was accepted and the post office was established in November 6, 1883.

In 1887, a small A-frame Victorian style building was constructed in Elsinore for use as a public bath and was called the Crescent Bathhouse. The town soon became a resort community furnishing visitors with hot mud baths (Brown, 1985). In 1895, C. H. Alber purchased 135 acres of William Collier's land and planted olives. The enterprise was soon dubbed "Alber's Folly" because olive growing was seen by others as a foolish endeavor. Alber's olive company specialized in cured olives, olive oil, and minced olives. It was highly successful, producing an annual crop of 250 tons of olives (Brown, 1985; Gunther, 1984). The town was on its way to becoming a Mediterranean-style resort community in the exotic olive grove setting. After the turn of the century, Lake Elsinore became a popular getaway destination for Hollywood's blossoming motion picture scene.

The California Southern Railway had just begun laying its tracks in California as part of the Atchison, Topeka, and Santa Fe Railroad's effort to connect the Pacific Coast to the rest of the country. After 1880, the railway had successfully laid tracks from National City, near Oceanside, to Elsinore and was seeking to continue north to San Bernardino. Eventually, the tracks cut through the rugged country of Temecula Canyon and into San Jacinto Canyon, known today as Railroad Canyon. By 1884, there was an Elsinore station located a few miles northwest of the Elsinore town site. However, in 1895, a new railway station was constructed in the town of Elsinore and the original station to the northwest underwent a name change. It was then called Elsinore Junction and reclassified as a freight loading spur for Alberhill and the clay and coal mining operations there.

<u>Alberhill</u>

The area referred to as Alberhill, located about 8 miles north of Elsinore, is named for C. H. Alber and James and George Hill, although Alberhill never officially became a town. Coal was first discovered in the vicinity by Madison and Esther Cheney in 1883. On December 23, 1885, William Collier, Donald Graham, Madison Cheney, and Thomas W. McIntosh bought 320 acres of coal-bearing land.

In 1893, articles of incorporation were filed for the Elsinore Coal and Clay Company. The company owned nearby Terra Cotta City and the lands of the owners of the coal and clay property, totaling around 2,000 acres. The directors were William Collier, Margaret Collier, Jane Collier, and James and George Hill. At the time, the coal mining portion of the company was the only coal mine in the entire state of California (Gunther, 1984).

The Elsinore Coal and Clay Company mined low-grade lignite coal and fire clay on these premises from as early as 1890. In 1896, the Hills bought out the Elsinore Coal and Clay Company and developed the Alberhill Coal and Clay Company (Gunther, 1984). During this time, Alberhill Coal and Clay Company was a self-contained community. Employees and their families had access to a post office, a Catholic church, and an elementary school conveniently located on the premises. Although the Alberhill spur line was abandoned in 1927 as a result of the washout at Railroad Canyon (Gunther, 1984), the Alberhill Coal and Clay Company operated until the 1940s, when it began to fade as a result of the construction of the freeway, which closed many of the small businesses and obliterated many of the homes (Patterson, 1987).

In 1956, Pacific Clay bought the Alberhill interests (Gunther, 1984; Lech, 2004). A few years later, in 1963, Pacific Clay purchased the Los Angeles Brick Company at Alberhill and broadened the product line to include face brick, paving brick, sewer pipe, and roofing tile (Pacific Clay, 2003).

In 1980, the pipe division of Pacific Clay moved from Santa Fe Springs to Corona to be closer to Alberhill and its vast clay deposits where it continued to produce sewer pipe until 1997 (Pacific Clay, 2003). It continues to operate a state-of-the-art brick-production facility.

4.5.3 Regulatory Setting

The CPUC is tasked with compliance of all provisions in CEQA and CEQA Guidelines that concern cultural resources (CEQA Sections 21083.2, 21084.1, and Guidelines 15064.5). Cultural resources as defined in CEQA include prehistoric and historic era archaeological sites, districts, and objects; historic buildings, structures, objects and districts; and traditional/cultural sites or the locations of important historic events. CEQA Guidelines (Section 15064.5) state that a project may have a significant environmental effect if it causes a substantial adverse change in the significance of a historic resource. Additionally, the CPUC must consider properties eligible for listing on the California Register of Historical Resources (CRHR) or that are defined as a unique archaeological resource in CEQA Section 21083.2

California Health and Safety Code Section 7050.5, California Public Resources Code Section 5097.98, and Assembly Bill 2641. These laws protect human remains discovered during project activities in California.

4.5.4 Cultural Resource Significance Criteria

The significance criteria for assessing the impacts to cultural resources come from the CEQA Environmental Checklist. (Paleontological Resources are discussed later in this section.) According to the CEQA Checklist, a project causes a potentially significant impact if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5;
- Cause a substantial adverse change in the significance of an archeological resource pursuant to Section 15064.5; or
- Disturb any human remains, including those interred outside of formal cemeteries.

Cultural resources include archaeological and historic objects, sites and districts, historic buildings and structures, and sites and resources of concern to local Native Americans and other ethnic groups. Cultural resources that meet the criteria of eligibility to the California Register of Historic Places (CRHP) are termed “historic resources.” Archaeological resources that do not meet CRHP criteria also may be evaluated as “unique;” impacts to such resources could be considered significant, as described below.

A site meets the criteria for inclusion on the CRHP if:

1. It is associated with events that have made a significant contribution to the broad patterns of California’s History and Cultural Heritage
2. It is associated with the life or lives of a person or people important to California’s past

3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values

4. It has yielded, or may be likely to yield, information important to prehistory or history

A resource eligible for the CRHP 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.

The CRHP 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
- 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 CRHP include:

- Historical resources with a significance rating of Category 3 through 5
- Individual historical resources
- Historical resources contributing to historic districts
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone

Impacts to “unique archaeological resources” also are considered under CEQA, as described under PRC 21083.2. A unique archaeological resource means an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets one of the following criteria:

- Contains information needed to answer important scientific 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

- Is directly associated with a scientifically recognized important prehistoric or historic event or person

A non-unique resource is one that does not fit the above criteria.

4.5.5 Cultural Resource Impact Analysis

This cultural resource impact analysis is adapted from the cultural resource investigations of the Alberhill Substation site, the new 500 kV transmission line segments, the new and modified 115 kV subtransmission lines, and the associated access roads. The analysis includes the results of records searches, archival research, and pedestrian survey. The results of this evaluation are described below. More information can be found in the Cultural Resources Technical Report for the Alberhill System Project.

4.5.5.1 Record Search and Communications

Cultural resources records searches were conducted at the Eastern Information Center, located at the University of California, Riverside, California. The purpose of the records search was to determine the extent of previous cultural resources investigations within a 1-mile radius of the Proposed Project, and to determine whether any archaeological sites or architectural resources have been previously identified within the area. Materials reviewed as part of the records search included archaeological site records, historic maps, and listings of resources on the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), California Points of Historical Interest, California Landmarks, and National Historic Landmarks.

A records search showed that 19 cultural resources have been previously recorded with 1.0 mile of the Proposed Project. These consist of six prehistoric archaeological sites, one prehistoric isolated find, five historic archaeological sites, six historic buildings or groups of buildings, and one historic bridge. The nearest of the prehistoric sites to the Proposed Project (CA-RIV-8104/P33-15348) is located 0.35 mile (560 meters) to the northwest. The nearest previously recorded historic-age cultural resources are two houses (P33-15426 and P33-15428), both built in the 1920s, located 0.1 mile (160 meters) south and west of the Proposed Project.

Four historic resources within 1.0 mile of the Proposed Project have been determined to be eligible for NRHP or CRHR listing. The nearest of these consists of the community and industrial buildings of Alberhill (P33-17016), located 0.2 mile (320 meters) south of the Proposed Project. Alberhill has been determined to be eligible for listing on the CRHR as a historic district. In addition, four previously recorded World War II buildings (P33-07161, P33-07162, P33-07163, and P33-07164), and one previously recorded complex of early 20th century ranching buildings (P33-14891) were documented along the routes for the new and modified 115 kV subtransmission lines.

Native American Consultation

On May 21, 2008, SCE conducted a Sacred Lands File (SLF) records search of the Proposed Project through the NAHC. The NAHC SLF records search results did not indicate any known Native American cultural resources within the project site or vicinity, and included a list of Native American organizations and individuals who may have an interest in the project area. Per NAHC suggested procedure, follow-up letters were sent via certified mail on February 17, 2009 and August 12, 2009, to nine Native American individuals and organizations identified by the NAHC as being affiliated with the vicinity of the project area to request any additional information or concerns they may have about Native American cultural resources that may be affected by the Proposed Project. These documents can be found in Appendix J, Agency Consultations.

4.5.5.2 Pedestrian Survey

Field surveys were conducted by ECORP during November 2008 and August 2009. Portions of the Proposed Project not previously surveyed were walked at 15-meter transects to ensure complete coverage. The results of the field surveys are discussed below.

Alberhill Substation Site

No prehistoric archaeological sites or isolated finds were identified during the field survey of the Alberhill Substation Site. One previously unrecorded historic-period archaeological site (Site CWA18-1) and one previously unrecorded historic-age house (CWA18-2) were documented. These two sites are described below.

- CWA18-1 is historic-period archaeological site consists of a cylindrical water reservoir made of clay building tiles covered with concrete (Feature 1), and a concrete curb (Feature 2) located a few feet east of the reservoir. The site measures 30 feet (east-west) by 25 feet (north-south), and is located in an open field adjacent to the horse ranch. The site appears to date to the early to mid 1900s based on brick marks observed in Feature 1.

- CWA18-2 is a historic-period building, constructed in 1950. It is a single-story vernacular house with a concrete slab foundation located near the western boundary of the substation site. It is roughly T-shaped in plan. Overall, the house measures approximately 48 feet (east-west) by 35 feet (north-south), and is oriented slightly west-northwest to east-southeast. The walls of the west and south elevations, to the height of the gable ends, are made of locally-collected rounded granite stones, with gable ends clad in vertical board siding. The north and east elevation walls are wood-framed. A post-historic room addition occupies the northwest corner of the building, and its wood-framed walls are covered with modern T-111 siding.

Evaluations of the site and the house indicate that neither possesses the historical, archaeological, or architectural significance necessary for inclusion in the CRHR.

500 kV Transmission Line Segments

No prehistoric or historic-period archaeological sites or isolated finds were identified in or near the 500 kV transmission line segments during the field surveys. One previously unrecorded historic-age house and associated shed (CWA60-3) were documented during the survey. Detailed descriptions of the buildings are presented below.

- CWA60-3 (house and shed) is a vernacular wood-framed single-story residence located on a low knoll just inside the western boundary of the Concordia property (APN 391-120-012), approximately 0.2 mile (320 meters) north of Concordia Ranch Road. The original part of the house is rectangular in plan, and measures approximately 25 feet (northeast-southwest) by 20 feet (northwest-southeast).

  The shed is located 285 feet to the east. The structure measures approximately 12 feet square, and has a concrete slab foundation with a low perimeter footing wall made of hollow ceramic blocks. The wood-framed walls are covered with galvanized corrugated steel sheeting on the east and west sides, and with clapboards covering the north and south elevations. The collapsing low-pitched roof is also covered with corrugated steel.

New and Modified 115 kV Subtransmission Lines

One previously unrecorded historic-period irrigation pump and motor (CWA60-2) was recorded during the field survey. In addition, four previously recorded moved and re-used World War II buildings (P33-07161, P33-07162, P33-07163, and P33-07164), and one previously recorded complex of early 20th century ranching buildings (P33-14891) were field checked. Detailed descriptions of all of these cultural resources can be found below.

- CWA60-2 is a historic-age feature that consists of a large irrigation pump, pump motor, and associated pipes, located in a vacant lot at the northeast corner of the intersection of Mission Trail and Waite Street. The massive six-cylinder gasoline engine is mounted on a large rectangular concrete footing. The fuel intake and exhaust manifolds are connected by pipes to underground features, one of which is most likely a gasoline tank. A drive shaft extends south from the engine to a large pump mounted on a wood platform, which is on top of a square concrete footing. The amount of rust and degree of rotting of rubber hoses and wires indicates that the equipment has been abandoned for many years.

- P33-07161, P33-07162, P33-07163, and P33-07164 (World War II barracks). These four buildings were originally recorded on November 2, 1981, by Theresa Borchard of the Riverside County Historical Commission. At that time, they were described as wooden military barracks buildings, constructed in 1941 at Camp Haan, then sold and moved to the northeast corner of Mission Trail and Malaga Road after the war for various uses. At the time of Borchard's survey, P33-07161 was being used as an American Legion hall, P33-07162 contained small businesses and shops, P33-07163 was unoccupied, and P33-07164 housed a furniture store (Borchard, 1982abcd). During the survey, all four World War II barracks buildings were found to have been demolished or removed. A large movie theater complex and its associated paved parking lot now occupy the former location of the buildings at the northeast corner of Mission Trail and Malaga Road.

- P33-14891 (ranch buildings and structures) was originally recorded on December 16, 2005, by K. Hunt, S. O'Neil, and J. Clifford of SWCA Environmental Consultants. At that time, it was described as an abandoned complex of still-standing historic-age farm buildings and structures, including a small barn converted to a house, a small barn or garage, a shed, a chicken coop, and a privy. The resource was evaluated by the original recorders and was found not to be eligible for listing on the NRHP or the CRHR (Hunt *et al*., 2005; Clifford and Hunt, 2005).

Thirty-five parcels containing historic-age (i.e., 50 years old or older) buildings or structures were identified within the 30-meter-wide buffer along the new and modified 115 kV subtransmission lines during the field survey. Information regarding these parcels is provided in Table 4.5-1, Historic-Age Buildings within the New and Modified 115 kV Subtransmission Line Routes.

Table 4.5-1 Historic-Age Buildings within the New and Modified 115 kV Subtransmission Line Routes

Address	Assessor's Parcel Number	Type of Building(s) or Structure(s)	Year/Period Built	Source(s)
31233 Murrieta Rd., Menifee	358-170-013	Vernacular wood-framed house	1935	County Assessor
31161 Murrieta Rd., Menifee	358-170-015	Cylindrical metal water tank on wood-framed tower, inside fenced yard with two post-historic houses.	Water tower: ca. early 20th century. Houses: 1978, 1987	Water tower: estimate based on materials and design Houses: County Assessor
21542 Waite St., Wildomar	366-330-012	Craftsman-style house, extensively modified	1920	County Assessor
21746 Waite St., Wildomar	366-380-019	Post-World War II builder-contractor designed house	1952	County Assessor
21903 Lemon St., Wildomar	366-190-041	Vernacular wood-framed house	1934	County Assessor
33704 Mission Trail, Wildomar	366-140-014	Vernacular wood-framed house	1950	County Assessor

Address	Assessor's Parcel Number	Type of Building(s) or Structure(s)	Year/Period Built	Source(s)
33520 Mission Trail, Wildomar	366-130-038	Post-World War II builder-contractor designed house	1957	County Assessor
33362 Mission Trail, Wildomar	366-033-009	Post-World War II builder-contractor designed house	1956	County Assessor
33276 Mission Trail, Wildomar	366-031-002	Vernacular wood-framed house	1930	County Assessor
33260 Mission Trail, Wildomar	366-031-001	Vernacular wood-framed house, extensively modified, currently used as a pre-school	1926	County Assessor
33170 Mission Trail, Wildomar	366-023-002	Post-World War II builder-contractor designed house, currently used as a nursery	ca. 1945-1960	Estimate based on materials and design
33090 Mission Trail, Wildomar	366-021-008	Vernacular wood-framed house	1940	County Assessor
33045 Mission Trail, Wildomar	366-021-005	Craftsman-style house, extensively modified	ca. 1915-1925 (remodeled 1964)	Original construction: estimate based on remaining design elements Remodeling: County Assessor
32680 Mission Trail, Lake Elsinore	365-111-014	Vernacular wood-framed house, extensively modified	1940	County Assessor
32640 Mission Trail, Lake Elsinore	365-111-017	Vernacular wood-framed house	1926	County Assessor
32590 Mission Trail, Lake Elsinore	365-103-016	Vernacular wood-framed house, extensively modified	1930	County Assessor
32584 Mission Trail, Lake Elsinore	365-103-018	Ranch-style house	1958	County Assessor
32572 Mission Trail, Lake Elsinore	365-103-023	Post-World War II builder-contractor designed house	1955	County Assessor

Address	Assessor's Parcel Number	Type of Building(s) or Structure(s)	Year/Period Built	Source(s)
32560 Mission Trail,Lake Elsinore	365-103-025	Craftsman-style house, extensively modified	ca. 1915-1925 (remodeled 1966)	Original construction: estimate based on remaining design elements Remodeling: County Assessor
32532 Mission Trail, Lake Elsinore	365-093-013	Vernacular wood-framed house, extensively modified	ca. 1920-1930 (remodeled 1963)	Original construction: estimate based on remaining design elements Remodeling: County Assessor
32526 Mission Trail, Lake Elsinore	365-093-014	Vernacular wood-framed house	1940	County Assessor
32494 Mission Trail, Lake Elsinore	365-062-018	Two small vernacular wood-framed houses at same address. Extensively modified. Currently used as offices	ca. 1920-1950	Estimate based on materials and design
32444 Mission Trail, Lake Elsinore	365-061-034	Post-World War II builder-contractor designed house, extensively modified	ca. 1945-1960	Estimate based on materials and design
32420 Mission Trail, Lake Elsinore	365-061-003	Post-World War II builder-contractor designed house with Tudor Revival-style elements (fake half-timbering, steeply pitched roof)	1950	County Assessor

Address	Assessor's Parcel Number	Type of Building(s) or Structure(s)	Year/Period Built	Source(s)
32368 Mission Trail, Lake Elsinore	365-051-006	Two former houses now joined and used as lawn mower and chain saw business. Extensively modified. Southernmost house was Spanish Colonial Revival-style. Northernmost house was Post-World War II builder-contractor design.	ca. 1920-1930 (southernmost house) ca. 1945-1960 (northernmost house)	Estimate based on materials and design
404 East Hill St., Lake Elsinore	377-312-028	Post-World War II builder-contractor designed house	1948	County Assessor
412 East Hill St., Lake Elsinore	377-312-007	Vernacular wood-framed house	1943	County Assessor
416 East Hill St., Lake Elsinore	377-312-005	Vernacular wood-framed house	1947	County Assessor
420 East Hill St., Lake Elsinore	377-312-003	Post-World War II builder-contractor designed house	1946	County Assessor
424 East Hill St., Lake Elsinore	377-312-001	Post-World War II builder-contractor designed house	1948	County Assessor
507 East Hill St., Lake Elsinore	377-273-017	Spanish Colonial Revival-style house	1927	County Assessor
421 East Hill St., Lake Elsinore	377-311-018	Spanish Colonial Revival-style house, extensively modified	1924	County Assessor
415 East Hill St., Lake Elsinore	377-311-015	Vernacular wood-framed house	1934	County Assessor
405 East Hill St., Lake Elsinore	377-311-010	Post-World War II builder-contractor designed house	1957	County Assessor
403 East Hill St., Lake Elsinore	377-311-009	Vernacular wood-framed house	1933	County Assessor

During the survey, all of the buildings and structures documented by SWCA Environmental Consultants in 2005 were found to have been demolished. Only a small concrete slab remains where the barn/house conversion previously stood. A low pile of broken concrete rubble lies at the former location of the small barn/garage, and a low pile of splintered lumber is in the former location of the shed and chicken coop.

4.5.5.3 Construction Impacts

Would the project cause a substantial adverse change in the significance of an historical resource pursuant to Section 15065.5?

Four CRHR eligible or listed historic resources are within one mile of the Proposed Project. Because these resources are outside of the areas to be disturbed and the activities associated with the construction of the Alberhill Substation, the 500 kV transmission line segments, and new and modified subtransmission lines, construction of the Proposed Project would not affect these resources.

The pedestrian survey identified a reservoir and a house near the Alberhill Substation site. In addition, an irrigation pump and motor, four previously recorded moved and re-used World War II buildings, and one previously recorded complex of early 20th century ranching buildings were identified near the new and modified 115 kV subtransmission lines. However, the World War II buildings and the 20th century ranching buildings were found to be demolished. Evaluations of these sites indicate that they do not possesses the historical, archaeological, or architectural significance necessary for inclusion in the CRHR. Construction of the Proposed Project would not cause a substantial adverse change to their significance.

Thirty-five parcels containing historic-age (i.e., 50 years old or older) buildings or structures were identified within the 30-meter-wide buffer along the new and modified 115 kV subtransmission line routes during the field survey. Activities associated with the construction of the subtransmission lines would not affect these resources. Construction of the new and modified 115 kV subtransmission lines would not cause a substantial adverse change to their significance.

In addition, as described in Section 3.9, Worker Environmental Awareness Training, the construction personnel would receive instruction on what typical cultural resources look like, and if discovered during construction, to suspend work in the vicinity of any find and contact the site foreman and archeologist or environmental compliance coordinator.

As a result, construction of the Proposed Project would not cause a substantial adverse change in significance of a historical resource. Impacts would be less than significant.

Would the project cause a substantial adverse change in the significance of an archaeological resource as defined in Section 15064.5?

There were no additional archeological resources identified for the Proposed Project outside of that discussed above. As a result, as shown above, impacts would be less than significant.

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

Human remains are not known to occur in the vicinity of the Proposed Project, but such remains could occur in Native American archaeological contexts. CEQA Guidelines at 15064.5(d) and (e) make provision for the discovery and disposition of human remains and reference other applicable state law:

(d) When an initial study identifies the existence of, or the probable likelihood, of Native American human remains within the project, a lead agency shall work with the appropriate Native Americans as identified by the Native American Heritage Commission as provided in Public Resources Code Section 5097.98. The applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by the Native American Heritage Commission. Action implementing such an agreement is exempt from:

> (1) The general prohibition on disinterring, disturbing, or removing human remains from any location other than a dedicated cemetery (Health and Safety Code Section 7050.5).
>
> (2) The requirements of CEQA and the Coastal Act.

(e) In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps should be taken:

> (1) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:
>
> > (A) The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and
> >
> > (B) If the coroner determines the remains to be Native American:
> >
> > > 1. The coroner shall contact the Native American Heritage Commission within 24 hours.
> > >
> > > 2. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American.
> > >
> > > 3. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code section 5097.98, or

(2) Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.

(A) The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.

(B) The descendant identified fails to make a recommendation; or

(C) The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.

In the event that human remains are encountered during construction and cannot be avoided, the remains would be removed in accordance with CEQA Guidelines 15064.5(d) and (e), which are quoted above.

4.5.5.4 Cultural Resource Operation Impacts

Operation of the Proposed Project consists of inspection and routine maintenance of the Alberhill Substation, the 500 kV transmission line segments, and the new and modified 115 kV subtransmission lines. These activities would not affect any known archaeological or historical resources and impacts would be less than significant. If additional resources are discovered during construction, and are determined eligible for the California Register of Historical Resources, and Proposed Project effects to them cannot be avoided during construction, a mitigation plan would be developed. This plan would address construction as well as long-term operation and maintenance effects. As a result, the operation impacts would be less than significant.

4.5.6 Paleontological Resources

The Alberhill System Project is located within the Peninsular Ranges, a zone characterized by elongated mountain ranges and intervening basins and valleys oriented northwest-southeast. The local geology provides a diverse assemblage of igneous, sedimentary, and metamorphic rocks are exposed both as bedrock and in alluvial fan deposits throughout the region.

4.5.7 Paleontological Resources Regulatory Setting

Appendix G (part V) of the CEQA Guidelines provides guidance relative to significant impacts on paleontological resources, which states, “a project will normally result in a significant impact on the environment if it will...disrupt or adversely affect a paleontological resource or site or unique geologic feature, except as part of a scientific study." Public Resources Code Section 5097.5 specifies that any unauthorized removal of paleontological remains is a misdemeanor.

The CEQA Guidelines Appendix G provides a checklist of questions that a lead agency should normally address if relevant to a project's environmental impacts. Appendix G Section V (c) asks if the project will directly or indirectly destroy a unique paleontological resource or site or unique geological feature.

The Assessment and Mitigation of Adverse Impacts to Non-Renewable Paleontological Resources is a set of procedures and standards for assessing and mitigating impacts to vertebrate paleontological resources (Society of Vertebrate Paleontologists, 1995). These guidelines were developed by a committee of the Society of Vertebrate Paleontologists (SVP), a national organization.

4.5.8 Paleontological Resources Significance Criteria

The significance criteria for assessing the impacts to paleontological resources come from the CEQA Environmental Checklist. According to the CEQA Checklist, a project causes a potentially significant impact if it would:

- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

4.5.9 Paleontological Resources Impact Analysis

This paleontological resource impact analysis is adapted from the investigations of the Alberhill Substation site, the new 500 kV transmission line segments, the new and modified 115 kV subtransmission lines, and the associated access roads. The analysis includes the results of records searches and pedestrian survey. The results of this evaluation are described below. More information can be found in the Cultural Resources Technical Report for the Alberhill System Project.

Paleontological Record Search

A paleontological resources records search was conducted at the Division of Geological Sciences of the San Bernardino County Museum. The purpose of the records search was to determine the extent of previous paleontological resources investigations within a 1-mile radius of the Proposed Project, and to determine whether any paleontological sites or resources have been previously identified within the vicinity. Materials reviewed as part of the records search included geological mapping and a search of the Regional Paleontologic Locality Inventory (RPLI). The results of the RPLI search indicate that no paleontological resource localities are recorded within the areas affected by the Proposed Project, nor from at least one mile in any direction.

<u>Alberhill Substation and 500 kV Transmission Line Segments</u>

Previous geologic mapping (Rogers, 1965; Morton, 2004) indicates that the Alberhill Substation and 500 kV transmission line segments would be situated upon Quaternary older alluvial valley deposits (unit Qoa) and Quaternary very old alluvial valley deposits (Qvoa), as well as outcrops of the Estelle Mountain volcanics (Kvem). Of these units, the Quaternary deposits have high potential to contain significant paleontological resources, and so are assigned high paleontological sensitivity. The Estelle Mountain volcanics have no paleontological sensitivity.

<u>New and Modified 115 kV Subtransmission Lines</u>

The new and modified 115 kV subtransmission line routes cross surface and subsurface exposures of numerous distinct geologic units, including: Mesozoic metasedimentary rocks (units Mzu, Mzq); the Paloma Valley granophyre (Kpvg); hornblende gabbro of Cretaceous age (Kgb); undifferentiated Cretaceous granodiorite (Kgd); heterogeneous Cretaceous granitics (Khg); the Silverado Formation (Tsi); Quaternary very old fan gravels (Qvof); Quaternary fan deposits (Qof); and various Holocene sedimentary units (Qyf, Qyv, Qya, and Qyw). Of these units, the Silverado Formation and the Quaternary older deposits have high potential to yield significant fossil resources, and so are assigned high paleontological sensitivity. The Mesozoic metasediments and the Cretaceous rocks have no potential to contain fossil resources. The Holocene deposits also have low potential to yield fossil resources, and so are assigned low paleontological sensitivity; however, these sediments may in some areas overlie Pleistocene older alluvium present in the subsurface. Where present, these Pleistocene deposits have high potential to contain significant nonrenewable paleontological resources, and so are assigned high paleontological sensitivity.

The Paleocene Silverado Formation contains coal seams, lignite beds and commercial clay deposits, as well as abundant fossil mollusks (Woodring and Popenoe, 1945) and vertebrate fossils. The Silverado Formation grades upwards into the Santiago Formation, a continental and marine sandstone and conglomerate rock unit (Woodring and Popenoe, 1945; Schoellhamer and others, 1981).

Throughout the Inland Empire, Quaternary older alluvium of Pleistocene age has been reported to yield significant fossils of extinct animals from the Ice Age (Jefferson, 1991; Reynolds and Reynolds, 1991; Woodburne, 1991; Springer and Scott, 1994; Scott, 1997; Springer and others, 1998, 1999, 2007) as well as fossil plant remains (Reynolds and Reynolds, 1991; Anderson and others, 2002). Fossils recovered from these Pleistocene sediments represent extinct taxa including mammoths, mastodons, ground sloths, dire wolves, short-faced bears, sabre-toothed cats, large and small horses, large and small camels, and bison (Jefferson, 1991; Reynolds and Reynolds, 1991; Woodburne, 1991; Springer and Scott, 1994; Scott, 1997; Springer and others, 1998, 1999, 2007).

4.5.9.1 Construction Impacts

Impacts to paleontological resources (fossils) are significant if fossils that could provide information about the taxonomy, morphology, and behavior of extinct species will be destroyed by the project.

<u>Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</u>

Portions of the 500 kV transmission line segments that traverse Quaternary deposits have high potential to contain significant paleontological resources. In addition, the Silverado Formation and the Quaternary older deposits along the new and modified 115 kV subtransmission lines have high potential to yield significant fossil resources. As discussed in Section 3.8, Environmental Surveys, SCE would conduct a paleontological survey during final engineering of the Proposed Project to determine if paleontological resources are present, and use the information to modify the design of the project to avoid the resources, or to propose APMs to develop and implement a Paleontological Resources Recovery Plan during construction of the project. As a result, impacts to paleontological resources by the Proposed Project are expected to be less than significant.

4.5.9.2 Operation Impacts

Operation of the Proposed Project consists of inspection and routine maintenance of the Alberhill Substation, the 500 kV transmission line segments, and the new and modified 115 kV subtransmission lines. These activities would not affect any known paleontological resources, and impacts would be less than significant. If additional resources are discovered during construction, effects to them cannot be avoided during construction, a Paleontological Resources Recovery Plan would be developed and implemented. This plan would address construction as well as long-term operation and maintenance effects. As a result, the operation impacts would be less than significant.

4.5.10 Applicant Proposed Measures

SCE proposes Applicant Proposes Measures (APMs) to avoid, minimize, reduce, or eliminate impacts to sensitive resources. The Paleontological Resource Survey for the Proposed Project (please see Section 3.8, Environmental Surveys, for more information) would be conducted to identify potential impacts to paleontological resources due to construction of the Proposed Project. This information would be used to modify the design of the project, or develop a Paleontological Resources Recovery Plan, should it be necessary. SCE may propose paleontological APMs after receiving the results from the survey.

Table 4.5-2 Paleontological Resource Applicant Proposed Measures

Applicant Proposed Measure	Description
Paleontological Resource APMs	At this time, no sensitive paleontological resources are anticipated to be affected by construction of the Proposed Project. However, SCE may propose APMs following receipt of results of the paleontological resource survey conducted as the Proposed Project approaches final design.

4.5.11 Alternative 115 kV Segment

One previously unrecorded prehistoric archaeological site, consisting of a bedrock milling feature (CWA60-1), and one previously recorded prehistoric petroglyph site (P33-01027), was recorded during the field survey for the Alternative 115 kV Segment. Detailed descriptions of these cultural resources can be found below.

- CWA60-1 (bedrock milling feature). This prehistoric site consists of a single bedrock milling feature, located in a granite outcrop at an elevation of 1,660 feet AMSL. The outcrop is in a vacant lot along an unpaved residential road. Vegetation in the vicinity of the site consists of sparse chaparral with non-native weeds and grass. Soil consists of decomposed granite alluvium. Disturbances to the site include discing for weed control, erosion, and bioturbation. No artifacts or additional milling features were observed in association with the site.

- P33-01027 (petgroglyph site). This prehistoric petroglyph site was originally recorded in August of 1976 by Eastvold (first name not provided on site record). At that time, it was described as “Cupules on underside of 15-foot-high, mushroom-shaped rock” (Eastvold 1976).

During the survey, the site was re-visited and was found to be exactly as described by Chase in 1978. The large mushroom-shaped granite bedrock outcrop is located on undeveloped land. No artifacts or additional rock features were observed. Disturbances consist of recent roadside refuse disposal.

In addition, six parcels containing historic-age (i.e., 50 years old or older) buildings or structures were identified within the 30-meter-wide buffer along the Alternative 115 kV Segment during the field survey. Information regarding these parcels is provided in Table 4.5-3, Historic-Age Buildings Along the Alternative 115 kV Segment.

Table 4.5-3 Historic-Age Buildings Along the Alternative 115 kV Segment

Address	Assessor’s Parcel Number	Type of Building(s) or Structure(s)	Year/Period Built	Source(s)
25735 Garboni Rd., Menifee	362-440-001	Ranch complex: small vernacular wood-framed house, barn, wooden windmill tower. Inside fenced yard with post-historic house.	Ranch buildings and structures: ca. early 20th century. House: 1975	Ranch buildings and structures: estimate based on materials and design. House: County Assessor
25609 Holland Rd., Menifee	358-140-023	Vernacular brick house	1948	County Assessor
25509 Holland Rd., Menifee	358-140-001	Vernacular wood-framed house	1933	County Assessor

Address	Assessor's Parcel Number	Type of Building(s) or Structure(s)	Year/Period Built	Source(s)
31060 Byers St., Menifee	358-140-025	Post-World War II builder-contractor designed house	ca. 1945-1960	Estimate based on materials and design
31170 Byers St., Menifee	358-140-009	Vernacular wood-framed house	1941	County Assessor
32248 Byers St., Menifee	362-440-014	Vernacular wood-framed house; small, rectangular concrete irrigation weir or reservoir inside fenced front yard	1920	County Assessor

The cultural resource setting for the Alternative 115 kV Segment is similar to that of the Proposed Project. As a result, impacts to cultural and paleontological resources for the Alternative 115 kV Segment would be similar to those for the Proposed Project. Impacts are expected to be less than significant.

4.5.12 References

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4.6 Geology and Soils

This section describes the geology and soils in the area of the Proposed Project. The potential impacts of the Proposed Project and the Alternative 115 kV Segment are also discussed.

4.6.1 Environmental Setting

The Proposed Project is located in the Lake Elsinore basin in the central portion of the Peninsular Ranges geomorphic province. This province extends northwesterly from Baja California into the Los Angeles Basin and westerly into the offshore area, including Santa Catalina, Santa Barbara, San Clemente and San Nicolas islands. The northern boundary of the province is the Transverse Ranges along the Malibu Coast, Santa Monica, Hollywood, Raymond, Sierra Madre, and Cucamonga faults. The eastern boundary of the province is the Colorado Desert geomorphic province along the San Jacinto fault system. The Peninsular Ranges province is characterized by northwest/southeast trending alignments of mountains and hills and intervening basins, reflecting the influence of northwest trending major faults and folds controlling the general geologic structural fabric of the region. The Lake Elsinore basin is controlled by the northwest trending Elsinore fault system.

Faults

The numerous faults in Southern California include active, potentially active, and inactive faults. The criteria for these major groups are based on criteria developed by the California Division of Mines and Geology (CDMG) for the Alquist-Priolo Earthquake Fault Zoning Program (Hart, 1997). By definition, an active fault is one that has had surface displacement within Holocene time (within approximately 11,000 years). A potentially active fault is a fault that has had demonstrated surface displacement of Quaternary age deposits (deposited up to approximately 1.6 million years ago). A list of nearby active faults and the distance in miles between the nearest point on the fault, the maximum magnitude, and the slip rate for the fault is shown in Table 4.6, Major Named Faults Considered to be Active, and the faults in the vicinity of the Proposed Project are shown on Figure 4.6-1, Regional Fault Map.

The closest active fault to the site is the Glen Ivy Fault North of the Elsinore fault zone located approximately 1.7 miles to the southwest. The Elsinore fault zone strikes south-southeastward along the northeastern flank of the Santa Ana Mountains. This fault zone dips steeply toward the southwest and displacement is both right-lateral and reverse-dip separation. The fault zone contains several parallel to sub-parallel fault segments, and characteristically occupies a trough-like depression.

Figure 4.6-1
Regional Fault Map

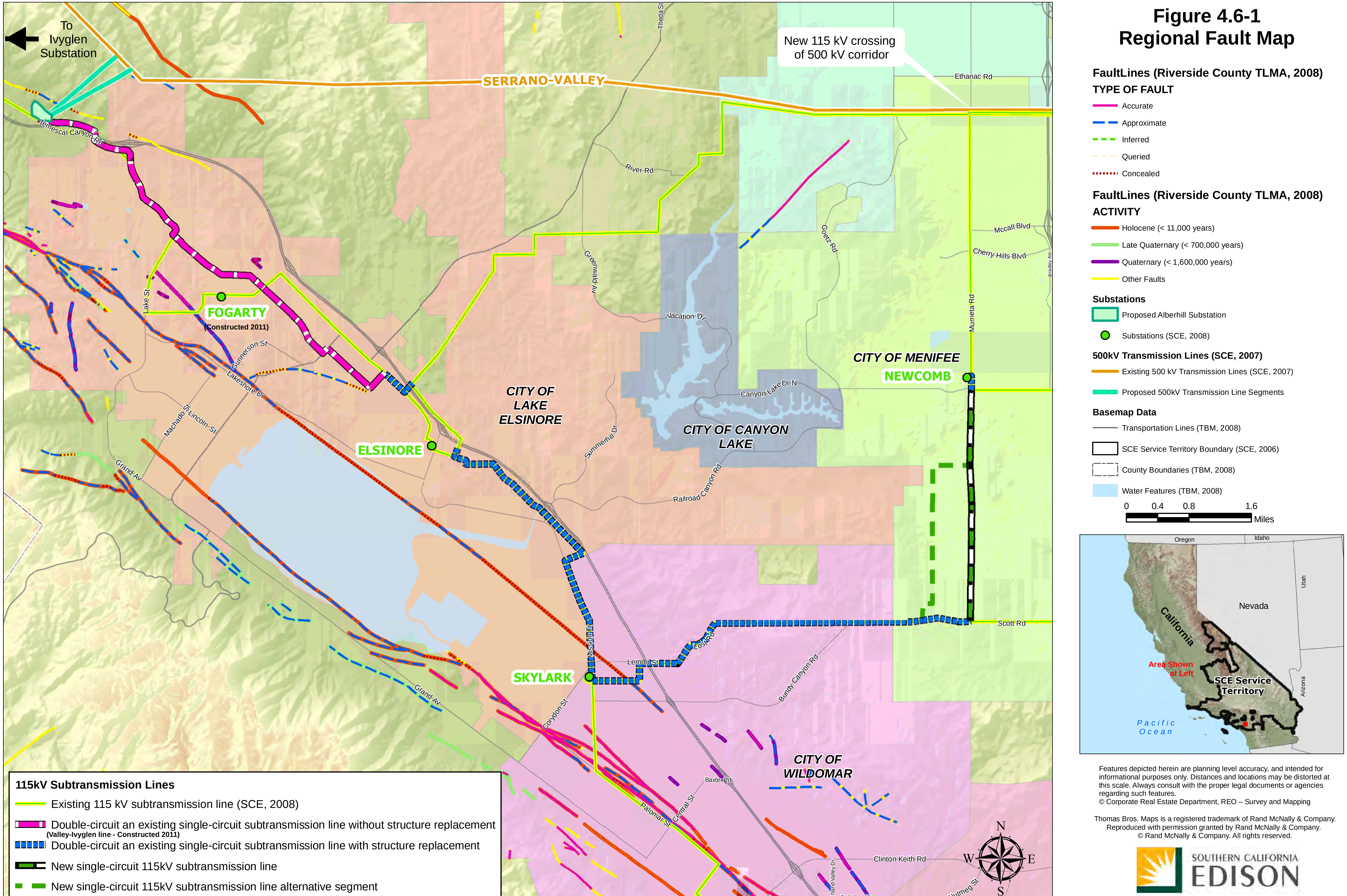

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Table 4.6 Major Named Faults Considered to be Active

Fault (in increasing distance)	Maximum Magnitude	Fault Type	Slip Rate (mm/yr)	Distance from Alberhill Substation Site (miles)	Direction from Alberhill Substation Site
Elsinore (Glen Ivy Segment)	6.8	Strike Slip	5.0	1.7	SW
Chino-Central Avenue	6.7	Normal Oblique	1.0	9	NW
Whittier	6.8	Strike Slip	2.5	16	NW
San Joaquin Hills	6.6	Blind Thrust	0.5	17	SW
San Jacinto (San Jacinto Valley)	6.9	Strike Slip	12.0	22	NE
Newport-Inglewood Zone	7.1	Strike Slip	1.0	26	NW
Puente Hills Blind Thrust	7.1	Blind Thrust	0.7	26	NW
Cucamonga	6.9	Reverse Oblique	5.0	29	N
San Andreas (San Bernardino Segment)	7.5	Strike Slip	24.0	30	NE
Sierra Madre	7.2	Reverse Oblique	2.0	31	NW
Palos Verdes	7.3	Strike Slip	3.0	42	SW
Raymond	6.5	Reverse Oblique	1.5	44	NW
Clamshell-Sawpit	6.5	Reverse Oblique	0.5	44	NW

Source: California Geological Survey, 2003

Fault Rupture

The Proposed Project is not located within a currently established State of California Alquist-Priolo Earthquake Fault Zone for surface rupture hazards. The closest Alquist-Priolo Earthquake Fault Zone, established for the Elsinore fault zone, is approximately 1.6 miles southwest of the Alberhill Substation site. This area is shown on Figure 4.6-2, Alquist-Priolo Earthquake Fault Hazard.

Seismicity

Numerous earthquakes of moderate to major magnitude have occurred in the Lake Elsinore area in historic time, including the Magnitude 6.0 Lake Elsinore Region earthquake in 1910, approximately 3 miles south of the Alberhill Substation site. The Proposed Project could be subjected to strong ground shaking in the event of an earthquake.

Liquefaction

The potential for liquefaction to occur depends on both the susceptibility of a soil to liquefy and the opportunity for ground motions (shaking) to exceed a specified threshold level. Simply stated, liquefaction is a process by which loose, water-saturated granular materials behave for a short time as a fluid rather than as a solid mass. Liquefaction can occur at any level in the ground, but usually occurs within the first 50 to 80 feet. Potential earthquake-induced liquefaction areas are shown on Figure 4.6-3, Liquefaction Susceptibility.

Seismic Settlement

Seismic settlement is often caused by loose to medium-dense granular soils densified during ground shaking. Dry and partially saturated soils as well as saturated granular soils are subject to seismically-induced settlement.

Landslide

Landslide is a general term for the dislodging and fall of a mass of soil or rocks along a sloped surface, or the dislodged mass itself. Areas of landsliding are, in general, confined to the areas of weak or clay bedrock and adverse geologic structure (such as bedding, joints or fracture planes dipping in downslope directions). Potential earthquake-induced landslide areas are shown on Figure 4.6-4, Areas of Potential Landslide.

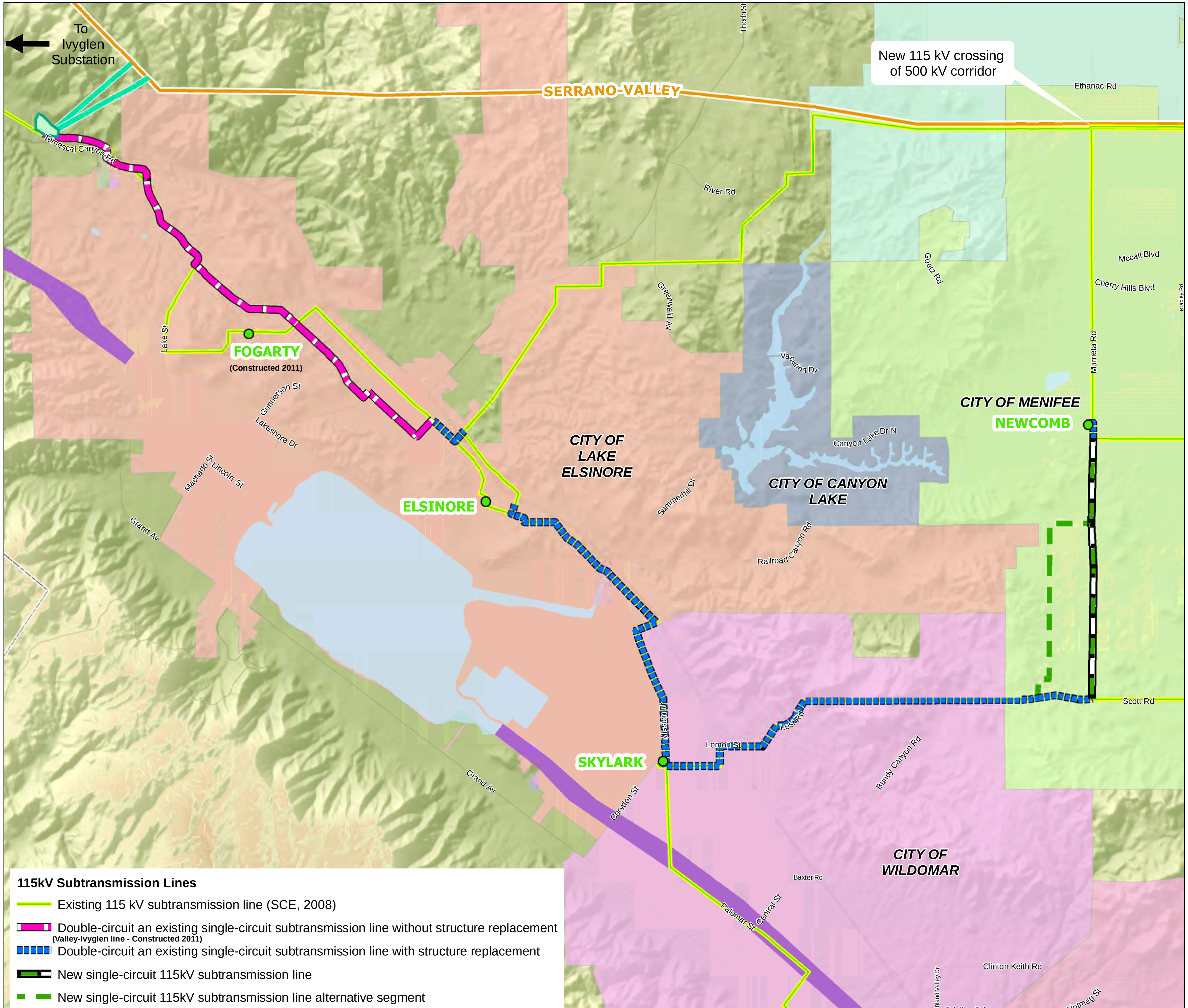
Subsidence

Subsidence is any settling or sinking of the ground surface over a regional area arising from surface or subsurface causes, such as earthquakes or groundwater and/or oil extraction.

Expansive Soils

Expansive soils contain significant amounts of high-plasticity clay that expands when it becomes wet and shrinks upon drying.

Figure 4.6-2
Alquist-Priolo Fault Hazard Map



Fault Zones (Riverside County TLMA 2006)

Alquist-PrioloFault Zones

Substations

Proposed Alberhill Substation

Substations (SCE, 2008)

500kV Transmission Lines (SCE, 2007)

Existing 500 kV Transmission Lines (SCE, 2007)

Proposed 500 kV Transmission Line Segments

Basemap Data

Transportation Lines (TBM, 2008)

SCE Service Territory Boundary (SCE, 2006)

County Boundaries (TBM, 2008)

Water Features (TBM, 2008)

N W E S

0 0.5 1 2 Miles

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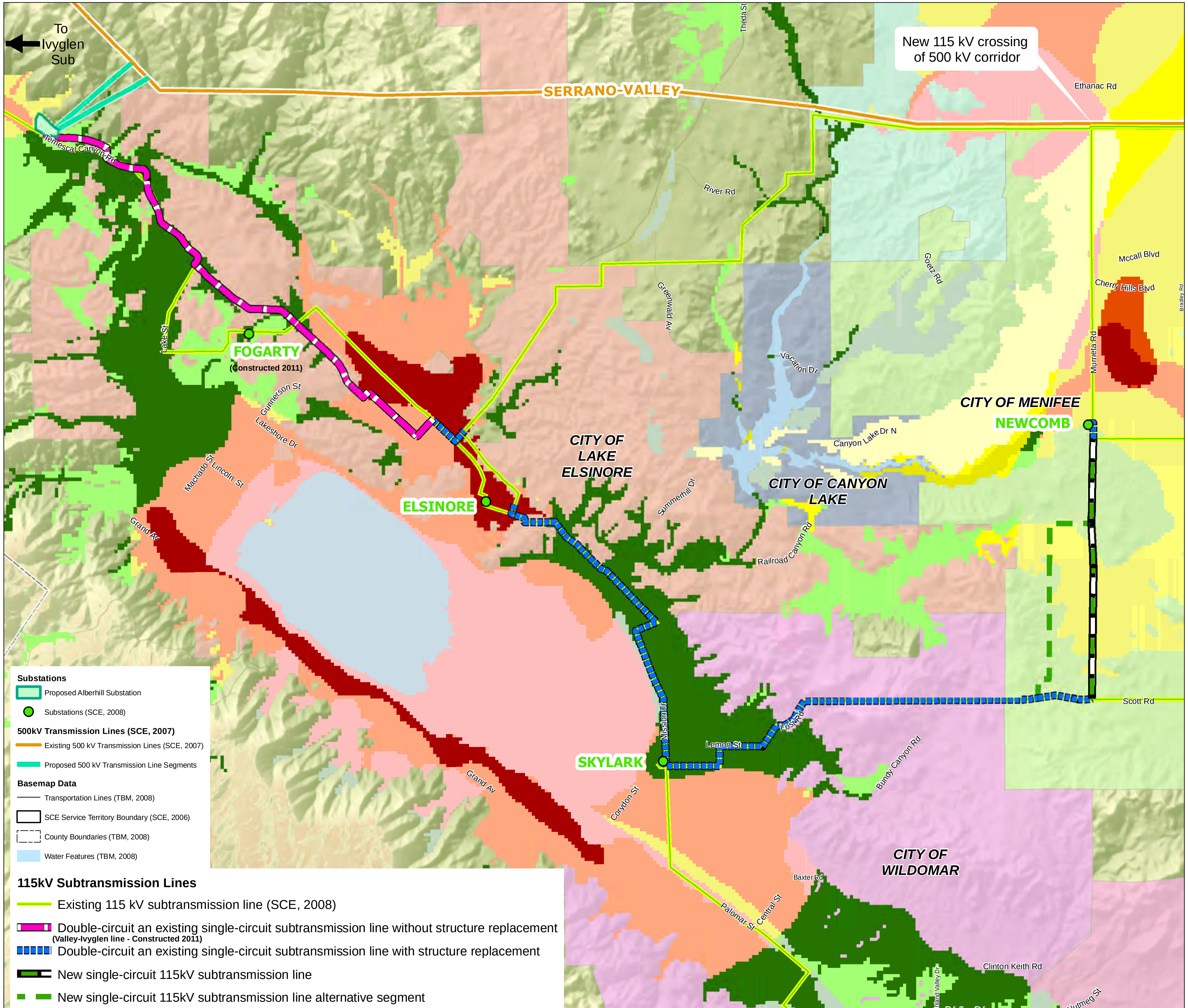
Figure 4.6-3
Liquefaction Susceptability Map



Shallow Groundwater. Susceptable Sediments
(Earth Consultants International 2000)
- 101 - Very High
- 102 - High
- 103 - Moderate
- 104 - Low
- 105 - Very Low

Deep Groundwater. Susceptable Sediments
(Earth Consultants International 2000)
- 106 - Moderate
- 107 - Low
- 108 - Very Low

No Groundwater Data. Susceptable Sediments
(Earth Consultants International 2000)
- 109 - Moderate
- 110 - Low
- 111 - Very Low

N W E S

0 0.5 1 2 Miles

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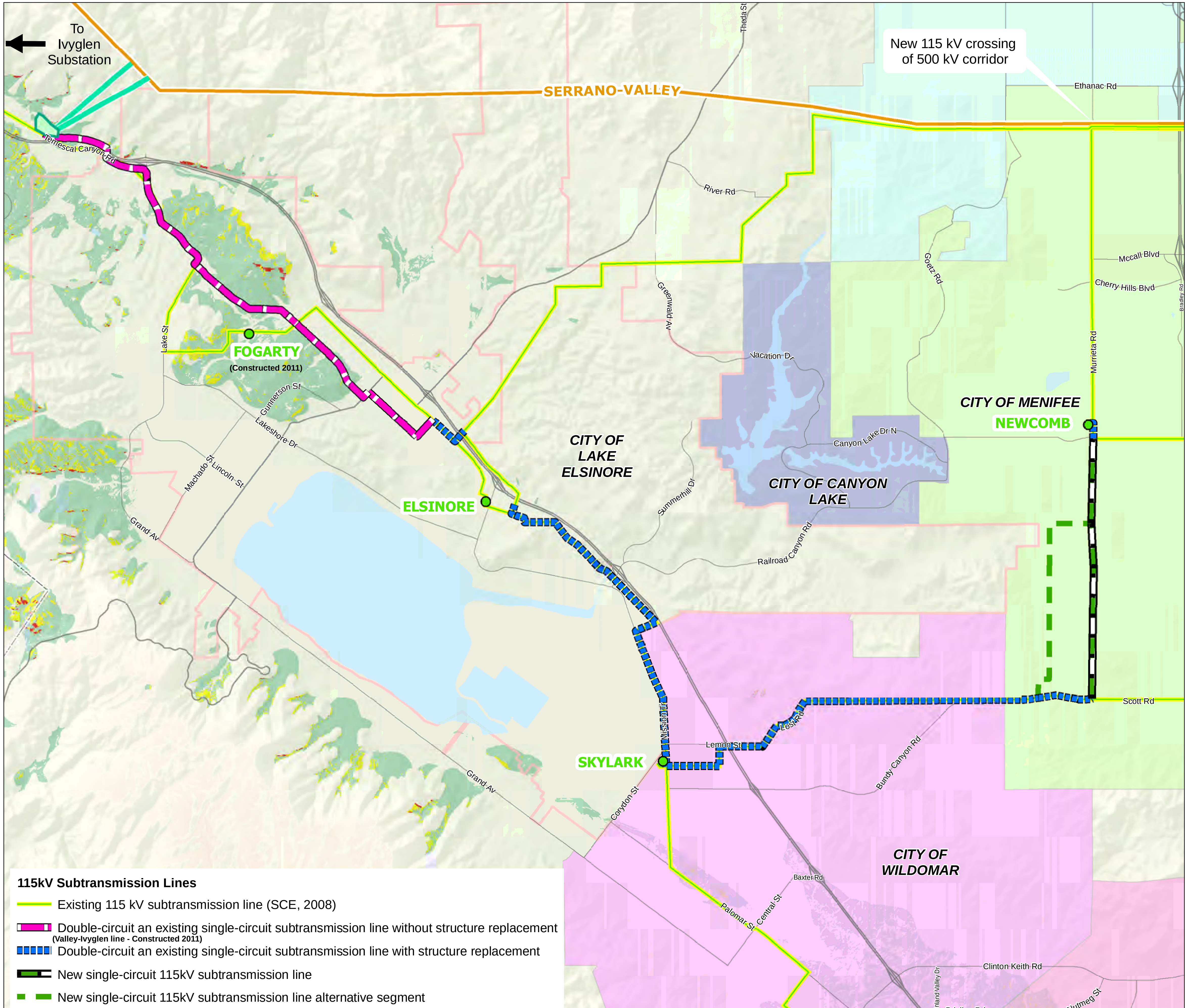
Figure 4.6-4
Areas of Potential Landslides



115kV Subtransmission Lines

- Existing 115 kV subtransmission line (SCE, 2008)
- Double-circuit an existing single-circuit subtransmission line without structure replacement (Valley-Ivyglen line - Constructed 2011)
- Double-circuit an existing single-circuit subtransmission line with structure replacement
- New single-circuit 115kV subtransmission line
- New single-circuit 115kV subtransmission line alternative segment

Soil Slip Susceptibility (USGS, 2003)

- Low Susceptibility
- Moderate Susceptibility
- High Susceptibility

Substations

- Proposed Alberhill Substation
- Substations (SCE, 2008)

500kV Transmission Lines (SCE, 2007)

- Existing 500 kV Transmission Lines (SCE, 2007)
- Proposed 500 kV Transmission Line Segments

Basemap Data

- Transportation Lines (TBM, 2008)
- SCE Service Territory Boundary (SCE, 2006)
- County Boundaries (TBM, 2008)
- Water Features (TBM, 2008)

N W E S

0 0.5 1 2 Miles

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4.6.2 Regulatory Setting

Clean Water Act. This law was enacted to restore and maintain the chemical, physical, and biological integrity of the nation's waters by regulating point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands. This includes the creation of a system that requires states to establish discharge standards specific to water bodies (National Pollution Discharge Elimination System (NPDES)), which regulates storm water discharge from construction sites through the implementation of a Storm Water Pollution Prevention Plan.

California Porter-Cologne Water Quality Act. This California state law provides a comprehensive water quality management system for the protection of California waters. Porter-Cologne designated the State Water Resources Control Board (SWRCB) as the ultimate authority over State water rights and water quality policy, and also established nine Regional Water Quality Control Boards (RWQCB) to oversee water quality on a day-to-day basis at the local/regional level. The RWQCBs have the responsibility of granting NPDES permits for storm water runoff from construction sites.

4.6.3 Significance Criteria

The significance criteria for assessing the impacts to geology and soils come from the CEQA Environmental Checklist. According to the CEQA Checklist, a project causes a potentially significant impact if it would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, or injury, or death involving: rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (Refer to Division of Mines and Geology Special Publication 42.) strong seismic ground shaking; seismic-related ground failure, including liquefaction; and landslides

- Result in substantial soil erosion or the loss of topsoil

- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse

- 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

- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water

4.6.4 Impact Analysis

The Alberhill Substation site is underlain by Late to Middle Pleistocene-age alluvium, designated Old Axial Channel Deposits, typically comprised of silts and sands with variable amounts of gravel and cobbles. Adjacent to the site to the north and probably underlying the Channel Deposits are Mesozoic-age metasedimentary rocks. The 500 kV transmission line segments between the substation site and the existing Serrano-Valley 500 kV transmission line would be underlain by the Cretaceous-age Estelle Mountain Volcanics.

The Walker Canyon lineament or fault is mapped as separating the Mesozoic and Cretaceous bedrock units in the area of the 500 kV transmission line segments. The Walker Canyon fault is not considered to be active (Weber, 1977).

4.6.4.1 Construction Impacts

Construction of the Proposed Project has the potential to result in impacts for the following CEQA criteria:

Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, or injury, or death involving: rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (Refer to Division of Mines and Geology Special Publication 42.); strong seismic ground shaking; seismic-related ground failure, including liquefaction; and landslides?

The Proposed Project is located within approximately 1 mile of an area identified as an Alquist-Priolo Earthquake Hazard Zone. Therefore, the risk of strong seismic ground shaking is considered potentially significant. Due to its proximity to an active fault zone, the Proposed Project could experience moderate to high levels of earthquake-induced ground shaking. As discussed in Section 3.1.1, Alberhill Substation Description, the substation structures would be designed consistent with the IEEE 693, Recommended Practices for Seismic Design of Substations. The Control Building at the Alberhill Substation site would require a building permit, and would be designed consistent with the applicable California Building Code standards for the area. Similarly, the 500 kV transmission line segments and the new and modified 115 kV subtransmission lines would be designed consistent with CPUC G.O. 95 to withstand seismic loading. As a result, the impacts due to strong seismic ground shaking would be less than significant.

Because the Walker Canyon fault crossing the 500 kV transmission line segments is not considered to be active, the impacts due to surface rupture of this fault would be considered less than significant.

Would the project result in substantial soil erosion or the loss of topsoil?

During construction, erosion control measures would be implemented, utilizing best management practices, to avoid or minimize soil erosion and off-site deposition. Because soil surface disturbance for the Proposed Project would be greater than one acre, specific erosion control measures would be identified as part of the NPDES permit and Storm Water Pollution Prevention Plan (SWPPP) required for construction (please see Section 3.2.1.1, Storm Water Pollution Prevention Plan, and Section 4.8, Hydrology and Water Quality, for more information). As a result, impacts due to soil erosion and loss of topsoil during construction of the Proposed Project would be less than significant.

Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

According to the Riverside County Seismic Safety Element (2003), the Alberhill Substation site is in a low to locally moderate susceptibility to seismic induced landslides and rockfall zone. No known landslides are known to exist at the site. The substation site is relatively level and potential for slope instability is low. The 500 kV transmission line segments would cross hillside terrain that may be susceptible to rockfall. Geologic mapping and investigation should be performed such that the structures are sited to avoid potential slope instability. Slope instability of individual structures may be mitigated by deep foundations or other measures.

Liquefaction potential is greatest where the ground water is shallow, and submerged loose, fine sands occur within a depth of about 15 meters (50 feet) or less. The Alberhill Substation site is located within an area identified by Riverside County as having low to moderate susceptibility sediments for liquefaction. As described in Section 3.5, Geotechnical Studies, the site would undergo a geotechnical investigation to evaluate the potential for liquefaction and the associated ground deformation occurring beneath the site. Typical stabilizing measures used in liquefaction-susceptible areas include removing the susceptible soil, or densification of the existing soil.

The Alberhill Substation site may be located in an area susceptible to subsidence. The site specific geotechnical investigation should be performed to evaluate the potential for subsidence. If needed, removal or densification of susceptible soils or design of foundations to withstand subsidence could reduce the hazard.

The new and modified 115 kV subtransmission lines also cross areas susceptible to liquefaction and subsidence. Likewise, the geotechnical studies (described in Section 3.9, Geotechnical Studies) performed for the Proposed Project would evaluate the susceptibility of the soils to liquefaction and subsidence. If needed, susceptible soils would be removed, or the existing soil would be densified in order to reduce the hazard.

As a result, impacts due to locating the project on unstable soil would be less than significant.

Would the project 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?

Expansive soils may be present in the area, and would be identified during the geotechnical investigation (please see Section 3.5, Geotechnical Studies, for more information) conducted for the Proposed Project prior to construction. If this is the case, the geotechnical report would offer site-specific project design and construction recommendations, such as over-excavation of soil, to minimize any effects due to the presence of expansive soils. Impacts from expansive soils would be less than significant.

Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

The Alberhill Substation would be built with a restroom facility, and there is no municipal sewer service in the area. As a result, SCE would install a septic system that would be permitted by Riverside County. The soils present at the surface of the site are sandy in nature, and would be conducive to accommodating a septic system drainfield. However, if during the site-specific geotechnical investigation, the soils are found to be inadequate for supporting a septic system drainfield, the drainfield would be placed above ground in an engineered gravel bed. As a result, impacts would be less than significant.

4.6.4.2 Operation Impacts

Operation of the Proposed Project has the potential to result in impacts for the following CEQA criteria:

Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, or injury, or death involving: rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (Refer to Division of Mines and Geology Special Publication 42.); strong seismic ground shaking; seismic-related ground failure, including liquefaction; and landslides?

Operation of the Proposed Project would not expose people or structures to potential substantial adverse effects, including the risk of loss, or injury, or death involving: rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction and landslides. Due to its proximity to an active fault zone, the Proposed Project would experience moderate to high levels of earthquake-induced ground shaking. Because the Proposed Project is located in an area susceptible to earthquake forces, the structures would be designed consistent with the IEEE 693, Recommended Practices for Seismic Design of Substations (please see Section 3.1.1, Alberhill Substation Description, for more information). Similarly, the 500 kV transmission line segments and the new and modified 115 kV subtransmission lines would be designed consistent with CPUC G.O. 95 to withstand seismic loading. As a result, the impacts due to strong seismic ground shaking during operation would be less than significant.

Would the project result in substantial soil erosion or the loss of topsoil?

During operation of the Proposed Project, soil erosion and loss of topsoil would be minimized by the gravel base at the substation site, and storm water drainage controls would be consistent with the grading plan SCE develops in consultation with the Riverside County Flood Control District (please see Section 4.8, Hydrology and Water Quality, for more information), minimizing erosion and the loss of topsoil. Therefore, impacts due to soil erosion and loss of topsoil during operation of the Alberhill Substation would be less than significant.

The ground surface around the 500 kV transmission line segments and the new and modified 115 kV subtransmission lines would be stabilized prior to the end of construction, minimizing the potential for erosion and loss of topsoil during operation. Impacts would be less than significant.

Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Prior to construction, a geotechnical investigation would have been conducted to provide site-specific details of unstable geologic units. The Proposed Project would incorporate the geotechnical information into final design in order to ensure the safe and reliable operation of the Proposed Project. The impacts due to operating the Proposed Project on unstable geologic units are therefore expected to be less than significant.

Would the project 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?

Prior to construction, a geotechnical investigation would have been conducted to identify the presence of expansive soil, should it exist. The Proposed Project would incorporate the geotechnical information into final design in order to ensure the safe and reliable operation of the Proposed Project. The hazards associated with constructing on expansive soils can be minimized by overexcavation and replacement with low expansion material or by design of structures to withstand the expansive forces. The impact due to the presence of expansive soil is therefore expected to be less than significant.

Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

The restroom facility at Alberhill Substation would be attached to a septic system. Prior to installing the septic system, a geotechnical investigation would be conducted to determine site soil characteristics, and the drainfield would be designed consistent with the permit requirements of septic systems in Riverside County. As a result, impacts would be less than significant.

4.6.5 Alternative 115 kV Segment

The Alternative 115 kV Segment is located in a similar geologic setting as the new 115 kV subtransmission line for the Proposed Project, but is located in an area of more varied topography, requiring more ground disturbance during construction. As a result, the construction and operation of the Alternative 115 kV Segment would have a greater potential for erosion. However, the SWPPP implemented during the construction period would minimize effects of the loss of topsoil. Impacts would be less than significant.

4.6.6 References

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4.7 Hazards and Hazardous Materials

This section describes the hazards and hazardous materials in the area of the Proposed Project. The potential impacts of the Proposed Project and the Alternative 115 kV Segment are also discussed.

4.7.1 Environmental Setting

Hazardous Waste

SCE conducted a Preliminary Phase I Environmental Site Assessment (ESA): Records Search, dated July 2009 for the Proposed Project substation site (please see Appendix I, Environmental Site Assessment Records Search, for more information). The results of the ESA indicate that, based on the available public records searched, no evidence of potential environmental concerns was identified for the substation site. The nearest investigation or cleanup site identified in the area of the Proposed Project was identified as Newport Estate Project (Elementary School #7), a California Department of Toxic Substances Control (DTSC) School Investigation site, located approximately 0.3 mile east of the new 115 kV subtransmission line route on Murrieta Road (Department of Toxic Substances Control, Envirostor, 2007).

Emergency Response

Riverside 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, of which electric utilities are considered critical facilities (Riverside County Fire Department, 2005, 2006).

Wildland Fires

The Riverside County Fire Department contracts with the California Department of Forestry and Fire Protection (CALFIRE) to provide fire protection services to the unincorporated area of Riverside County. The cities of Lake Elsinore, Menifee and Wildomar contract with the County Fire Department and CALFIRE to provide fire protection services to the cities (California Department of Forestry and Fire Protection, Riverside Unit, 2005; City of Lake Elsinore, 2009; Riverside County Clerk of the Board, 2009; City of Wildomar, 2009). The Riverside Unit of CALFIRE has implemented the 2005 Riverside Unit Fire Management Plan (CALFIRE, 2005).

The Lake Elsinore area primarily consists of light brush and heavy grass throughout the area (CALFIRE, 2005). The primary ignition source for wildland fires in the Riverside Unit over the past ten years has been from equipment. Excluding undetermined and miscellaneous ignitions sources, arson constitutes the next highest ignition source. The primary assets at risk are lives and residential structures.

As shown on Figure 4.7, Fire Hazard, portions of the Proposed Project and adjacent areas have been classified as High Fire Areas. Fire behavior is dramatically influenced by weather conditions. Large fires are frequently, though not always, associated with high temperatures, low humidity, and strong surface winds.

Airports and Airstrips

There is one private airport within 2 miles of the Proposed Project. Skylark Field (privately owned) is located approximately 0.2 mile southeast of the 115 kV subtransmission line route. The nearest Airport Land Use Compatibility Plan area is approximately 6 miles from the Proposed Project for the French Valley Airport in the City of Temecula.

Schools

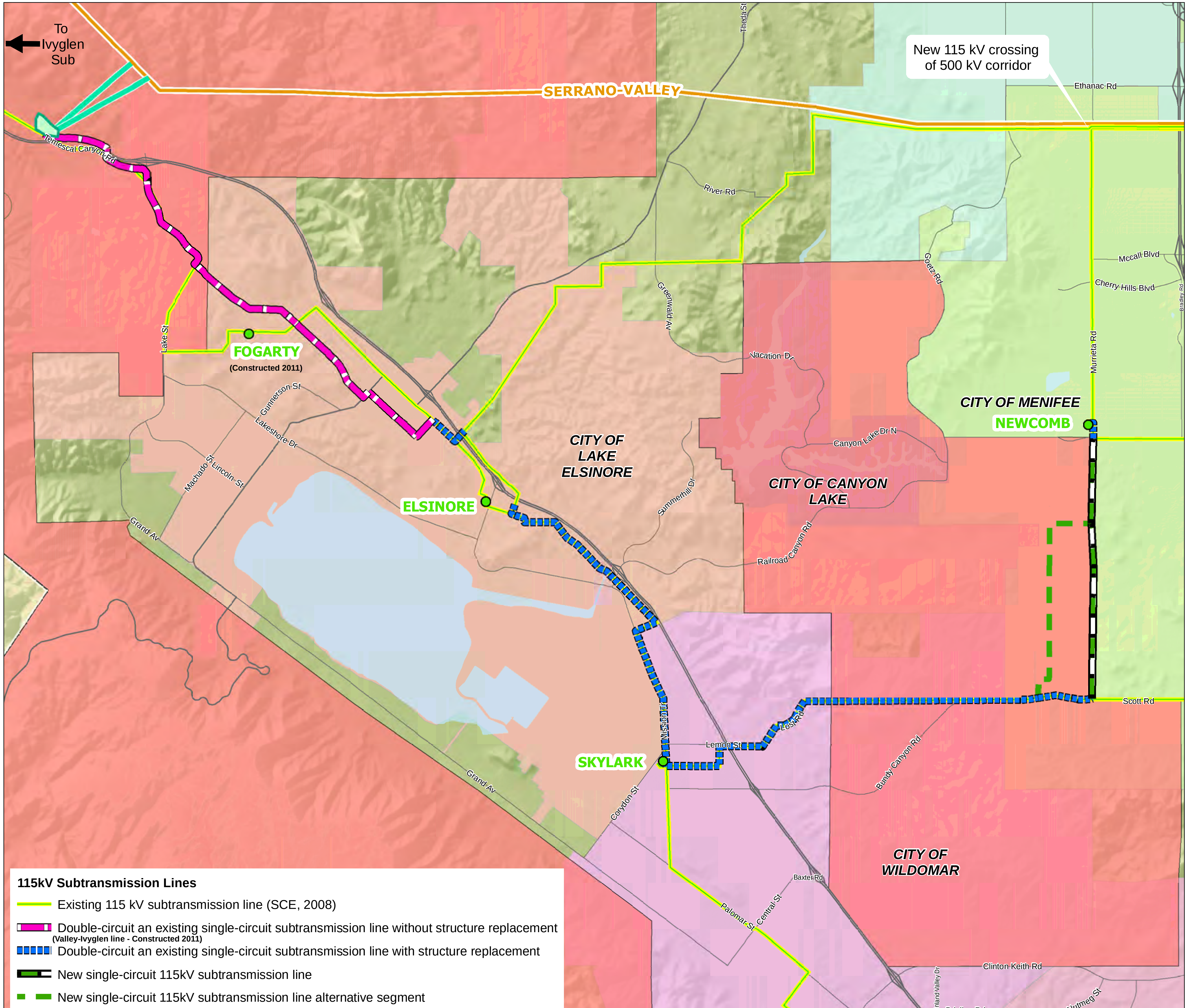
Seven public schools are located within one-quarter mile of the Proposed Project:

- Elsinore Elementary School, located at 512 W. Sumner Avenue, Lake Elsinore, approximately 0.21 mile south-southwest of the 115 kV subtransmission line route
- Railroad Canyon Elementary School, located at 1300 Mill Street, Lake Elsinore, approximately 0.17 mile south-southwest of the 115 kV subtransmission line route
- Lakeside High School, located at 545 Chaney Street, Lake Elsinore, approximately 0.19 mile south of the 115 kV subtransmission line route
- Elsinore Middle School, located at 545 Chaney Street, Lake Elsinore, approximately 0.19 mile south of the 115 kV subtransmission line route
- Gordon Kiefe Independent Study School, located at 565 Chaney Street, Lake Elsinore, approximately 0.19 mile south of the 115 kV subtransmission line route
- Jean Hayman Elementary School, located at 21440 Lemon Street, Lake Elsinore, approximately 0.17 mile east of the 115 kV subtransmission line route
- Menifee Valley Middle School, located at 26255 Garbani Road, Menifee, approximately 0.10 mile east of the 115 kV subtransmission line route

Two private schools were identified within one-quarter mile of the Proposed Project:

- Dehesa Charter School Resource, located at 31620 Auto Center Drive, Lake Elsinore, adjacent to the 115 kV subtransmission line route
- St. Frances of Rome Preschool, located at 21591 Lemon Street, Wildomar, approximately 0.13 mile west of the 115 kV subtransmission line route

Figure 4.7
Fire Hazard Map



Highfire Area (Riverside County TLMA 1989)

Substations

Proposed Alberhill Substation

Substations (SCE, 2008)

500kV Transmission Lines (SCE, 2007)

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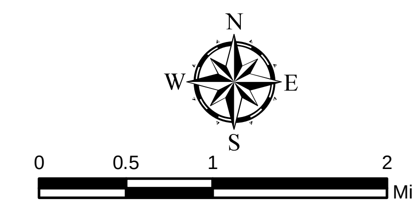
Water Features (TBM, 2008)



Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale. Always consult with the proper legal documents or agencies regarding such features.

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No other public or private preschool/day-care centers or K-12 schools were identified within one-quarter mile of the Proposed Project (Riverside County Office of Education, 2009; Lake Elsinore Unified School District, 2009; Google Earth, 2008).

4.7.2 Regulatory Setting

Federal Hazardous Materials Regulations (49 USC 1501 et seq.). These sections identify the required shipping papers, package marking, labeling, transport vehicle placarding, training, and registrations applicable to the shipment and transportation of hazardous materials.

Clean Water Act. This law was enacted to restore and maintain the chemical, physical, and biological integrity of the nation's waters by regulating point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands. This includes the creation of a system that requires states to establish discharge standards specific to water bodies (NPDES), which regulates storm water discharge from construction sites through the implementation of a Storm Water Pollution Prevention Plan (SWPPP).

California Porter-Cologne Water Quality Act. This California state law provides a comprehensive water quality management system for the protection of California waters. Porter-Cologne designated the State Water Resources Control Board (SWRCB) as the ultimate authority over State water rights and water quality policy, and also established nine Regional Water Quality Control Boards (RWQCB) to oversee water quality on a day-to-day basis at the local/regional level. The RWQCBs have the responsibility of granting NPDES permits for storm water runoff from construction sites.

California Health and Safety Code Section 25501. California law defines a hazardous material as any material that, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may pose a present or potential hazard to human health and safety or to the environment if released in the workplace or the environment (California Health and Safety Code Section 25501). A hazardous waste is defined as a discarded material of any form (e.g., solid, liquid, gas) that may pose a present or potential hazard to human health and safety or to the environment when improperly treated, stored, transported, disposed of, or otherwise managed (California Health and Safety Code Section 25117).

CPUC G.O. 95 and CPUC G.O. 165. These General Orders by the CPUC specifies construction, operation, and maintenance requirements for electrical facilities.

California Public Resources Code Sections 4292 and 4293. These codes specify requirements related to vegetation management in transmission line corridors.

4.7.3 Significance Criteria

The significance criteria for assessing the impacts to hazards and hazardous materials come from the CEQA Environmental Checklist. According to the CEQA Checklist, a project causes a potentially significant impact if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- 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;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Be located on a site, which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area;
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- 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.

4.7.4 Impact Analysis

4.7.4.1 No Impact

Construction and operation of the Proposed Project would not produce impacts for the following CEQA criterion:

For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

There are no public airports or public use airports within 2 miles of the Proposed Project. Therefore, there would be no safety hazard for personnel during construction or operation of the Proposed Project, and no impact to people residing or working in the project area from a public airport or public use airport during construction and operation of the Proposed Project.

4.7.4.2 Construction Impacts

Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Construction of the Proposed Project would require the transport of transformer oil to the Alberhill Substation site. 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. As a result, impacts due to the routine transport, use, or disposal of hazardous materials would be less than significant.

Would the project 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?

Due to the low volume and low toxicity of the hazardous materials to be used during the construction of the Proposed Project, the potential for environmental impacts from hazardous material incidents is less than significant. The most likely incidents involving these hazardous materials are associated with minor spills or drips. Impacts from such incidents would be avoided by thoroughly cleaning up minor spills as soon as they occur. A site-specific construction SWPPP (please see Section 3.2.1.1, Storm Water Pollution Prevention Plan, for more detail) would be followed to ensure quick response to minor spills and minimal impacts to the environment. Any impacts that would result from an accidental release would be addressed through the SWPPP, and as a result, such impacts would be less than significant.

During construction activities for the Proposed Project, the potential exists that subsurface utilities (e.g., a natural gas line) or structures (e.g., an underground storage tank) might be encountered and damaged, resulting in a release of a hazardous material. As described in Section 3.2.1.7, Identification of Underground Utilities During Construction, such incidents would be avoided by thoroughly screening for subsurface structures in areas prior to commencement of subsurface work. Screening activities would include contacting Dig Alert, visual observations, and use of buried line locating equipment. As a result, impacts would be less than significant.

Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

There are seven public schools and two private schools within one-quarter mile of the Proposed Project. The minimal quantities of hazardous materials that would be used during construction make it unlikely that schools or preschools/day care centers would be impacted by an accidental release of hazardous materials. The impacts would be less than significant.

Would the project be located on a site, which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Based on a Preliminary ESA Records Search, dated July 2009, the Proposed Project substation site is not located on a known hazardous waste site. As a result, there would be no impact to the public or the environment from being located on a site included on a list of hazardous materials sites. An online search of federal and State investigation and cleanup sites was conducted. The results of the search indicate that, based on the available public database records searched, no evidence of potential environmental concerns were identified for the 500 kV transmission line segments, or the new and modified 115 kV subtransmission line routes.

Although there is a very low potential for contaminated soil to be encountered in the areas used by the Proposed Project, the geotechnical investigation conducted prior to construction of the Proposed Project would include collecting and analyzing soil samples for common contaminants. If chemicals are detected in the soil samples at concentrations above action levels, SCE would decide whether to work with the property owner to remove the contaminated soil, or modify the design of the project to the extent necessary to avoid contaminated soil. As a result, impacts due to locating a project upon a listed hazardous materials site would be less than significant.

For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

There is one private airstrip (Skylark Field) within 2 miles of the Proposed Project. As described in Section 3.2.4.1, Airstrip, SCE would provide written notice of the construction schedule for the modifications of the existing 115 kV subtransmission line along Mission Trail, Waite Street, Lemon Street, Lost Road, and Beverly Street to the operator of the airstrip to minimize safety hazards resulting from the proximity of this airstrip to the construction areas. Impacts to people residing or working in the project area from a private airstrip during construction of the Proposed Project would be less than significant.

Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

In places where the components of the Proposed Project span a road or require a lane closure, construction activities would be coordinated with the local jurisdiction so as not to cause closure of any emergency access route. Flaggers may briefly hold traffic back for construction equipment, but emergency vehicles would be provided access even in the event of temporary road closures. Therefore, emergency access would not be directly impacted by construction of the Proposed Project because all streets would remain open to emergency vehicles at all times during construction activities. As a result, construction of the Proposed Project would not physically interfere with or impair the implementation of adopted emergency response and evacuation plans.

Would the project 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?

The components of the Proposed Project would be built in areas classified as High Fire Areas (please see Figure 4.7, Fire Hazards). SCE has standard protocols that are implemented when the National Weather Service issues a Red Flag Warning. These protocols include measures to address 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 notification. Portable communication devices (e.g., 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, US Forest Service and various city and county fire agencies in the Red Flag Fire Prevention Program and complies with California Public Resources Code Sections 4292 and 4293 related to vegetation management in transmission line corridors.

During times when a Red Flag Warning has not been issued, fire risks during construction would also be low because the construction areas for the Proposed Project would be grubbed of vegetation and graded prior to the staging of equipment, minimizing the potential for a construction vehicle to start a fire. As a result, construction of the Proposed Project would have a less than significant impact to risk of loss, injury or death involving wildland fires.

4.7.4.3 Operation Impacts

Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

During operation of the Proposed Project, routine inspections and emergency repair would require the use of fuel and lubricants inside vehicles and equipment. In addition, diesel fuel would occasionally be brought to Alberhill Substation to fill the emergency generator tank. 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. As a result, impacts due to the routine transport, use, or disposal of hazardous materials would be less than significant.

Would the project 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?

The Proposed Project substation would be equipped with transformer banks that contain mineral oil and a 960-gallon diesel fuel storage that could leak or spill if the transformers or the storage tank were damaged from a seismic event, fire, or other accident scenario. To minimize potential impacts in the event a transformer or the diesel fuel storage tank is damaged, the design of the substation would provide containment and/or diversionary structures or equipment to prevent discharge of an oil or diesel fuel spill as described in the Spill Prevention Control and Countermeasure (SPCC) Plan that would be prepared for the Proposed Project during final design (please see Section 3.1.1.11, Substation Site Ground Surface Improvements, for more information on SPCC requirements). An SPCC Plan would be prepared and implemented by SCE before any oil-containing equipment or diesel fuel is brought to the substation site. Impacts would be less than significant.

Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

There are seven public schools and two private schools within one-quarter mile of the Proposed Project new and modified 115 kV subtransmission lines, but there are no schools within one-quarter mile of Alberhill Substation or the 500 kV transmission line segments. Since operation of the Proposed Project subtransmission lines would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste, there would be no impacts to existing or proposed schools within one-quarter mile of the Proposed Project during operation.

Would the project be located on a site, which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

SCE does not anticipate conducting extensive ground disturbing activity during operation of the Proposed Project, and the probability of encountering legacy soil or groundwater contamination is low. As a result, impacts due to locating a project on a site included on a list of hazardous materials sites would be less than significant.

For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

There is one private airstrip (Skylark Field) within two miles of the Proposed Project 115 kV subtransmission line route. Operation of the subtransmission line would consist of routine maintenance and emergency repair. Because personnel would only intermittently be present at the Proposed Project during operation, safety hazards resulting from the proximity of this airstrip to personnel associated with the Proposed Project during operation would be less than significant.

Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Operation of the Proposed Project would not affect emergency plans or evacuation routes. Electrical facilities are considered critical facilities in Riverside County's emergency response plans, and every effort would be made by SCE to maintain electrical service during emergencies. Impacts to emergency plans as a result of operation of the Proposed Project would be less than significant.

Would the project 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?

The Proposed Project may pose a fire hazard if vegetation or other obstructions come into contact with energized electrical equipment. The Proposed Project would be constructed and maintained in a manner consistent with CPUC G.O. 95 and CPUC G.O. 165. Consistent with these and other applicable State and federal laws, SCE would maintain an area of cleared brush around the equipment, minimizing the potential for fire.

As discussed above in Construction Impacts, SCE participates with the California Department of Forestry and Fire Protection, California Office of Emergency Services, US Forest Service and various city and county fire agencies in the Red Flag Fire Prevention Program and complies with California Public Resources Code Sections 4292 and 4293 related to vegetation management in transmission line corridors. These measures minimize the exposure of the 500 kV transmission line segments and new and modified 115 kV subtransmission line to wildland fires during routine maintenance activities. As a result, impacts would be less than significant.

4.7.5 Alternative 115 kV Segment

The Alternative 115 kV Segment route crosses primarily rural and suburban areas, and is within a similar wildfire hazard setting as the Proposed Project new 115 kV subtransmission line route, but it is in a less developed area. As a result, the impacts with respect to hazards and hazardous materials would be greater than those for the Proposed Project. However, the impacts would be less than significant.

4.7.6 References

California Department of Forestry and Fire Protection (CALFIRE), Riverside Unit. 2005. Fire Management Plan. [online] http://www.fire.ca.gov/fire_protection/downloads/airbase_relocation_09_apx_riverside_mgt_plan.pdf (cited August 2009).

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Riverside County Fire Department, Office of Emergency Services, Riverside County Operational Area. March 2005. Multi-Jurisdictional Local Hazard Mitigation Plan (LHMP). [online] http://www.rvcfire.org/opencms/functions/oes/EmergencyManagement/PlansandPublications/ [cited August 2009].

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Riverside County Office of Education. 2009. [online] http://www.rcoe.k12.ca.us/aboutRCOE/districts.html [cited August 2009].

4.8 Hydrology and Water Quality

This section describes the hydrology and water quality in the area of the Proposed Project. The potential impacts of the Proposed Project and the Alternative 115 kV Segment are also discussed.

4.8.1 Environmental Setting

Surface Water

The Proposed Project is located in the South Coast Hydrological Region, Santa Ana Planning Area, Santa Ana River Watershed and a very small portion of the Proposed Project is in the San Jacinto River Watershed. The area has a typical Mediterranean climate with wet, cool winters, and warm, dry summers. Most of the rainfall occurs between November and April, with an average annual rainfall in Lake Elsinore of 13.7 inches (City of Lake Elsinore, 2007).

The Santa Ana River Watershed is 2,800 square miles in size. Urbanization in the upper part of the watershed has contributed to the degradation of sensitive aquatic and riparian habitats, water quality, and groundwater recharge. Despite this, the Santa Ana River Watershed still has important areas of riparian, wetland, and other wildlife habitat. The San Jacinto Watershed is much smaller (765 square miles); its lower part has been experiencing rapid urbanization (DWR, 2009).

The interconnected system formed by the San Jacinto River, Canyon Lake, Lake Elsinore, and Temescal Wash is the main hydrological feature in the Proposed Project area. The location of these water bodies is shown on Figure 4.8, Hydrology and Floodplain Boundaries. The San Jacinto River has it headwaters in the San Bernardino National Forest. From there, it flows first northwest then southwest over approximately 40 miles, passing through several artificial lakes and reservoirs, including Canyon Lake, before emptying into Lake Elsinore, approximately three miles southwest of Canyon Lake (DWR, 2009; Riverside County, 2003). The San Jacinto River at this location mostly flows during storm events.

Canyon Lake (or Railroad Canyon Reservoir) was created in 1927 to capture the waters of the San Jacinto River; it has a capacity of approximately 12,000 acre-feet. Lake Elsinore, on the other hand, is a natural lake. It measures approximately 5 miles long by 2 miles wide. In addition to the San Jacinto River, Lake Elsinore is fed by direct precipitation and runoff from local tributaries. The river’s contribution is the largest by far (72 percent, against 20 percent from precipitation and 8 percent from runoff). A levee was constructed across the lake in 1995 to reduce the size of the water surface and minimize evaporation (City of Lake Elsinore, 2007).

In periods of high water level, Lake Elsinore overflows into Temescal Wash, which, outside these periods, is generally dry. Temescal Wash runs to the northwest, roughly parallel to the I-15 freeway. Temescal Wash has been channelized south of State Route 74 but remains in its natural state north of it (City of Lake Elsinore, 2007). Temescal

Wash eventually drains into the Santa Ana River near the City of Corona. A few miles downstream of the Proposed Project, Temescal Wash feeds Lee Lake, a 3,000-acre-foot man-made impoundment, constructed to be a water source for agricultural and industrial uses.

Flood plains (100-year and 500-year) are mapped in the Federal Emergency Management Agency (FEMA)'s Flood Insurance Rate Maps (FIRM). Based on the flood zone maps available from the City of Lake Elsinore and Riverside County, which incorporate FEMA data, the major floodplains in the vicinity of the Proposed Project are those associated with Lake Elsinore, the San Jacinto River, and Temescal Wash. There is also a risk of flooding associated with the potential rupture of Railroad Canyon Dam. The risk area, however, generally coincides with the 100-year floodplain (City of Lake Elsinore, 2007).

Regional flood control planning and facilities construction are within the jurisdiction of the Riverside County Flood Control District (RCFCD). The RCFCD is also responsible for the maintenance and operation of flood control facilities, including debris dams, storm channels, and storm drains (City of Lake Elsinore, 2007).

In 1994, 1998, and 2002, Lake Elsinore and Canyon Lake were listed by the SARWQCB on its Clean Water Act Section 303(d) list of impaired water bodies. Impairments identified for these waters included excessive levels of nutrients in both lakes, as well as organic enrichment/low dissolved oxygen, sedimentation/siltation, and unknown toxicity in Lake Elsinore; and high bacterial indicators in Canyon Lake. Lake Elsinore is also listed as an impaired water body for PCBs (SARWQCB, 2009).

Groundwater

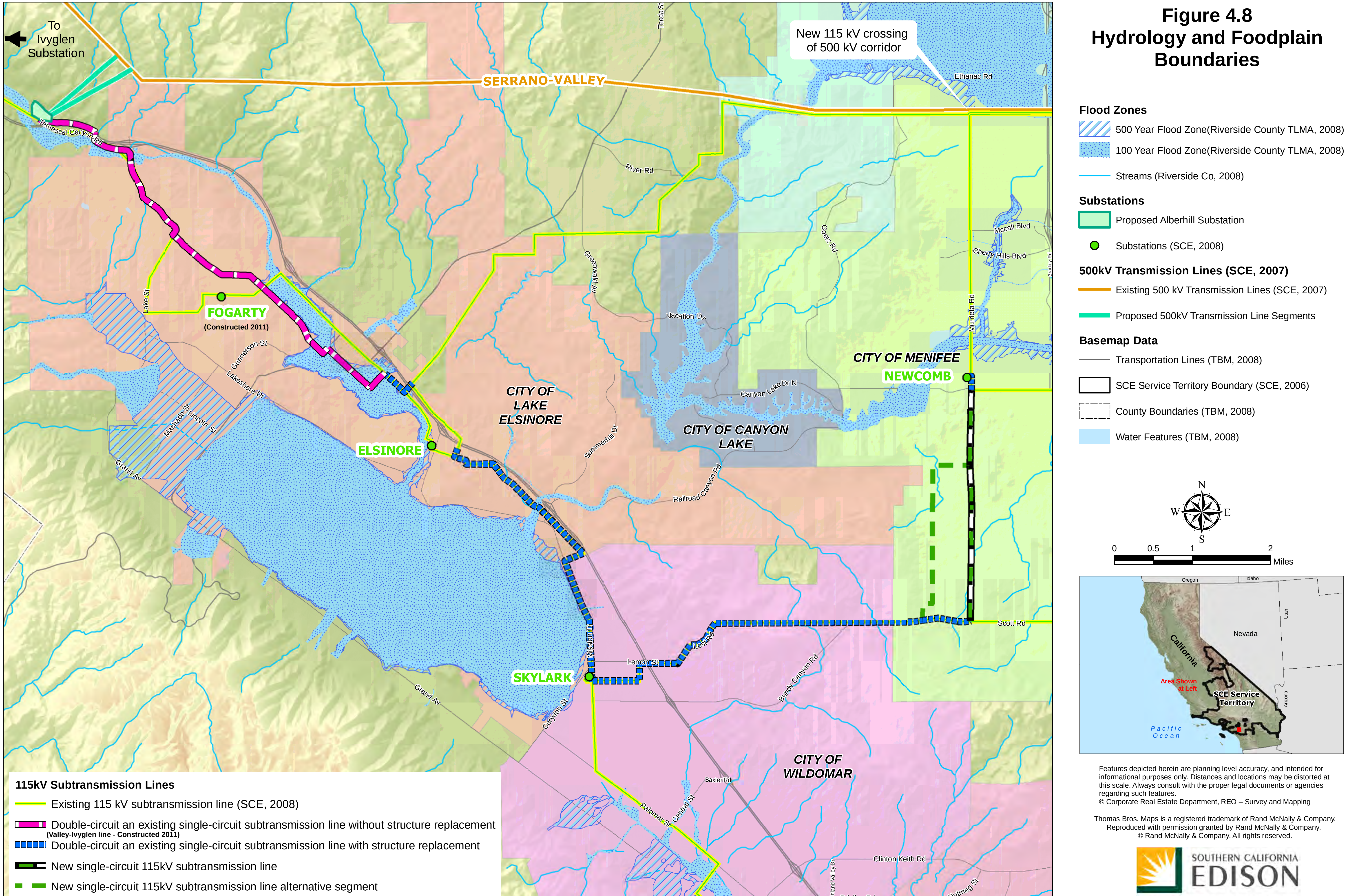
The Proposed Project area overlaps with two groundwater basins: the Elsinore Basin to the south and west and the San Jacinto Basin to the north and east.

The Elsinore Basin is bounded on the southwest by the Santa Ana and Elsinore Mountains along the Willard fault, a splay of the active Elsinore fault zone. The basin adjoins the Temecula Valley Groundwater Basin on the southeast. On the northwest, it is bounded by the Temescal Subbasin of the Upper Santa Ana River Valley Groundwater Basin. On the northeast, the basin is bounded by non-water-bearing rocks of the Peninsular Ranges along the Glen Ivy fault (DWR, 2003). More information on faulting in the area can be found in Section 4.6, Geology and Soils.

The Elsinore Basin is supplied primarily by infiltration of precipitation in the surrounding watershed. Another source of infiltration is the San Jacinto River channel upstream of Lake Elsinore. The depth to groundwater varies considerably, from approximately 50 to 60 feet in the northern part of the basin to approximately 400 to 500 feet in the southern part (City of Lake Elsinore, 2007).

Municipal pumping for potable water is the only major outflow from the Elsinore Groundwater Basin (City of Lake Elsinore, 2007). Historic documentation indicates that

Figure 4.8 Hydrology and Foodplain Boundaries



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groundwater levels within the Elsinore Groundwater Basin declined more than 100 feet between 1927 and 1950 (DWR, 2003). In addition, water levels in wells in the southern portion of the basin dropped more than 200 feet during 1990 to 2000, providing additional evidence of a groundwater overdraft condition, which, if it continues, may lead to ground subsidence as soils compact; however, no clear evidence of subsidence has been identified around Lake Elsinore (City of Lake Elsinore, 2007).

The San Jacinto Groundwater Basin underlies the San Jacinto, Perris, Moreno, and Menifee valleys, drained by the San Jacinto River and its tributaries. The basin is bounded by the San Jacinto Mountains on the east, the San Timoteo Badlands on the northeast, the Box Mountains on the north, the Santa Rosa Hills and Bell Mountains on the south, and unnamed hills on the west. Natural recharge to the basin is primarily from percolation of flow in the San Jacinto River and its tributary streams. A lesser source is infiltration of rainfall on the valley floor. Natural recharge is augmented by State Water Project (SWP) and reclaimed water through infiltration ponds in the upper reaches of the San Jacinto River. Percolation of water stored in Lake Perris has been an additional source of recharge since the 1970s. Artificial recharge can exceed natural recharge, particularly in years with low precipitation. Groundwater level trends have varied with the years. In 2001 and 2002, levels generally rose in the central part of the basin and declined in the northeastern and southern parts (DWR, 2003).

4.8.2 Regulatory Setting

Clean Water Act. This law was enacted to restore and maintain the chemical, physical, and biological integrity of the nation's waters by regulating point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands. This includes the creation of a system that requires states to establish discharge standards specific to water bodies (NPDES), which regulates storm water discharge from construction sites through the implementation of a Storm Water Pollution Prevention Plan.

California Porter-Cologne Water Quality Act. This California state law provides a comprehensive water quality management system for the protection of California waters. Porter-Cologne designated the State Water Resources Control Board (SWRCB) as the ultimate authority over State water rights and water quality policy, and also established nine Regional Water Quality Control Boards (RWQCB) to oversee water quality on a day-to-day basis at the local/regional level. The RWQCBs have the responsibility of granting NPDES permits for storm water runoff from construction sites.

4.8.3 Significance Criteria

The significance criteria for assessing the impacts to hydrology and water quality come from the CEQA Environmental Checklist. According to the CEQA Checklist, a project causes a potentially significant impact if it would:

- Violate any water quality standards or waste discharge requirements
- 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 ground water table level
- Substantially alter the existing drainage pattern of the 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 siltation on- or off-site
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or a substantial increase in the rate or amount of surface runoff in a manner which would result in flooding on- or off-site
- Create or contribute to runoff water, which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff
- Otherwise substantially degrade water quality
- Place housing within a 100-year floodplain, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows
- 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
- Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow

4.8.4 Impact Analysis

4.8.4.1 No Impact

Construction and operation of the Proposed Project would not produce impacts for the following CEQA criterion:

Would the project place housing within a 100-year floodplain, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

Because the Proposed Project does not involve housing, there would be no impacts associated with placing housing within a 100-year floodplain.

4.8.4.2 Construction Impacts

Would the project violate any water quality standards or waste discharge requirements?

Construction of the Proposed Project would not discharge effluent from the construction sites without a NPDES general permit for storm water discharge obtained from the applicable Regional Water Quality Control Board (please see Section 3.2.1.1, Storm Water Pollution Prevention Plan, for more information). Any sanitary waste produced during construction (e.g., from portable toilets) would be disposed of according to all applicable laws, rules, and regulations. As a result, construction of the Proposed Project would not violate any water quality standards or waste discharge requirements. Impacts would be less than significant.

Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local ground water table level?

During installation of foundations for the Proposed Project (including the foundations for the equipment and building at the substation site, the 500 kV transmission line segments, and the new and modified 115 kV subtransmission lines), there is a possibility that shallow groundwater could be encountered. If this is the case, dewatering systems would be installed in the excavation as appropriate to allow construction under dry conditions. Dewatering activities would be temporary and would not affect groundwater levels in the region. As a result, construction of the Proposed 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 ground water table. Impacts would be less than significant.

Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or a substantial increase in the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

The Proposed Project substation site would not be located within a drainage and would not require the alteration of existing drainages. The grading and surface improvements for the substation footprint would change the natural flow of runoff in the area, but the runoff would be directed to an on-site or off-site storm water system, as designed in consultation with the RCFCD. As a result, construction of the Alberhill Substation would not substantially alter the existing drainage pattern of the site or area or produce a substantial increase in the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.

The 500 kV transmission line segments and the new and modified 115 kV subtransmission lines would span drainages, but SCE does not anticipate placing structures within drainages. The 500 kV and 115 kV structure footings and foundations used for the Proposed Project are not at a size that would substantially alter a stream or watercourse, or increase runoff in a manner that would result in flooding on- or off-site.

The access roads for the 500 kV transmission line segments may cross drainages. If this is the case, SCE would install drainage structures such as wet crossings or pipe culverts to maintain the natural flow of surface water runoff in the area. In addition, any access roads built with a steep grade would incorporate features such as water bars, overside drains, and energy dissipators to protect both the road and the surrounding area from the effects of uncontrolled water flow.

Because construction of the Proposed Project would not alter the course of a stream or river or substantially increase the rate or amount of surface water runoff in a manner that would result in flooding on- or off-site, impacts would be less than significant.

Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

As discussed above, construction of the Alberhill Substation would involve grading and the installation of surface improvements that would change the natural flow of runoff in the area; however, the storm water improvement portion of the grading plan would be designed to maintain a discharge of storm water runoff from the site consistent with the character of the storm water runoff presently discharged from the site. In addition, SCE would consult with the RCFCD prior to finalizing site grading design. The final grading design would include features that would minimize erosion and siltation both on- and off-site.

As discussed above, construction of the 500 kV transmission line segments and the new and modified 115 kV subtransmission lines would span drainages, but SCE does not anticipate placing structures within drainages. The 500 kV and 115 kV structure footprints used for the Proposed Project are not at a size that would substantially alter a stream or watercourse, or increase runoff in a manner that would result in erosion or siltation on- or off-site.

As discussed above, construction of the access roads for the 500 kV transmission line segments may cross drainages. If this is the case, SCE would install drainage structures such as wet crossings or pipe culverts to maintain the natural flow of surface water runoff in the area. In addition, any access roads built with a steep grade would incorporate features such as water bars, overside drains, and energy dissipators to protect both the integrity of the road and the surrounding area from the effects of uncontrolled water flow, including erosion and siltation.

Because construction of the Proposed Project would not alter the course of a stream or river or substantially increase the rate or amount of surface water runoff in a manner that would result in erosion or siltation on- or off-site, impacts would be less than significant.

Would the project create or contribute to runoff water, which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

As discussed above, the substation storm water plan would be designed to closely preserve the existing storm water discharge presently occurring at the site. Prior to construction, the RCFCD would be consulted regarding SCE's grading plans of the substation site during construction and operation. Also prior to construction, SCE would be required to obtain a NPDES permit for storm water discharge during construction, which would include permit conditions developed to minimize the potential for any pollutants used at the construction site to migrate off-site.

Due to the small footprint of the construction areas for the 500 kV transmission line segments, new and modified 115 kV subtransmission lines, and the access roads, the capacity of any existing or planned storm water systems would not be affected by construction of these facilities. These facilities would also be subject to the conditions of the NPDES permit for storm water discharge SCE is required to obtain for construction of the project.

Because construction of the Proposed Project would not substantially increase the rate or amount of surface water runoff in a manner that would result in exceeding the capacity of existing or planned storm water drainage systems or provide a substantial additional source of polluted runoff, impacts would be less than significant.

Would the project otherwise substantially degrade water quality?

As discussed above regarding the construction of the components of the Proposed Project relating to flooding, erosion, siltation, and discharge of pollutants, there are no other activities associated with the construction of the Proposed Project that have the potential to substantially degrade water quality (use of hazardous materials at the site are discussed in Section 4.7, Hazards and Hazardous Materials). Impacts would be less than significant.

Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?

During construction of the Proposed Project, some of the modifications to the 115 kV subtransmission lines would occur within a 100-year floodplain (see Figure 4.8, Hydrology and Floodplain Boundaries). However, the poles and foundations would not alter drainage patterns and do not have a large cross-section that would significantly impede flood flows. Impacts would be less than significant.

Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

Construction of the Proposed Project would occur within the 100 year floodplain, which also generally coincides with the flooding potential associated with a potential rupture of Railroad Canyon Dam, approximately 2 miles from the Proposed Project at its closest point (the 115 kV subtransmission line modifications that would occur along Auto Center Drive in the City of Lake Elsinore). Due to the temporary nature of the construction period and the low potential for dam failure, impacts due to flooding as a result of the failure of a levee or dam would be less than significant.

Would the project expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?

Lake Elsinore could be a seismically-induced seiche concern, but construction of the Proposed Project would occur approximately 2 miles from the lake at the closest and most exposed point (the 115 kV modifications that would occur on Mission Trail in the City of Lake Elsinore). Other areas of the lake shore have been developed and existing structures would diminish much of the energy of the flood water prior to it reaching the subtransmission line. Due to the temporary nature of the construction period and the low potential for seiche to occur, impacts due to inundation by seiche would be less than significant.

Construction of the Proposed Project would occur on the other side of a topographical divide from the Pacific Ocean, and would not be affected by tsunami. Effects from mudflow are discussed in Section 4.6, Geology and Soils.

4.8.4.3 Operation Impacts

Would the project violate any water quality standards or waste discharge requirements?

The grading plan for the Alberhill Substation site would be designed in consultation with the RCFCD, and the ground surface improvements installed at the site would be designed to minimize discharge of materials that would contribute to a violation of water quality standards or waste discharge requirements. The Alberhill Substation site is not presently served by a public sewer system, so a new septic system would be installed for the restroom facility and permitted by Riverside County. Any sanitary waste produced during operation (e.g., from the restroom facility) would be treated and disposed of according to all applicable laws, rules, and regulations. The operation of the 500 kV transmission line segments, access roads, and the new and modified 115 kV subtransmission lines would not discharge effluent.

As a result, operation of the Proposed Project would not violate any water quality standards or waste discharge requirements. Impacts would be less than significant.

Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local ground water table level?

Operation of the Alberhill Substation may indirectly use groundwater (through a water agency) to maintain landscaping and a restroom facility, but this usage is not expected to deplete groundwater supplies. The impermeable surfaces associated with the substation would not substantially interfere with groundwater recharge. As a result, operation of Alberhill Substation 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 ground water table. Impacts would be less than significant.

The 500 kV transmission line segments and the new and modified 115 kV subtransmission lines would not require the use of substantial amounts of groundwater during operation, and would not include the installation of impermeable surfaces that would interfere with the existing groundwater recharge in the area. Impacts would be less than significant.

Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or a substantial increase in the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

As discussed above in the Construction Impacts section, engineered ground surface improvements would be installed during construction of the Proposed Project designed to minimize the effects of uncontrolled water flow. These ground surface improvements would be maintained during operation of the Proposed Project, and would minimize the change in the rate or amount of surface water runoff in the area. As a result, operation of the Proposed Project would not alter the existing drainage pattern of the area in a manner that would result in flooding on- or off-site. Impacts would be less than significant.

Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

As discussed above in the Construction Impacts section, engineered ground surface improvements would be installed during construction of the Proposed Project designed to minimize the effects of uncontrolled water flow. These ground surface improvements would be maintained during operation of the Proposed Project, and would minimize the change in the rate or amount of surface water runoff in the area. As a result, operation of the Proposed Project would not alter the existing drainage pattern of the area in a manner that would result in substantial erosion or siltation on- or off-site. Impacts would be less than significant.

Would the project create or contribute to runoff water, which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

As discussed above in the Construction Impacts section, the grading plan for the Proposed Project substation site would be prepared in consultation with the RCFCD, and would be designed to closely preserve the existing storm water discharge presently occurring at the site. These measures would minimize any adverse effects to any existing or planned storm water drainage systems.

Because the operation of Alberhill Substation would include the use of transformer oil and store fuel for the emergency generator on site, SCE would be required to prepare and implement a Spill Prevention Control and Countermeasure (SPCC) plan for the site in compliance with 40 CFR Part 112.1 through Part 112.7. SPCC measures include the installation of secondary containment, curbs, berms, and basins designed to contain spills, should they occur. These features would be part of SCE's final engineering design for the Proposed Project, and would minimize the potential for hazardous materials to migrate off-site.

As discussed above in the Construction Impacts section, the small footprints of the 500 kV transmission line segments, access roads, and new and modified 115 kV subtransmission lines would not substantially contribute to runoff water or provide substantial additional sources of polluted runoff.

Because operation of the Proposed Project would not substantially increase the rate or amount of surface water runoff in a manner that would result in exceeding the capacity of existing or planned storm water drainage systems or provide a substantial additional source of polluted runoff, impacts would be less than significant.

Would the project otherwise substantially degrade water quality?

As discussed above regarding the operation of the components of the Proposed Project relating to flooding, erosion, siltation, and discharge of pollutants, there are no other activities associated with the construction of the Proposed Project that have the potential to substantially degrade water quality. Impacts would be less than significant.

Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?

As discussed above in the Construction Impacts section, some of the modifications to the 115 kV subtransmission lines would occur within a 100-year floodplain (see Figure 4.8, Hydrology and Floodplain Boundaries). However, the poles and foundations would not alter drainage patterns and do not have a large cross-section that would significantly impede flood flows. Impacts would be less than significant.

Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

As discussed above in the Construction Impacts section, some of the modifications to the 115 kV subtransmission lines would occur within a 100-year floodplain, which also generally coincides with the flooding potential associated with a potential rupture of Railroad Canyon Dam, approximately 2 miles from the Proposed Project at its closest point (the 115 kV subtransmission line modifications that would occur along Auto Center Drive in the City of Lake Elsinore). Due to the low potential for dam failure, impacts due to flooding as a result of the failure of a levee or dam would be less than significant.

Would the project expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?

Lake Elsinore could be a seismically-induced seiche concern, but the Proposed Project would be located approximately 2 miles from the lake at the closest and most exposed point (the 115 kV modifications that would occur on Mission Trail in the City of Lake Elsinore). Other areas of the lake shore have been developed and existing structures would diminish much of the energy of the flood water prior to it reaching the base of the subtransmission line structures. Due to the low potential for seiche to occur, impacts due to inundation by seiche would be less than significant.

The Proposed Project would be located on the other side of a topographical divide from the Pacific Ocean, and would not be affected by tsunami. Effects from mudflow are discussed in Section 4.6, Geology and Soils.

4.8.5 Alternative 115 kV Segment

The Alternative 115 kV Segment would be similar in nature to the Proposed Project new 115 kV subtransmission line, but would be located in an area that has more topographic variation than the Proposed Project. As a result, the construction of the Alternative 115 kV Segment has a higher potential to affect water quality in the area due to greater ground disturbance on slopes. However, because the Alternative 115 kV Segment would also be subject to the NPDES construction site discharge requirements as part of the project, any adverse effects would be minimized. The impacts to hydrology and water quality for the Alternative 115 kV Segment would be anticipated to be less than significant.

4.8.6 References

California Department of Water Resources (DWR). 2003. California's Groundwater Bulletin 118 Update.

California Department of Water Resources (DWR). 2009. California Water Plan Update.

City of Lake Elsinore. 2007. Draft General Plan. [online] http://www.lake-elsinore.org/index.aspx?page=232 [cited August 2009].

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State Water Resources Control Board (SWRCB). 2009. Total Maximum Daily Load Program. [online] http://www.waterboards.ca.gov/water_issues/programs/tmdl/303d_lists2006_approved.shtml [cited August 2009].

Santa Ana Regional Water Quality Control Board (SARWQCB). 2009. Santa Ana Region - TMDL - Lake Elsinore and Canyon Lake. http://www.swrcb.ca.gov/rwqcb8/water_issues/programs/tmdl/elsinore_tmdl.shtml

4.9 Land Use and Planning

This section describes the land use and planning in the area of the Proposed Project. The potential impacts of the Proposed Project and the Alternative 115 kV Segment are also discussed.

4.9.1 Environmental Setting

The Proposed Project would be located in predominantly rural unincorporated areas of Riverside County and in the cities of Lake Elsinore, Wildomar, and Menifee. The I-15 freeway traverses through the region in a generally north-south direction along the east side of Lake Elsinore.

The Riverside County General Plan splits the county into eastern and western sections based on the geographical division formed by the San Jacinto and Santa Rosa Mountains. The Proposed Project falls within the western section of Riverside County, where approximately 82 percent of the area is designated for Agricultural, Rural, Rural Community, or Open Space uses, as listed in Table 4.9, Unincorporated Riverside County General Plan Land Use.

Table 4.9 Unincorporated Riverside County General Plan Land Use

General Plan Foundation Component	Western Riverside County Acreage	Percent of Western Riverside County	Total Riverside County Acreage	Percent of Total Riverside County
Agriculture	22,603	2 percent	180,178	4 percent
Rural	278,913	22 percent	326,294	8 percent
Rural Community	73,147	6 percent	77,167	2 percent
Open Space	657,979	52 percent	3,297,992	78 percent
Community Development	137,807	11 percent	200,304	5 percent
Other	87,253	7 percent	119,387	3 percent
Total	1,257,702	100 percent	4,201,322	100 percent

NOTES:
The General Plan Foundation Components describe the overall nature and intent of each of the five General Plan land uses: Agriculture, Rural, Rural Community, Open Space, and Community Development. It includes the March Inland Port, Indian Lands, and Major Roadways, but does not include cities within Riverside County.
Source: Riverside County, 2008a (Table LU-1)

Riverside County and the City of Lake Elsinore have outlined their long-term development strategy through their General Plans. These documents provide broad policies and objectives to be used to guide development. Riverside County and the City of Lake Elsinore have designated areas to be used in the future for specific uses, such as Residential, Urban Reserve, Agricultural, Industrial, and Commercial. The designated land uses are shown on Figure 4.9, Designated Land Use.

Due to their recent incorporation in 2008, both the City of Wildomar and the City of Menifee have adopted the Riverside County General Plan and zoning code until they develop their own planning documents (Brewington, 2009). The Riverside County General Plan was adopted in 2003 as part of the Riverside County Integrated Project. The revised General Plan covers the entire unincorporated portion of the County and is augmented by 19 detailed Area Plans covering Riverside County's territory. The Area Plans crossed by the new and modified 115 kV subtransmission line routes include the Elsinore Area Plan and the SunCity/Menifee Valley Area Plan. The City of Lake Elsinore is currently updating their General Plan.

Policy LU 13.5 in the Land Use Element of the Riverside County General Plan requires new or relocated electric or communication distribution lines, which would be visible from Designated and Eligible State and County Scenic Highways, to be placed underground. Although some of the 500 kV transmission line segments as well as some of the modified 115 kV subtransmission lines would be visible from I-15, which is an eligible State Scenic Highway, these facilities are high-voltage transmission lines, and not distribution lines. Therefore, they are not subject to Policy LU 13.5.

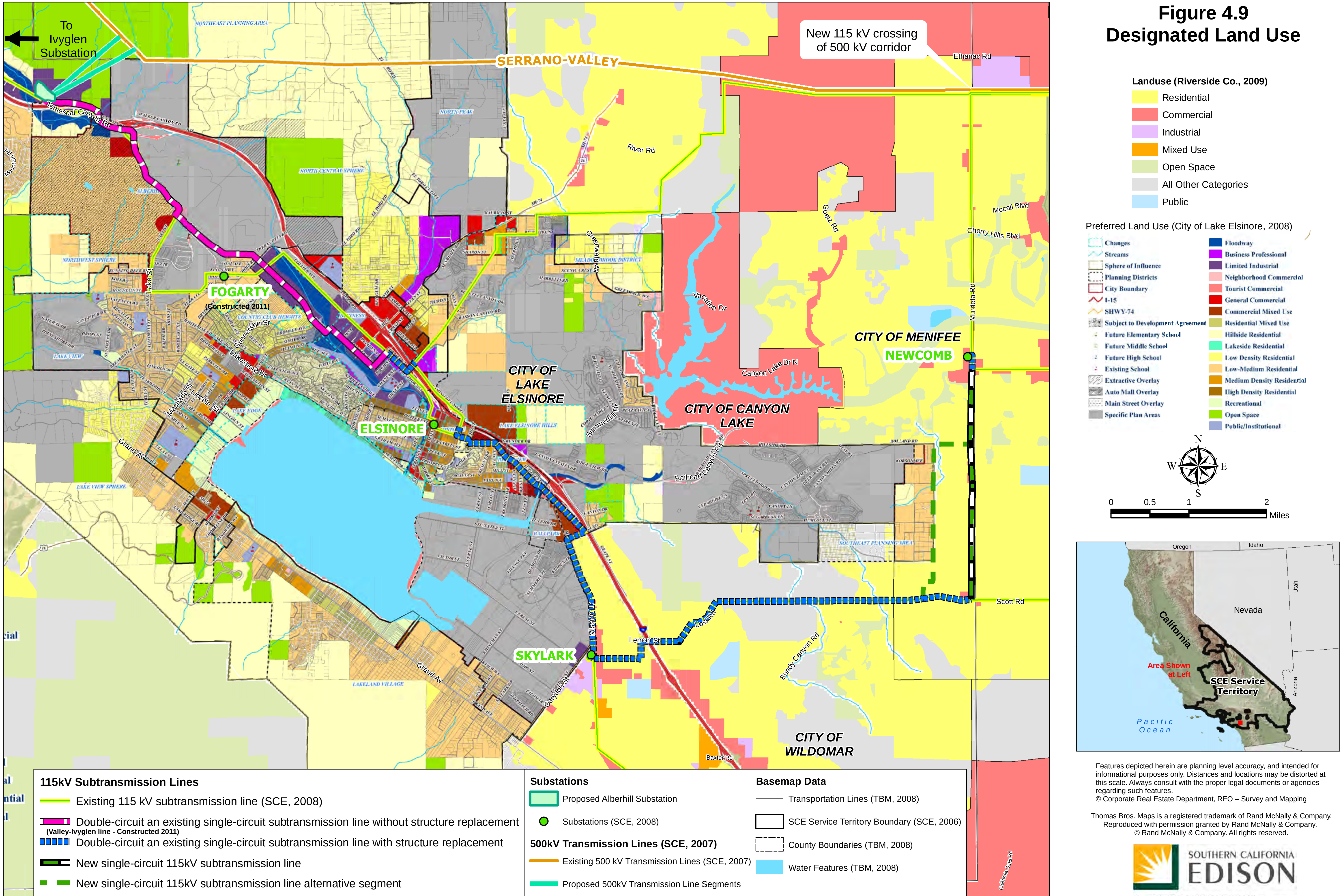
The nearest Airport Land Use Compatibility Plan area is approximately 6 miles from the Proposed Project for the French Valley Airport in the City of Temecula.

Riverside County has developed the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). The MSHCP covers an area of approximately 1.2 million acres, with the intent of conserving habitat in an approximately 500,000 acre reserve therein. The Western Riverside County Regional Conservation Authority acquires land for and manages the reserve. The MSHCP is intended to guide development and conserve habitat in an otherwise rapidly urbanizing region. The overall goal of the MSHCP is to conserve what it refers to as Covered Species and their habitats. More information on the MSHCP can be found in Section 4.4, Biological Resources.

4.9.2 Regulatory Setting

California Public Utilities Commission G.O. 131-D, Section XIV.B. CPUC G.O. 131-D, Section XIV.B 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 Commission's jurisdiction. However in locating such projects, the public utilities shall consult with local agencies regarding land use matters." Consequently, public utilities are directed to consider local regulations and consult with local agencies, but the county and city regulations are not applicable as the county and cities do not have jurisdiction over the Proposed Project.

Figure 4.9
Designated Land Use



General Plans. The cities and counties in California have adopted general plans as required by the State (Government Code Section 65300 et seq.) to guide local decision-making regarding future land uses, growth, and other local decisions relating to circulation systems, public open space, public facilities (including schools and libraries). In addition to general plans, the State requires cities and counties to adopt a local zoning ordinance (Government Code Section 65800 et seq.) to implement their general plan through development standards and regulations.

Specific Plans. As permitted by State planning law and guidelines (Government Code 65450 et seq.), cities and counties are permitted to prepare and adopt specific plans to address both large-scale development proposals and the unique characteristics of sites. Specific plans must be consistent with local general plans but may augment or supplement development standards found in the local zoning ordinance.

Habitat Conservation Plans. In 1983, the United States Congress adopted Section 10 of the federal Endangered Species Act as a way to promote “creative partnerships between the public and private sectors and among governmental agencies in the interest of species and habitat conservation.” Section 10 authorizes states, local governments, and private landowners to apply for an Incidental Take Permit for otherwise lawful activities that may harm listed species or their habitats. To obtain a permit, an applicant must submit an HCP outlining what he or she will do to “minimize and mitigate” the impact of the permitted take on the listed species. The principle underlying the Section 10 exemption from the ESA is that some individuals of a species or portions of their habitat may be expendable over the short term, as long as enough protection is provided to ensure the long term recovery of the species. Approved HCPs vary greatly in size, duration, and species covered.

Natural Community Conservation Plans. An NCCP is part of a program administered by California Department of Fish and Game that takes a broad-based ecosystem approach to planning for the protection and perpetuation of biological diversity. The primary objective of the NCCP program is to conserve natural communities at the ecosystem scale while accommodating compatible land use.

4.9.3 Significance Criteria

The significance criteria for assessing the impacts to land use and planning come from the CEQA Environmental Checklist. According to the CEQA Checklist, a project causes a potentially significant impact if it would:

- Physically divide an established community
- Conflict with an applicable environmental plan, policy, or regulation of an agency with jurisdiction over the project (including, not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect

- Conflict with any applicable habitat conservation plan or natural community conservation plan

4.9.4 Impact Analysis

The Riverside County General Plan land use designations for the Alberhill Substation site and the 500 kV transmission line segments are Heavy Industrial and Open Space (see Figure 4.9, Designated Land Use). These facilities would be located within the City of Lake Elsinore's Sphere of Influence. The substation site is currently occupied by a horse ranch facility and a single-family residence. Miscellaneous auxiliary structures, a horse track, and a few small cultivated areas are present on the site. The majority of the area surrounding the substation site is vacant with the exception of a few residences and a storage yard. Steep hillsides and open space characterize the overall area with flatter terrain occurring close to the I-15 freeway.

A transitional phase is anticipated for the Temescal Canyon area as it moves from an area with scattered agriculture and industrial uses without much connection to the land uses around it, into a district with organized land uses. Planned land uses include expanding residential areas to connect with those in the Alberhill District, which is located on the opposite side of the I-15 freeway from Alberhill Substation, which focuses on commercial and industrial uses around the I-15 freeway, and keeping vacant lands designated as open space and MSHCP conservation areas.

The new and modified 115 kV subtransmission line routes are entirely within existing public road and SCE ROW. The new 3-mile 115 kV subtransmission segment in the City of Menifee would take the place of an existing distribution circuit in areas designated rural community, commercial and low to medium-density residential, and would border a residential development known as the Calder Ranch subdivision (Riverside County, 2003). Existing land uses along the 115 kV subtransmission line within the cities of Wildomar and Menifee consist primarily of residential, industrial, commercial, and rural land. In the City of Menifee, the most recent development has occurred along Newport Road based on approved Specific Plans. Recently established commercial centers along Newport Road are located at intersections with Antelope, Bradley, and Murrieta Roads (Riverside County, 2008b). The new 115 kV subtransmission line would be adjacent to these areas of increased development.

4.9.4.1 No Impact

Construction and operation of the Proposed Project would not produce significant impacts for the following CEQA criteria:

Would the project physically divide an established community?

Because the Alberhill Substation site and the 500 kV transmission line segments are not located in a community, these components would not physically divide an established community. Construction and operation of the new and modified 115 kV subtransmission lines would occur within existing roadway ROW and SCE ROW, and would not divide or affect the unity of an established community. As a result, the Proposed Project would not physically divide a community, and there would be no impact.

Would the project conflict with an applicable environmental plan, policy, or regulation of an agency with jurisdiction over the project (including, not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

The Alberhill Substation and a portion of the 500 kV transmission line segments would be constructed on a developed parcel of private property currently used as a horse ranch. Although the current use would change, the new use is compatible with the City of Lake Elsinore's plans for the area, which includes plans to expand light industrial and commercial areas along the I-15 freeway.

The new and modified 115 kV subtransmission line routes are entirely within existing roadway ROW and SCE ROW. Since the Proposed Project would utilize existing ROW in areas designated industrial, commercial, and low density residential, it would continue to be compatible with existing uses. There would be no impact.

Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

The Proposed Project would be located within the established Western Riverside County MSHCP boundary. SCE is a participating entity in the Western Riverside County MSHCP and the conditions of placing facilities within the plan boundaries are discussed in Section 4.4, Biological Resources. From a land use and planning perspective, construction and operation of the Proposed Project would not conflict with or impact a habitat conservation plan or natural community conservation plan.

4.9.4.2 Construction Impacts

There are no impacts to land use and planning resulting from construction of the Proposed Project.

4.9.4.3 Operation Impacts

There are no impacts to land use and planning resulting from operation of the Proposed Project.

4.9.5 Alternative 115 kV Segment

The 115 kV subtransmission line Alternative in the City of Menifee would be located along Byers and Waldon Roads, approximately 0.5 mile west of the Proposed Project new 115 kV subtransmission line route. Both the Proposed Project and the Alternative 115 kV Segment are in close proximity to one another and would be located within rural residential areas with existing distribution lines. Therefore, The Alternative 115 kV Segment would have the same impacts to land use and planning as the Proposed Project 115 kV subtransmission line. There would be no impact.

4.9.6 References

Brewington, B. 2009. Personal communication with Becky Brewington, City of Menifee City Planner, regarding land use plan. August 2009.

City of Lake Elsinore. 1987. City of Lake Elsinore Municipal Code, Section 17.02.

City of Lake Elsinore. 2008a. Draft General Plan Update. [online] http://www.lake-elsinore.org/index.aspx?page=232 [cited August 2009].

City of Lake Elsinore. 2008b. Draft General Plan Update, Northwest Sphere District Plan. [online] http://www.rctlma.org/genplan/default.aspx [cited August 2009].

Riverside County. 2003. Figure 3: Sun City/Menifee Area Plan Land Use Plan. [online] http://www.rctlma.org/genplan/content/ap1/suncity.html#List_1_3 [cited August 2009].

Riverside County. 2008a. Land Use Element, including Table LU-1 [online] http://www.rctlma.org/genplan/general_plan_2008/general_plan_2008.aspx [cited August 2009].

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Riverside County. 2009. Riverside County Zoning Ordinance [online] http://www.rctlma.org/planning/content/zoning/ordnance/ord348_zones.html [cited August 2009].

Valley News 2009. Wildomar: A City of Many Firsts. [online] http://www.myvalleynews.com/story/39178/ [cited August 2009].

4.10 Mineral Resources

This section describes the mineral resources in the area of the Proposed Project. The potential impacts of the Proposed Project and the Alternative 115 kV Segment are also discussed.

4.10.1 Environmental Setting

Riverside County has extensive deposits of clay, limestone, iron, sand, and aggregates, and mineral extraction is important to Riverside County's economy (Riverside County, 2003). In the western part of the county, the majority of mineral resource extraction takes place in unincorporated areas (3,100 acres), while extraction in incorporated cities ranges from 2 to approximately 500 acres, with the majority in the cities of Corona and Lake Elsinore (Riverside County, 2003a).

The State Mining and Geology Board has established Mineral Resources Zones (MRZs) to designate and manage lands that contain mineral deposits. The areas are identified on the basis of geological factors without regard to existing land use or land ownership. There are four MRZs. The area surrounding the Proposed Project is predominantly mapped as MRZ-3, meaning an area where the available geologic information indicates that mineral deposits are likely to exist, but the significance of the deposits is undetermined. However, the map also shows small areas designated MRZ-2 to the northwest of Lake Elsinore. The MRZ-2 designation is for areas where available information indicates that there are significant mineral deposits (Riverside County, 2003). This designation likely reflects the presence of significant extractive activities in the Alberhill District of the City of Lake Elsinore, located south of the I-15 freeway near the Lake Street exit.

The Alberhill District is located in the northwestern part of the City of Lake Elsinore and extends into its sphere of influence. Though extractive activities are also found in the Business District (to the southeast of the Alberhill District) and the North Central Sphere District (to the east), the Alberhill District has the largest share of such activities in the city.

The Alberhill District covers approximately 4,900 acres. Much of the topography in the central area, east and west of Lake Street, has been severely altered as a result of the district's long history of extractive and mining activities, which began in the 1880s. Most of the current extractive activities consist of coal and clay mining (City of Lake Elsinore, 2007).

Riverside County restricts development within its jurisdiction on land designated as MRZ-2 by the State by reviewing all development proposals adjacent to MRZs or mining activity to safeguard against incompatible land uses, providing buffer zones between urban development and mining activity, and requiring that mining development adhere to State mining policies and regulations (Riverside County, 2008).

Riverside County's petroleum resources are deposited in the form of oil and gas seeps. The State Division of Oil and Gas does not report significant or active petroleum extraction in the county (Riverside County, 2003).

4.10.2 Regulatory Setting

There are no mineral resource laws, rules, or regulations that apply to the Proposed Project or its alternatives.

4.10.3 Significance Criteria

The significance criteria for assessing the impacts to mineral resources come from the CEQA Environmental Checklist. According to the CEQA Checklist, a project causes a potentially significant impact if it would:

- 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

- 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

4.10.4 Impact Analysis

4.10.4.1 No Impact

Construction and operation of the Proposed Project does not have the potential to result in impacts for the following CEQA criterion:

Would the project 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?

The Riverside County General Plan and the City of Lake Elsinore General Plan do not designate areas outside those already designated by the State of California as having important mineral resources. As a result, there would be no impact to a locally important mineral resource due to construction and operation of the Proposed Project.

4.10.4.2 Construction Impacts

Construction of the Proposed Project has the potential to result in impacts for the following CEQA criteria:

Would the project 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?

Approximately 2 miles of the 115 kV subtransmission line modifications that do not require structure replacement would pass through an area between the I-15 freeway and the City of Lake Elsinore that is classified MRZ-2. Because this section would utilize existing structures, construction of this segment would not result in the loss of availability of a known mineral resource that would be of value to the region and residents of the State.

The Alberhill Substation site, the 500 kV transmission line segments, and approximately 1.5 miles of the 115 kV subtransmission line modifications that would require structure replacement (approximately 0.5 miles located north of Auto Center Drive and approximately 1 mile along Crab Hollow Drive) are located in areas designated by the State of California as MRZ-3 (an area where the available geologic information indicates that mineral deposits are likely to exist, but the significance of the deposits is undetermined) that are relatively undeveloped, and could be considered available for mineral resource exploration and extraction. However, because the MRZ-3 zone in Riverside County has been mapped over most of western Riverside County, encompassing both developed and undeveloped areas, the land required for construction of the Proposed Project would not represent a significant area that would be unavailable for exploration and extraction of mineral resources.

Because the remainder of the new and modified 115 kV subtransmission lines would be located within existing roadway rights-of-way, the exploration and extraction of mineral resources in these areas have been previously been made unavailable by the local jurisdictions.

As a result, construction of the Proposed Project would not result in the loss of availability of a known mineral resource that would be of value to the region and the State. Impacts would be less than significant.

4.10.4.3 Operation Impacts

Operation of the Proposed Project has the potential to result in impacts for the following CEQA criteria:

Would the project 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?

Similar to the potential effects to mineral resources during construction, the land that would be made unavailable for mineral exploration and extraction by the Proposed Project would represent a very small fraction of the developed and undeveloped land in Riverside County that has been classified as MRZ-3 by the State of California. Any impacts would be less than significant.

4.10.5 Alternative 115 kV Segment

The Alternative 115 kV Segment is also located in an area mapped by the State of California as MRZ-3, and there are no active mining operations along the route. As a result, the construction and operation of the Alternative 115 kV Segment would have similar effects to mineral resources as that for the Proposed Project. Any impacts would be less than significant.

4.10.6 References

City of Lake Elsinore. 2007. Draft General Plan. [online] http://www.lake-elsinore.org/index.aspx?page=232 [cited August 2009].

Riverside County. 2008. Riverside County General Plan. [online] http://www.rctlma.org/genplan/default.aspx [cited August 2009].

California Geological Survey (CGS). 2000. Map of California Principal Mineral Producing Localities 1990 - 2000. [online] http://www.conservation.ca.gov/cgs/geologic_resources/mineral_production/Documents/YellowMap.pdf. [cited August 2009].

CGS. 2006. California Non-Fuel Mineral Production 2006. [online] http://www.conservation.ca.gov/cgs/geologic_resources/mineral_production/Pages/Index.aspx. [cited August 2009].

US Geological Survey. 2006. Minerals Yearbook Minerals Industry in California. [online] http://minerals.usgs.gov/minerals/pubs/state/ca.html. [cited August 2009].

4.11 Noise

This section describes the noise environment in the area of the Proposed Project. The potential impacts of the Proposed Project and the Alternative 115 kV Segment are also discussed.

4.11.1 Environmental Setting

Noise is defined as unwanted or objectionable sound. Sound is usually considered unwanted when it interferes with normal activities, when it causes physical harm, and when it has adverse effects on health. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance and, in the extreme, hearing impairment.

Decibel (dB) is the unit of measure used to describe the loudness of sound. Because the range of sound that humans can gear is quite large, the dB scale is logarithmic, making calculations more manageable. A number of factors affect people’s perception of sound. These factors include the actual level of noise, the frequencies involved, the period of exposure to the sound, and changes or fluctuations in the sound level during exposure. In order to measure sound in a manner that accurately reflects human perception, several measuring systems or scales have been developed. The A-weighted scale reflects the fact that the human ear does not perceive all pitches or frequencies equally; therefore, decibel measurements are adjusted (or weighted) to compensate for the human lack of sensitivity to low-pitched and high-pitched sounds. The adjusted unit is known as the A-weighted decibel (dBA).

To reflect the fact that ambient noise levels from various sources vary over time, they are generally expressed as an equivalent noise level (Leq), which is a computed steady noise level over a specified time as the varying sound. Leq values are commonly expressed for one-hour periods, but different averaging times may be specified.

For the evaluation of community noise effects, Community Noise Equivalent Level (CNEL) is often used. It represents the average A-weighted noise level during a 24-hour day with a 5-decibel addition for the period from 7:00 pm to 10:00 pm and a 10-decibel addition for the period from 10:00 pm to 7:00 pm.

The Proposed Project would be located in the cities of Lake Elsinore, Menifee, and Wildomar and surrounding unincorporated areas of Riverside County. Noise levels in these areas are those typical of low-density, partially rural communities. The primary source of noise is vehicular traffic on the major roads and streets of the area, particularly the roadways for which Lake Elsinore’s General Plan shows noise contouring, which includes the I-15 freeway, State Route 74, Lake Street, Riverside Drive, Grand Avenue, and Railroad Canyon Road.

Other sources of noise include industrial activities and certain special use sites such as Motocross Park and Skylark Field, near the intersection of Corydon Street and Mission Trail, in the southeast corner of the city. Measurements of noise levels at various locations in the general vicinity of the Proposed Project are available in the General Plan for Riverside County. The most relevant data are shown in Table 4.11-1, Noise Measurements Riverside County.

Table 4.11-1 Noise Measurements Riverside County

Noise Measurement Location	Leq (dBA)	Noise Sources
15’ north of Temescal Canyon Road, near Lake Street	65.8	Traffic on Temescal Canyon Road
20’ southwest of Collier Road at intersection of Central Avenue and Collier Road	64.9	Busy traffic on Collier Road; moderate traffic on Central Avenue.
15’ south of Bundy Canyon Road at intersection of Bundy Canyon Road and Mission Trail	61.8	Traffic on Bundy Canyon Road
15’ east of Murrieta Road, near intersection of Murrieta Road and Bundy Canyon/Scott Road	65.3	Traffic on Murrieta Road
15’ south of McCall Boulevard near intersection of McCall and Murrieta Road	65.1	Traffic on McCall and Murrieta; plane flying overhead.

Source Riverside CountyGeneral Plan, Technical Appendix I, Table 1

The City of Lake Elsinore’s General Plan identifies the following uses as sensitive receptors: schools, hospitals, residences, libraries, and recreation areas. The General Plan for Riverside County lists the following sensitive receptors: schools, hospitals, rest homes, long term care facilities, mental care facilities, residential uses, libraries, passive recreation uses, and places of worship.

There is one private airport within 2 miles of the Proposed Project. Skylark Field (privately owned) is located approximately 0.2 mile southeast of the 115 kV subtransmission line route along Mission Trail. The nearest Airport Land Use Compatibility Plan area is approximately 6 miles from the Proposed Project for the French Valley Airport in the City of Temecula.

4.11.2 Regulatory Setting

There are no applicable State or federal laws or regulations concerning noise for the Proposed Project.

Riverside County. The County regulates noise through the County Ordinance 847. The code does not set construction noise limits but does restrict construction activities within 0.25 miles of an occupied residence (property line) to the hours of 6:00 am to 6:00 pm during the months of June through September, and from 7:00 am to 6:00 pm during the months of October through May.

The Riverside County Department of Industrial Hygiene regulates operational noise levels, limiting the level of noise from industrial and other stationary source operations. Worst-case scenario levels for stationary noise sources projected to the property line of a "habitable dwelling, hospital, school, library or nursing home" are to remain below 45 dBA during nighttime hours (10:00 pm to 7:00 am) and are not to exceed 65 dBA during daytime hours (7:00 am to 10:00 pm).

Sensitive receptors are defined in the Riverside County General Plan as rest homes, schools, hospitals, long-term care facilities, mental care facilities, places of worship, passive recreation uses, and libraries. Noise levels greater than 65 CNEL are discouraged near these areas of increased sensitivity.

City of Lake Elsinore. Noise ordinances from the City of Lake Elsinore limits construction work to occur between non-holiday weekday hours of 7:00 am and 7:00 pm.

4.11.3 Significance Criteria

The significance criteria for assessing the impacts to noise levels come from the CEQA Environmental Checklist. According to the CEQA Checklist, a project causes a potentially significant impact if it would cause:

- 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

- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels

- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project

- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project

- 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, would the project expose people residing or working in the project area to excessive noise levels

- For a project within the vicinity of a private airstrip, where the project would expose people residing or working in the project area to excessive noise levels

4.11.4 Impact Analysis

4.11.4.1 No Impact

Construction and operation of the Proposed Project would not result in impacts for the following CEQA criterion:

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, would the project expose people residing or working in the project area to excessive noise levels?

The nearest Airport Land Use Compatibility Plan area is approximately 6 miles from the Proposed Project for the French Valley Airport in the City of Temecula. Due to the distance from the airport to the Proposed Project, there would be no impact to personnel at the Proposed Project sites during construction or operation from being exposed to excessive noise levels from a public airport.

4.11.4.2 Construction Impacts

Would the project cause 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?

Riverside County limits construction to occur between the hours of 6:00 am to 6:00 pm during the months of June through September, and from 7:00 am to 6:00 pm during the months of October through May. The City of Lake Elsinore allows for construction noise during the non-holiday weekday hours of 7:00 am and 7:00 pm. Construction activities for the Proposed Project are expected to occur during the day, and nighttime work is not anticipated. If construction of the Proposed Project must occur outside the hours in the vicinity of a residence or a sensitive receptor, SCE would request a variance from the relevant jurisdiction. As a result, the generation of construction noise levels in excess of standards would be less than significant.

Would the project cause exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Construction activities, such as the tamping of ground surfaces and the passing of heavy trucks on uneven surfaces may produce minor groundborne vibration in the immediate vicinity of the activity. Impacts from construction-related groundborne vibration, should they occur, would be intermittent and confined to only the immediate area around the activity. As a result, the impact would be less than significant.

Would the project cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Construction of the Proposed Project would take approximately 23 months. There would be no permanent increases in noise levels during construction of the Proposed Project. As a result there would be no impact.

Would the project cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Construction of the Proposed Project would require a variety of equipment. Typical noise levels for construction equipment at 50 feet from the source are listed in Table 4.11-2, Typical Noise Levels Generated by Construction Equipment.

Table 4.11-2 Typical Noise Levels Generated by Construction Equipment

Equipment	Noise Level (dBA) at 50 feet
Air Compressor	81
Backhoe	80
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	81
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	85
Paver	89
Pneumatic Tool	85
Pump	76
Rock Drill	98
Roller	74
Saw	76
Scraper	89
Truck	88

Source: FTA, 2006

The maximum intermittent noise levels are expected to range from 74 to 98 dBA at approximately 50 feet, and noise levels would be further attenuated by distance to the receptor, and the presence of structures and vegetation.

Noise impacts associated with construction would mainly affect those persons closest to the new and modified 115 kV subtransmission lines. Existing homes along the routes would experience a temporary increase in noise levels above those existing without the project. The increase would not be substantial because of the distance from those persons to the construction area, and the intermittent nature of construction noise would further limit any impacts. Impacts would be less than significant.

For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

Skylark Field is approximately 0.2 miles from the modified 115 kV subtransmission line on Mission Trail. The airstrip is not large enough to accommodate large volumes of air traffic, and the noise produced from the use of this airstrip would be intermittent. As a result, the impacts to personnel at the Proposed Project construction sites from being exposed to excessive noise levels from airstrips would be less than significant.

4.11.4.3 Operation Impacts

Would the project cause 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?

Due to its location adjacent to the I-15 freeway, the perception of operational noise from Alberhill Substation would be negligible. Operation of the Proposed Project would include routine maintenance and emergency repair, and would be unlikely to result in exposure of persons to or generation of excessive noise levels. Impacts would be less than significant.

Would the project cause exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Operation of the Proposed Project would consist of routine maintenance and emergency repair, which is unlikely to produce groundborne vibration. In addition, operation of the transformers at Alberhill Substation could produce groundborne vibration, but it would be perceptible only in the immediate vicinity of the transformer pad, if at all. Impacts due to the generation of excessive groundborne vibration during operation of the Proposed Project would be less than significant.

Would the project cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

The permanent noise sources that would occur with the Proposed Project are limited to the 500 kV transmission line segments, the new and modified 115 kV subtransmission lines, and transformer operation at the Alberhill Substation.

When a transmission line or subtransmission line is in operation, an electric field is generated in the air surrounding the conductors forming a “corona”. Corona results from the partial breakdown of the electrical insulating properties of the air surrounding the conductors. When the intensity of the electric field at the surface of the conductor exceeds the insulating strength of the surrounding air, a corona discharge occurs at the conductor surface, representing a small dissipation of heat and energy. Some of the energy may dissipate in the form of small local pressure changes that result in audible noise, or in radio or television interference. Audible noise generated by corona discharge is characterized as a hissing or crackling sound that may be accompanied by a 120 hertz hum.

Slight irregularities or water droplets on the conductor and/or insulator surface accentuate the electric field strength near the conductor surface, making corona discharge and the associated audible noise more likely. Therefore, audible noise from transmission lines is generally a foul weather (wet conductor) phenomenon. However, during fair weather, insects and dust on the conductors can also serve as sources of corona.

The Electric Power Research Institute (EPRI) conducted several studies of corona effects (EPRI, 1978; 1987). These typical noise levels for transmission lines with wet conductors are presented in Table 4.11-3, Transmission Line Voltage and Audible Noise Level.

Table 4.11-3 Transmission Line Voltage and Audible Noise Level

Line Voltage	Audible Noise Level Directly Below the Conductor
138 kV	33.5 dbA
240 kV	40.4 dbA
356 kV	51.0 dbA

SCE has modeled audible noise for 500 kV transmission line segments[3]. The audible noise produced from the 500 kV transmission lines were modeled to be in the range of 54 to 61 dBA at the edge of ROW during wet weather, and between 48 to 49 dBA during fair weather conditions. Because the 500 kV transmission line segments for the Alberhill System Project would be built within line of sight and sound of the I-15 freeway, operation of the transmission lines would have a negligible effect to existing noise in the area.

As part of the project, SCE would install polymer (silicon rubber) insulators on the 500 kV transmission line segments, and the new and modified 115 kV subtransmission lines. This material is hydrophobic (repels water) and minimizes the accumulation of surface contaminants such as soot and dirt, which in turn reduces the potential for corona noise to be generated at the insulators.

Substations typically generate steady noise from the operation of transformers, and the cooling fans and oil pumps needed to cool the transformer during periods of high electrical demand. Because the Alberhill Substation site is adjacent to the I-15 freeway, the operation of the transformers at Alberhill Substation would not be perceptible.

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[3] The EPRI EMF Workstation 2008 was used to model noise with the following assumptions:
1. The two single circuit 500 kV lines are 300 feet apart, center-to-center conductor at the point near the residential home.
2. Terrains are flat.
3. The effective conductor height of the northern segment is 60 feet.
4. The effective conductor height for the southern segment is 58 feet.
5. Voltage level is at 535 kV

As a result, the Proposed Project would not cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. Impacts would be less than significant.

Would the project cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Operation of the Proposed Project would consist of routine inspection and maintenance of the facilities, and would not contribute to a temporary increase in ambient noise in the area. Impacts would be less than significant.

For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

Skylark Field is approximately 0.2 miles from the modified 115 kV subtransmission line on Mission Trail. Operation of the Proposed Project would consist of routine maintenance and emergency repair. Because the airstrip is not large enough to accommodate large volumes of air traffic, and because personnel would only intermittently be present at the site, the impacts to personnel at the Proposed Project sites during operation from being exposed to excessive noise levels from airstrips would be less than significant.

4.11.5 Alternative 115 kV Segment

The Alternative 115 kV Subtransmission Segment would pass through a more densely populated area than the new 115 kV subtransmission line for the Proposed Project. Although impacts under this alternative would be less than significant, the closer proximity of the project to more densely populated areas would cause a greater impact to noise than the Proposed Project. However, impacts would be less than significant.

4.11.6 References

Electrical Power Research institute (EPRI). 1978. Transmission Line Reference Book, 115 - 138 kV.

EPRI. 1987. Transmission Line Reference Book, 345 kV.

City of Lake Elsinore. 2007. Draft General Plan. [online] http://www.lake-elsinore.org/index.aspx?page=232 [cited August 2009].

Riverside County. 2008. Riverside County General Plan Appendix I. [online] http://www.rctlma.org/genplan/default.aspx [cited August 2009].

US Department of Transportation Federal Transit Administration (FTA). 2006. Transit Noise and Vibration Impact Assessment, FTA-VA-90-1003-06.

4.12 Population and Housing

This section describes the population and housing in the area of the Proposed Project. The potential impacts of the Proposed Project and the Alternative 115 kV Segment are also discussed.

4.12.1 Environmental Setting

Riverside County and the City of Lake Elsinore have been growing substantially since the last census (2000) and are forecasted to grow over the foreseeable future. Historic and projected population estimates for the city and county are shown in Table 4.12, Historic and Estimated Population.

In 2000, Riverside County reported a population of 1,545,387, or a 32 percent increase from 1990. The Southern California Association of Governments' population estimate for the county for 2010 is 45 percent greater than the 2000 estimate, or 2,242,745.

The City of Lake Elsinore reported a population of 28,930 in 2000, a 58 percent increase from 1990. Due to its rapid growth, the city in 2008 was accounting for a greater proportion of the county's population than it did in 2000. In 2000, Lake Elsinore was home to 1.9 percent of the total population of Riverside County; in 2008, it had 2.3 percent of the county's population.

Table 4.12 Historic and Estimated Population

Year	Riverside County	Unincorporated Riverside County	City of Lake Elsinore
1990	1,170,413	385,384	18,316
2000	1,545,387	420,721	28,930
2005	1,931,332	75,335	39,856
2010	2,242,745	90,725	51,138
2015	2,509,330	117,734	61,045
2020	2,809,003	189,937	69,558
2025	3,089,999	259,768	78,044

Source: SCAG, 2009; CDOF, 2007

4.12.2 Regulatory Setting

There are no population or housing laws, rules, or regulations that apply to the Proposed Project.

4.12.3 Significance Criteria

The significance criteria for assessing the impacts to population and housing come from the CEQA Environmental Checklist. According to the CEQA Checklist, a project causes a potentially significant impact if it would:

- Induce substantial population growth in the area, either directly (by proposing new homes and businesses) or indirectly (through the extension of new roads or other infrastructure)
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere

4.12.4 Impact Analysis

4.12.4.1 No Impact

Construction and operation of the Proposed Project would not result in impacts for the following CEQA criteria:

Would the project induce substantial population growth in the area, either directly (by proposing new homes and businesses) or indirectly (through the extension of new roads or other infrastructure)?

Neither construction nor operation of the Proposed Project would induce substantial population growth in the area, directly or indirectly. Construction activities are anticipated to occur for approximately 23 months, and during peak times, SCE expects to have approximately 100 craft laborers per day working during construction. Some need for temporary accommodations is likely to arise during construction. However, there are numerous hotel and motel accommodations within the City of Lake Elsinore and the surrounding area. The substation would be unstaffed and remotely operated, and visits to the substation site would likely occur approximately three to four times per month, and would not require dedicated, full-time personnel.

The Proposed Project is being built to meet the electrical needs of existing and planned development, and therefore, would not induce substantial population growth in the area, either directly or indirectly (see Section 6.2, Growth Inducing Impacts, for more information). Construction and operation of the Proposed Project would not create new opportunities for local industry or commerce or effect population growth in the area.

Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

Construction of the Alberhill Substation would occur on land presently used for a horse ranch and includes a residence. The land was for sale in 2008, and SCE is presently in the process of acquiring this property. The 500 kV transmission line segments would be built on rural residential land and on conservation land, and would not require removal of existing housing. The new and modified 115 kV subtransmission lines would be constructed within existing rights-of-way.

Because construction and operation of the Proposed Project would not displace substantial numbers of existing housing, there would be no impact.

Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

Occupied residences and businesses and people would not be displaced as a result of construction and operation of the Proposed Project. Therefore, there would be no impact.

4.12.4.2 Construction Impacts

There are no impacts to population and housing resulting from construction of the Proposed Project.

4.12.4.3 Operation Impacts

There are no impacts to population and housing resulting from operation of the Proposed Project.

4.12.5 Alternative 115 kV Segment

The Alternative 115 kV Segment has a similar setting to that of the Proposed Project, and is similar in scope. As a result, impacts to population and housing would be the same as those of the Proposed Project. There would be no impact to population and housing.

4.12.6 References

California Department of Finance (CDOF). 2007. Table E-4, Historical Population Estimates for City, County and the State, 1991-2000, with 1990 and 2000 Census Counts [online] http://www.dof.ca.gov/research/demographic/reports/estimates/e-4/1991-2000/ [cited August 2009].

City of Lake Elsinore. 2007. Draft General Plan. [online] http://www.lake-elsinore.org/index.aspx?page=232 [cited August 2009].

Riverside County. 2008. Riverside County General Plan. [online] http://www.rctlma.org/genplan/default.aspx [cited August 2009].

Southern California Association of Governments (SCAG). 2009. Integrated Growth Forecast. [online] http://www.scag.ca.gov/forecast/index.htm [cited August 2009].

4.13 Public Services

This section describes the public services in the area of the Proposed Project. The potential impacts of the Proposed Project and the Alternative 115 kV Segment are also discussed.

4.13.1 Environmental Setting

Fire protection throughout the areas surrounding the Proposed Project is provided by the Riverside County Fire Department (RCFD). The RCFD operates 95 fire stations organized in 17 battalions providing fire suppression, emergency medical, rescue, and fire prevention services. The equipment used by the department has the ability to respond to both urban and wildland fire emergency conditions. There is one fire station within one mile of the Proposed Project at 26020 Wickard Road, Menifee, approximately 200 feet from the new 115 kV subtransmission line that would be constructed on Murrieta Road (RCFD, 2009).

The California Highway Patrol, with additional support from the County's Sheriff's Department, provides traffic and law enforcement for Riverside County in the proposed project area. The City of Lake Elsinore contracts with the Riverside County Sheriff Department for municipal police services (City of Lake Elsinore, 2009).

The area of the Proposed Project overlaps with two school districts, Lake Elsinore Unified School District and Menifee Union School District (Riverside County Office of Education, 2009). There are nine schools within one-quarter mile of the Proposed Project. These schools are shown on Figure 4.13, Schools in the Vicinity of the Proposed Project, and are listed below.

- Elsinore Elementary School, located at 512 W. Sumner Avenue, Lake Elsinore, approximately 0.21 mile south-southwest of the 115 kV subtransmission line route
- Railroad Canyon Elementary School, located at 1300 Mill Street, Lake Elsinore, approximately 0.17 mile south-southwest of the 115 kV subtransmission line route
- Lakeside High School, located at 545 Chaney Street, Lake Elsinore, approximately 0.19 mile south of the 115 kV subtransmission line route
- Elsinore Middle School, located at 545 Chaney Street, Lake Elsinore, approximately 0.19 mile south of the 115 kV subtransmission line route
- Gordon Kiefe Independent Study School, located at 565 Chaney Street, Lake Elsinore, approximately 0.19 mile south of the 115 kV subtransmission line route
- Jean Hayman Elementary School, located at 21440 Lemon Street, Lake Elsinore, approximately 0.17 mile east of the 115 kV subtransmission line route

- Menifee Valley Middle School, located at 26255 Garbani Road, Menifee, approximately 0.10 mile east of the 115 kV subtransmission line route
- Dehesa Charter School Resource, located at 31620 Auto Center Drive, Lake Elsinore, adjacent to the 115 kV subtransmission line route
- St. Frances of Rome Preschool, located at 21591 Lemon Street, Wildomar, approximately 0.13 mile west of the 115 kV subtransmission line route

The closest hospital facility to the Proposed Project is Inland Valley Regional Hospital in Wildomar. The hospital has a trauma center, and provides emergency medical services, trauma surgery, intensive care, diagnostic imaging, and rehabilitation (IVRMC, 2009).

4.13.2 Regulatory Setting

There are no public service laws, rules, or regulations that apply to the Proposed Project or its alternatives.

4.13.3 Significance Criteria

The significance criteria for assessing the impacts to public services come from the CEQA Environmental Checklist. According to the CEQA Checklist, a project causes a potentially significant impact if it would:

- 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 public services: fire protection, police protection, schools, parks, or other public facilities

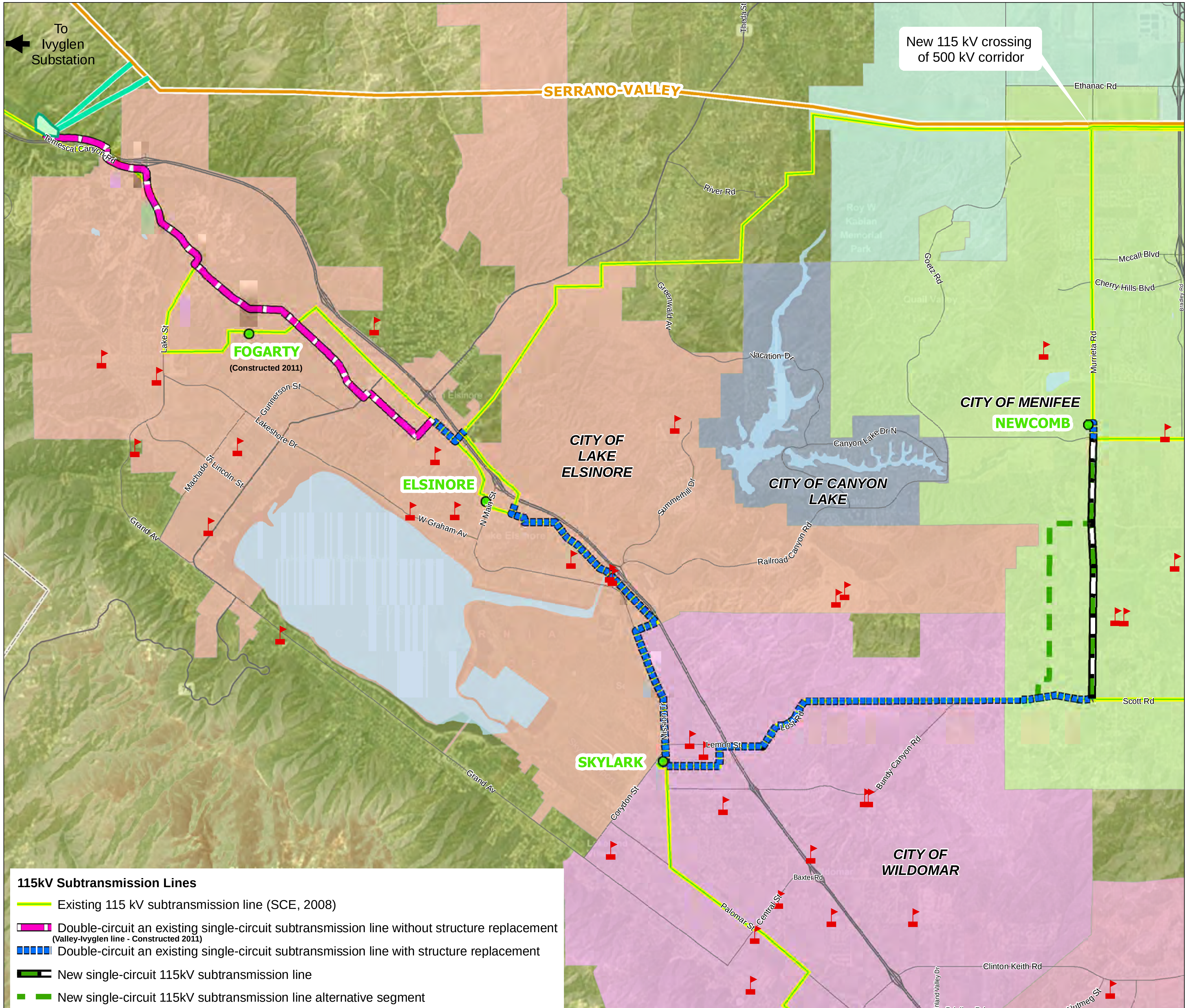
4.13.4 Impact Analysis

4.13.4.1 Construction Impacts

Would the project 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 public services: fire protection, police protection, schools, parks, or other public facilities?

The Proposed Project would be constructed in a high fire hazard area. As discussed in Section 4.7, Hazards and Hazardous Materials, SCE has standard protocols that are followed when the National Weather Service issues a Red Flag Warning and participates

Figure 4.13
Schools in the Vicinity of the Proposed Project



Schools (TBM, 2008)

Substations

Proposed Alberhill Substation

Substations (SCE, 2008)

500kV Transmission Lines (SCE, 2007)

Existing 500 kV Transmission Lines (SCE, 2007)

Proposed 500kV Transmission Line Segments

Basemap Data

Transportation Lines (TBM, 2008)

SCE Service Territory Boundary (SCE, 2006)

County Boundaries (TBM, 2008)

Water Features (TBM, 2008)

N W E S

0 0.5 1 2 Miles

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale. Always consult with the proper legal documents or agencies regarding such features.

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with the California Department of Forestry and Fire Protection, California Office of Emergency Services, US Forest Service and various city and county fire agencies in the Red Flag Fire Prevention Program and complies with California Public Resources Code Sections 4292 and 4293 related to vegetation management in transmission line corridors. In addition, SCE would clear vegetation from the work areas prior to staging construction equipment, minimizing the probability of fire. The short-term construction activities would not require the expansion of fire protection services in Riverside County.

Construction of the Proposed Project is unlikely to require the use of local law enforcement agencies. If necessary, SCE would hire a local security company to provide 24-hour attendance at the marshalling yards, material staging yards, and laydown yards during construction, minimizing the involvement of local law enforcement.

Construction of the Proposed Project would not significantly affect school enrollment or impact the performance objectives of any local public schools.

There is one emergency service provider located in close proximity to the Proposed Project: Fire Station #68 is located at 26020 Wickard Road, Menifee, approximately 200 feet from the new 115 kV subtransmission line that would be installed on Murrieta Road. Because of the temporary nature of the construction period, the construction work is not anticipated to result in the need for new or physically altered emergency services. The potential for interference with emergency service providers is discussed in Section 4.7, Hazards and Hazardous Materials.

Construction of the Proposed Project would have a less than significant impact to government facilities such as fire, police, schools, or other public facilities. Impacts to parks in the area are evaluated in Section 4.14, Recreation.

4.13.4.2 Operation Impacts

Would the project 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 public services: fire protection, police protection, schools, parks, or other public facilities?

Operation of the Proposed Project would consist of routine maintenance and emergency repair. These activities are unlikely to require the use of public services. Because operation of the project would have no growth-inducing impacts (please see Section 6.2, Growth Inducing Impacts, for more information), it would not create a need for new schools, hospitals, or other public services. As a result, operation of the Proposed Project would have a less than significant impact to public services. Impacts to parks in the area are evaluated in Section 4.14, Recreation.

4.13.5 Alternative 115 kV Segment

The Alternative 115 kV Segment has a similar setting to that of the Proposed Project, and is similar in scope. As a result, impacts to public services would be similar to those of the Proposed Project. Impacts to public services would be less than significant.

4.13.6 References

City of Lake Elsinore. 2007. Draft General Plan. [online] http://www.lake-elsinore.org/index.aspx?page=232 [cited August 2009].

Inland Valley Regional Medical Center (IVRMC). 2009. Introduction. [online] http://www.wolfeinteractive.com/inlandvalley/medical_services.htm. [cited August 2009].

Riverside County Office of Education. 2009. Districts. [online] http://www.rcoe.k12.ca.us/. [cited August 2009].

Riverside County. 2008. Riverside County General Plan. [online] http://www.rctlma.org/genplan/default.aspx [cited August 2009].

Riverside County Fire Department (RCFD). 2009. Website. [online] http://www.rvcfire.org/. [cited August 2009].

4.14 Recreation

This section describes the air quality in the area of the Proposed Project. The potential impacts of the Proposed Project and the Alternative 115 kV Segment are also discussed.

4.14.1 Environmental Setting

One of the main recreational sites in the southwestern Riverside County area is Lake Elsinore. Though the lake belongs to the City of Lake Elsinore, the 3,000-acre Lake Elsinore State Recreation Area is under ownership of the State of California Department of Parks and Recreation. Lake Elsinore offers opportunities for motor boating, jet skiing, waterskiing, kayaking, and fishing. Lake-dependent land uses, including beaches, boat launches, and camping/RV areas are distributed around the lake. The City of Lake Elsinore maintains 16 parks (City of Lake Elsinore, 2009). These parks are shown on Figure 4.14, Recreation Areas

Riverside County maintains 35 regional parks, encompassing roughly 23,317 acres. Other local parks fall within the jurisdiction of the Riverside County Recreation and Park Districts. The Cleveland National Forest is located to the south and southwest of Lake Elsinore, in the Elsinore Mountains and Santa Ana Mountains.

4.14.2 Regulatory Setting

There are no recreation-related laws, rules, or regulations that apply to the Proposed Project or its alternative.

4.14.3 Significance Criteria

The significance criteria for assessing the impacts to recreational resources come from the CEQA Environmental Checklist. According to the CEQA Checklist, a project causes a potentially significant impact if it would:

- 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
- Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment

4.14.4 Impact Analysis

4.14.4.1 No Impact

Construction and operation of the Proposed Project would not produce impacts for the following CEQA criteria:

Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Construction and operation of the Proposed Project would not involve the use of recreational facilities, nor would it cause population growth that would result in the increased use of recreational facilities (please see Section 6.2, Growth Inducing Impacts). Therefore, construction and operation of the Proposed Project would not result in the deterioration of existing recreational facilities.

Would the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

As discussed above, construction and operation of Proposed Project would not affect existing recreational facilities, and would not induce population growth which would result in the need for new or expanded recreational facilities. As a result, there would be no impact to the environment from new or expanded recreational facilities from construction and operation of the Proposed Project.

4.14.4.2 Construction Impacts

There are no impacts to recreation resulting from construction of the Proposed Project.

4.14.4.3 Operation Impacts

There are no impacts to recreation resulting from operation of the Proposed Project.

4.14.5 Alternative 115 kV Segment

The Alternative 115 kV Segment has a similar setting as that of the Proposed Project, and is similar in scope. As a result, impacts to recreation would be the same as those for the Proposed Project. There would be no impact to recreation.

4.14.6 References

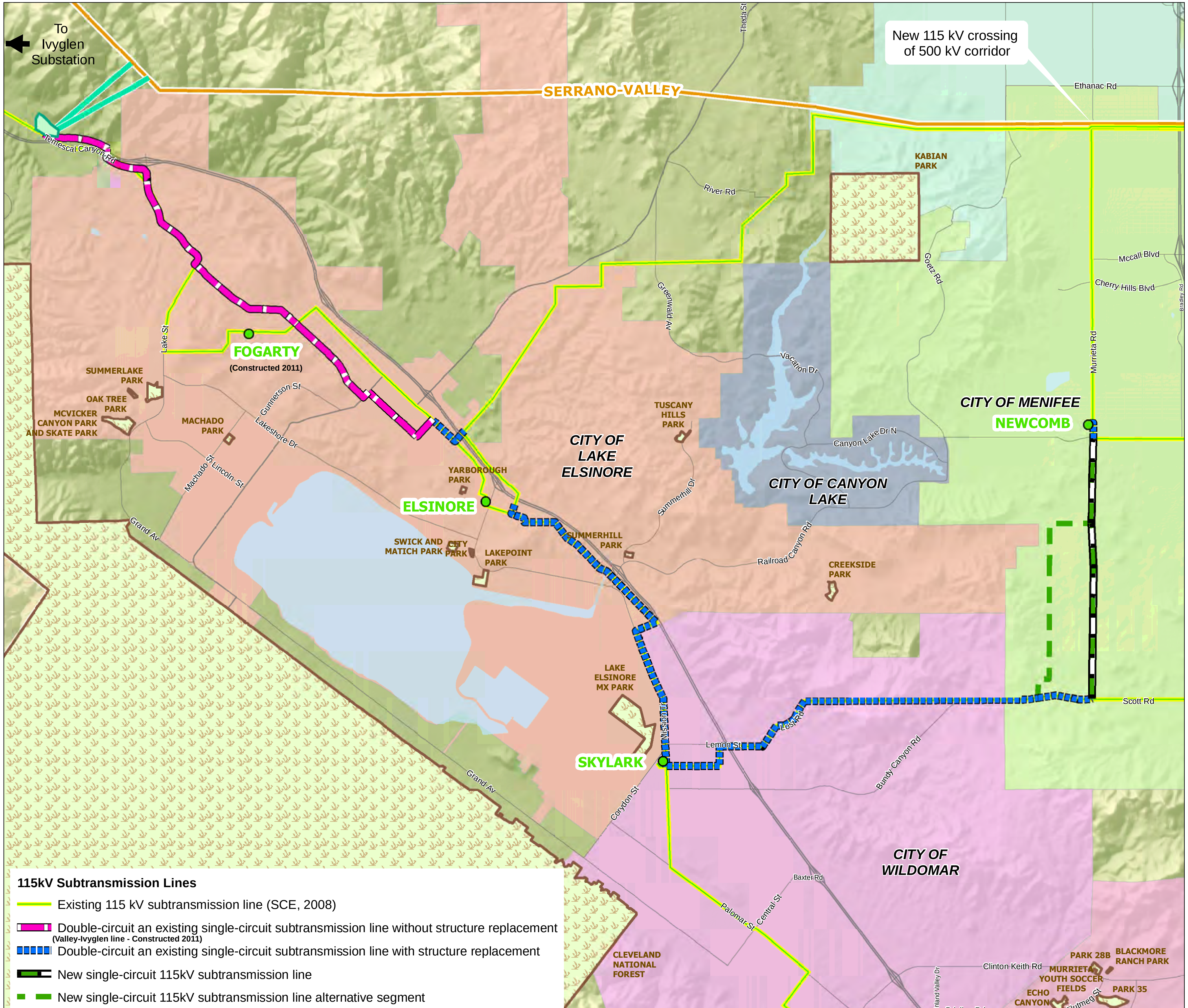
City of Lake Elsinore. 2009. Lake and Aquatic Resources. http://www.lake-elsinore.org/index.aspx?page=172

City of Lake Elsinore. 2009a. Map of Parks and Recreational Facilities. http://www.lake-elsinore.org/index.aspx?page=411

City of Lake Elsinore. 2007. Draft General Plan. [online] http://www.lake-elsinore.org/index.aspx?page=232 [cited August 2009].

Riverside County. 2008. Riverside County General Plan. [online] http://www.rctlma.org/genplan/default.aspx [cited August 2009].

Figure 4.14
Parks and Recreational Areas



- Parks & Open Space (Riverside Co., 2009)

Substations

- Proposed Alberhill Substation
- Substations (SCE, 2008)

500kV Transmission Lines (SCE, 2007)

- Existing 500 kV Transmission Lines (SCE, 2007)
- Proposed 500kV Transmission Line Segments

Basemap Data

- Transportation Lines (TBM, 2008)
- SCE Service Territory Boundary (SCE, 2006)
- County Boundaries (TBM, 2008)
- Water Features (TBM, 2008)

N W E S

0 0.5 1 2 Miles

Oregon Idaho Nevada Utah Arizona California Area Shown at Left SCE Service Territory Pacific Ocean

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Major Transmission Projects - Alberhill Sub Project

4.15 Transportation and Traffic

This section describes the transportation and traffic in the area of the Proposed Project. The potential impacts of the Proposed Project and the Alternative 115 kV Segment are also discussed.

4.15.1 Environmental Setting

The automobile is the primary means of transportation throughout the region. The roadway system is comprised of interstate highways, state highways, and local roads within Riverside County, and the cities of Lake Elsinore, Wildomar, and Menifee. Regional access to the area is through two major highways, the I-15 freeway and State Route 74.

The I-15 freeway traverses the region in a northwest-southeast direction. To the north, the I-15 freeway connects with the Riverside Freeway (SR-91), the Pomona Freeway (SR-60), and the San Bernardino Freeway (I-10) and is the link to the greater Los Angeles area. To the south, I-15 freeway connects with the Escondido Freeway (I-215) and is the link to San Diego County. Through the City of Lake Elsinore, the I-15 freeway has three lanes in each direction.

State Route 74 traverses the region in a northeast-southwest direction. To the northeast, SR 74 connects with I-215 and is the link to Perris and Hemet. To the southwest, it connects with the San Diego Freeway (I-5) and is the link to the coast and Orange County. SR 74 intersects with I-15 in Lake Elsinore. SR 74 is mostly a two-lane roadway; however, in Lake Elsinore, it has been widened to four lanes north of I-15. South of the interstate, SR 74 follows Central and Collier Avenues. Central Avenue is a four-lane road. Collier Avenue also is a four-lane road until it intersects with Riverside Drive; it then becomes two-lane. SR 74 continues south along Riverside Drive and Grand Avenue. South of Lake Elsinore, SR 74 becomes known as the Ortega Highway.

Riverside County requires that roadways maintain target Levels of Service (LOS) C along all county-maintained roads and conventional state highways. As an exception, LOS D may be allowed in Community Development areas, only at intersections of any combination of Secondary Highways, Major Highways, Urban Expressways, conventional state highways or freeway ramp intersections. LOS E may be allowed in designated community centers to the extent that it would support transit-oriented development and walkable communities.

The City of Lake Elsinore requires that peak-hour intersection operations be at LOS D or better to be considered acceptable. Therefore, any city intersection operating at LOS E or LOS F would be considered deficient. However, LOS E will be considered acceptable in some areas in an effort to increase activity and revitalize these areas. Any intersection operating at LOS F would be considered deficient.

Truck Routes

There are several truck routes in the area. Truck routes in California allow a single trailer with a 53-foot maximum length and double trailers with a maximum length of 28.5 feet for each trailer. Truck routes in the area of the Proposed Project are shown on Figure 4.15, Truck Routes.

Public Transportation

The Riverside Transit Agency (RTA) is the primary provider of public transportation services in and around the City of Lake Elsinore and the surrounding area. RTA operates 39 fixed bus routes within a 2,500-square-mile service area. RTA's fixed routes have been designed to establish transportation connections between all cities and unincorporated communities in Western Riverside County. A bus route runs along Mission Trail.

RTA also provides Dial-a-Ride, an advance-reservation service designed to provide senior and persons with disabilities with curb-to-curb transportation on demand (RTA, 2009).

To encourage residents to carpool or use alternative modes of transportation, the Riverside County Transportation Commission provides free "park and ride" sites at various locations. There are park and rides sites at the following locations: 15887 Grand Avenue (just east of SR 74); 17600 Collier Avenue (at Nichols Road and I-15); and on Dexter Street (at I-15 and Central Avenue) (RCTC, 2009).

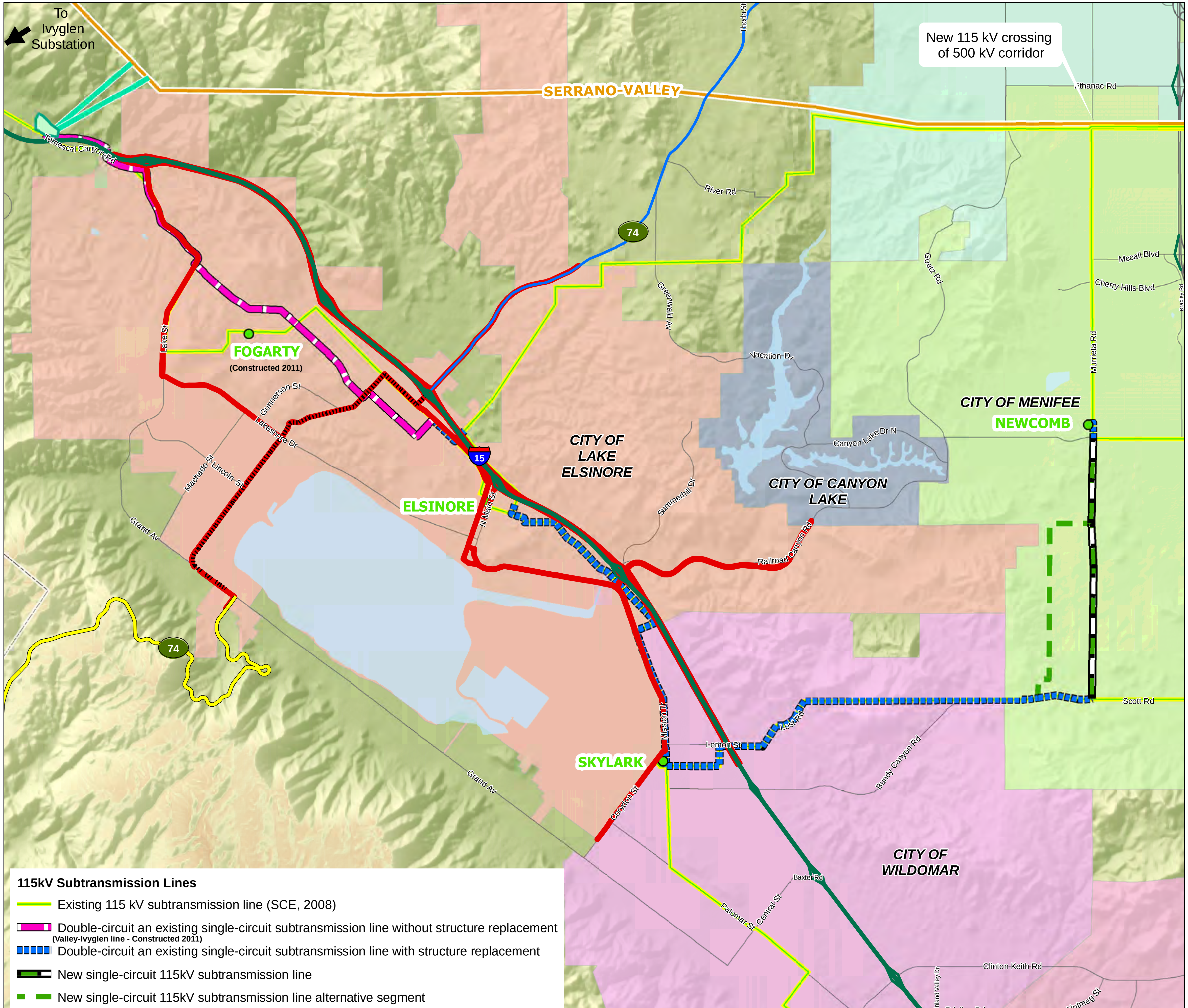
Rail Service

There is currently no passenger railroad service within southwestern Riverside County. The Union Pacific and the Burlington Northern Santa Fe Railroads provide freight service in Riverside County, connecting Riverside County with major markets within California and other destinations north and east. The Burlington Northern Santa Fe from Riverside traverses the City of Perris along I-215 in the north (City of Lake Elsinore, 2007).

Air Service

There is no commercial airport within the areas affected by the Proposed Project. Only one airfield was identified within 2 miles of the Proposed Project. Skylark Field, on Corydon Street provides glider and skydiving opportunities for the community and surrounding region. The runway surface of Skylark Field consists of gravel and sand (City of Lake Elsinore, 2007). The nearest public use airport is the French Valley Airport, located in the City of Temecula approximately 6 miles from the Proposed Project.

Figure 4.15
Truck Routes



CALTRANS (2007)

- National Network (STAA)(TBM, 2008)
- Terminal Access (STAA)(TBM, 2008)
- California Legal Advisory Route (TBM, 2008)
- CALegalNetwork
- Truck Routes (City of Lake Elsinore, 2006)

Substations

- Proposed Alberhill Substation
- Substations (SCE, 2008)

500kV Transmission Lines (SCE, 2007)

- Existing 500 kV Transmission Lines (SCE, 2007)
- Proposed 500kV Transmission Line Segments

Basemap Data

- Transportation Lines (TBM, 2008)
- SCE Service Territory Boundary (SCE, 2006)
- County Boundaries (TBM, 2008)
- Water Features (TBM, 2008)

N W E S

0 0.5 1 2 Miles

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4.15.2 Regulatory Setting

Caltrans. The California Department of Transportation manages state highways and rail facilities in California. The Department of Transportation 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, and to issue encroachment permits for the use of California State highways for purposes other than normal transportation.

Riverside County and the City of Lake Elsinore. These jurisdictions require an encroachment permit for any impediment to travel on highways over which they have jurisdiction, and requires a transportation permit to carry extralegal loads on such roadways.

4.15.3 Significance Criteria

The significance criteria for assessing the impacts to transportation and traffic come from the CEQA Environmental Checklist. According to the CEQA Checklist, a project causes a potentially significant impact if it would:

- Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)
- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways
- Result in change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)
- Result in inadequate emergency access
- Result in inadequate parking capacity
- Conflict with adopted policies, plans or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)

4.15.4 Impact Analysis

The Proposed Project would be adjacent to the following roads:

- Temescal Canyon Road: Temescal Canyon Road runs roughly parallel to I-15 until its intersection with Lake Street. It is an undivided two-lane roadway serving land uses just south and north of the interstate. The Alberhill Substation site is located along Temescal Canyon Road.

- Lake Street: the section of Lake Street north of Lakeshore Drive is a two-lane undivided roadway. To the south, it connects with Grand Avenue. Lake Street is a major access route to Lake Elsinore from the I-15 freeway.

- Corydon Street: Corydon Street is a two-lane undivided roadway serving local land uses.

- Mission Trail: Mission Trail is mostly a four-lane undivided roadway. Portions of the roadway in the vicinity of Bundy Canyon Road have been divided. Mission Trail is an important route to the south from the commercial area at the Railroad Canyon Road interchange with I-15.

- Lemon Street and Lost Road: These are undivided two-lane roadways serving local land uses.

- Bundy Canyon Road: Bundy Canyon Road is a two-lane, undivided road. At Murrieta Road, Bundy Canyon Road turns into Scott Road.

- Murrieta Road: Murrieta Road is a two-lane road used primarily as a residential thoroughfare.

Traffic volume data (average daily traffic) for some of the relevant road segments are available from the City of Lake Elsinore and Riverside County. The most relevant of these data are summarized in Table 4.15-1, Traffic Volume City of Lake Elsinore, and Table 4.15-2, Traffic Volume Riverside County.

4.15.4.1 No Impact

Construction and operation of the Proposed Project would not produce impacts for the following CEQA criteria:

Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?

Construction and operation of the Proposed Project would not include components that would increase any transportation-related design hazards nor involve incompatible uses. Therefore, there would be no impact due to an increase in hazards.

Would the project result in inadequate emergency access?

Please see the discussion of emergency vehicle access during construction and operation of the Proposed Project in Section 4.7, Hazards and Hazardous Materials.

Table 4.15-1 Traffic Volume City of Lake Elsinore

Roadway	Location	2005 ADT	ADT Adjusted to 2009*
Temescal Canyon Road	West of Lake Street	6,500	7,036
Lake Street	Between Temescal Canyon Road and Coal Avenue	16,800	18,185
Lake Street	Between Coal Avenue and Lakeshore Drive	18,300	19,809
Autocenter Drive	West of Railroad Canyon Drive	3,300	3,572
Casino Drive	East of Railroad Canyon Drive	7,600	8,226
Corydon Street	Between Grand Avenue and Bundy Canyon Road	7,900	8,551
Mission Trail	West of Railroad Canyon Drive	17,600	19,051
Mission Trail	South of Bundy Canyon Road	14,800	16,020
SR 74	North of I-15	32,200	34,854
Central Avenue (SR 74)	South of I-15	33,200	35,937
Collier Avenue (SR 74)	West of Central Avenue	25,900	28,035

Source: City of Lake Elsinore Traffic Counts: http://www.lake-elsinore.org/index.aspx?page=153
*: Consistent with the City's recommendation, ADT data have been increased by 2 percent for each year since the count year.

Table 4.15-2 Traffic Volume Riverside County

Location[1]	**Direction**[1]	**Cross-Street**[1]	**Year**	**ADT**[2]	**ADT Adjusted to 2009**[3]
Corydon Street	S	Grand Avenue	2007	25	26
Corydon Street	S	Palomar Street	2004	11,051	12,201
Mission Trail	S	Bundy Canyon Road	2008	7,954	8,113
Mission Trail	N	Palomar Street	2007	4,161	4,329
Mission Trail	S	Canyon Drive	2005	8,496	9,196
Mission Trail	N	Lemon Street	2004	20,253	22,361
Lemon Street	E	Mission Trail	2004	3,110	3,434
Murrieta Road	N	Thornton Avenue	2008	3,199	3,263
Murrieta Road	S	Sun City Boulevard	2007	4,983	5,184
Murrieta Road	S	Chambers Avenue	2006	4,279	4,541
Murrieta Road	N	Holland Road	2005	7,951	8,606
Murrieta Road	S	Newport Road	2004	13,494	14,898
Murrieta Road	N	Bundy Canyon Road	2004	6,838	7,550
Murrieta Road	S	Cherry Hills Boulevard	2004	9,523	10,514
Murrieta Road	N	Newport Road	2004	15,779	17,421
Murrieta Road	N	Chambers Avenue	2004	7,607	8,399
Murrieta Road	N	Rouse Road	2004	5,904	6,518
Murrieta Road	S	Chambers Avenue	2004	6,943	7,666
Murrieta Road	N	Bundy Canyon Road	2004	5,896	6,510

Source: Riverside County Traffic Count Book, http://www.rctlma.org/trans/eng_traffic_counts.html
Notes:
1. Read: On “Location” “Direction” of “Cross-Street.”
2. All counts represent 24-hour average daily traffic numbers for vehicles traveling in both directions.
3. ADT data have been increased by 2 percent for each year since the count year.

Would the project result in inadequate parking capacity?

Parking during construction of the Proposed Project would occur at the Material Staging Yard, and during operation, parking would occur at the substation. Because the construction and operation of the Proposed Project would not require the use of city- or county-designated parking areas, there would be no impacts to parking from construction and operation.

4.15.4.2 Construction Impacts

Would the project cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?

Construction of the Proposed Project would involve the use of roadways for worker commutes and material delivery. Table 4.15-1, Traffic Volume City of Lake Elsinore, and Table 4.15-2, Traffic Volume Riverside County, provide information about the traffic volumes for the roadways in the vicinity of the Proposed Project. It is estimated that a maximum of approximately 100 craft laborers per day would be working onsite during construction of the Proposed Project. Personnel would generally drive to the worksite at the beginning of the day and leave at the end of the day, with fewer people traveling to and from the worksite throughout the day. SCE would encourage carpooling to the marshalling yard to reduce personal vehicle traffic to the greatest extent possible.

Material delivery to the marshalling yard would vary throughout the construction period. It is anticipated that the greatest number of truck trips for the Proposed Project would be those to the substation site during grading. It is estimated that during the 12 week grading period, hauling soil from the site would result in approximately 13 truck trips per day.

Transportation associated with the 500 kV transmission line segments would primarily occur on private roads.

The new and modified 115 kV subtransmission line would require soil hauling to install the new subtransmission structures. Up to approximately five truck trips per day could be expected during subtransmission structure installation.

This level of construction traffic is negligible when added to the existing daily traffic on existing roadways, and would not change the level of service that the roadways are presently experiencing.

In addition, as described in Section 3.2.1.5, Traffic Control, the use of flaggers to stop traffic may be required during installation of conductor above active roadways. SCE would obtain permits as required from the appropriate agencies to cross these roadways and would perform work according to permit requirements. Since these closures would be isolated, temporary, short in duration, and coordinated with agencies, construction of the new and modified 115 kV subtransmission lines would not significantly disrupt traffic.

Construction of the Proposed Project would not result in a substantial increase in traffic in relation to existing traffic load and capacity of the street system. As a result, impacts to an increase in traffic would be less than significant.

Would the project exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?

As discussed above, the amount of construction traffic is low when added to the existing daily traffic on roadways in the area, and would not change the LOS standard the roadway is presently experiencing. Impacts to the LOS standard would be less than significant.

Would the project conflict with adopted policies, plans or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

Construction of the Proposed Project is not expected to interfere with bus turnouts or bicycle racks that support alternative transportation. Mission Trail is a bus route for the RTA. If SCE cannot stage equipment during construction on this road to avoid a bus turnout, a permit from the RTA would be acquired to temporarily close the bus stop. However, any bus stop closure would be a temporary condition and would not conflict with adopted policies, plans, or programs supporting alternative transportation. Impacts would be less than significant.

4.15.4.3 Operation Impacts

Would the project cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?

Operation of the Proposed Project would consist of routine maintenance and emergency repair. Because the substation would be unstaffed, trips to the substation are expected to occur three to four times a month for routine maintenance and inspection, and annual inspection of the 500 kV transmission line segments and new and modified 115 kV subtransmission lines would occur. These activities would not result in a substantial increase in traffic. There would be no impact to existing traffic load or capacity of the street system from operation of the Proposed Project.

Would the project exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?

As discussed above, the amount of operation-related traffic is low when added to the existing daily traffic on roadways in the area, and would not affect the LOS standard the roadways are already experiencing. There would be no impact to a LOS standard.

Would the project conflict with adopted policies, plans or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

Operation of the Proposed Project would consist of routine maintenance and emergency repair, and it would not interfere with bus turnouts or bicycle racks that support alternative transportation, nor would it conflict with adopted policies, plans, or programs supporting alternative transportation. There would be no impact.

4.15.5 Alternative 115 kV Segment

The Alternative 115 kV Segment has a similar setting to that of the Proposed Project, and is similar in scope. As a result, impacts to transportation and traffic would be similar to those of the Proposed Project. Impacts to transportation and traffic would be less than significant.

4.15.6 References

Riverside County Transportation Commission (RCTC). 2009. Website. Riverside County Park and Ride Lots. http://www.commutesmart.info/lotslaneslinks/parkridelots_rv.asp

City of Lake Elsinore. 2009. Map of Truck Routes. < http://www.lake-elsinore.org/index.aspx?page=411 >

City of Lake Elsinore. 2007. General Plan.

Riverside Transit Agency (RTA). 2009. Website. Bus Routes. http://www.riversidetransit.com/bus_info/schedules.htm

4.16 Utilities and Service Systems

This section describes the utility and service systems in the area of the Proposed Project. The potential impacts of the Proposed Project and the Alternative 115 kV Segment are also discussed.

4.16.1 Environmental Setting

Drinking Water

There are three water districts that provide drinking water to the areas encompassing the Proposed Project:

- The Elsinore Valley Municipal Water District (EVMWD) serves the City of Lake Elsinore, the City of Canyon Lake, portions of the City of Murrieta, and unincorporated portions of Riverside County. EVMWD is a sub-agency of the Western Municipal Water District, which has more than 35,000 water, wastewater, and agricultural service connections. EVMWD's water supply is a blend of local groundwater, surface water from Canyon Lake, and imported water. On average, half the supply is imported. (EVMWD, 2009).

- The Elsinore Water District (EWD) provides water services for a limited area of the city (Country Club Heights, to the north of the lake, and parts of Lakeland Village, to the south). Water resources for the EWD are generated from several local wells as well as from purchases from EVMWD. EWD supplies water to more than 1,800 customers (City of Lake Elsinore, 2007).

- The Eastern Municipal Water District (EMWD) has a service area that extends from Moreno Valley to Temecula, encompassing Perris, San Jacinto, Hemet and parts of Murrieta. Much of the eastern half of the Proposed Project area is within EMWD's service area. Approximately 75 percent of EMWD's potable water demand is supplied by imported water from the Metropolitan Water District through its Colorado River Aqueduct and its connections to the State Water Project in the Central Valley. The remaining 25 percent is from groundwater, mostly wells in the Hemet and San Jacinto area (EMWD, 2009).

Wastewater

EVMWD and EMWD provide wastewater conveyance and treatment services in the areas encompassing the Proposed Project. In some unincorporated areas, however, septic systems and leach fields are used. EVMWD has three wastewater treatment facilities: the Regional Wastewater Treatment Plant, the Horsethief Canyon Wastewater Treatment Plant, and the Railroad Canyon Wastewater Treatment Plant (EVMWD, 2009). The EMWD's five treatment plants serve some 180,000 connections, including those originating with local water agencies and municipalities (EMWD, 2009).

Stormwater

Stormwater flows in the area are conveyed by facilities developed and maintained by the Riverside County Flood Control District (RCFCD). The RCFCD manages the stormwater infrastructure in the Proposed Project area.

Solid Waste

Landfills within the vicinity of the Proposed Project include the El Sobrante Landfill in Corona and the Badlands Landfill, in Moreno Valley. The Badlands Landfill has a permitted capacity of 30,386,000 cubic yards and, as of May 2005, a remaining capacity of 21,866,092 cubic yards; the El Sobrante Landfill has a permitted capacity of 184,930,000 cubic yards and, as of April 2007, a remaining capacity of 118,573,540 cubic yards (CIWMB, 2009).

4.16.2 Regulatory Setting

California Health and Safety Code Section 25150. This statute requires treated wood to be disposed of in either a Class I hazardous waste landfill or in a composite-lined portion of a solid waste landfill unit that meets RWQCB-specified requirements.

4.16.3 Significance Criteria

The significance criteria for assessing the impacts to public services come from the CEQA Environmental Checklist. According to the CEQA Checklist, a project causes a potentially significant impact if the project:

- Exceeds wastewater treatment requirements of the applicable Regional Water Quality Control Board
- Requires or results in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects
- Requires or results in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects
- Does not have sufficient water supplies available to serve the project from existing entitlements and resources, or new or expanded entitlements are needed
- Results in the 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
- Is served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs

- Does not comply with federal, state, and local statutes and regulations related to solid waste

4.16.4 Impact Analysis

4.16.4.1 No Impact

Construction and operation of the Proposed Project would not result in impacts for the following CEQA criteria:

Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Construction and operation of the Proposed Project would not discharge concentrated wastewater or large volumes of wastewater to a wastewater treatment facility that would exceed treatment requirements set forth by the RWQCB. As a result, construction and operation of the Proposed Project would have no impact to the treatment requirements of wastewater treatment plants serving the area.

Would the project 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?

The use of water during construction (for dust suppression) and operation (for landscaping) is minimal, and would not be in volumes or flow rates that would affect water treatment plant capacities. In addition, construction and operation of the Proposed Project would not discharge large volumes of wastewater. Construction and operation of the Proposed Project would have no impact to the expansion of water or wastewater treatment facilities serving the area.

Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

The use of water for dust suppression during construction and for landscaping during operation is minimal, and would not be in volumes that would affect water supplies. Construction and operation of the Proposed Project would have no impact to the water supply in the area.

Would the project result in the 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?

Construction and operation of the Proposed Project would not discharge large volumes of wastewater to a facility that would exceed its wastewater treatment capacity. Construction and operation of the Proposed Project would have no impact to wastewater treatment providers in the area.

4.16.4.2 Construction Impacts

Would the project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Construction of the Alberhill Substation would require grading and compaction of approximately 34 acres at the substation site. To minimize the effects of stormwater discharge to existing stormwater conveyances in Riverside County, SCE would consult with the Riverside County Flood Control District to develop a plan for stormwater discharge from the site for both construction and operation. Temporary stormwater controls installed at the substation site during the construction period could include features such as swales, detention basins, and/or retention basins. As a result of incorporating design features into the construction stormwater plans at the substation site, impacts to stormwater facilities outside the substation site would be less than significant.

Construction of the 500 kV transmission line segments and the new and modified 115 kV subtransmission lines would not involve large-scale impermeable surfaces that would significantly increase the amount of storm water discharge from the work areas. As a result, construction of these components would not require the construction of new stormwater drainage facilities or expansion of existing facilities in the area.

Would the project be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs?

Construction of the Proposed Project would require the demolition and removal of approximately four existing 500 kV transmission towers, 319 existing 115 kV subtransmission structures, and the horse ranch facilities at the Alberhill Substation site. Much of the demolition material would be salvaged, but there would be additional waste from construction activities that would be sent to one or more landfills in the area. The landfills in Riverside County have adequate permitted capacity to be able to accommodate this waste. Construction of the Proposed Project would result in a less than significant impact to landfill capacity.

Would the project comply with federal, state, and local statutes and regulations related to solid waste?

The construction of the Proposed Project would comply with federal, state, and local statutes related to solid waste. The Proposed Project may include the removal and disposal of treated wood poles. These wood poles would be returned to the Material Staging Yard for the project, 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 a RWQCB-certified municipal landfill. As a result, construction of the Proposed Project would comply with all applicable federal, state, and local statutes and regulations related to solid waste. As a result, impacts would be less than significant.

4.16.4.3 Operation Impacts

Would the project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Construction of the Alberhill Substation would add impervious surfaces in the form of paved roads within the substation footprint, and the grading and compaction of 34 acres would alter the existing drainage of the area. To minimize the effects of the stormwater discharge from the substation site to existing stormwater conveyances in Riverside County, SCE would consult with the Riverside County Flood Control District to develop a plan for permanent stormwater discharge from the site. Permanent stormwater controls installed at the substation site could include features such as swales, concrete channels, dissipation fields, detention basins, and/or retention basins. As a result of incorporating design features into the stormwater design plans at the substation site, construction of new stormwater drainage facilities outside the substation site or expansion of existing facilities in the area would not be required. Impacts to stormwater facilities would be less than significant.

Operation of the 500 kV transmission line segments and the new and modified 115 kV subtransmission lines would not involve large-scale impermeable surfaces that would significantly increase the amount of storm water discharge. As a result, operation of these components would not require the construction of new stormwater drainage facilities or expansion of existing facilities in the area.

Would the project be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs?

The operation of the Proposed Project would consist of annual inspection and routine maintenance of the transmission line segments, new and modified 115 kV subtransmission lines, and access roads. In addition, routine visits to Alberhill Substation are anticipated to occur approximately three to four times per month. These activities would not generate waste in an amount that would affect the permitted capacity of landfills in Riverside County. Operation of the Proposed Project would not impact the permitted capacity of a landfill.

Would the project comply with federal, state, and local statutes and regulations related to solid waste?

The operation of the Proposed Project would consist of routine maintenance and emergency repair. These activities are not expected to generate solid waste subject to federal, state, or local statutes or regulations related to solid waste. Operation of the Proposed Project would have no impact to the applicable federal, state, and local statutes and regulations related to solid waste.

4.16.5 Alternative 115 kV Segment

The Alternative 115 kV Segment has a similar setting to that of the Proposed Project, and is similar in scope. As a result, impacts to utilities and service systems would be similar to those of the Proposed Project. Impacts to utilities and service systems would be less than significant.

4.16.6 References

California Integrated Waste Management Board (CIWMB). 2009. [online] Solid Waste Information System. http://www.ciwmb.ca.gov/SWIS/. [cited August 2009].

City of Lake Elsinore. 2007. Draft General Plan. [online] http://www.lake-elsinore.org/index.aspx?page=232 [cited August 2009].

Elsinore Valley Municipal Water District (EVMWD). 2009. Website [online] http://www.evmwd.com/. [cited August 2009].

Elsinore Water District (EWD). 2009. Where the water comes from. [online] http://www.emwd.org/water_service/where_water.html. [cited August 2009].

Riverside County. 2008. Riverside County General Plan. [online] http://www.rctlma.org/genplan/default.aspx [cited August 2009].

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5.0 Comparison of Alternatives

5.0 COMPARISON OF ALTERNATIVES

This section compares the environmental impacts of the alternatives. CEQA Guidelines (Section 15126.6(d)) require that an environmental impact report include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the Proposed Project.

The Basic Objectives, developed in Section 1.4, are as follows:

- Serve current and long-term projected electrical demand requirements in the Electrical Needs Area
- Increase system operational flexibility and maintain system reliability by creating system ties that establish the ability to transfer substations from the current Valley South 115 kV System
- Transfer a sufficient amount of load off of the Valley South 115 kV System to maintain a positive reserve capacity on the Valley South 115 kV System through the 10-year planning horizon
- Provide safe and reliable electrical service consistent with SCE's Transmission Planning Criteria and Guidelines
- Increase electrical system reliability by constructing a project in a location suitable to serve the Electrical Needs Area
- Meet project need while minimizing environmental impacts
- Meet project need in a cost-effective manner

These objectives guide in developing a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives. All of the alternatives evaluated in the PEA, with the exception of the No Project Alternative, satisfy the project objectives.

General Order No. 131-D requires that an Application for a Permit to Construct include the "[r]easons for adoption of the power line route or substation location selected, including comparison with alternative routes or locations, including the advantages and disadvantages of each."

As described in Chapter 4, Environmental Impact Assessment, with the implementation of Applicant Proposed Measures, the Proposed Project would have a potentially significant impact to air quality. All other impacts from construction and operation of the Proposed Project are anticipated to be less than significant.

As discussed in Chapter 2, Project Alternatives, both the Proposed Project and the Alternative 115 kV Segment have the ability to serve the Alberhill Substation Project. However, the new 115 kV subtransmission line associated with the Proposed Project would be built along paved roads, facilitating access for construction and maintenance, minimizing environmental impacts. The Alternative 115 kV Segment would require construction on unpaved roads in hilly terrain along a route that is slightly longer in length. This would require more earthwork and dust control during construction. Table 5.1, Comparison of Alternatives, compares the environmental impact of the Proposed Project and the Alternative 115 kV Segment by CEQA resource category.

Table 5.1 Comparison of Alternatives

Section	Proposed Project	Alternative 115 kV Segment
Aesthetics	Less than significant	Similar to the Proposed Project
Agriculture Resources	Less than significant	Similar to the Proposed Project
Air Quality	Significant	More than the Proposed Project
Biological Resources	Less than significant	Similar to the Proposed Project
Cultural Resources	Less than significant	Similar to the Proposed Project
Geology and Soils	Less than significant	More than the Proposed Project
Hazards and Hazardous Materials	Less than significant	More than the Proposed Project
Hydrology and Water Quality	Less than significant	More than the Proposed Project
Land Use and Planning	No Impact	Same as the Proposed Project
Mineral Resources	Less than significant	Similar to the Proposed Project
Noise	Less than significant	More than the Proposed Project
Population and Housing	No Impact	Same as the Proposed Project
Public Services	Less than significant	Similar to the Proposed Project
Recreation	No Impact	Same as the Proposed Project
Transportation and Traffic	Less than significant	Similar to the Proposed Project
Utilities and Service Systems	Less than significant	Similar to the Proposed Project

6.0 Other CEQA Considerations

6.0 OTHER CEQA CONSIDERATIONS

6.1 Cumulative Impacts

CEQA requires lead agencies to consider the cumulative impacts of proposals under their review. Section 15355 of the CEQA Guidelines defines cumulative impacts as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” A cumulative impact “consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts” (Section 15130(a)(1)). The cumulative impacts analysis “would examine reasonable, feasible options for mitigating or avoiding the project’s contribution to any significant cumulative effects” (Section 15130(b)(3)).

Section 15130(a)(3) also states that an environmental document may determine that a project’s contribution to a significant cumulative impact would be rendered less than cumulatively considerable, and thus not significant, if a project is required to implement or fund its fair share of mitigation measure(s) designed to alleviate the cumulative impact.

In conducting a cumulative impacts analysis, impacts are referenced to the temporal span and spatial areas in which the Proposed Project would cause impacts. Additionally, a discussion of cumulative impacts must include either: (1) a list of past, present, and reasonably future projects, including, if necessary, those outside the lead agency’s control; or (2) a summary of projections contained in an adopted general plan or related planning document, or in a prior certified EIR, which described or evaluated regional or area-wide conditions contributing to the cumulative impact, provided that such documents are referenced and made available for public inspection at a specified location (Section 15130(b)(1)). “Probable future project” includes approved projects that have not yet been constructed; projects that are currently under construction; projects requiring an agency approval for an application that has been received at the time a Notice of Preparation is released; and projects that have been budgeted, planned, or included as a later phase of a previously approved project (Section 15130(b)(1)(B)(2)).

Cumulative impact analysis for the Proposed Project included a review of developments within approximately one mile of the project. These developments are listed in Table 6.1, Projects Considered in Cumulative Impact Assessment, and shown on Figure 6.1, Projects Considered in Cumulative Impact Assessment.

In addition to the developments listed below, the Nevada Hydro Company is proposing the Lake Elsinore Advanced Pump Storage (LEAPS) project that would include a pump storage facility utilizing Lee Lake (approximately 1.5 miles northwest of the Alberhill Substation site) and a reservoir to be created in the Cleveland National Forest west of the City of Lake Elsinore. The proposed LEAPS project also includes construction of transmission lines between the pump storage facility and SCE’s Valley-Serrano 500 kV transmission line and San Diego Gas and Electric’s (SDG&E’s) Talega-Escondido 220 kV transmission line.

Table 6.1 Projects Considered in Cumulative Impact Assessment

Project Number	Name/Description	Status[1]	Year Approved
SCE	Fogarty Substation	Pending	Construction in 2011
SCE	Valley-Ivyglen 115 kV Subtransmission Line	Pending	Construction in 2011
SCE	Reconductor Valley-Newcomb leg of Valley-Newcomb-Skylark 115 kV subtransmission line	Planning	Construction in 2010
PM31209	DIVIDE 135.9 AC INTO 4 PL AREA LOTS	APPROVED	2005
TR30142	SUBDIVIDE 166.02 ACRES INTO 537 RES LOTS/OPEN SP	APPROVED	2004
PP21666	MODEL HOME COMPLEX FOR TR 29636 70 LOTS	APPROVED	2007
PUP00902	CHURCH TO BE DEVELOPED IN 3 PHASES (SEE DESC) PHASE 1: 12,310 SQFT MULTI-PURPOSE BLDG. 5,564 SQFT CLASSROOMS PAHSE 2: 27,056 MAIN BLDG/SANCTUARY/OFFICE PHASE 3: 2,400 SQFT MAINTENANCE BLDG.	ANNEXED	2009
PP22810	REVIEW DET BASIN FOR LOT 33 / HOA MAINTAINED	APPROVED	2007
TR30812M1	CHANGE FROM 4:1 SLOPE TO A 2:1 SLOPE	APPROVED	2008
PP18707S1	SC FOR FINAL SITE OF DEV, MODEL COMPLEX WITH LANDSCAPING FOR TRACT NO. TR28787	APPROVED	2005
PP19320	PROPOSED TIRE SHOP W/SERVICE BAY AND OFFICE	APPROVED	2005
PP18708S1	SC FINAL SITE OF DEV FOR TR28788	APPROVED	2005
TR31393	DIVIDE 37 AC INTO 90 RES LOTS & 9 OPEN SPACE LOTS	APPROVED	2005
PP21667	FINAL SITE DEVELOP TR 29636 (CALDER RANCH 70 LOTS)	APPROVED	2006
PP21887	4 MODEL HOMES & 1 PRKNG LOT/LOTS 136-130 TR31391-2	APPROVED	2007
PUP00853S1	SC - CO-LOCATE EXISTING CELL SITE (NEXTEL)	APPROVED	2004
PP21459	MODELS LOTS 30-32/PRKG LOT#29/SLS TR #1/TR30554	APPROVED	2006
PP19048	FINAL SITE OF DEVELOPMENT FOR TRACT 30064 lots 1 thru 174	APPROVED	2004
CUP03021R1	DEMOLISH EXST & REPLACE CONVNC STORE/CARWASH/GASOLINE CANOPY/FUEL DISPENSERS/GASOLINE TANKS	APPROVED	2007

Project Number	Name/Description	Status[1]	Year Approved
PP21048	STEALTH WIRELESS COMM.FACIL.TO EXISTING SCE SITE	APPROVED	2007
PP21266	Final Site Plan of Development in Tract No. 31485 and in Specific Plan 333, Lots 1-67. This approval is for Final Site of Development only and does not include wall and fence	APPROVED	2006
TR31391	SUBD 245 AC INTO 431 RES LOTS & 17 OPEN SP LOTS	APPROVED	2005
PP19481	FINAL SITE OF DEV FOR TR30064 LOTS 1-185	APPROVED	2004
TR33620	SUBDIVIDE 18 AC INTO 67 SFR & 1 DETENTION BASIN	ANNEXED	2009
PP21547	FINAL SITE DEVELOPMENT TR31391 PLAN AREA 36 & 37	APPROVED	2006
TR31390	SUBD 115 AC INTO 192 RES LOTS & 15 OPEN SP LOTS	APPROVED	2005
TR35186	SUBDIVIDE 8.57ACRES INTO 33 SFR LOTS/1 OPEN SPACE	ANNEXED	2009
PP20430	PP FOR BNR050072 WILDOMAR INDUSTRIAL PARK PP19099	APPROVED	2006
TR31210	DIVIDE 135.90 AC INTO 330 RES LOTS	APPROVED	2005
TR34158	DIVIDE 6 ACRES INTO 9 LOTS	ANNEXED	2009
TR31194	SUBD 206 AC INTO 483 RES/ 3 PARK/3 BASIN/6 OP SP	APPROVED	2007
CUP03548	COMM'L BLDGS: 1,412 SQFT FOR RESTAURANT, 538 SQFT FOR QUICK LUB & 2,963 SQFT FOR OFFICE BLDG.	ANNEXED	2009
TR30812	CREATE 65 SFR LOTS ON 18.75 AC	APPROVED	2006
TR31345	SCH "A" SUBDIVISION 53 RESIDENTIAL LOTS	APPROVED	2005
TR30664	SUBD 58+ AC PARCEL INTO 35 RES LOTS	APPROVED	2004
CUP03450	MINI STORAGE FACILITY W/OFFICE AND RETAIL USE	ANNEXED	2009
CUP03420	MINI WAREHOUSE FACILITY	ANNEXED	2009
PM31021	SUBDIVIDE 4 AC INTO 4 COMMERCIAL LOTS	APPROVED	2005
PP20201	CELL SITE - SEE DESCRIPTION A NEW 75' TALL MONOPINE DISGUISED AS A PINE TREE (MONOPINE), CONSISTING OF A 68' SUPPORT STRUCTURE WITH APPROXIMATELY 7' OF FAUX BRANCHES EXTENDING UP TO 75'	APPROVED	2006
PP21128	DIVIDE 17.7 ACRES INTO 111 RES LOTS SCHED A	ANNEXED	2009

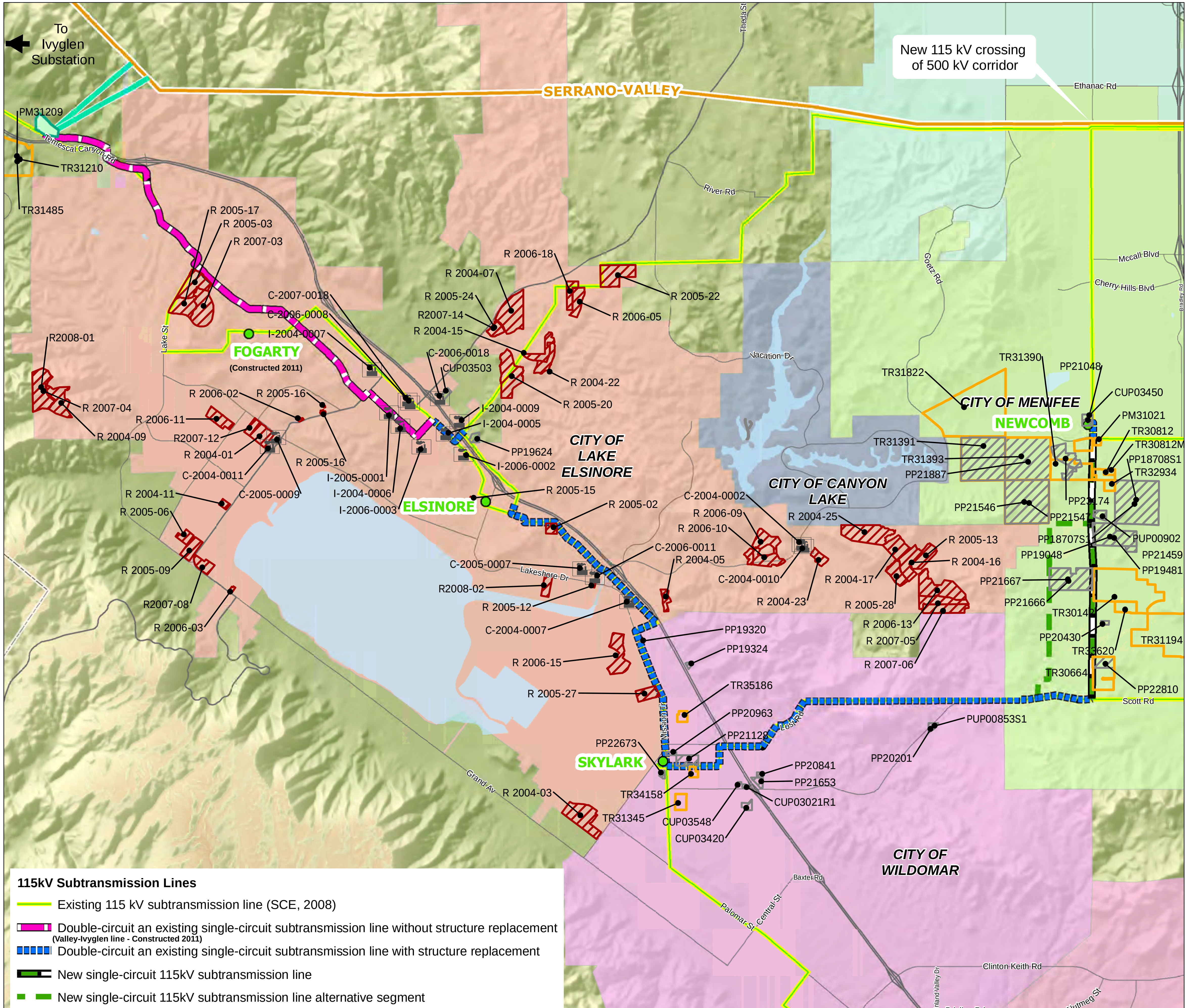
Project Number	**Name/Description**	**Status**[1]	**Year Approved**
TR31822	SUBIDIVE 108 ACRES INTO 304 SFR/20 OS/1 SCHOOL/REC	APPROVED	2005
PP19624	40' MONOPALM W/UMANNED EQUIPT SHELTER (NEXTEL)	APPROVED	2005
PP22673	6000SF OFFICE BUILDING	ANNEXED	2009
CUP03503	CONSTRUCT 45460 SQ FT FITNESS FACILITY	APPROVED	2006
PP20841	COLOCATE ADD 12 ANTENNAS 4' MICROWAVE DISH EQUIPMENT SHELTER AND EMERGENCY GENERATOR	APPROVED	2005
TR32934	SUBDIVIDE 9.85 LOT INTO 15 1/2 AC MIN LOT SIZE, LOTS, SCHEDULE B MAP	BOS	2007
PP20963	INSTALL WIRELESS TELECOMMUNICATION FACILITY	APPROVED	2005
PP19324	WIRELESS COMMUNICATION FACILITY	APPROVED	2005
TR31485	DIVIDE 20.17 AC INTO 74 RES LOTS	APPROVED	2005
PP23174	FINAL SITE PLAN OF DEVELOPMENT TR31390-1	APPROVED	2008
PP21546	FINAL SITE DEVELOP FOR TR31391 PLAN AREA 21 & 27	APPROVED	2006
PP21653	PROPOSING 54,141 SF RETAIL BLDG ON 6.03 ACRES.	ANNEXED	2009
R 2005-22	Fox & Jacobs at Rosetta Cyn Centex Home	Current	2005
R 2005-20	Villages at Wasson Canyon Lennar Homes	Current	2005
R 2005-24	MBK Homes Condos/Ramsgate SP	Amended	2005
R 2005-27	Lake Elsinore LLC Townhomes/Condos	1-3 Years	2005
R 2005-28	Pardee Homes Parkside Terrace	Current	2005
R 2006-02	Lake Elsinore Condos Creative Design	1-3 Years	2006
R 2006-03	VCD Group 18 Unit Apartment Complex	1-3 Years	2006
R 2006-11	Corman Leigh Makenna Court	1-3 Years	2006
R 2007-06	Canyon Hills PA 30b Pardee Homes	1-3 Years	2007
R 2004-03	Serenity KB Homes TTM 30846/19344	Current	2004
R 2005-09	The Village at Lakeshore Classic Pacifi	1-3 Years	2005
R 2005-06	Cottage Lane Wesco Homes	Current	2005
R 2005-02	Lake View Cottages Lumos Communities	1-3 Years	2005
R 2004-16	Crosscreek Pardee Homes PA 21a	Current	2004
R 2005-13	Weatherly Pulte Homes PA 21 b	Current	2005
R 2005-16	The Palm Promenade R&J Company	1-3 Years	2005
R 2005-12	Broadstone River's Edge 184 apartments	Current	2005

Project Number	Name/Description	Status[1]	Year Approved
R 2005-15	Misc Dev/Hector Zubieta Apartments	Pending	2005
R 2004-09	La Laguna Estates K. Hovnanian Forecas	Current	2004
R 2005-03	Castle&Cook Alberhill Ranch SP	Current	2005
R 2004-25	Bridgegate Pardee Homes Cyn Hills PA 23	Current	2004
R 2006-09	Hunters Ridge Canyon Hills PA 1	1-3 Years	2006
R 2006-10	Hidden Oaks Pardee Canyon Hills PA 2	1-3 Years	2006
R 2004-17	Briarcliff Pardee Homes Cyn Hills PA 22	Current	2004
R 2004-23	Pardee Homes Brookside Terrace	Current	2004
R 2006-15	John Laing Homes Neighborhood 5	Current	2006
R 2004-01	Viscaya Corman Leigh	Current	2004
R 2004-05	Elsinore Lakeview Estates Condos	Current	2004
R 2004-07	Fox & Jacobs Homes at Rosetta Cyn	Current	2004
R 2004-15	Caraway at Rosetta Cyn Centex Homes	Current	2004
R 2004-22	Augusta at Rosetta Cyn Centex Homes	Current	2004
R 2006-05	Santa Rosa at Rosetta Cyn II Fox&Jacobs	1-3 Years	2006
R 2004-11	Riverlake Villas Spathco Townhomes	1-3 Years	2004
R 2005-16	The Palm Promenade R&J Company	1-3 Years	2005
R 2005-17	Castle&Cooke Saltillo/Ashbury/Capella	Current	2005
R 2006-18	De La Rosa Centex Homes	Current	2006
R2007-08	Classic Pacific @ Cottage Estates	1-3 Years	2007
R 2007-05	Canyon Hills Stonefield	1-3 Years	2007
R 2006-13	Canyon Hills Broadleaf	Current	2006
R 2007-03	Capri@Alberhill PH 5	1-3 Years	2006
R 2007-04	Cambria Hills @ La Laguna	Amended	--
R2007-12	Corman Leigh Lakeshore Village	1-3 Years	2007
R2007-14	MBK Homes Trieste condos	1-3 Years	2007
R2008-01	Cambria Hills @ La Laguna	1-3 Years	2008
R2008-02	Watersedge Condos	1-3 Years	2008
I-2004-0005	20,013 sf industrial warehouse; Collier&Chaney	In Review	2005
I-2004-0007	5 industrial duplex tilt ups; Collier north of Riverside	In Review	2005
C-2004-0007	Design review: 16 unit office condominium; primarily medical use	In Review	2004
I-2004-0009	48,730 sf mini-storage and RV storage; 18801 Dexter Ave.	In Review	2005

Project Number	Name/Description	Status[1]	Year Approved
I-2005-0001	Pasadena Commerce Center: 4 bldg office development 50,576 sf w/ 21 tenant spaces; Pasadena & Central	In Review	2006
C-2005-0007	Design review: 3,790sf Carl's Jr. w/drive-thru&play area, Canyon Hills Marketplace	In Review	2006
I-2006-0002	Design review: 5 industrial bldgs 41.439 k sf total 'Elsinore West Business Park'; Collier & Minthorn	Approved	2008
I-2006-0003	Design review: 4 concrete & 16 enhanced storefront showroom bldgs Fairway Business Park; Chaney & Pasadena	Approved	2007
C-2006-0018	Design review: Lonestar Steakhouse	Approved	2007
C-2007-0018	Bank of America, 5.485 ksf bldg w/ drive thru; Target Center on Collier & Central	Approved	2008
C-2006-0008	Design review: 3,784 sf McDonalds restaraunt.& drive-thru; Oak Grove Crossing/Target Ctr. Pad C	Approved	2006
C-2004-0011	Design Review: Re-image Kentucky Fried Chicken/Taco Bell exterior and Signage	In Review	2005
C-2006-0011	Design review: Lake Elsinore Chrysler Jeep Dodge 29,632 sf.; Auto Center Drive	Approved	2006
C-2005-0009	Design review: 13,692 sf retail/restaraunt space, Viscaya Village Retail Center; sw corner Lakeshore&Fraser	Approved	2006
C-2004-0002	Design review: Canyon Hills Marketplace; Railroad Canyon Rd@Canyon Hills Rd.	In Review	2004
C-2004-0010	Design review: Canyon Hills Marketplace commercial project	In Review	2004
I-2004-0006	5 tilt up industrial bldgs from 5,329 to 8,829 sf; SW corner Pasadena & Central	In Review	2005

Notes:
[1]Annexed = project site annexed into city’s jurisdiction (e.g., Wildomar and Menifee)
Approved = project approved
BOS = project in review/approval process.
Pending = design review completed, now pending approval
1-3 Years = project approved, constructed expected to begin in 1-3 years
Current = project under construction
Amended = change occurred after project approval.
Sources: Riverside County, Planning Department GIS database search, August 2009; City of Lake Elsinore Planning Department, GIS database search, August 2009.

Figure 6.1
Projects Considered in Cumulative Impact Assessment



Lake Elsinore Commercial/Industrial Projects

Lake Elsinore Residential Projects

Riverside County Projects

Commercial/Industrial

Residential

Substations

Proposed Alberhill Substation

Substations (SCE, 2008)

500kV Transmission Lines (SCE, 2007)

Existing 500 kV Transmission Lines (SCE, 2007)

Proposed 500kV Transmission Line Segments

Basemap Data

Transportation Lines (TBM, 2008)

SCE Service Territory Boundary (SCE, 2006)

County Boundaries (TBM, 2008)

Water Features (TBM, 2008)

N W E S

0 0.5 1 2 Miles

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale. Always consult with the proper legal documents or agencies regarding such features.

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The following sections discuss the cumulative impacts of each environmental resource category.

Aesthetics. The effects to aesthetics resulting from construction and operation of the Proposed Project are believed to represent an incremental change in the visual character in the area, and would have a less than significant effect on aesthetics. The aesthetic changes that would occur with the other development projects approved by the county and cities would be evaluated on a case-by-case basis by the local agencies, and are not anticipated to result in a significant effect to the visual character or quality of the area. Cumulative impacts to aesthetics would be less than significant.

Agriculture. Construction and operation of the Proposed Project would have a less than significant effect to agriculture. The other projects would occur on land not presently used for agriculture or grazing. The cumulative effects to agriculture would be less than significant.

Air Quality. Construction of the Proposed Project would have a significant effect to air quality. Construction of the other projects listed in the cumulative impact analysis may contribute to adverse air quality, but the SCAQMD has considered cumulative emissions when developing its thresholds of significance. During operation of the Proposed Project, emissions would be limited to those produced from vehicles during site visits that would occur approximately three to four times per month. These intermittent visits would not contribute significantly to cumulative impacts to air quality.

Biological Resources. Based on information collected to date, construction and operation of the Proposed Project is not expected to have impacts to biological resources that could not be reduced to less than significant levels with the implementation of APMs. A majority of the developments included in the cumulative impact analysis would occur on previously disturbed land. Impacts to biological resources are anticipated to be mitigated by the appropriate Lead Agency, and would not be cumulatively considerable when combined with the effects to biological resources from construction and operation of the Proposed Project. Cumulative impacts would be less than significant.

Cultural Resources. Construction and operation of the Proposed Project is not anticipated to have significant and unavoidable impacts to cultural resources. The other developments included in the cumulative impact analysis may have impacts to cultural resources, but they would be subject to the same protective laws and regulations as the Proposed Project, and would not be cumulatively considerable.

Geology and Soils. A majority of the impacts associated with the Proposed Project are related to site-specific geologic hazards. When considering the effects that could be cumulatively considerable, such as the loss of topsoil, the potential impacts would be minimized by existing laws, regulations, and ordinances that require projects to obtain grading permits and implement SWPPPs. The cumulative effects to geology and soils would be less than significant.

Hazards and Hazardous Waste. Construction and operation of the Proposed Project would not result in significant impacts to hazards or hazardous waste. In the long term, new developments decrease wildfire hazards by removing high fire fuel. None of the developments in the cumulative impact analysis are cumulatively contributing to the production of hazardous waste. Impacts would be less than significant.

Hydrology and Water Quality. Construction and operation of the Proposed Project would not result in significant impacts to hydrology and water quality. The projects evaluated in the cumulative impact analysis would likely not substantially interfere with drainages, and the water quality in drainages in the area would be protected by project-specific SWPPPs and grading permits. The cumulative effects to hydrology and water quality would be less than significant.

Land Use and Planning. Construction and operation of the Proposed Project would not impact land use and planning. Most of the projects listed in the cumulative impact analysis would be permitted through local agencies, and any cumulative impacts to land use and planning would be evaluated and addressed by the local agencies during each project's CEQA process. Cumulative impacts to land use and planning would be less than significant.

Mineral Resources. Construction and operation of the Proposed Project would not result in significant impacts to mineral resources. Many of the other developments planned in the area are occurring on previously disturbed land and are not anticipated to significantly affect the exploration or extraction of mineral resources. Cumulative impacts to mineral resources would be less than significant.

Noise. Construction and operation of the Proposed Project would not result in significant impacts to noise. The other developments that are part of the cumulative impact analysis may also generate noise during construction, but the noise generated by the Proposed Project would occur intermittently over 23 months, and would not be considered cumulatively considerable. Operation of the other projects in the cumulative impact analysis may result in an increase in ambient noise due to the increased traffic from the developments, but the noise due to the operation of the Proposed Project in addition to the noise produced by other developments would not be considered cumulatively considerable. Cumulative impacts to noise would be less than significant.

Population and Housing. Construction and operation of the Proposed Project would not result in significant impacts to population and housing. Any significant impacts to population and housing due to the construction and operation of the other projects in the cumulative impact analysis would be addressed by the local agencies during each project's CEQA process. The Proposed Project would not have a cumulatively considerable effect to population and housing.

Public Services. Construction and operation of the Proposed Project would not result in significant impacts to public services. Any significant impacts to public services due to the construction and operation of the other projects in the cumulative impact analysis would be addressed by the local agencies during each project's CEQA process. The Proposed Project would not have a cumulatively considerable effect to public services.

Recreation. Construction and operation of the Proposed Project would not result in significant impacts to recreation. Any significant impacts to recreation due to the construction and operation of the other projects in the cumulative impact analysis would be addressed by the local agencies during each project's CEQA process. The Proposed Project would not have a cumulatively considerable effect to recreation.

Transportation. Construction and operation of the Proposed Project would not result in significant impacts to transportation. The other developments that are part of the cumulative impact analysis may also generate traffic during construction (or road/lane closures), but the traffic generated during the construction of the Proposed Project would occur for a short period of time, and would not be considered cumulatively considerable. Operation of the other projects in the cumulative impact analysis may result in an increase in traffic from the developments, but the traffic associated with the operation of the Proposed Project when considered in addition to other developments would not be considered cumulatively considerable. Cumulative impacts to transportation would be less than significant.

Utilities and Service Systems. Construction and operation of the Proposed Project would not result in significant impacts to utilities and service systems. Any significant impacts to utilities and service systems due to the construction and operation of the other projects in the cumulative impact analysis would be addressed by the local agencies during each project's CEQA process. The Proposed Project would not have a cumulatively considerable effect to utilities and service systems.

Greenhouse Gas

Greenhouse gases (GHG) that may contribute to global climate change include water vapor, carbon dioxide (CO_2), several trace gases, and aerosols. Currently, man-made (anthropogenic) emissions are regulated in California for the following gases: CO_2, methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (SF_6).

Anthropogenic emissions of CO_2 in developed countries occur largely from combustion of fossil fuels. In California, the major categories of fossil fuel combustion CO_2 sources can be broken into sectors for residential, commercial, industrial, transportation, and electricity generation. Other GHG emissions, such as CH_4 and N_2O are also tracked, but occur in much smaller quantities. When quantifying GHG emissions, the different global warming potentials of GHG pollutants are usually taken into account by normalizing their rates to an equivalent CO_2 emission rate (CO_2e). California's anthropogenic GHG emissions are a small fraction of the world's total anthropogenic emissions, and are relatively minor when compared to estimates of naturally occurring CO_2 emissions.

Atmospheric CO_2 concentrations are the result of natural and anthropomorphic sources and natural sinks such as the oceans and plant photosynthesis. Ice cores have been used to estimate historical CO_2 levels. Continuous atmospheric measurements with sophisticated instrumentation have only been available since 1954. The ice core data indicates that CO_2 levels may have been 10 or 20 times higher in the geologic past than in the present. CO_2 periodically cycled between 200 and 300 ppm during the last 400,000 years. However, during the past 50 years, the CO_2 has increased to 390 ppm as measured by instruments in Hawaii. Present levels are much lower than during most of the world's history. However, CO_2 is estimated to be much higher today than it has been for several thousand years.

Historic global temperatures are difficult to estimate and much debate has occurred regarding methodologies that have been used. However, it is widely accepted that the global temperatures have cycled periodically much hotter and much colder than the present conditions. As recently as 1,000 years ago, the Medieval Warm Period was probably much warmer than today. Only 500 years ago, the Little Ice Age was probably much cooler than today.

The California Legislature has charged numerous state and local agencies with the task of developing regulations to address GHG emissions. For instance, the California Global Warming Solutions Act of 2006 (AB 32) charges the CARB with the responsibility to monitor and regulate sources of GHG emissions in order to reduce those emissions. CARB established a scoping plan in December 2008 for achieving reductions in GHG emissions, and must develop regulations by January 1, 2011 for reducing those emissions by the year 2020. AB 32 also directs CARB to recommend a *de minimis* threshold of GHG emissions below which emission reduction requirements will not apply. Furthermore, California Senate Bill 97, passed in August 2007, requires the Office of Planning and Research (OPR) to prepare and develop CEQA guidelines for the feasible mitigation of GHG emissions, including, but not limited to, effects associated with energy consumption. Those guidelines are expected to be available in 2010, but may not include numeric criteria.

Project-specific thresholds have yet to be developed by most responsible agencies. However, the SCAQMD has adopted specific CEQA emission threshold guidelines for GHG emissions for projects in which they are the lead agency. The SCAQMD developed their thresholds with the involvement of CARB, OPR, other agencies, and stakeholders. The latest draft of the CARB statewide guidelines is consistent with the SCAQMD guidelines. In the absence of statewide project-specific significance thresholds, the analysis of potential impacts in this PEA focuses on compliance with state and local plans and compares the emissions to the SCAQMD significance thresholds and the draft CARB recommendations.

The Climate Action Team, which consists of representatives from various state boards and departments, including the CPUC, has issued various reports outlining numerous strategies to reduce climate change-related emissions in California. The reports serve as the primary state guidance to date. The Proposed Project is therefore analyzed in light of whether it is consistent with the applicable GHG reduction measures recommended by the Climate Action Team's reports.

GHGs that contribute to climate change are CO_2, CH_4, N_2O, hydrofluorocarbons, perfluorocarbons, and SF_6. SF_6 gas is used in substation circuit breakers and can potentially leak from the equipment. CO_2, CH_4, and other trace combustion products are emitted by fuel burning equipment during the construction and operation of the proposed facilities.

SF_6 Gas Management Guidelines. SCE SF_6 Gas Management Guidelines require proper documentation and control of SF_6 gas inventories, whether in equipment or in cylinders. Inventories are documented on both a quarterly and a yearly basis. SCE assumes that any SF_6 gas that is purchased and not used to fill new equipment is needed to replace SF_6 gas that has inadvertently leaked from equipment already in service. This allows SCE to track and manage SF_6 gas emissions. SCE currently voluntarily reports these emissions to the California Climate Action Registry, which was created by the California legislature to help companies track and reduce GHG emissions.

SCE has taken proactive steps in the effort to minimize GHG emissions since 1997. In 1997, SCE established an SF_6 Gas Resource Team to address issues pertaining to the environmental impacts of SF_6. The team developed the Gas Management Guidelines that allow for rapid location and repair of equipment leaking SF_6 gas. In addition, in 2001, SCE's parent organization, Edison International, joined the EPA's voluntary SF_6 gas management program, committing SCE to join the national effort to minimize emissions of this GHG. Importantly, SCE's 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 has made a significant investment in not only improving its SF_6 gas management practices, but also purchasing state-of-the-art gas handling equipment that minimizes SF_6 leakage. The new equipment has improved sealing designs that virtually eliminate possible sources of leakage. SCE has also addressed SF6 leakage on older equipment by performing repairs and replacing antiquated equipment through its infrastructure replacement program. It is expected that the Proposed Project would have a minimal amount of SF_6 leakage as a result of the state-of-the-art equipment and SCE's SF_6 gas management practices. Pursuant to its existing practices, SCE would be reducing potential GHG impacts due to the Proposed Project to the greatest extent practicable.

Low Emission Fleet. The SCE fleet incorporates a significant number of clean diesel, electric and hybrid-electric service vehicles. In addition to meeting CARB emission standards for air quality criteria pollutants, SCE is aggressively lowering GHG emissions from SCE fleet operations.

The applicable numeric significance threshold for projects within the SCAQMD is 10,000 metric tons per year of CO_2 equivalent GHGs. This threshold includes construction emissions, amortized over 30 years, plus operational emissions. The current draft of the CARB recommendations has an applicable numeric threshold of 7,000 metric tons per year of CO_2 equivalent GHGs. CARB's threshold does not include construction emissions. Their current draft suggests that they may recommend fuel efficiency and other mitigation measures for construction activities.

The estimated total emissions of GHGs from the construction activities are 3,600 metric tons CO_2e from all from combustion sources. Amortized over 30 years, the value is 120 metric tons per year. The estimated annual emissions of greenhouse gases from the operational activities are 3,430 metric tons CO_2e, primarily from SF_6 leakage (please see Appendix H, Air Quality Calculations, for details). The total of amortized construction emissions and annual operational emissions is 3,550 metric tons CO_2e per year. This estimate is much lower than the 10,000 metric ton SCAQMD threshold or the 7,000 metric ton draft CARB threshold.

Since SCE complies with all Climate Action Team guidance and is well below the SCAQMD threshold and draft CARB recommendation, the Proposed Project is not expected to have a significant impact on greenhouse gas emissions.

6.2 Growth Inducing Impacts

Section 15126.2(d) of the CEQA Guidelines states that environmental documents "...discuss 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..."

A project could be considered to have growth inducing effects if it:

- Either directly or indirectly fosters economic or population growth or the construction of additional housing in the surrounding area
- Removes obstacles to population growth
- Requires the construction of new community facilities that could cause significant environmental effects
- Encourages and facilitates other activities that could significantly affect the environment, either individually or cumulatively

Would the project either directly or indirectly foster economic or population growth or the construction of additional housing in the surrounding area?

The Proposed Project has been developed based upon a demonstrated need for electrical system reliability in portions of southwestern Riverside County including the cities of Lake Elsinore, Canyon Lake, Perris, Menifee, Murrieta, Murrieta Hot Springs, Temecula, and Wildomar, as well as the surrounding unincorporated portions of Riverside County. The Proposed Project could be considered growth-inducing if growth resulted from the direct and indirect employment needed to construct, operate, and maintain the Proposed Project. As discussed in Chapter 3, Project Description, the construction and operation of the Proposed Project would not affect employment in the area. SCE anticipates that SCE personnel or contract workers would construct the Proposed Project. If contract workers were employed, they would not cause growth in the area due to the short-term and temporary nature of their employment. The Proposed Project would require routine maintenance and emergency repair, but would not require dedicated, full-time personnel.

Would the project remove obstacles to population growth?

Obstacles to population growth in the region served by the Proposed Project are primarily due to feasibility of developing, and any development restrictions administered by local agencies. The Proposed Project would not affect the feasibility of developing an area, nor would it affect any development restrictions administered by local agencies.

Would the project require the construction of new community facilities that could cause significant environmental effects?

The Proposed Project does not involve the creation of any community facilities or public roads that would provide new access to undeveloped or under developed areas, or extend public service to an area presently not served by electricity. The Alberhill System Project is being proposed in response to existing growth and demand trends.

Would the project encourage or facilitate other activities that could significantly affect the environment, either individually or cumulatively?

The demand for electricity is a result of, not a precursor to, development in the region. The basic objectives of the Proposed Project were developed in order to maintain electrical service reliability in the region.

6.3 Significant Environmental Effects of the Proposed Project

The CEQA Guidelines (Section 15126.2) requires a discussion of the overall significance of the environmental effects of the project. This discussion is to distinguish between the direct and indirect effects of a project, and the short-term/long term effects of a project. These potential significant environmental effects are summarized in Table 6.2, Significant Environmental Effects of the Proposed Project.

Table 6.2 Significant Environmental Effects of the Proposed Project

Resource	Description	Direct/Indirect	Short term/Long term
Air Quality			
Concentrations of criteria pollutants	Construction emissions would exceed thresholds set forth by the SCAQMD.	Direct	Short term Construction Only

6.4 Mandatory Findings of Significance

The Mandatory Findings of Significance are as follows:

Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

As presented in Chapter 4, Environmental Impact Assessment, construction and operation of the Proposed Project would not permanently degrade the quality of the environment. The effects to biological resources are discussed in Section 4.4.4, Biological Resources Impact Analysis. Construction and operation of the Proposed Project would not substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal. The effects to cultural resources resulting from construction and operation of the Proposed Project are discussed in Section 4.5.5, Cultural Resources Impact Analysis. Construction and operation of the Proposed Project would not eliminate important examples of any major periods of California history or prehistory.

Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

As discussed above in Section 6.1, Cumulative Impacts, the limited effects of the Proposed Project, when viewed with the potential effects of other projects occurring or planned to occur in the vicinity, are not thought to result in cumulatively considerable impacts.

Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Construction and operation of the Proposed Project would not cause substantial adverse effects on human beings. To the contrary, access to a reliable source of electricity would directly and indirectly enhance the lives of human beings, by supporting a functioning society that depends upon reliable electrical service.