

DRAFT

**Cross Valley Transmission Line Habitat Conservation Plan  
Environmental Assessment**

*Prepared for:*

**United States Fish and Wildlife Service**  
2800 Cottage Way, W-2650  
Sacramento, California 95825

*Prepared by:*

**DUDEK**  
31878 Camino Capistrano, Suite 200  
San Juan Capistrano, California 92675

JULY 2013



# TABLE OF CONTENTS

---

<b><u>Section</u></b>	<b><u>Page No.</u></b>
<b>ACRONYMS/ABBREVIATIONS .....</b>	<b>ACR-I</b>
<b>1.0 INTRODUCTION/PURPOSE AND NEED FOR ACTION.....</b>	<b>1-1</b>
1.1 Background Information.....	1-1
1.1.1 SCE’s Big Creek Hydroelectric System .....	1-1
1.1.2 SCE’s San Joaquin Cross Valley Project.....	1-1
1.1.3 SCE’s Proposed Cross Valley Transmission Line and HCP Location ...	1-3
1.2 Purpose of and Need for Action, Including the Proposed Action .....	1-3
1.2.1 Purpose and Need Statement .....	1-4
1.3 Public and Agency Involvement.....	1-5
1.4 Relationship of this EA to Other Environmental Documents.....	1-6
1.5 Scope of this EA .....	1-7
1.6 Required Permits, Approvals, and Other Entitlements.....	1-14
1.7 Decisions to be Made.....	1-23
1.8 References Cited .....	1-24
<b>2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION .....</b>	<b>2-1</b>
2.1 Approach to Alternatives .....	2-1
2.2 Alternatives Carried Forward for Detailed Analysis .....	2-2
2.3 No Action Alternative.....	2-2
2.4 Proposed Action Alternative.....	2-5
2.4.1 Construction Covered Activities.....	2-6
2.4.2 Operations and Maintenance Covered Activities .....	2-15
2.4.3 Conservation Strategy.....	2-23
2.4.4 Monitoring Plan and Adaptive Management Plan.....	2-36
2.4.5 Energy Conservation or Creating New Energy Sources.....	2-53
2.4.6 Alternative Transmission Line Alignments .....	2-54
2.4.7 Alternative Facility Designs Along the Cross Valley Line .....	2-55
2.4.8 Alternatives to Specific Construction or O&M Covered Activities .....	2-55
2.5 References Cited .....	2-56
<b>3.0 INTRODUCTION TO THE RESOURCE CHAPTERS AND THE</b>	
<b>EFFECTS ANALYSIS .....</b>	<b>3-1</b>
3.1 Definitions/Terminology.....	3-2
3.2 Cumulative Effects Analysis in This EA .....	3-4
3.2.1 Past, Present, and Reasonably Foreseeable Actions Considered in	
Each Cumulative Effects Analysis.....	3-4
3.2.2 Methodology Used to Analyze Cumulative Effects .....	3-6

<b><u>Section</u></b>	<b><u>Page No.</u></b>
3.3 Methodology Used to Determine Significance of Effects .....	3-7
3.4 References Cited .....	3-8
<b>4.0 SOILS AND GEOLOGY .....</b>	<b>4-1</b>
4.1 Affected Environment.....	4-1
4.2 Impact Analysis Regulatory Framework .....	4-6
4.3 Environmental Consequences .....	4-8
4.3.1 Methodology for Impact Analysis .....	4-8
4.3.2 No Action Alternative.....	4-9
4.3.3 Proposed Action Alternative.....	4-9
4.4 References Cited .....	4-15
<b>5.0 AGRICULTURAL RESOURCES .....</b>	<b>5-1</b>
5.1 Affected Environment.....	5-1
5.2 Impact Analysis Regulatory Framework .....	5-5
5.3 Environmental Consequences .....	5-8
5.3.1 Methodology for Impact Analysis .....	5-8
5.3.2 No Action Alternative.....	5-9
5.3.3 Proposed Action Alternative.....	5-10
5.4 References Cited .....	5-16
<b>6.0 HYDROLOGY AND WATER QUALITY .....</b>	<b>6-1</b>
6.1 Affected Environment.....	6-1
6.2 Impact Analysis Regulatory Framework .....	6-10
6.3 Environmental Consequences .....	6-17
6.3.1 Methodology for Impact Analysis .....	6-17
6.3.2 No Action Alternative.....	6-18
6.3.3 Proposed Action Alternative.....	6-18
6.4 References Cited .....	6-27
<b>7.0 BIOLOGICAL RESOURCES: LAND COVER TYPES AND ASSOCIATED NATIVE SPECIES .....</b>	<b>7-1</b>
7.1 Affected Environment.....	7-1
7.1.1 Land Cover Types and Natural Communities .....	7-1
7.1.2 Invasive and Noxious Weeds.....	7-9
7.1.3 Native Wildlife.....	7-12
7.2 Impact Analysis Regulatory Framework .....	7-15
7.3 Environmental Consequences .....	7-20
7.3.1 Methodology for Impact Analysis .....	7-21
7.3.2 No Action Alternative.....	7-21

<b><u>Section</u></b>	<b><u>Page No.</u></b>
7.3.3 Proposed Action Alternative.....	7-23
7.4 References Cited.....	7-31
<b>8.0 BIOLOGICAL RESOURCES – SPECIAL-STATUS SPECIES.....</b>	<b>8-1</b>
8.1 Methodology.....	8-1
8.2 Regulatory Setting.....	8-2
8.3 Covered Species.....	8-8
8.3.1 Valley Elderberry Longhorn Beetle (FT).....	8-8
8.3.2 Vernal Pool Fairy Shrimp (FT).....	8-12
8.3.3 Vernal Pool Tadpole Shrimp (FE).....	8-18
8.3.4 California Tiger Salamander (FT, SE).....	8-20
8.3.5 Western Spadefoot Toad (CSC).....	8-26
8.3.6 Burrowing Owl (CSC).....	8-32
8.3.7 Southwestern Willow Flycatcher (FE, SE).....	8-36
8.3.8 Little Willow Flycatcher (CSC).....	8-40
8.3.9 Least Bell’s Vireo (FE, SE).....	8-41
8.3.10 San Joaquin Kit Fox (FE, SE).....	8-42
8.3.11 San Joaquin Valley Orcutt Grass (FT, SE).....	8-47
8.3.12 Hoover’s Spurge (FT).....	8-52
8.3.13 Spiny-Sepaled Button-Celery (CRPR 1B.2).....	8-53
8.4 Other Special-Status Species.....	8-57
8.4.1 Blainville’s Horned Lizard (CSC).....	8-57
8.4.2 Silvery Legless Lizard (CSC).....	8-60
8.4.3 Southwestern Pond Turtle (CSC).....	8-61
8.4.4 California Condor (FE/SE).....	8-65
8.4.5 Bald Eagle (BCC/SE/FP).....	8-75
8.4.6 Golden Eagle (FP).....	8-79
8.4.7 American Peregrine Falcon ((Delisted)/BCC/FP).....	8-86
8.4.8 Swainson’s Hawk (ST).....	8-87
8.4.9 Yellow Billed Cuckoo (FC/SE).....	8-91
8.4.10 Riparian Bird Species (BCC).....	8-92
8.4.11 Grassland Bird Species (CSC/BCC).....	8-96
8.4.12 American Badger (CSC).....	8-99
8.4.13 Bats.....	8-100
8.4.14 Special-Status Plants – Annual Grassland Habitat.....	8-105
8.4.15 Special-Status Plants – Vernal Pool Habitat.....	8-109
8.5 References Cited.....	8-110

<b><u>Section</u></b>	<b><u>Page No.</u></b>
<b>9.0 LAND USE AND PLANNING .....</b>	<b>9-1</b>
9.1 Affected Environment.....	9-1
9.2 Impact Analysis Regulatory Framework .....	9-4
9.3 Environmental Consequences.....	9-11
9.3.1 Methodology for Impact Analysis .....	9-11
9.3.2 No Action Alternative.....	9-11
9.3.3 Proposed Action Alternative.....	9-13
9.4 References Cited .....	9-17
<b>10.0 CULTURAL, HISTORIC, ARCHAEOLOGICAL, AND PALEONTOLOGICAL RESOURCES.....</b>	<b>10-1</b>
10.1 Affected Environment.....	10-2
10.1.1 Archaeological Background.....	10-2
10.1.2 Historical Background .....	10-6
10.1.3 Paleontological Background .....	10-13
10.2 Impact Analysis Regulatory Framework .....	10-16
10.3 Environmental Consequences.....	10-20
10.3.1 Methodology for Impact Analysis .....	10-20
10.3.2 No Action Alternative.....	10-21
10.3.3 Proposed Action Alternative.....	10-22
10.4 References Cited .....	10-32
<b>11.0 UTILITIES AND PUBLIC SERVICE SYSTEMS.....</b>	<b>11-1</b>
11.1 Affected Environment.....	11-1
11.2 Impact Analysis Regulatory Framework .....	11-7
11.3 Environmental Consequences.....	11-11
11.3.1 Methodology for Impact Analysis .....	11-11
11.3.2 No Action Alternative.....	11-11
11.3.3 Proposed Action Alternative.....	11-13
11.4 References Cited .....	11-16
<b>12.0 TRAFFIC AND TRANSPORTATION .....</b>	<b>12-1</b>
12.1 Affected Environment.....	12-1
12.2 Impact Analysis Regulatory Framework .....	12-4
12.3 Environmental Consequences.....	12-5
12.3.1 Methodology for Impact Analysis .....	12-5
12.3.2 No Action Alternative.....	12-6
12.3.3 Proposed Action Alternative.....	12-6
12.4 References Cited .....	12-10

<b><u>Section</u></b>	<b><u>Page No.</u></b>
<b>13.0 AIR QUALITY AND CLIMATE CHANGE .....</b>	<b>13-1</b>
13.1 Affected Environment.....	13-1
13.2 Impact Analysis Regulatory Framework .....	13-12
13.2.1 Air Quality .....	13-12
13.2.2 Greenhouse Gases.....	13-20
13.3 Environmental Consequences.....	13-23
13.3.1 Methodology for Impact Analysis .....	13-23
13.3.2 No Action Alternative.....	13-28
13.3.3 Proposed Action Alternative.....	13-29
13.4 References Cited.....	13-37
<b>14.0 NOISE .....</b>	<b>14-1</b>
14.1 Affected Environment.....	14-1
14.1.1 Fundamentals of Noise .....	14-1
14.2 Impact Analysis Regulatory Framework .....	14-7
14.3 Environmental Consequences.....	14-9
14.3.1 Methodology for Impact Analysis .....	14-9
14.3.2 No Action Alternative.....	14-10
14.3.3 Proposed Action Alternative.....	14-11
14.4 References Cited.....	14-20
<b>15.0 VISUAL RESOURCES.....</b>	<b>15-1</b>
15.1 Affected Environment.....	15-1
15.2 Impact Analysis Regulatory Framework .....	15-4
15.3 Environmental Consequences.....	15-8
15.3.1 Methodology for Impact Analysis .....	15-8
15.3.2 No Action Alternative.....	15-8
15.3.3 Proposed Action Alternative.....	15-9
15.4 References Cited.....	15-15
<b>16.0 PUBLIC HEALTH HAZARDS.....</b>	<b>16-1</b>
16.1 Affected Environment.....	16-1
16.2 Impact Analysis Regulatory Framework .....	16-4
16.3 Environmental Consequences.....	16-14
16.3.1 Methodology for Impact Analysis .....	16-14
16.3.2 No Action Alternative.....	16-14
16.3.3 Proposed Action Alternative.....	16-16
16.4 References Cited.....	16-25

<b><u>Section</u></b>	<b><u>Page No.</u></b>
<b>17.0 RECREATION .....</b>	<b>17-1</b>
17.1 Affected Environment.....	17-1
17.2 Impact Analysis Regulatory Framework .....	17-4
17.3 Environmental Consequences.....	17-7
17.3.1 Methodology for Impact Analysis .....	17-7
17.3.2 No Action Alternative.....	17-7
17.3.3 Proposed Action Alternative.....	17-9
17.4 References Cited.....	17-13
<b>18.0 ENVIRONMENTAL JUSTICE .....</b>	<b>18-1</b>
18.1 Affected Environment.....	18-1
18.2 Impact Analysis Regulatory Framework .....	18-2
18.3 Environmental Consequences.....	18-8
18.3.1 Methodology for Impact Analysis .....	18-8
18.3.2 No Action Alternative.....	18-10
18.3.3 Proposed Action Alternative.....	18-11
18.4 References Cited.....	18-12
<b>19.0 OTHER REQUIRED ANALYSIS .....</b>	<b>19-1</b>
19.1 Unavoidable Adverse Effects .....	19-1
19.2 Irreversible and Irretrievable Commitments of Resources .....	19-1
19.3 Short-Term Uses Versus Long-Term Productivity.....	19-1
19.4 Environmentally Preferable Alternative .....	19-1
<b>20.0 LIST OF PREPARERS.....</b>	<b>20-1</b>
20.1 United States Fish and Wildlife Service .....	20-1
20.2 Southern California Edison.....	20-1
20.3 Dudek.....	20-1

## **APPENDICES**

- A Habitat Conservation Plan for the Cross Valley Transmission Line
- B Biological Resources - Species Potential to Occur Tables
- C Air Quality Emission Calculations and Assessment
- D Southern California Edison Cross Valley Line Golden Eagle Mitigation and Monitoring Plan

**Page No.**

**FIGURES**

1-1 Overview of the Proposed Cross Valley Transmission Line ..... 1-25

1-2 Electrical Needs Area ..... 1-27

2-1a Covered Activities (E-W Alignment) ..... 2-57

2-1b Covered Activities (N-S Alignment) ..... 2-59

2-2 Proposed Location of New Access Roads ..... 2-61

3-1 Cumulative Projects ..... 3-9

4-1 Seismic Hazards ..... 4-17

4-2 Mineral Resource Zones ..... 4-19

5-1a FMMP Important Farmlands (E-W Alignment) ..... 5-19

5-1b FMMP Important Farmlands (N-S Alignment) ..... 5-21

5-2a Williamson Act Contracted Lands (E-W Alignment) ..... 5-23

5-2b Williamson Act Contracted Lands (N-S Alignment)..... 5-25

6-1 Local Watersheds ..... 6-29

6-2a Jurisdictional Waters ..... 6-31

6-2b Jurisdictional Waters ..... 6-33

6-2c Jurisdictional Waters ..... 6-35

6-2d Jurisdictional Waters ..... 6-37

6-2e Jurisdictional Waters ..... 6-39

6-2f Jurisdictional Waters ..... 6-41

6-2g Jurisdictional Waters ..... 6-43

6-2h Jurisdictional Waters ..... 6-45

6-2i Jurisdictional Waters ..... 6-47

6-2j Jurisdictional Waters ..... 6-49

6-2k Jurisdictional Waters ..... 6-51

6-3 Floodplains ..... 6-53

6-4a Impacts to Jurisdictional Waters ..... 6-55

6-4b Impacts to Jurisdictional Waters ..... 6-57

6-4c Impacts to Jurisdictional Waters ..... 6-59

6-4d Impacts to Jurisdictional Waters ..... 6-61

6-4e Impacts to Jurisdictional Waters ..... 6-63

6-4f Impacts to Jurisdictional Waters ..... 6-65

6-4g Impacts to Jurisdictional Waters ..... 6-67

6-4h Impacts to Jurisdictional Waters ..... 6-69

6-4i Impacts to Jurisdictional Waters ..... 6-71

6-4j Impacts to Jurisdictional Waters ..... 6-73

6-4k Impacts to Jurisdictional Waters ..... 6-75

	<b><u>Page No.</u></b>
7-1a Existing Terrestrial Land Covers (E-W Alignment).....	7-33
7-1b Existing Terrestrial Land Covers (N-S Alignment).....	7-35
7-1c Existing Aquatic Land Covers (E-W Alignment).....	7-37
7-1d Existing Aquatic Land Covers (N-S Alignment).....	7-39
7-2a Environmental Consequences Terrestrial Land Covers (E-W Alignment).....	7-41
7-2b Environmental Consequences Terrestrial Land Covers - No Action (N-S Alignment) .....	7-43
7-2c Environmental Consequences Terrestrial Land Covers - No Action (E-W Alignment).....	7-45
7-2d Environmental Consequences Aquatic Land Covers - No Action (N-S Alignment) .....	7-47
7-3a Environmental Consequences Land Covers - Proposed Action (E-W Alignment).....	7-49
7-3b Environmental Consequences Land Covers - Proposed Action (N-S Alignment).....	7-51
7-3c Environmental Consequences Land Covers - Proposed Action (E-W Alignment).....	7-53
7-3d Environmental Consequences Land Covers - No Action (N-S Alignment) .....	7-55
7-4 Land Cover - Cumulative Effects .....	7-57
8-1 Valley Elderberry Longhorn Beetle Habitat and Occurrence Data .....	8-125
8-2 Vernal Pool Branchiopod Critical Habitat and Occurrence Data .....	8-127
8-3a Vernal Pool Branchiopod Suitable and Occupied Habitat.....	8-129
8-3b Vernal Pool Branchiopod Suitable and Occupied Habitat.....	8-131
8-4 Vernal Pool Branchiopod Cumulative Effects.....	8-133
8-5 California Tiger Salamander Critical Habitat and Occurrence Data .....	8-135
8-6 California Tiger Salamander Suitable and Occupied Habitat.....	8-137
8-7 California Tiger Salamander and Western Spadefoot Toad Cumulative Effects .....	8-139
8-8 Western Spadefoot Toad Occurrence Data.....	8-141
8-9 Western Spadefoot Toad Habitat and Occurrence within HCP Permit Area .....	8-143
8-10 Western Spadefoot Toad Aestivation Habitat.....	8-145
8-11 Burrowing Owl Habitat and Occurrence in HCP Permit Area .....	8-147
8-12 Burrowing Owl Cumulative Effects .....	8-149
8-13 Riparian Birds Occurrence Data .....	8-151
8-14 Riparian Birds Habitat and Occurrence in HCP Permit Area.....	8-153
8-15 Riparian Birds Cumulative Effects .....	8-155
8-16 San Joaquin Kit Fox Occurrences and Potential Denning Sites .....	8-157
8-17 San Joaquin Kit Fox Cumulative Effects.....	8-159
8-18 Covered Plants Suitable Critical Habitat and Occurrence in HCP Permit Area .....	8-161
8-19 Covered Plants Cumulative Effects .....	8-163
8-20 Southwestern Pond Turtle Suitable Habitat Within HCP and Occurrence Data .....	8-165
8-21 Condor Habitat and Occurrences .....	8-167
8-22 Condor Cumulative Effects.....	8-169
8-23 Bald and Golden Eagle Habitat and Occurrences.....	8-171

	<b><u>Page No.</u></b>
8-24 Bald and Golden Eagle Cumulative Effects .....	8-173
8-25 Swainson’s Hawk Habitat.....	8-175
8-26 Swainson’s Hawk Cumulative Effects.....	8-177
8-27 Special-Status Plants Suitable Habitat .....	8-179
8-28 Special-Status Plants Cumulative Effects.....	8-181
9-1 Existing Land Use.....	9-19
9-2 Land Use Designation (E–W Alignment).....	9-21
9-3 Land Use Designation (N–S Alignment).....	9-23
9-4 Rural Valley Lands Plan .....	9-25
9-5 Foothill Growth Management Plan.....	9-27
9-6 Zoning (E–W Alignment).....	9-29
9-7 Zoning (N–S Alignment) .....	9-31
10-1 Potential Fossil Yield Map.....	10-35
12-1 Circulation Network.....	12-13
14-1 Noise Monitoring Locations .....	14-21
15-1 Existing Conditions - Photo Point Locations.....	15-17
15-2 Existing Conditions - Photos .....	15-19
15-3 Existing Conditions - Photos .....	15-21
15-4 Existing Conditions - Photos .....	15-23
15-5 Existing Conditions - Photos .....	15-25
15-6 View Simulation of the Proposed Alignment .....	15-27
17-1 Existing Parks .....	17-15
17-2 Recreational Facilities.....	17-17
17-3 Parks in the Electrical Needs Area.....	17-19
18-1 Study Area for Environmental Justice Analysis .....	18-13

**TABLES**

2-1 Proposed HCP’s Conservation Strategy Measures for Specific Species or Habitats ....	2-24
2-2 Proposed Compensatory Mitigation and Mitigation Strategy Options for Covered Species and Habitats .....	2-31
2-3 Environmental Commitments .....	2-36
5-1 Farmland Conversion from 2004–2006 in Tulare County.....	5-3
5-2 Existing Farmland within the Study Area.....	5-4
5-3 Williamson Act Contract Lands within the Study Area .....	5-4
5-4 No Action Alternative, Farmland Conversion .....	5-10
5-5 Proposed Action Alternative, Farmland Conversion .....	5-11
5-6 Proposed Action Alternative, Williamson Act Land .....	5-14

	<b><u>Page No.</u></b>
6-1	CDFW Jurisdictional Features within the HCP Permit Area..... 6-7
6-2	RWQCB and ACOE Jurisdictional Features within the HCP Permit Area..... 6-8
6-3	Impacts to CDFW Jurisdictional Features within the HCP Permit Area..... 6-22
6-4	Impacts to RWQCB and ACOE Jurisdictional Features within the HCP Permit Area..... 6-22
7-1	Land Cover Types Occurring in the HCP Permit Area ..... 7-2
7-2	State of California List of Class A and Class B Noxious Weed Species and Noxious Weed Seeds ..... 7-10
7-3	Total Acreage of Direct Effects Resulting from Covered Activities Under Proposed Action Alternative..... 7-23
10-1	Potential Prehistoric Archaeological Resources Identified..... 10-6
10-2	Potential Historical Resources Identified..... 10-7
10-3	Potential for Paleontological Resources ..... 10-15
10-4	Eligibility of Identified Historical Resources ..... 10-23
10-5	Locations of Potential Adverse Effects on Paleontological Resources ..... 10-26
13-1	NAAQS and Status San Joaquin Valley Air Basin (Tulare County)..... 13-6
13-2	CAAQS and Status San Joaquin Valley Air Basin (Tulare County)..... 13-6
13-3	Peak Background Concentrations in the Resource Study Area for the Period of 2008–2012 ..... 13-7
13-4	Frequency of Air Quality Standard Violations ..... 13-8
13-5	GHG Sources in California..... 13-10
13-6	Ambient Air Quality Standards ..... 13-13
13-7	Construction Emissions Summary Total Annual Criteria Pollutant Emissions in Tons by Construction Phase ..... 13-24
13-8	SJVAPCD Significance Thresholds ..... 13-25
13-9	General Conformity De Minimis Thresholds ..... 13-27
13-10	Construction Emissions Summary Total Greenhouse Gas Emissions by Construction Phase..... 13-32
14-1	Typical Sound Levels in the Environment..... 14-2
14-2	Ambient Noise Levels – 24-Hour Measurement ..... 14-5
14-3	10-Minute Average Ambient Noise Levels ..... 14-6
14-4	Typical Maximum Noise Levels from Construction Equipment..... 14-11

**ACRONYMS/ABBREVIATIONS**

AB	Assembly Bill
ACHP	Advisory Council on Historic Preservation
ACOE	U.S. Army Corps of Engineers
ACTION	Agricultural Crime Technology Information and Operations Network
ADI	Area of Direct Impact
ADT	average daily traffic
AHPA	Archeological and Historic Preservation Act
API	Area of Potential Impact
ARPA	Archeological Resources Protection Act
ASCE	American Society of Civil Engineers
ATCM	Airborne Toxic Control Measure
BACT	Best Available Control Technology
BCHSHD	Big Creek Hydroelectric System Historic District
BMP	Best Management Practice
BNSFRR	Burlington Northern & Santa Fe Railroad
BP	Before Present
CAAQS	California Ambient Air Quality Standards
CalEPA	California Environmental Protection Agency
CalFIRE	California Department of Forestry and Fire Protection
Cal/OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CARB	California Air Resources Board
CBC	California Building Code
CCR	California Code of Regulations
CDBG	Community Development Block Grant
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CFR	Code Federal Regulations
cfs	cubic feet second
CH <sub>4</sub>	methane
CHRIS	California Historical Resources Information System
CIWMB	California Integrated Waste Management Board
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide

CO <sub>2</sub> E	carbon dioxide equivalent
CPCN	Certificate of Public Convenience and Necessity
CPUC	California Public Utilities Commission
CRHR	California Register of Historic Resources
CUPA	Certified Unified Program Agency
CVFPB	Central Valley Flood Protection Board
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
CWC	California Water Code
CWMA	Consolidated Waste Management Authority
dB	decibel
dBA	A-weighted decibel
DHS	Department for Health Services
DOC	Department of Conservation
DPS	distinct population segment
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EA	Environmental Assessment
EC	Environmental Commitment
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EMF	electric and magnetic fields
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESA	Environmentally Sensitive Area
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Act
FGMP	Foothill Growth Management Plan
FMMP	Farmland Mapping and Monitoring Program
FONSI	Finding of No Significant Impact
FTA	Federal Transit Administration
GHG	greenhouse gas
GIS	geographic information system
GVWR	gross vehicle weight rating
GWP	global warming potential
HCP	Habitat Conservation Plan
HFCs	hydrofluorocarbons
HWMP	Hazardous Waste Management Plan
IBC	International Building Code

---

ISR	Indirect Source Review
IWMA	the Integrated Waste Management Act
ITP	incidental take permit
KDWCD	Kaweah Delta Water Conservation District
kV	kilovolt
L <sub>dn</sub>	day-night average sound level
LEA	Local Enforcement Agency
LHMP	Local Hazard Mitigation Plan
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendent
MMTCO <sub>2</sub> E	million metric tons of CO <sub>2</sub> E
MRZ	mineral resource zone
MS4s	Municipal Separate Stormwater Sewer Systems
MW	megawatt
mya	million years ago
N <sub>2</sub> O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO	nitric oxide
NO <sub>x</sub>	oxides of nitrogen
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O <sub>3</sub>	ozone
OEHHA	Office of Environmental Health Hazard Assessment
OHWM	ordinary high water mark
OES	Office of Emergency Services
O&M	operation and maintenance
OPGW	Optical Ground Wire
OPR	Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PFCs	perfluorocarbons
PM <sub>2.5</sub>	particulate matter less than or equal to 2.5 microns in aerodynamic diameter
PM <sub>10</sub>	particulate matter less than or equal to 2.5 microns in aerodynamic diameter
ppm	parts per million
PRC	Public Resources Code
PSHA	Probabilistic Seismic Hazard Assessment

ROG	reactive organic gas
ROW	right-of-way
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SB	Senate Bill
SBA	Small Business Administration
SCE	Southern California Edison
SDC	Seismic Design Category
Service	U.S. Fish and Wildlife Service
SIP	State Implementation Plan
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SO <sub>x</sub>	sulfur oxides
SRA	state responsibility area
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TCAG	Tulare County Association of Governments
TCaT	Tulare County Area Transit
TCFD	Tulare County Fire Department
TDS	total dissolved solids
TMDL	Total Maximum Daily Load
UPRR	Union Pacific Railroad
USDA	U.S. Department of Agriculture
UWMP	Urban Water Management Plan
VOC	volatile organic compound
WDR	Waste Discharge Requirement

## **CHAPTER 1.0**

### **INTRODUCTION/PURPOSE AND NEED FOR ACTION**

---

This Environmental Assessment (EA) has been prepared by the U.S. Fish and Wildlife Service (Service) pursuant to the National Environmental Policy Act of 1996 (NEPA, 42 U.S.C. 4321 et seq.). This EA evaluates the effects of issuing an incidental take permit (ITP) under Section 10 (a)(1)(B) of the federal Endangered Species Act (ESA, 16 U.S.C. 1531–1544) to Southern California Edison (SCE) and implementation of the Cross Valley Transmission Line Habitat Conservation Plan (HCP) in Tulare County, California.

The Service’s purpose in preparing an EA is to allow the Service to determine whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI) on the proposed permit action (43 Code of Federal Regulations (CFR) 46.300).

## **1.1 BACKGROUND INFORMATION**

### **1.1.1 SCE’s Big Creek Hydroelectric System**

SCE owns and operates the Big Creek Hydroelectric System, a facility that consists of 6 major reservoirs, 27 dams, 9 powerhouses, and interconnecting infrastructure. The Big Creek Hydroelectric System generates approximately 1,000 megawatts (MW) of electricity and is located in the western slopes of the Sierra Nevada Mountains. Power from three of the powerhouses—Big Creek Powerhouse No. 1, Big Creek Powerhouse No. 3, and Big Creek Powerhouse No. 4—is transmitted to customers in the eastern San Joaquin Valley via four 220-kilovolt (kV) transmission lines. These four existing transmission lines are located in two corridors (commonly referred to as the western and the eastern Big Creek Corridors) (Figure 1-1). “Corridor” is defined as the geographic location of a transmission line. The westerly Big Creek Corridor contains the Big Creek 1–Rector and Big Creek 3–Rector 220 kV transmission lines (this is shown as the purple line on Figure 1-1). These transmission lines extend from the Big Creek Powerhouse No. 1 and Big Creek Powerhouse No. 3, respectively, to the Rector Substation near the City of Visalia. The easterly Big Creek Corridor contains the Big Creek 3–Springville and Big Creek 4–Springville 220 kV transmission lines (this is shown as the green line on Figure 1-1). These lines extend from Big Creek Powerhouse No. 3 and Big Creek Powerhouse No. 4, respectively, to the Springville Substation located in Tulare County.

### **1.1.2 SCE’s San Joaquin Cross Valley Project**

Tulare County has grown rapidly in the past few years and as a result, the power transmission system is unreliable. SCE’s service area is shown in Figure 1-2, Electrical Needs Area. Under periods of heavy electrical demand, such as high heat or severe cold, the existing Big Creek 1–Rector and the Big Creek 3–Rector 220 kV transmission lines located in the western Big Creek

Corridor (Figure 1-1) can become overloaded. This overload can interrupt electricity transmission to the Rector Substation, and could cause a “voltage collapse area” or loss of electrical power to SCE residential and commercial customers within the Cities of Tulare, Visalia, Hanford, Farmersville, Exeter, and Woodlake, as well as the surrounding areas of Tulare and Kings Counties for an extended period of time. In the event of a voltage collapse, 300 MW would be lost affecting approximately 50,000 commercial and residential customers. Therefore, SCE’s San Joaquin Cross Valley Project application to the California Public Utilities Commission (CPUC) also included alternative locations for a new Cross Valley Transmission Line, which would connect the existing Big Creek 3–Springville 220 kV transmission line (shown in green in Figure 1-1) into the Rector Substation near Visalia. This new 220 kV transmission line is needed to reduce existing overloads on the Big Creek 1–Rector and the Big Creek 3–Rector 220 kV transmission lines in the western Big Creek Corridor.

SCE filed an application for a Certificate of Public Convenience and Necessity (CPCN) to construct the San Joaquin Cross Valley Project with the CPUC on May 30, 2008 (A.08-05-039). SCE filed this application to address the electrical needs/facility problems in the Big Creek Corridor. While several routing configurations were explored to help alleviate the power flow constraint, only loop configurations (i.e., looping the under-utilized Big Creek–Springville 220 kV lines into the Rector Substation) would result in improving system reliability.

As discussed below in Sections 1.3 and 1.4, the CPUC selected the alternative Cross Valley Transmission Line location that is shown in red on Figure 1-1. SCE plans to initiate construction on the proposed 23-mile Cross Valley Transmission Line in the fall of 2013.

Approximately 10.8 miles of the new proposed Cross Valley Transmission Line would be constructed within an existing 150-foot wide SCE right-of-way (ROW). The term ROW is used to describe a continuous strip or corridor of land, which the owner of the ROW may utilize for any use or purpose provided for by the land right agreements comprising the ROW. This utilization may include construction and operation and maintenance (O&M) of access roads and transmission line structures. However, 12.2 miles of this new proposed Cross Valley Transmission Line would be constructed within a new SCE ROW.

In its San Joaquin Cross Valley Project application to CPUC, SCE requested authorization to construct (1) the Big Creek Rebuild element and (2) the Cross Valley Transmission Line element. Each of the two Big Creek lines is located within an existing 150-foot-wide ROW. The Big Creek Rebuild involves upgrading the existing transmission line in the western half of the north–south alignment of the Cross Valley Transmission Line Corridor. It also requires that old structures in the eastern half of the existing north–south ROW be demolished and removed. The Cross Valley Transmission Line involves construction of a new 220 kV transmission line in the eastern half of the existing corridor. These are separate projects with independent utility that are proceeding on different time frames. SCE began construction on the Big Creek Rebuild in 2012. Big Creek

Rebuild construction activities are not being considered in this EA. By the time the Cross Valley Transmission Line is started, the Big Creek Rebuild project will be completed. The Big Creek Rebuild construction activities are not HCP Covered Activities.

SCE also requested permission to modify the Rector Substation and to remove wave traps and line tuners and install protective relays at the Rector, Springville, Vestal, and Big Creek 3 Substations. The entire San Joaquin Cross Valley Project was analyzed under the California Environmental Quality Act (CEQA) (CPUC 2009, 2010). The SCE application for the San Joaquin Cross Valley Project was deemed complete by the CPUC on June 17, 2008, and a Certificate of Public Convenience and Necessity was issued on July 29, 2010, approving the project.

### **1.1.3 SCE’s Proposed Cross Valley Transmission Line and HCP Location**

The proposed construction of the 23-mile Cross Valley Transmission Line, as well as future operations and maintenance activities (both routine and emergency) along a new Cross Valley Transmission Line will harm or harass (i.e., take) plant and animal species that are federally and state-listed as threatened or endangered species. As required by state and federal law, SCE has applied to the Service and to the California Department of Fish and Wildlife (CDFW) for permits to authorize the incidental take of listed species associated with the construction, operation, and management of the proposed Cross Valley Transmission Line.

Under Section 10(a)(2)(A) of the Endangered Species Act (ESA), any application for an incidental take permit (ITP) must include a “habitat conservation plan” (HCP) that (1) details the impacts of the incidental take of federally threatened and endangered species; (2) explains how the applicant plans to minimize and mitigate incidental take to the maximum extent practicable; (3) identifies alternative actions to incidental take the applicant considered and the reasons why such alternatives will not be utilized; and (4) other measures that the Service may require as being necessary or appropriate for the purposes of the plan.

This EA evaluates the potential effects on the human environment of implementing a Cross Valley Transmission Line HCP over a proposed permit term of 30 years.

## **1.2 PURPOSE OF AND NEED FOR ACTION, INCLUDING THE PROPOSED ACTION**

The need for the action may be described as an underlying problem or opportunity to which an agency is responding (43 CFR 46.420). The “purpose” is defined as a goal, objective, or end to be achieved by our action (550 FW 2.4). Purposes are stated, to the extent possible, in terms of desired outcomes (43 CFR 46.420).

Needs and purposes help us define and design alternative actions (550 FW 2.4). Needs can be identified as the Service's needs, as well as the needs of other federal agencies, states, or private parties (550 FW 2.4). When asked to approve an application or a permit, the Service considers the needs and objectives of the parties involved in the application or permit, as well as the public interest (43 CFR 46.420). The needs and goals of the parties involved with the ESA permit application were described earlier in Section 1.1, Background Information. However, it is the Service's stated purposes and need for our action that determine the range of alternative actions analyzed in our NEPA documents, and provides a basis for the selection of an alternative in the permit decision (43 CFR 46.420).

### **1.2.1 Purpose and Need Statement**

SCE anticipates that their proposed construction and future operation of the Cross Valley Transmission Line will permanently remove species habitat and otherwise harm and/or harass 13 native wildlife and plant species that are, or may become, federally listed as threatened or endangered over the next 30 years. The harm or harassment (i.e., take) of listed species is unlawful, except as provided by Section 10 of the ESA. In June 2013, SEC submitted an application to the Service requesting a permit under Section 10 of the ESA to allow incidental harm or harassment of the 13 species as SCE implements otherwise-lawful construction, maintenance, and operations activities on the new Cross Valley Transmission Line. The take (i.e., the harm and harassment) of federally endangered and threatened species identified in SCE's permit application is the underlying need or problem to which the Service is responding. Species listed as endangered are in danger of becoming extinct throughout all or significant portions of their range, and threatened species are likely to become endangered in the foreseeable future. To prevent species extinction, we need to protect and conserve federally endangered and threatened species throughout the range of each species. Consequently, all unavoidable incidental take of endangered or threatened species needs to be minimized and mitigated to the maximum extent practicable.

In responding to the underlying needs of endangered and threatened species, purposes of the Service's action is to benefit the American people by working with others to conserve, protect, and enhance fish wildlife, plants, and their habitats. Our purposes in authorizing incidental take of listed species include providing a means for the applicant to conserve threatened and endangered species and the ecosystems upon which the endangered and threatened species depend, while allowing the applicant to proceed with their proposed land use project.

In Chapter 2 of this EA we identify reasonable alternative ways to meet the need to adequately minimize and mitigate the incidental take of listed species and meet the purposes of the Service's statutory missions, while considering the objectives of the proposed Cross Valley Transmission Line.

### 1.3 PUBLIC AND AGENCY INVOLVEMENT

Scoping is an early and open process to help define the scope of issue and alternatives to be addressed in a NEPA document, and to help assure that a draft NEPA document is balanced and thorough. This EA incorporates information collected during the extensive CPUC public workshops, CPUC scoping meetings, and relevant CPUC scoping comments received. Incorporation of these comments eliminates duplication of public scoping already conducted on the proposed Cross Valley Line, and incorporates by reference from the CPUC scoping document to identify the real issues.

Weekly meetings between the Service, CDFW, SCE contract biologists, SCE biologists and SCE engineering, and other SCE technical experts during the development of the HCP proposed action also guided the development of this EA. These meetings complied with the “interdisciplinary” requirements of the NEPA regulations because multiple viewpoints and technical expertise was used in the preparation of the EA analysis.

During the development of the EA, the Service reviewed and considered all previous public and agency comments. A total of 111 agency and public letters were submitted on the CPUC’s Draft EIR; many commenters submitted the same comment(s) and many included multiple comments. In addition to the written comments received, 44 individuals provided verbal comments at the scoping meetings held on September 17 and 18, 2008. Most of the comments on the EIR pertained to the visual impacts to scenic views and scenic highways; impacts to agricultural lands, farming operations, trees/crops; impacts to air quality; impacts to habitat, wildlife, and avian species; growth inducement; concerns about electric and magnetic fields (EMFs), fire hazards, and health; impacts to agricultural wells and water lines; impacts related to noise; displacement of people and homes; and potential impacts to schools and daycare facilities.

The Service has provided for public notification and will include public involvement in the preparation of this EA. Under Department of the Interior regulations, scoping meetings are not required for an EA, but the Service will consider any comments that are timely received. Noticing and publication of a “draft” environmental assessment is also not required under DOI regulations, but the Service has published notices of this draft EA and is providing opportunities for public and agency comments and involvement during the public review period for this draft EA. The Service will consider any additional public or agency comments received before finalizing the EA and before completing our permit decision.

In addition, the Service will notify the public of the availability of the final EA and any associated FONSI once they have been completed.

## 1.4 RELATIONSHIP OF THIS EA TO OTHER ENVIRONMENTAL DOCUMENTS

Some information and analysis included in this EA is incorporated from the following sources of information: the *San Joaquin Cross Valley Loop 220 kV Transmission Line Project Environmental Impact Report* (San Joaquin Cross Valley Project EIR) (CPUC 2009, 2010a), the EIR Scoping Report (CPUC 2008), CPUC’s decision to issue a Certificate of Public Convenience and Necessity (CPCN) (CPUC 2010b), and the County of Tulare General Plan Update and EIR (County of Tulare 2010a, 2012).

The Draft EIR was published on June 16, 2009 (CPUC 2009), and the Final EIR was published on February 24, 2010 (CPUC 2010a). SCE’s San Joaquin Valley Project was not analyzed under NEPA because there was no federal action or at the time of the CPUC decision to issue a CPCN. The EIR analyzed both the Big Creek Rebuild element and the Cross Valley Transmission Line element of the San Joaquin Cross Valley Project. The EIR’s analysis included five alternative alignments for the Cross Valley Transmission Line in addition to a “No Action Alternative.” The CPUC approved “Alternative 2” as the environmentally superior alternative for the Cross Valley Transmission Line, because it posed fewer impacts to farmland. The CPUC then issued a CPCN for construction of the entire San Joaquin Cross Valley Project on July 29, 2010. The EIR’s Alternative 2 is the same proposed Cross Valley Transmission Line alignment shown in red on Figure 1-1 of this EA.

In preparing this EA, the Service reviewed all letters of concerns and comments from the public regarding SCE’s proposed Cross Valley Transmission Line action, and we reviewed the extensive public outreach conducted by CPUC during the CEQA environmental review process. The CPUC held two educational workshops in Tulare County on August 11 and 12, 2008, to help educate the public on construction, operation, and maintenance of the proposed San Joaquin Cross Valley Project. These workshops were intended to involve local and interested parties during the planning processes. Following these meetings, CPUC published a CEQA Notice of Preparation (NOP) of an EIR for the San Joaquin Cross Valley Project on August 22, 2008. Two scoping meetings were held on September 17 and 18, 2008, to solicit public comments and input on the scope of the CEQA document. A report of public comments received during the scoping period was published by CPUC in October 2008 (CPUC 2008).

The CPUC subsequently developed an EIR using comments received during the scoping period, as well as Appendix G of the CEQA Guidelines, to determine the proposed action’s environmental effects. The CPUC found that Alternative 2 was the “Environmentally Superior Alternative” as it had generally equal impacts as SCE’s proposed action in all areas of the human environment, except for impacts to farmland, where Alternative 2 was found to have a lower

impact than the proposed action. A 45-day public comment period was held by CPUC to solicit public and agency comments on the Draft EIR between June 16, 2009, and July 31, 2009. Comments received during this comment period were addressed in the CPUC's Final EIR, which was published on February 24, 2010 (CPUC 2010a).

On July 29, 2010, CPUC published a final decision on the proceeding that considered both the findings presented in the EIR as well as comments received during the evidentiary hearings held on the project. The published decision approved construction of Alternative 2 of the San Joaquin Cross Valley Project (CPUC 2010b). However, this CPUC decision did not preclude the need for SCE to obtain other applicable necessary discretionary permits such as state and federal ITPs; however, the CPUC final decision limits the siting alternatives that can be considered feasible for the Cross Valley Transmission Line, as CPUC has sole and exclusive jurisdiction over type and location of investor-owned utility projects.

In addition, information and analysis from the Tulare County General Plan 2030 Update (2010a, 2010b) and SCE's San Joaquin Cross Valley Loop EIR (CPUC 2009, 2010a) have been incorporated by reference into this EA. The General Plan provides the list of projects that will be used for the cumulative impacts analysis, and the County General Plan provides the basis for the EA's description of the future condition for several resources. Tulare County also recently updated the General Plan (County of Tulare 2012), and this EA contains a description of relevant county policies as they pertain to each resource area.

## **1.5 SCOPE OF THIS EA**

The CPUC's EIR scoping process identified 16 key issues relative to the scope of this EA. A summary of the key issues is presented below. The Service identified these as issues to be analyzed in depth in this environmental assessment, along with issues identified during an internal scoping meeting conducted during the development of the HCP.

### **Scoping Comments**

Below is a summary of the issues about the proposed Cross Valley Transmission Line identified during the CPUC's scoping conducted under CEQA. It should be noted that while the issues described were identified during the scoping process for the EIR which analyzed the proposed action, Alternative 2 was ultimately selected as the environmentally superior project by CPUC. Therefore, the scoping issues analyzed below have been selected because they are relevant to the Cross Valley Transmission Line HCP. As part of the scoping process, an interdisciplinary team reviewed the issues identified during the scoping process to determine which issues could be significant. These issues were then identified for focus in the EA.

### *Aesthetics*

Public concerns about visual resources were grouped into the following categories: scenic areas and highways, scenic views, and visual impacts to urban areas.

**Scenic Areas/Highways:** Commenters mentioned concerns about potential impacts of the San Joaquin Cross Valley Project to existing scenic areas and corridors, including Highway 198, the gateway to Sequoia National Park, and State Highways 216 and 245; and potential impacts to Road 168 and Road 244 (see Figure 1-1). In particular, visual impacts to scenic highways (which include a portion of State Route 198 (SR-98)), and views to redwood forests along SR-198 were mentioned.

**Scenic Views:** Commenters mentioned concern about potential impacts to views of farmland and recreational areas including orchards, oaks preserves, Twin Sisters, the Sierra Nevada Mountains, Kaweah Lake, Kings County National Forest, and Sequoia National Park.

**Visual Impacts to Urban Areas:** There was concern about visual impacts to the Cities of Exeter, Farmersville, Lemon Cove, Visalia, Woodlake, and the unincorporated communities of Merryman, Lindcove, and Merhten Valley.

**Other Visual Impact Concerns:** Commenters mentioned concerns about the effect of shadows from new structures, proposed height of these structures, glare, reflection, and lighting of transmission towers near the Woodlake Airport. Comments were also made about the potential for degradation to urban neighborhoods and landscaped vegetation, visual impacts to historic homes that might be located along the proposed alignment, and visual compatibility with complementary uses. Concern related to impacts to linear parks, pedestrian and bicycle trails, community gardens, and urban forests were also raised.

### *Agricultural Resources*

Agricultural resource comments focused on impacts to prime farmland and how the transmission line might affect farming operations.

**Farmlands:** Many commenters mentioned the potential impacts to Farmlands (Prime Farmland, Farmland of Statewide Importance, and Farmland of Local Importance) and agricultural lands, including the need to evaluate potential impacts to Williamson Act lands.

**Farming Operation:** Commenters mentioned potential impacts to farmers' operations including soils, harvests, crops, land preparation activities, pruning activities, chemical treatments, irrigation systems, and freeze protection equipment.

Trees and Crops: Issues raised included transmission line impacts to citrus trees, existing orchards, and other fruit trees (including those within the proposed transmission line HCP Permit Area). It was suggested that the analysis should consider dust generation and pests that can damage trees and crops.

**Walnut Farms:** Commenters raised the potential for impacts to walnut farms particularly if walnut trees are not allowed to reach their optimal height of approximately 30 feet.

**Water Rights:** Commenters raised the issue of impacts to agricultural water rights.

### ***Air Quality and Climate Change***

Commenters raised issues about dust related to construction, off-road construction activities, and blasting; the use of additional chemicals to control dust issues; indirect air quality degradation as a result from removal of trees; and the potential for an increase in chemical applications to control weeds in the HCP.

The commenters also wanted to make sure the EIR document included an evaluation of the proposed action's consistency with San Joaquin Valley Air Pollution Control District (SJVAPCD) Rules including Regulation VIII (Fugitive PM<sub>10</sub> Prohibitions), Rule 4102 (Nuisance), Rule 4601 (Architectural Coatings), Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving, and Maintenance Operations), Rule 4002 (National Emissions Standards for Hazardous Air Pollutants), and Rule 9510 (Indirect Source Review (ISR)) as applicable.

Commenters mentioned impacts to climate from tree removal as well as compliance with California's Assembly Bill (AB) 32.

### ***Biological Resources***

Biological resource comments included the need to evaluate potential impacts to species habitat and vegetation, including agricultural lands that provide habitat for numerous species. In addition, commenters mentioned potential impacts to native oaks and walnut trees that provide species habitat.

**Avian Species:** Commenters suggested evaluating potential impacts to avian species and the Avian Power Line Interaction Committee guidelines and impacts to golden eagle (*Aquila chrysaetos*) and bald eagle (*Haliaeetus leucocephalus*).

**Sensitive Areas:** Evaluate potential impacts to the area north of SR-198 from the Kaweah Oaks Preserve on Road 180 through the lands of the Kaweah River drainage – Mill Creek and Packwood Creek, in Visalia (Kaweah River floodplains), and the Kaweah River Basin and Kaweah River riparian corridor.

**Wildlife:** Public comments requested that the EIR evaluate potential impacts to wildlife and plants, including coyotes (*Canis latrans*), kit fox (*Vulpes macrotis*), raccoons (*Procyon lotor*), squirrels, snakes, hawks, owls, skunks, possums, rats, mice, roadrunners, bats, lizards, condors, deer, bobcats (*Lynx rufus*), mountain lion (*Puma concolor*), bear, Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), and vernal pools and fairy shrimp.

**Plants:** Public comments requested that the EIR evaluate potential impacts to Keck's checker-mallow (*Sidalcea keckii*) and San Joaquin adobe sunburst (*Pseudobahia peirsonii*) which only occurs in clay soils.

**Mitigation Site:** One commenter mentioned Stokes Mountain in Tulare County as a possible mitigation site for threatened/endangered species.

**Wetland and Wildlife Corridors:** Public comments requested that the EIR evaluate potential impacts to Kaweah Oaks Preserve, potential impacts to the Kaweah River and its habitat features and species, and impacts to wetlands and wildlife corridors.

### ***Cultural Resources***

Cultural resources comments focused on the need to evaluate potential impacts to local tribes including the Eshom Valley Band of Michahai and Wuksachi Indians (burials, bedrock mortars, ceremonial gathering areas, and village sites petrography and pictographs). Even though much of the land that would be crossed by the proposed Cross Valley Transmission Line is agricultural and already disturbed, commenters felt that there should be some analysis of the cultural sensitivity of this land, particularly the potential for Native American sites.

### ***Geology and Soils***

Commenters mentioned the potential geological problems associated with line placement in Stokes Mountain and noted that impacts from earthquakes should be assessed.

### ***Growth Inducement***

Commenters requested that the EIR document analyze impacts on population growth and stability for the communities of Farmersville, Exeter, Lemon Cove, the area between Yokohl Valley and Visalia, and from Woodlake to Lindsay.

### ***Hazards***

Comments raised concerns about the potential increased fire hazard, particularly in the Badger Hill Estates area; farm worker safety; avoiding electrocution; hazards related to transmission lines being located within proximity to wells, pumps, electrical panels, and irrigation systems; and how spraying operations of citrus trees would avoid poles and conductors so as to not post a

hazardous risk to agricultural aerial operators. One question was raised about whether blasting would result in exposure to hazardous materials.

### ***Hydrology and Water Quality***

The primary hydrology issue identified during the EIR scoping was the potential impact and cost of constructing new water wells and moving existing pumps and wells out of the areas of construction. As one example, the Kaweah Pump Company cannot set up boom repair equipment within 100 feet of the proposed transmission line as per an Occupational Safety and Health Administration (OSHA) regulation (there is also risk with other equipment such as crane trucks and backhoes). Concerns were identified that water wells within 100 feet of the Cross Valley Transmission Line would have to be abandoned and moved. If so, the cost of each well relocation could be as much as \$100,000. Commenters wanted evaluation of potential impacts to groundwater quality and possible underground water contamination from the abandonment process.

Questions were raised about potential impacts to groundwater resources, adjudicated water rights, canal water, and groundwater and surface water that are delivered to agricultural users.

### ***Land Use and Planning***

The two primary land use issues raised in CPUC's CEQA scoping process were whether there would be impacts to existing HCPs and existing Natural Community Conservation Plans (NCCPs), and potential impacts to existing water conservation districts.

The potential for conflicts with existing zoning and the existing General Plan land use designations was raised, particularly whether there would be potential impacts on future planned development, including planned future mixed-use neighborhood, commercial, and industrial development, as well as parks and trails.

### ***Noise***

Commenters raised questions about blasting noise. Commenters also noted the noise or hum generated from power lines. (Commenters stated that power line noise is more significant during fog occurrences.) In addition, commenters noted that potential construction noise impacts on sensitive receptors (residences, schools, places of worship, etc.) and compliance with applicable jurisdictional goals and policies from jurisdictional General Plans and other governing documents should be evaluated.

### ***Population and Housing***

Comments focused on any potential demolition of homes and associated displacement of residents.

### ***Public Services and Utilities***

Comments expressed concerns about public services including concern about graffiti on towers and poles; cellular/wireless, satellite, TV, and radio disruption; proximity to schools and daycare centers; whether there is increased need for police, fire, and emergency services; and how restricted access to the transmission line easement would be maintained. Commenters raised concerns about impacts to utilities including wireless communication facilities, electrical facilities, and water conveyance infrastructure.

### ***Recreation***

Comments related to recreation centered on the potential for impacts to existing recreational resources (e.g., City of Visalia's East Sports Park near Road 152 and Sentinel Butte Valley).

### ***Transportation***

Transportation comments and questions centered on continued accessibility to private property, encroachment on California Department of Transportation (Caltrans) ROW, and access road impacts (access to properties, access to Caltrans roadways) as a result of access road construction.

Concerns about Impacts to SR-198, Road 148, and public modes of transportation were raised, as well as whether there might be impacts to air traffic, including heliport operations.

### ***Cumulative Impacts***

Commenters identified a need to adequately assess cumulative impacts from other concurrent projects, including those from Yokohl Ranch, Caltrans Loop Alt 1, Caltrans Loop Alt 2, Caltrans Loop Alt 4, and Pacific Gas and Electric's C3ETP line.

The Service proposes to issue an ESA Section 10 Incidental Take Permit for potential impacts to federally listed species. All HCP alternatives analyzed in this EA will address species take from three sets of Covered Activities: (1) construction; (2) operation and maintenance of a new Cross Valley Line; and (3) activities and actions to protect and conserve federally listed species and other sensitive species.

In all EA action alternatives considered, the ITP-holder would be SCE. SCE has requested an ITP term of 30 years. SCE expects that construction of the new Cross Valley project would be completed in 1 year. Prior to the expiration of the ITP at the end of the 30 years, SCE may apply to renew or amend their permit application, its associated HCP, and associated environmental documents to extend the ITP term.

Accordingly, this EA analyzes the direct, indirect, and cumulative impacts of issuing an incidental take permit and implementing an HCP that addresses species impacts resulting from the construction and O&M of a new Cross Valley facility, as well as any impacts associated with

conservation measures proposed in the HCP to avoid, minimize, or mitigate effects of the new Cross Valley transmission line on federally listed and other sensitive species.

### **Environmental Issues Not Included in this EA**

This section includes a discussion of environmental issues considered, but discarded from detailed analysis, pursuant to 40 CFR 1500.4(g), 1500.5(d), and 1501.7(a)(2). The issues described are not relevant to the proposed HCP or its future implementation.

#### ***Electrical Magnetic Fields***

CPUC examined electrical magnetic field (EMF) impacts in several previous proceedings and found the scientific evidence presented in those proceedings was uncertain as to the possible health effects of EMFs (CPUC 2009); therefore, CPUC did not find it appropriate to adopt any related numerical standards. Because there is no agreement among scientists that exposure to an EMF creates any potential health risk, and because CEQA does not define or adopt any standards to address the potential health risk impacts of possible exposure to EMFs, CPUC did not consider EMFs in the context of CEQA and determination of environmental impacts. For the same reasons, the Service does not consider EMFs an environmental issue related to our incidental-take permit decision or the implementation of the HCP. Therefore, EMFs are not analyzed in this NEPA document.

However, recognizing that public concern remains, CPUC required, pursuant to General Order 131-D, Section X.A, that all requests for a CPCN include a description of the measures taken or proposed by the utility to reduce the potential for exposure to EMFs generated by the proposed action. CPUC developed an interim policy that requires utilities to identify the no-cost measures undertaken, and the low-cost measures implemented, to reduce the potential EMF impacts. The benchmark established for low-cost measures is 4% of the total budgeted project cost that results in an EMF reduction of at least 15% (as measured at the edge of the utility ROW). These “no-cost” and “low-cost” measures to reduce EMF include:

- Use of a double-circuit pole-head configuration for the proposed 220 kV lines
- Use of poles which are 10 feet taller where homes are immediately adjacent to the edges of the ROW
- Implementation of phasing arrangements to reduce magnetic field levels at the edge of the ROW.

#### ***Mineral Resources***

Protection of mineral resources was not an issue raised in scoping and also was not an issue that was deemed to warrant additional analysis in the Preliminary Environmental Assessment (PEA) prepared by SCE (SCE 2009) or in the EIR prepared by CPUC for the project (CPUC 2009,

2010a). The SCE PEA determined that the project would have no impact to the mineral resources in the southwestern portion of Tulare County. Furthermore, the closest aggregate mining operations are in the Kaweah River bed and a granite quarry near Lemon Cove, but the sites are outside the ROW where SCE would construct the Cross Valley Transmission Line. Transmission line O&M activities would also not result in the loss or availability of a known mineral resource or loss of a local resource recovery site.

## **1.6 REQUIRED PERMITS, APPROVALS, AND OTHER ENTITLEMENTS**

This section lists other federal permits, licenses, and other entitlements that SCE must obtain to construct and operate the Cross Valley Transmission Line, to implement HCP Covered Activities, or to implement the HCP conservation strategy. The list below is not an exhaustive list of all environmental laws. Other laws that may apply to the proposed action can be found in Chapters 4–18.

The ESA allows the Service to issue permits for the incidental take of threatened or endangered species only if the activities causing that take are otherwise lawful and do not violate another federal, state, or local environmental regulation or statute.

### **Federal Regulations**

#### ***Federal Endangered Species Act***

The ESA and its implementing regulations prohibit take of any fish or wildlife species that is federally listed as threatened or endangered without prior approval pursuant to either Section 7 or Section 10(a)(1)(B) of ESA. The ESA defines “take” as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” The ESA further defines the term “harm” in the take definition to mean any act that actually kills or injures a federally listed species, including significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering. “Harass” in the definition of “take” means an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering (50 CFR 17.3).

**Section 10.** Section 10 establishes a process for obtaining an ITP, which authorizes nonfederal entities to incidentally take federally listed wildlife or fish, subject to certain conditions. Thus, the HCP process is designed to address non-federal land, water use, or development activities that do not involve a federal action that is subject to ESA Section 7 consultation. “Incidental take” is defined by the ESA as take that is “incidental to, and not the purpose of, the carrying out

of an otherwise lawful activity.” Preparation of a conservation plan, generally referred to as an HCP, is required for all Section 10 ITP applications. HCPs submitted in support of an ITP application must include the following information.

- A complete description of the activity sought to be permitted.
- The common and scientific name of the species sought to be covered by the permit.
- Impacts likely to result from the proposed taking of the species for which permit coverage is requested.
- Measures that will be implemented to monitor, minimize, and mitigate the impacts, and the funding that will be made available to undertake such measures; and procedures to deal with changed and unforeseen circumstances.
- Alternatives to the proposed taking that the applicant considered and why such alternatives are not proposed to be utilized.
- Additional measures the Service may require as necessary or appropriate for the purposes of the plan.

The HCP permit application processing phase begins when the applicant submits a complete application package to the Service. A complete application package for a low-effect HCP consists of (1) the proposed HCP, (2) a completed permit application form, (3) the application fee, and (4) a draft NEPA analysis.

If the Service’s review of these documents finds them to be statutorily complete, the Service will publish a Notice of Receipt of a Permit Application in the Federal Register. Service policy requires a public review and comment period for HCPs that include a Draft EA. The Service will then prepare an ESA Section 7 Biological Opinion (see ESA Section 7 below).

The regulatory standard under ESA Section 10(a)(1)(B) requires a determination by the Service that all of the following ITP issuance criteria have been met:

- The taking will be incidental.
- The impacts of the incidental take will be minimized and mitigated to the maximum extent practicable.
- Adequate funding for the HCP and funding for procedures to handle unforeseen circumstances will be provided by the applicant.
- The taking will not appreciably reduce the likelihood of survival and recovery of the species in the wild.

- The applicant will provide additional measures that the Service requires as being necessary or appropriate.
- The Service has received assurances, as may be required, that the HCP will be implemented.

In addition, the Service must consider the anticipated duration and geographic scope of the applicant's planned activities, including the amount of listed species habitat that is involved and the degree to which listed species and their habitats are affected.

**ESA Section 7.** Federal activities (and nonfederal activities that receive federal funding or require a federal permit, other than a Section 10 permit), typically obtain authority to take listed species through the consultation process provided under ESA Section 7. ESA Section 7 requires all federal agencies to ensure that any discretionary action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any species listed under the ESA, or to result in the destruction or adverse modification of its designated critical habitat.

The issuance of a Section 10 ITP is a discretionary federal action by the Service. Consequently, prior to issuing a permit, the Service must conduct an internal Section 7 consultation on the proposed HCP and proposed permit action. The internal consultation is conducted after an HCP is developed by a nonfederal entity and submitted for formal processing and review.

Provisions of ESA Sections 7 and 10 are similar, but Section 7 requires consideration of several factors not explicitly required by Section 10. Specifically, Section 7 requires consideration of the indirect effects of a project, effects on federally listed plants, and effects on designated critical habitat. The Service must also consider the interrelated, interdependent, and cumulative effects analyzed through the Section 7 consultation. Internal consultation on a Section 10 permit action ensures that issuance of the ITP also meets ESA standards under Section 7. The internal Section 7 consultation terminates with the completion of a Biological Opinion prepared by the Service, which provides the Service's determination of whether the issuance of the proposed permit and implementation of the HCP might result in jeopardy to any listed species, or might adversely modify designated critical habitat.

### **Migratory Bird Treaty Act**

The Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703 et seq.) is a federal statute that implements treaties with several countries for the conservation and protection of migratory birds, and authorizes the U.S. Secretary of the Interior to protect and regulate the taking of migratory birds. It establishes seasons and bag limits for hunted species and protects migratory birds, their occupied nests, and their eggs (16 U.S.C. 703, 50 CFR 21, 50 CFR 10). Most actions that result in taking or in permanent or temporary possession of a migratory bird species constitute violations of MBTA. The number of bird species covered by MBTA is extensive and is listed at

50 CFR 10.13. The regulatory definition of “migratory bird” is broad and includes any mutation or hybrid of an MBTA-listed species and any part, egg, or nest of such birds (50 CFR 10.12). Most migratory birds that are listed under the ESA are also listed under MBTA. The Service is responsible for overseeing compliance with MBTA, and the U.S. Department of Agriculture’s (USDA’s) Animal Damage Control Officer makes recommendations on related animal-protection issues. The Service must assure that our actions, including our permit actions, will not violate any component of the MBTA or Executive Order 13186.

### **Bald and Golden Eagle Protection Act**

The Bald and Golden Eagle Protection Act (16 U.S.C. 668–668d), enacted in 1940, and as amended in 2009, prohibits anyone, without a permit issued by the Service, from “taking” bald and golden eagles, including their parts, nests, or eggs. The Service is responsible for overseeing compliance with the Bald and Golden Eagle Act. The act defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb.” Under the act, “disturb” means “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle; 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.” The Service must assure that our actions, including our permit decision actions, will not violate any component of the Bald and Golden Eagle Protection Act.

### **Clean Water Act**

The federal Clean Water Act (CWA) was enacted as an amendment to the federal Water Pollution Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to waters of the United States. The CWA serves as the primary federal law protecting the quality of the nation’s surface waters, including lakes, rivers, and coastal wetlands. The objective of the CWA is to restore and maintain the chemical, physical, and biological integrity of the nation’s waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands.

**Section 404.** CWA Section 404 regulates the discharge of dredged and fill materials into waters of the United States. Waters of the United States refers to oceans, bays, rivers, streams, lakes, ponds, and wetlands, including any or all of the following: areas within the ordinary high water mark of a stream, including nonperennial streams with a defined bed and bank and any stream channel that conveys natural runoff, even if it has been realigned; and seasonal and perennial wetlands, including coastal wetlands. Section 404 of the CWA established a permit program administered by the U.S. Army Corps of Engineers (ACOE) on behalf of the Environmental Protection Agency (EPA), for regulating the discharge of dredged or fills material into waters of

the United States, including wetlands. CWA Section 502 further defines “navigable waters” as “waters of the United States, including territorial seas.” “Waters of the United States” are broadly defined in the CFR, Title 33, Section 328.3, Subdivision (a) to include navigable waters; perennial and intermittent streams, lakes, rivers, and ponds; wetlands, marshes, and wet meadows; all interstate waters; all waters which could affect interstate or foreign commerce; and tributaries of such waters. Implementing regulations by ACOE are found at 33 CFR 320–330. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines and were developed by the EPA in conjunction with ACOE (40 CFR 230). The guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

**Section 402.** This section of the CWA established the National Pollutant Discharge Elimination System (NPDES) program which controls direct discharges into navigable waters. Direct discharges or “point source” discharges are from sources such as pipes and sewers. NPDES permits, issued by either the EPA or an authorized state/tribe, contain industry-specific, technology-based and/or water-quality-based limits, and establish pollutant monitoring and reporting requirements. (The EPA has authorized 40 states to administer the NPDES program.) A facility that intends to discharge into the nation’s waters must obtain a permit before initiating a discharge. A permit applicant must provide quantitative analytical data identifying the types of pollutants present in the facility’s effluent. The permit will then set forth the conditions and effluent limitations under which a facility may make a discharge.

An NPDES permit may also include discharge limits based on federal or state/tribe water quality criteria or standards that were designed to protect designated uses of surface waters, such as supporting aquatic life or recreation. These standards generally do not take into account technological feasibility or costs. Water quality criteria and standards vary from state to state (tribe to tribe) and site to site, depending on the use classification of the receiving body of water. Most states/tribes follow EPA guidelines that propose aquatic life and human health criteria for many of the 126 priority pollutants.

**Section 401.** Pursuant to Section 401 of the federal CWA, the Regional Water Quality Control Board (RWQCB) regulates discharging waste, or proposing to discharge waste, within any region that could affect a “water of the State” (Water Code, Section 13260(a)), pursuant to provisions of the Porter-Cologne Water Quality Control Act. Waters of the State are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (Water Code, Section 13050(e)). Before ACOE will issue a CWA Section 404 permit, applicants must receive a CWA Section 401 Water Quality Certification from the RWQCB. If a CWA Section 404 permit is not required for the project, the RWQCB may still require a permit (i.e., Waste Discharge Requirement) under the Porter–Cologne Water Quality Control Act. Applications to the RWQCB must include a complete certified CEQA document.

## National Historic Preservation Act

The National Historic Preservation Act (NHPA) established the National Register of Historic Places (NRHP) and the President’s Advisory Council on Historic Preservation, and provided that states may establish State Historic Preservation Officers to carry out some of the functions of NHPA. Section 106 of the National Historic Preservation Act requires that, before beginning any undertaking, a federal agency must take into account the effects of the undertaking on historic properties and afford the Advisory Council on Historic Preservation an opportunity to comment on these actions (16 U.S.C. 470f). The Section 106 process is presented in 36 CFR 800 and consists of five basic steps:

1. The lead federal agency initiates the process by coordinating with other environmental reviews, consulting with the State Historic Preservation Officer (SHPO), identifying and consulting with interested parties, including federally recognized tribes, and identifying points in the process to seek input from the public and to notify the public of proposed actions.
2. Identify cultural resources and evaluate them for National Register of Historic Places (NRHP) eligibility, resulting in the identification of Historic Properties.
3. Assess effects of the project on Historic Properties.
4. The lead federal agency consults with the SHPO and interested parties regarding adverse effects on Historic Properties, resulting in a Memorandum of Agreement (MOA).
5. Proceed in accordance with the MOA.

A historic property is defined as a building, structure, site, or object that is listed in or eligible for listing in the NRHP. Eligibility for listing in the NRHP is determined by a property’s ability to convey its significance relative to four criteria (36 CFR 60.4).

Cultural resources may be considered eligible for listing if they possess integrity of location, design, setting, materials, workmanship, feeling, and association. A resource may be considered historically significant and eligible for NRHP listing if:

- It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States; or
- It is associated with the lives of persons important to local, California, or national history; or

- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values; or
- It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

### **National Environmental Policy Act**

NEPA was signed into law in 1970. NEPA requires federal agencies to consider and disclose the environmental impacts of their proposed actions (in this instance, issuance of an ITP), and include public participation in the planning and implementation of their actions. NEPA compliance is obtained through one of three actions: (1) a categorical exclusion and preparation of an Environmental Action Memorandum (EAM) (allowed for low-effect HCPs), (2) preparation of an EA (generally prepared for moderate-effect HCPs); or (3) preparation of an EIS (generally prepared for larger or high-effect HCPs). The NEPA process helps federal agencies make informed decisions regarding the environmental consequences of their actions and ensures that measures to protect, restore, and enhance the environment are included, as necessary, as a component of their actions.

The President’s Council on Environmental Quality (CEQ), which was established in 1970 along with NEPA, has promulgated regulations and prepared guidance that provide general content for federal agencies to follow when preparing these documents. Each federal department and bureau was required to adopt its own detailed NEPA procedures. For example, the Department of the Interior updated its regulations for implementation of the NEPA in October 2008 (43 CFR Part 46).

### **State Regulations**

#### ***California Endangered Species Act***

The California Endangered Species Act (CESA; Fish and Game Code 2050 et seq.) is administered by CDFW. The California Endangered Species Act (CESA) prohibits the take of endangered, threatened, and candidate species; however, habitat destruction is not included in the state’s definition of “take.” Under Section 2062 of the Fish and Game Code, the term “endangered species” refers to “a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.” Under Section 2067, the term “threatened species” refers to “a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts.” Under Section 2068, the term “candidate species” refers to “a native

species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list.”

The CESA prohibits the take of listed species except as otherwise provided in state law. Unlike its federal counterpart, the CESA applies the take prohibitions to species that are candidates for state listing. The Fish and Game Code defines “take” as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.”

### CESA Section 2081

CDFW may authorize the incidental take of listed species under CESA through issuance of an ITP pursuant to Fish and Game Code Section 2081, subdivisions (b) and (c). These provisions of the Fish and Game Code, coupled with CDFW’s CESA Implementing Regulations (14 CCR 783.0 et seq.), authorize CDFW to issue an incidental take permit for a project as proposed if: (1) the take is incidental to an otherwise lawful activity; (2) the impacts of the taking are minimized and fully mitigated by measures that are roughly proportional in extent to the project-related impact to the species, maintain the applicant’s objectives to the maximum extent possible, and are capable of successful implementation; (3) the applicant ensures adequate funding to implement the measures, and for monitoring compliance with and effectiveness of those measures; and (4) the issuance of the permit would not jeopardize the continued existence of the species.

Unlike the ESA, under the CESA state-listed plants have the same degree of protection as wildlife, but insects and other invertebrates may not be listed. “Take” is defined differently than it is in the ESA. “Take” is defined under the California Fish and Game Code (more narrowly than under ESA) as any action or attempt to “hunt, pursue, catch, capture, or kill.” Therefore, take under CESA does not include “the taking of habitat alone or the impacts of the taking.” Like ESA, CESA allows exceptions to the prohibition for take that occurs during otherwise lawful activities. The requirements of an application for incidental take under CESA are described in Section 2081 of the California Fish and Game Code. Incidental take of state-listed species may be authorized if any applicant submits an approved plan that minimizes and “fully mitigates” the impacts of this take. Rather, the courts have affirmed that under CESA, “taking involves mortality.” Under the CESA, take is prohibited for both listed and candidate species. Take authorization may be obtained by the project applicant from CDFW under CESA Section 2081, which allows take of a listed species for educational, scientific, or management purposes. In this case, private developers consult with CDFW to develop a set of measures and standards for managing the listed species, including full mitigation for impacts, funding of implementation, and monitoring of mitigation measures.

## *California Fish and Game Code*

### Section 1600

In accordance with Section 1600 et seq. of the Fish and Game Code (Streambed Alteration), CDFW regulates activities which “will substantially divert, obstruct, or substantially change the natural flow or bed, channel or bank, of any river, stream, or lake designated by CDFW in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit.” CDFW takes jurisdiction to the top of bank of a stream, or the limit of the adjacent riparian vegetation, referred to in this report as “streambed and associated riparian habitats.” Applications to CDFW for a Streambed Alteration Agreement under Section 1600 et seq. must include a complete certified CEQA document.

14 CCR 1.72 defines a “stream” (including creeks and rivers) as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation.”

The 14 CCR 1.56 definition of “lake” includes “natural lakes or man-made reservoirs.” Diversion, obstruction, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife requires authorization from CDFW by means of entering into an agreement pursuant to Section 1602 of the Fish and Game Code.

Section 1600 et seq. does not extend to isolated wetlands and waters, such as small ponds not located on a drainage course, wet meadows, vernal pools, or tenajas, nor does it extend over marine waters influenced by the ebb and flow of the tide that lack a bed and bank form typical of stream channels.

Within estuary environments, a preponderance of evidence standard is necessary where it is not readily apparent where Section 1600 jurisdiction ends. Under this standard, the geometry of the water feature, the predominant salinity of the waters, the composition of vegetation, and the predominant fauna are used to determine the limits of CDFW jurisdiction under Section 1600. Waters are not regulated under Section 1600 of the Fish and Game Code where waters are principally marine, aquatic shorelines are shaped principally by tidal current and wave action not by fluvial processes, vegetation is saline marsh and not brackish or freshwater vegetation, and marine fish and invertebrate communities are prevalent. Conversely, areas dominated by fresh and brackish salinities and freshwater aquatic species, with fluvial erosion patterns, are regulated under Section 1600.

### Section 1602

Under Section 1602 of the Fish and Game Code, CDFW regulates activities that would divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. CDFW has jurisdiction over riparian habitats (e.g., microphyll woodland) associated with watercourses. Section 1602 requires any person or entity who proposes a project that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake or use materials from a streambed to notify CDFW before beginning the project. If CDFW determines that the project may adversely affect existing fish and wildlife resources, a lake or streambed alteration agreement issued by CDFW is required.

### *Article XII of the California Constitution*

The constitution of the State of California provides the fundamental basis for the CPUC's authority and structure. California law specifically directs that CPUC is responsible for approving construction of utility facilities, including transmission lines. Therefore, in order to construct a new transmission project, investor-owned utilities such as SCE must first obtain approval from CPUC. CPUC conducts varying levels of environmental analysis on transmission projects depending on their size (measured in voltage). Projects less than 50 kV are considered to be “distribution” projects, rather than transmission projects, and in general do not require CPUC approval. Projects between 50 kV and 200 kV require a Permit to Construct (PTC) from CPUC, which consists primarily of an environmental review pursuant to CEQA. Projects over 200 kV, such as the San Joaquin Cross Valley project, require a CPCN, which requires an environmental review of the project pursuant to CEQA, as well as the need for the project and the economics of the project.

Therefore, in May 2008, SCE submitted an application to CPUC for a CPCN to construct the San Joaquin Cross Valley project (as discussed earlier, the San Joaquin Cross Valley project consists of two smaller projects—the Big Creek Rebuild project and the Cross Valley Transmission Line project). This application opened a proceeding during which the project's purpose was analyzed as well as its environmental and economic impacts.

## **1.7 DECISIONS TO BE MADE**

The Service decision maker will use analysis in this NEPA document to determine, in part, if the Service can issue a Section 10(a)(1)(B) permit in response to SCE's permit application.

The Service decision maker will evaluate each analysis of adverse or beneficial effects on the human environment presented in this NEPA document. The decision maker's options are then (1) to deny the permit application (i.e., the NEPA No Action Alternative), (2) to approve the permit application and HCP as submitted (i.e., the NEPA Proposed Action), or (3) to approve a

permit based on an alternative HCP (i.e., approve a different HCP alternative which represents a modification of the proposed action).

In addition, the Service decision maker must determine whether the Service can conclude this NEPA process by preparing a FONSI, or if an EIS must be prepared by the Service before we make a decision on the SCE permit application.

## 1.8 REFERENCES CITED

- County of Tulare. 2010a. *Tulare County General Plan Environmental Impact Report*. Recirculated Draft. SCH No. 2006041162. Prepared by ESA. Sacramento, California: ESA. February 2010.
- County of Tulare. 2010b. *Tulare County General Plan 2030 Update: 2010 Background Report*. Prepared by ESA. Sacramento, California: ESA. February 2010.
- County of Tulare. 2012. *Tulare County General Plan 2030 Update*. Visalia, California: Tulare County, Resource Management Agency. August 2012. <http://generalplan.co.tulare.ca.us/index.html>.
- CPUC (California Public Utilities Commission). 1995. “Rules Relating to the Planning and Construction of Electric Generation, Transmission/Power/Distribution Line Facilities and Substations Located In California.” General Order No. 131-D. Effective September 10, 1995 (Decision 95-08-038). Accessed May 10, 2011. <http://www.cpuc.ca.gov/PUC/energy/Environment/>.
- CPUC. 2008. *San Joaquin Cross Valley Loop Project Scoping Report*. Prepared by ESA. San Francisco, California: ESA. October 2008.
- CPUC. 2009. *Southern California Edison’s San Joaquin Cross Valley Loop 220 kV Transmission Line Project Draft Environmental Impact Report*. SCH no. 2008081090. Prepared by ESA. San Francisco, California: ESA. June 2009.
- CPUC. 2010a. *Southern California Edison’s San Joaquin Cross Valley Loop 220 kV Transmission Line Project Final Environmental Impact Report*. Prepared by ESA. San Francisco, California: ESA. June 2010.
- CPUC. 2010b. Decision Granting Southern California Edison Company a Certificate of Public Convenience and Necessity to Construct the San Joaquin Cross Valley Loop Transmission Project. Decision 10-07-043. July 29, 2010.
- SCE (Southern California Edison). 2009. *Preliminary Environmental Assessment*.



INTENTIONALLY LEFT BLANK



INTENTIONALLY LEFT BLANK

## **CHAPTER 2.0**

### **ALTERNATIVES INCLUDING THE PROPOSED ACTION**

---

The National Environmental Policy Act (NEPA) Section 102[2][E] requires federal agencies to develop, study, and describe alternatives to courses of action in any proposal with the potential to result in unresolved resource conflicts. This chapter describes the process used by the U.S. Fish and Wildlife Service (Service) to determine the scope of alternatives considered in this Environmental Assessment (EA) and describes the alternatives that will be studied in detail, including the proposed action alternative. Finally, this chapter briefly explains other alternatives considered but eliminated from further study in the EA.

#### **2.1 APPROACH TO ALTERNATIVES**

Regulations for implementing NEPA require that agencies rigorously explore and objectively evaluate all reasonable alternatives. In addition, agencies must identify the alternatives eliminated from detailed study, with a brief discussion of the reasons for eliminating them (40 CFR 1502.14). Reasonable alternatives include those that are practical or feasible from a technical, economic, and environmental standpoint and using common sense, rather than simply desirable from the standpoint of an applicant (46 FR 18027). In addition to being technically and economically practical or feasible, a reasonable alternative meets the purposes and the need for the agency action, and addresses one or more of the significant issues (43 CFR 46.425; 43 CFR 46.420). The Agency's document must devote substantial treatment to each alternative considered so that reviewers may easily evaluate the comparative merit of each alternative (40 CFR 1502.14).

The purposes and need for agency action is a critical element of a NEPA environmental document. An environmental document's purpose and need statement sets the overall direction of the document and serves as important screening criterion for determining which potential alternatives are reasonable. Each action alternative analyzed must fulfill the requirements of the agency's purposes and the need for action. In this EA, the purposes and needs for the Service's action are presented in Section 1.2 of Chapter 1.

Possible alternatives that we found not reasonable or not technically feasible were eliminated from further analysis in this EA. Reasons for eliminating alternatives for detailed study included (1) failure of the alternative to meet the requirements of the purpose and the need for action; (2) the alternative could not, or can no longer be technically implemented; or (3) the alternative was determined to be unreasonable to implement due to social, cultural, or political realities, based on screening criteria derived from information discussed in Section 1.2 of Chapter 1.

As discussed in Section 1.3, Public and Agency Involvement, the Service reviewed and incorporated information gathered during earlier public scoping and consultations to help identify potential public and agency interdisciplinary concerns, potential environmental impacts, relevant

effects of past actions in the study area, and possible alternative actions deserving of study in this EA (CPUC 2008). Using the screening process described above, the Service also considered proposals that had been put forth by participating persons, communities, and organizations, as well as all potential Cross Valley Transmission Line alternatives proposed by Southern California Edison (SCE) and the California Public Utilities Commission (CPUC) (CPUC 2008, 2009, 2010), and all Habitat Conservation Plan (HCP) alternatives and conservation strategy alternatives discussed in the Cross Valley Line HCP (Appendix A to this EA).

## 2.2 ALTERNATIVES CARRIED FORWARD FOR DETAILED ANALYSIS

Only one action alternative, the proposed action, was determined to meet the criteria described in Section 2.1 and is carried forward for detailed analysis in this EA. When there are no unresolved conflicts about a proposed action with respect to alternative uses of available resources, an EA need only consider the proposed action and does not need to consider additional alternatives (Section 102(2)(E) of NEPA; 43 CFR 46.310(b); 40 CFR 1508.9). Therefore, this EA studies two alternatives:

- **No Action Alternative.** A “no-action” alternative represents the state of the environment without the proposed action. Under the No Action Alternative, the Service would not issue an incidental take permit (ITP), and SCE would not implement the proposed HCP or build the Cross Valley Transmission Line. Therefore, the No Action Alternative also assumes that SCE’s management and operation of existing transmission lines and facilities would continue in a manner similar to current practices.
- **Proposed Action Alternative.** The Service would issue an ITP based on the HCP proposed by SCE. All construction, maintenance, and conservation Covered Activities would be implemented as described in the HCP proposed by SCE (Appendix A to this EA).

## 2.3 NO ACTION ALTERNATIVE

A “no action” alternative does not result in “no change” to the environment; rather, it represents the future state or condition of the environment without the proposed action or any of the action alternatives (73 FR 61311). A no action alternative looks at effects of not approving the action under consideration, or any alternative of the action (43 CFR 46.30). NEPA regulations state that the term “no-action alternative” has two interpretations. First, “no action” may mean “no project” in cases such as the Cross Valley Transmission Line where a new project is proposed for implementation. Second, “no action” may mean “no change” from an ongoing management direction or level of management intensity (43 CFR 46.30; 46 FR 18027).

In this EA, the No Action Alternative is the future condition of the HCP Permit Area if the proposed ITP is not issued by the Service, an HCP is not implemented, and the construction and operation of the Cross Valley Transmission Line does not proceed. As required, all EA alternatives are described and analyzed in a similar manner. Therefore, the No Action Alternative is described in a similar format as the Proposed Action Alternative (Section 2.4), including the same term of analysis (30 years) and the same extent of each resource study area.

The No Action's future condition without the Cross Valley Transmission Line assumes that there would be no change in SCE's current operation of the existing transmission lines. The existing electrical problems at the Rector Substation and the potential for electrical outages within the "electrical need area" would continue, and may become increasingly worse as population increases in the electrical needs area over the next 30 years (see Section 1.1, Background Information, for a summary of the existing problems and issues in the "electrical needs area").

However, it is likely that the CPUC would not allow the existing problems to continue over a 30-year period. The CPUC could require SCE to come up with another solution to solve the underlying electrical needs and facility problems. Identifying another solution to the existing need would require SCE to initiate a new project planning process, and would require the CPUC to initiate a new CEQA process. However, future solutions that do not include construction of a Cross Valley Transmission Line are too speculative to predict and adequately describe in the No Action condition. Therefore, the EA's No Action Alternative is assuming both that "no project" would be constructed, and that "no change" would occur in SCE's current operation of the existing transmission lines.

The No Action Alternative provides the benchmark or baseline of comparison that enables decision makers to compare the magnitude of environmental effects of the different action alternatives. For some of the resources analyzed in this EA, we describe the future No Action condition of the resource as being similar or the same as the existing condition of that resource within the proposed HCP Permit Area. This is because there is an absence of reasonably foreseeable changes to that resource over the EA's study term of 30 years. For other resources, the development described in the County's General Plan and city general plans is reasonably foreseeable, and was expected to change that resource over the EA's study term, regardless of the Service's decision on the proposed permit action.

Under the EA's No Action Alternative, various types of projects and activities would occur within the proposed HCP Permit Area that are consistent with the County's General Plan and current regulatory practices (County of Tulare 2010a, 2010b). The various types of expected projects and activities are described below:

- Urban development would continue to occur pursuant to the General Plans of the two local governments that the proposed transmission line alignment passes through, and where proposed Covered Activities would occur (Tulare County 2010a, 2010b; City of Visalia 1989).
- Urban development would occur up to the planning limits of the urban growth boundaries described in Tulare County (2010a, 2010b) General Plan and the City of Visalia (1989). In addition to residential, commercial, and industrial development, this development category also includes the construction, maintenance, and use of urban infrastructure (e.g., road, utilities), parks and recreation facilities, public services, and similar types of urban land uses.
- Existing public infrastructure projects within the proposed HCP Permit Area and EA study area would continue to be operated and maintained under the future No Action condition, and new projects would be completed as described in the county and city general plans. This category includes activities such as trail repair, sediment and debris removal, natural resources protection projects (e.g., erosion control, vegetation management), transportation projects, bicycle and pedestrian improvements, new recreational facilities, and other types of infrastructure projects.
- Existing public/private infrastructure projects would continue to be operated and maintained under the No Action Alternative. This category includes activities such as existing utility line and facility operations and maintenance (O&M), vegetation and invasive species management, and road maintenance.
- Development activities would continue to occur under the No Action Alternative as described in Tulare County (County of Tulare 2010a, 2010b) and in the City of Visalia (1989). This is primarily expected to be rural residential development, but also includes limited commercial, industrial, and other types of development consistent with the Tulare County General Plan and City of Visalia General Plan.

Implementation of the future projects and activities described above would require compliance with environmental laws and regulations on a project-by-project basis. In many cases, these future activities would be subject to separate review under the California Endangered Species Act (CESA). In many cases, the activities would be subject to review under CEQA, which is expected to provide the primary mechanism to consider project effects on biological and other natural resources.

The magnitude of effects expected under a No Action Alternative is documented by contrasting the No Action Alternative's expected future condition to the current condition of each resource (43 CFR 46.415). As discussed in EA Chapter 3, the current condition of each environmental resource studied will be described in the "Affected Environment" sections of each resource chapter (Chapters 4–18).

**Function of the No Action Alternative.** In all NEPA environmental analysis, the effect of each action alternative (including the Proposed Action Alternative), is measured against the No Action’s expected future condition. Under NEPA, the No Action Alternative provides the frame of reference for determining impacts of each action alternative—i.e., the No Action Alternative forms the benchmark or “basis for comparison” to which all other alternatives are compared. As described in Chapter 3, the “Environmental Consequences” sections in each resource chapter (Chapters 4–18) will evaluate the environmental impacts of the Proposed Action Alternative on that resource by comparing those impacts to the impacts expected under the No Action condition. Each Environmental Consequences analysis will compare the Proposed Action Alternative to the No Action Alternative to determine the net effect or impact of the Proposed Action, and will then determine the significance of that net effect/impact. In this manner, the environmental changes expected to occur within the HCP Permit Area regardless of whether the Proposed Action is implemented will not be analyzed as impacts of the Proposed Action—because the description of the No Action condition includes all actions that would occur if the Proposed Action is not implemented.

The description of a No Action Alternative’s future condition normally includes the effects of “other reasonably foreseeable actions” upon the affected environment. However, the other reasonably foreseeable actions are rarely described or discussed as part of the No Action Alternative but, most commonly, are displayed in a separate section entitled “cumulative impacts” that consolidates descriptions and discussions of the other reasonably foreseeable projects. In this EA, the Environmental Consequences section of each resource chapter will discuss all direct, indirect, residual, net, and cumulative impacts to that environmental resource. To avoid repeating that information in each of the EA’s resource chapters, Chapter 3 of this EA will consolidate information, descriptions, and analysis of all “other actions” that are “reasonably foreseeable” to occur within the EA’s study area over the proposed permit term of 30 years.

## **2.4 PROPOSED ACTION ALTERNATIVE**

The proposed action is the issuance of an ITP by the Service and the implementation of the proposed Cross Valley Transmission Line HCP (including all HCP Covered Activities, the HCP Conservation Plan, the HCP Reporting and Monitoring Plan, the HCP Adaptive Management Plan, and all other components of the proposed HCP (see Appendix A to this EA)), and implementation of any permit term and conditions. The proposed HCP implementing entity is the permit applicant, SCE.

The proposed Cross Valley Transmission Line HCP (Appendix A) includes construction, O&M, and conservation Covered Activities.

## 2.4.1 Construction Covered Activities

The proposed construction Covered Activities would construct all components of the 23-mile 220-kilvolt (kV) Cross Valley transmission line within a 1-year period. All HCP Covered Activities would occur within the proposed 23-mile-long and 1,000-foot-wide HCP Permit Area (see Figure 1-1). The proposed HCP's construction Covered Activities include the following types of Covered Activities.

### Operation and Restoration of Existing Laydown Yards

During implementation of the proposed construction Covered Activities, SCE would use two existing laydown yards in the proposed HCP Permit Area: the Ivanhoe and Road 156 Laydown Yards. The Ivanhoe Laydown Yard is approximately 24 acres and is located just south of the St. John's River within the City of Visalia. The Road 156 Laydown Yard is approximately 10 acres and is located on the east–west portion of the proposed HCP Permit Area west of the Friant–Kern Canal. These existing laydown yards are currently fenced and covered with gravel. SCE constructed both laydown yards in 2010 as part of the separate Big Creek Rebuild project and currently uses both for construction offices and to store construction equipment and structures.

The two laydown yards would be used throughout the Cross Valley Transmission Line's proposed 1-year construction period. Operation of the laydown yards would also include the storage, fueling, landing, and takeoff of helicopters.

The two laydown yards may be left by SCE in their current condition for use by SCE or the landowners following construction of the proposed Cross Valley Transmission Line. At the landowners' discretion, however, the laydown yards may be restored back to their previous agricultural land cover. Restoration could include removal of the existing fences and other structures, removal of existing gravel, and plowing of the area to remove soil compaction. Removed materials would be reused by SCE in another project, or would be disposed of at a licensed landfill. The landowners would be responsible for the planting of any agricultural land cover.

### Construction of New Access Roads

Eight miles of new, unpaved access roads would be constructed in the east–west portion of the proposed HCP Permit Area to provide access to the new transmission line structures during construction and during subsequent O&M over the 30-year permit term (Figure 2-2). Of these new roads, 7 miles would be constructed east of the Friant–Kern Canal, primarily in grassland land cover. The remaining mile of new access roads would be constructed west of the Friant–Kern canal, primarily in agricultural land cover. All new access roads would have a 16-foot-wide drivable surface with 2-foot-wide shoulders. Some new access roads constructed in steep areas east of the Friant–Kern Canal would also require cut-slopes and fill-slope areas adjacent to the

road shoulders. Permanent drainage systems and stormwater diversion structures may be installed to minimize erosion damage to access roads from excess rainwater runoff. Most drainage systems and stormwater diversion structures would be located in the road surface, the shoulder, or the cut/fill slopes of the road design. Some of the stormwater diversion features would extend beyond the limits of the road surface, shoulders, or cut/fill slopes.

As discussed in Chapter 1, Introduction/Purpose and Need for Action, the north–south portion of the proposed HCP Permit Area is within an existing SCE transmission line corridor (i.e., right-of-way). The west half of this existing 150-foot-wide right-of-way is occupied by the Big Creek Rebuild Transmission Line. Old structures in the eastern half of the existing north–south right-of-way were removed under a previous project, and the eastern half of the north–south corridor is empty under the existing conditions. Access roads required for constructing and accessing the north–south portion of the proposed Cross Valley Line already exist, and no new access roads would be constructed to implement construction Covered Activities within the north–south portion of the proposed HCP Permit Area.

### **Improvement and Repair of Existing Access Roads**

In addition to use of the new access roads, SCE’s construction-related vehicles would use sections of existing public roads, existing SCE access roads, and existing land owner roads within the proposed HCP Permit Area. In the proposed HCP Permit Area, 40.5 miles of existing public (paved and unpaved), SCE (unpaved), and landowner roads (unpaved) would be used (see Figures 2-1a and 2-1b and Figure 2-2 for new roads). Construction-related vehicles would use these roads to implement the construction Covered Activities. However, 28 miles of these roads require some improvement of their drivable surface to allow for their use during construction, and all 40.5 miles of existing roads may require repairs to their drivable surface after construction.

Pre-construction improvements to the drivable surface on both paved and unpaved roads would include filling potholes and smoothing the surface, and checking and increasing compaction. SCE would fill potholes and smooth the drivable surface using a small grader, support vehicles (e.g., pickup trucks), hand tools, and water trucks. SCE would compact the drivable surface using compactors, support vehicles, and water trucks. Improvements and repairs would occur within the facility footprint of any existing road.

### **Construction of Transmission Line Structures**

The proposed transmission line would involve the construction of 90 new double-circuit tubular steel poles (TSPs) and 16 new single-circuit lattice steel towers (LSTs) (106 new structures total), of which 25 TSPs and 14 LSTs (39 total) would be constructed east of the Friant–Kern Canal. Assembled TSPs and LSTs would range from 120–160 feet in height.

The construction of these new transmission line structures would proceed through five steps:

1. Preparation of TSP and LST structure pads,
2. Preparation of crane pads,
3. Construction of TSP foundations and LST footings,
4. Assembly and erection of structures, and
5. Revegetation of crane pads.

Each step associated with construction of new transmission line structures is described below.

### ***Preparation of TSP and LST Structure Pads***

The facility footprint of transmission line structures (i.e., TSPs and LSTs) would be a graded, compacted surface (referred to as a “structure pad” herein) for installation of each structure’s foundation. The entire structure pad would be maintained free of vegetation.

As discussed in Chapter 1, the north–south portion of the proposed Cross Valley Transmission Line would be placed in the eastern half of the existing transmission line right-of-way (which is shared with the completed Big Creek Rebuild transmission line). In this north–south portion of the proposed HCP Permit Area, new transmission line structures would be constructed on existing compacted structure pads. The vacant TSP and LST structure pads in the north–south portion of the proposed HCP Planning Area are currently maintained clear of vegetation by SCE and would be maintained clear of vegetation after completion of the construction Covered Activities.

In the north–south portion of the proposed HCP Permit Area, the existing structure pads are rectangular and 0.38–0.39 acre in size, but the one existing structure pad measures 0.62 acre in size. In the east–west portion of the HCP Planning Area, the 25 new graded and compacted TSP structure pads would be closer to square and 0.25–0.27 acre in size. In the east–west portion of the proposed HCP Permit Area, 14 new LST structure pads would be east of the Friant–Kern Canal and would be rectangular, totaling 0.25–0.52 acre in size.

The 39 new structure pads would be constructed in four steps: (1) clearing and grubbing of vegetation, (2) rough grading of soil, (3) blasting of any rock, and (4) final grading. Structure pads for new transmission line structures would not have drainage systems or stormwater diversion structures. Each of the structure pads for the new transmission line structures would require the temporary installation of stormwater best management practices (BMPs) during construction.

### ***Preparation of Crane Pads***

Cranes would be used to assemble the transmission line structures (TSPs and LSTs) on their foundations and would later be used for some maintenance Covered Activities on the transmission line structures. Crane operation requires a flat and compacted soil surface. All crane pads would be 0.06 acre in size (50 by 50 feet). The 106 crane pads almost entirely overlap with the structure pads of new transmission line structures and/or the footprint of the access roads. Cranes used for assembly and subsequent maintenance of the transmission line structures can be operated within the structure pads or within an access road footprint for 92 of the 106 new transmission line structures. Therefore, 14 high disturbance work areas (i.e., a work area that would be graded and compacted) would be constructed at 14 of the 106 new transmission line structures for use as a crane pad. All 14 crane pads would be located east of Friant–Kern Canal. Unlike the structure pads for transmission line structures, crane pads would not contain permanently installed structures and would not be maintained clear of vegetation after construction ends. Rather, crane pads would be revegetated with annual grasses after construction.

The 14 crane pads would be prepared using the same four steps and equipment used for the clearing and grubbing, rough grading, blasting, and final grading of new structure pads. Each 0.06-acre crane pad surface would be graded and compacted. Temporary stormwater BMPs would be installed for each 0.06-acre crane pad during construction. Construction crews would use 106 separate low disturbance work areas associated with each structure pad to assemble the 106 TSPs and LSTs. A “low disturbance work area” would not be graded or compacted, but existing vegetation and soil surfaces would be disturbed.

### ***Construction of TSP Foundations and LST Footings***

After the permanent TSP and LST structure pads are prepared, permanent TSP foundations and LST footings would be constructed on the pad. These foundations would be located entirely within the TSP and LST structure pads. Truck- or tread-mounted augers, wheeled or tracked cranes, water trucks, ready-mix-concrete trucks, backhoes, and miscellaneous support vehicles would be used to construct foundations and footings. All vehicles and equipment would work from permanent access roads, within the permanent TSP and LST structure pads, or within the temporary low disturbance work area associated with each structure pad.

Each new TSP would be supported by a single, circular, reinforced-concrete foundation. An auger would be used to excavate a 6–10-foot-diameter hole and 20–37 feet deep for the foundation, depending on soil conditions and other engineering requirements. The excavated soil would be spread on the adjacent TSP structure pad for use in the rough grading of the structure pad, the associated crane pad, used to construct new access roads, or the excavated material would be disposed outside of the HCP Permit Area at a licensed landfill. Following excavation of a hole for

the foundation, reinforced-steel bar (rebar) cages would be set into the excavated hole, and anchor bolts placed and concrete pumped from a ready-mix-concrete truck into the rebar cages. Depending upon foundation dimensions, 50–110 cubic yards of concrete would be delivered to each TSP site for the foundation. Depending upon site-specific conditions and engineering requirements, the concrete foundation would extend aboveground 1–4 feet in height.

LSTs would be supported by four reinforced-concrete footings. An auger would be used to excavate four footing-holes that would each be 31–49 feet in depth and 3–6 feet in diameter. Excavated material would be spread on the adjacent LST structure pad to use in the rough grading of roads or pads for transmission structures and cranes, or the material would be disposed outside of the proposed HCP Permit Area at a licensed landfill. Following excavation, construction crews would set rebar cages in each footing hole and pour in concrete from a ready-mix-concrete truck. Depending upon footing height, diameter, and depth, 32–60 cubic yards of concrete would be delivered to each new LST structure site for the four footings. The footings would extend 1–4 feet aboveground depending on site-specific conditions and engineering requirements.

Where a foundation hole would extend below the groundwater table, the soil may be not sufficiently stable to allow for excavation and placement of concrete. In this situation, the construction crew may pump a soil-stabilizing solution into the hole to prevent material from sloughing off the sides and caving into the bottom of hole. After excavating the hole, the construction crew would remove all unused stabilizing solution, and it would be trucked to a licensed landfill for disposal. Alternatively, the construction crew may construct a lining (a casing) within the hole to prevent sloughing and caving of soil.

Also, prior to pouring the concrete, construction crews may pump water out of the hole. SCE must prepare a dewatering plan and the pumped water would be pumped into a container truck and the water disposed of off site at an acceptable disposal site, consistent with the state or Regional Water Quality Control Board-approved stormwater pollution prevention plan (SWPPP) and permit.

Where foundation holes extend into bedrock, the TSP/LST may be installed on a rock anchor foundation. The construction crew would drill holes (“dowel holes”) into the rock, and a steel anchor would be placed and mortared into each drilled hole. These steel anchors would serve as the foundation/footings for the TSP/LST structures.

### ***Assembly and Erection of Structures***

Following the production of foundations and footings, SCE would complete the construction of TSPs and LSTs by assembling and erecting the TSP/LST structure. In addition, at the eastern terminus of the proposed Cross Valley Transmission Line, two existing structures on the existing Big Creek–Springville 220 kV transmission line would be removed and replaced as a Cross Valley Line HCP Covered Activity.

Most assembly and erection of the TSP and LST structures would occur within TSP and LST structure pads, within crane pads, and within footprints of new access roads. The area needed for assembling and erecting TSP and LST structures (i.e., structure pads, structure work areas for TSPs and LSTs) can be as large as 0.92 acre in the north–south portion of the proposed HCP Permit Area and 0.49 acre in the east–west portion, generally extending beyond the boundaries of permanent access road facility footprints. Structure work areas are temporary “low disturbance work areas” that would not be graded or compacted, but existing vegetation and soil surfaces will be disturbed by vehicles, heavy equipment, and materials used in these work areas. Following erection of TSP/LST structures, structure work areas for TSPs/LSTs would be revegetated.

Truck-mounted, wheeled, or tracked cranes; flatbed trucks; hydraulic jacking equipment; and bucket trucks would be used to assemble and erect TSPs and LSTs.

TSPs would be transported to prepared permanent TSP structure pads in two or more sections on flatbed trucks. These pieces would be assembled in the structure pad, the crane pad, and the access road footprint and in the temporary structure work area using hydraulic jacking devices and a tread-mounted crane. After initial TSP assembly, the construction crew would install arms, insulators, and wire rollers on the arms of the TSP (wire rollers would be used later to install conductors on the TSP). Finally, a minimum 80-ton, tread-mounted crane would be used to lift and set the TSP (which may range from 120–160 feet in height) on its foundation. The crane would be operated from the prepared crane pad, or within the structure pad or within the access road footprints.

The LST components would be transported to LST structure pads and the adjacent temporary structure work areas. The construction crew would then assemble these components into an LST. At this time, the construction crew would also install insulators and wire rollers on the arms of the LST structure. Assembled LSTs (which may range from 120–160 feet in height) would be raised and placed on their foundations using an 80-ton, tread-mounted crane, and then bolted in place. The crane would be operated from the prepared crane pad, or within the structure pads or within access road footprints.

### ***Revegetation of Crane Pads***

Unlike the structure pads for TSPs and LSTs, the 0.06-acre (50 by 50 feet) crane pads that were graded, compacted, and constructed would not contain permanently installed structures or facilities and would not be maintained clear of vegetation (except where an access road facility footprint or structure pad is being used as part or all of the crane pad). The 14 separate crane pads may be decompact, recontoured, and hydroseeded with a seed mix, a tackifier, and mulch. De-compaction of the 14 50-by-50-foot pad can be performed by a rototiller, a tractor with attachment, the tines of heavy machinery such as a backhoe, or in small areas, by hand tools. Seed mixes would be certified as weed-free and acceptable to landowners. The tackifier

adheres seed to the soil (and to applied mulch), and the mulch protects the soil surface until plants become established. Seed, tackifier, and mulch would be mixed in a liquid medium and sprayed onto exposed soil surfaces by a truck equipped for hydromulching. In smaller areas or areas with intermingled patches of remaining vegetation and undisturbed soil, seed may be applied by a hand-operated broadcaster, and covered with mulch by hand.

### **Stringing of Conductors and Optical Ground Wires (OPGWs)**

Stringing of the conductors (i.e., electrical wires) and the one OPGW consists of four steps:

1. Placing guard poles at crossings, as needed;
2. Preparing pull-tensioning-splicing work areas;
3. Stringing of conductors and the OPGW; and
4. Installing bird flight diverters on the OPGW.

Each of the steps used for string of conductors and OPGWs below.

#### ***Placement of Guard Poles***

Prior to stringing conductors, guard poles would be placed at 78 sites to protect existing facilities, including existing roads and other utilities, and where the proposed transmission line crosses rivers and creeks. These temporary guard poles would prevent a conductor from dropping onto these public facilities or waterways during conductor attachment to LST and TSP arms (i.e., stringing).

Typical guard poles would be 60–80-foot-tall wood poles. Two to four poles would be inserted into the ground on either side of a facility, infrastructure, or waterway crossing. In some instances where it would not be feasible to install guard poles, cranes or bucket trucks may be parked adjacent to public roads or existing electric distribution lines to support the conductors and prevent conductors from dropping onto the public facilities or waterways during stringing.

After conductors and OPGWs have been strung, a crane and/or backhoe would be used to extract the wood poles from the ground, and the poles taken away on a flatbed truck. The construction crew would then backfill the holes using the backhoe and hand tools. Disturbed land cover would then be hydroseeded to revegetate. Guard poles would be installed, or cranes or bucket trucks parked at both sides of 78 crossings, of which 18 crossing sites would be east of the Friant–Kern Canal.

### ***Preparation of Pulling/Tensioning/Splicing Work Areas***

Seventeen work areas for pulling, tensioning, and splicing new conductors and new OPGWs would be prepared along the 23-mile-long HCP Permit Area. Fifteen of these pulling/tensioning/splicing work areas would be east of the Friant–Kern Canal.

The 17 pulling/tensioning/splicing work areas vary in size, from 0.46–4.6 acres. Preparation of pulling/tensioning/splicing work areas involves clearing and grubbing, blasting, and rough grading of the site to produce a level surface suitable for operation of equipment to pull, tension, and splice conductors and OPGWs. Clearing and grubbing, blasting, and rough and final grading would be performed. However, following completion of the stringing of conductors and OPGWs, and the installation of bird flight diverters, the exposed land surface of all pulling/tensioning/splicing work areas would be decompacted, recontoured, and revegetated.

All vehicles and equipment would access pulling/tensioning/splicing work areas (including both low- and high-disturbance work areas) via access roads, structure pads, crane pads, and the temporary TSP and LST structure work areas.

### ***Stringing of Conductors and Optical Ground Wires***

Six conductors and one OPGW would be installed on the new TSP and LST transmission line structures of the proposed 23-mile-long Cross Valley Line. An OPGW is an approximately 1-inch diameter cable that houses communication fiber optics and would also act to shield the conductors, LSTs, and TSPs in the event of a lightning strike. As part of installing conductors and OPGWs, construction crews would also attach vibration dampers, weights, and suspension and dead-end hardware assemblies to conductors and the OPGW, and bird flight diverters on the eastern 3.2 miles of the OPGW east of the Friant–Kern Canal.

The following equipment would be used to install conductors, OPGWs, vibration dampers, weights, and other associated hardware: trailer-tractor pulling and tensioning equipment, dozer wire dolly's winches, bucket trucks (fastened to conductors and used to move along the line), truck-mounted man lifts, and helicopters. This equipment would be brought to the new pulling/tensioning/splicing work areas using access roads, and brought to the existing pulling/tensioning/splicing work areas in the north–south part of the proposed HCP Permit Area via access roads.

Construction crews would begin stringing conductors and the OPGW by installing rollers (also called “travelers”) on the bottom of insulators already mounted on the arms of a TSP or LST. A crew working from a pulling/tensioning/splicing work area would install one end of a sock line (a small cable used to pull a conductor or OPGW) onto a roller using helicopters and/or truck-mounted lifts and would then pull the sock line along and attach it to the rollers of a series of

TSPs and/or LSTs. Truck-mounted lifts would only travel on access roads and on structure pads, LST and TSP structure work areas, and crane pads. Helicopters would be used to pull the sock lines between pull sites.

Once the sock line is in place, the crew would attach one end of a conductor to the sock line and pulls (or strings) the conductor into place along the rollers using trailer–tractor pulling equipment operating at the 17 new and existing pull and tension sites. The conductor would be pulled through each TSP or LST structure under controlled tension to keep it elevated and away from obstacles.

The end of a conductor would be attached to the end of the next length of conductor by splicing: construction personnel would place the terminal segment of the two conductors side by side and assemble and tighten a casing around them (i.e., a splice case). Construction personnel splice segments of the OPGW together by heating and fusing them in a sterile environment or in an enclosure at a trailer or truck. SCE personnel would splice conductors and the OPGW splicing on the ground at the pulling/tensioning/splicing work areas. Then the splice case would be attached to the top of the TSP or LST structure located adjacent to the pulling/tensioning/splicing work area.

Once the conductor is in place, and sagged to the proper tension, trucks with lifts and hand tools would be used at LSTs and TSPs to clip the conductor into each insulator, remove the rollers, and install vibration dampeners and other hardware (including bird flight diverters). Rather than being fastened to insulators, the OPGW would be attached to the top of each TSP and LST structure.

### ***Installing Bird Flight Diverters***

Bird flight diverters are nonlighted reflective structures that would be fitted on the OPGW to make the OPGW more visible to birds and reduce injury and deaths resulting from collisions with transmission lines. Bird flight diverters would be installed along some sections of the OPGW at 15-foot intervals on the east–west portion of the proposed HCP Permit Area, and at 30-foot intervals on the north–south section of the transmission line, where the adjacent existing transmission line (the Big Creek Rebuild Transmission Line) has bird flight diverters at 30-foot intervals, but new diverters on the proposed Cross Valley Line would be offset 15 feet from those on the adjacent Big Creek Rebuild Transmission Line.

Bucket trucks or spacing carts (which would be suspended from and move along conductors) and, in some locations, helicopters would be used to install the bird flight diverters. No disturbance of land or vegetation outside of access roads, structure pads, TSP and LST structure work areas, and pulling/tensioning/splicing work areas would occur; all equipment and materials used to install bird flight diverters would be suspended from conductors or a helicopter within the boundaries of access roads, structure pads, TSP and LST structure work areas, and pulling/tensioning/splicing work areas.

## **Installation of Storm Water Pollution Prevention Plan (SWPPP) Best Management Practices (BMPs)**

SWPPP water-quality BMPs would be installed including materials and temporary structures around all facility footprints and work disturbance areas to ensure that stormwater runoff and pollutants and their sources associated with construction would be controlled. Pollutants include sediment carried by runoff. These temporary structures may include check dams, silt fences, fiber rolls, gravel bag berms, sandbag barriers, covers of plastic sheeting on stockpiled materials, and stabilized entrances/exits to facility footprints and low and high work disturbance areas. All BMPs installed within 2 kilometers of vernal pools and stockponds will apply Avoidance and Minimization Measures (AMMs) to ensure no harm or harassment of the California tiger salamander (*Ambystoma californiense*) occurs.

### **2.4.2 Operations and Maintenance Covered Activities**

Covered Activities include future O&M activities implemented by SCE within the 23-mile-long and 1,000-foot-wide proposed HCP Permit Area over the proposed 30-year permit term. As discussed in Chapter 1, the north-south portion of the proposed HCP Permit Area includes an existing SCE transmission line corridor (i.e., an existing right-of-way). Both the west half and the east half of this existing right-of-way are contained within the 1,000-foot-wide proposed HCP Permit Area. Therefore, the existing Big Creek Rebuild Transmission Line is located within the proposed HCP Permit Area.

The proposed O&M Covered Activities are organized into two classes (Class 1 and Class 2) that are defined by the location and type of land disturbance associated with the activity.

Class 1 O&M activities would be conducted entirely within the drivable surface of access roads or within the TSP and LST structure pads, or would be implemented from aircraft, and therefore, would not disturb vegetation or the soil surface.

#### **HCP Class 1 O&M Covered Activities**

There are six Class 1 O&M Covered Activities, which include the following.

##### **Aerial Inspections**

Between 6 and 12 times each year, aerial inspections of all transmission line facilities within the proposed HCP Permit Area would be conducted by SCE from helicopters and fixed-wing aircraft. SCE inspectors would assess the condition of the TSP/LST structures, insulators, conductors, access roads, and identify any areas of encroaching woody vegetation. These inspections would be conducted on an as-needed basis to ensure continued public safety and system reliability 6–12 times per year. Inspection planes and helicopters would fly at an altitude of 150–2,000 feet and would not take off or land inside the proposed HCP Permit Area.

### **Routine Line Patrols in the HCP Permit Area**

Routine line patrols would be conducted three to six times a year. Routine line patrols would be conducted by personnel driving a light-duty vehicle (e.g., a pickup truck) along access roads and on TSP and LST structure pads. On occasion, a heavier vehicle, such as a bucket truck or line truck, may be used in place of a patrol vehicle.

Patrol personnel would visually inspect TSPs and LSTs for damage to insulators, foundations, and structural components. Minor repairs identified during these patrols that can be done with hand-held tools are sometimes performed immediately, but repairs usually would be performed later as a separate activity. In addition to inspecting the TSPs and LSTs, the land immediately adjacent to access roads and the transmission line (i.e., within 100 feet) would be visually checked from the patrol vehicles (driving on access roads and TSP and LST structure pads), or from adjacent areas accessed on foot, for tree clearances and potential fire hazards. This visual check could identify trees growing into the line that may require pruning.

Routine line patrols would normally occur during daylight hours, but could be conducted at night or during inclement weather when damage to facilities is suspected.

### **OPGW Testing**

Testing the fiber-optic cables that are in the OPGW would occur four times per year at the splice cases attached to the top of certain TSP and LST structures. During construction, these splice cases were attached to some TSPs and LSTs that are adjacent to the “pulling/tensioning/splicing work areas” also created during construction. Technicians would drive a truck-mounted splicing lab to those TSP and LST structure pads. At these structures, the technicians would climb the TSP or LST and remove the splice case, perform fiber splicing and testing on the ground, then climb the TSP or LST and remount the splice case.

### **Minor Repairs to LST and TSP Structures**

LST and TSP minor repairs would be performed on the LST or TSP structure pads, or performed from the drivable surface of access roads. These minor repairs consist of the replacement of defective or broken insulators, some repair of cross arms, and some replacement of damaged steel sections of LSTs on an as-needed basis.

Personnel would transport tools and materials to each work area for minor LST and TSP repairs by a line truck or utility truck traveling on access roads, by helicopter, or by foot.

### **Minor Repairs to Conductors**

Minor conductor repairs would be performed from drivable surface of access roads and/or LST and TSP structure pads (i.e., all equipment transported along roads and operated from these locations), and would not require installation of guard poles because conductors would not come in contact with vegetation or other structures during the repair.

Minor conductor repairs entail fixing broken strands of the conductor. Crews would perform this type of repair by applying an armor rod or a patch splice, both of which would be done from a man lift or a spacer cart.

### **Insulator Washing**

The polymer insulators installed on TSP and LST “arms” during assembly of TSP and LST structures would generally not require periodic washing with water to prevent buildup of contaminants (e.g., dust, salts, and droppings) and to reduce the possibility of arcing, which can result in circuit outages and potential fires. However, in some situations, washing may be necessary over the 30-year permit term. These situations include towers becoming coated in bird lime as a result of bird roosting and the dropping of fire retardant from aerial tankers landing on TSP and LST structures.

Insulator washing activities would occur from a vehicle stopped on the drivable surface of an existing access road or from the TSP or LST’s structure pad. Insulators are mounted on TSP or LST arms. For washing insulators, a washer truck would be used with a person standing on the ground spraying a fine mist of deionized water from a hand-held hose for 1–5 minutes. A fine mist would be used to prevent washing from damaging the insulator’s coating. This fine mist evaporates before it returns to the ground, but water accumulating on insulators and other hardware would drip and reach the ground. SCE plans to wash insulators on one to ten structures an as-needed basis every year.

### ***HCP Class 2 O&M Covered Activities***

Class 2 O&M Covered Activities would be conducted outside of TSP and LST structure pads and outside the drivable surface of access roads, and, therefore, could result in additional ground disturbance. There are 10 Class 2 O&M Covered Activities, which include the following.

### **Major Repairs to TSP and LST Structures**

Major repairs to TSP and LST structures would be repairs for which some work would occur outside of the drivable surface of access roads or outside TSP and LST structure pads.

Major TSP and LST repairs consist of cross-arm repairs and replacements of steel segments of an LST that require larger areas than those discussed for minor TSP and LST repairs. The “structure work areas” (located adjacent to structure pads) would not be cleared, grubbed, graded, or otherwise prepared; however, vehicles, heavy equipment, and materials may be used within the “structure work areas.” All vehicles and equipment would be transported along access roads to structure pads and adjacent structure work areas. Equipment used to perform major repairs to TSP and LST structures would include truck-mounted, wheeled, or tracked cranes; flatbed trucks; hydraulic jacking equipment; and bucket trucks. Repair crews would use this equipment to remove damaged components (cross-arms, attached hardware, and steel segments of LSTs), and to assemble and install replacement components. As part of a repair, crews may attach a tensioned cable to the TSP or LST structure to add stability. One end of the cable would be attached to the structure and the other end anchored to the ground with an “anchor” in the structure pad.

### **TSP Replacement**

TSP replacement involves replacement of the TSP structure, but not the foundation. The replacement TSP structure would be mounted to the existing foundation. To replace a TSP, crews would use the drivable surface of access roads, TSP structure pad, TSP structure work area, and the crane pad associated with the TSP. Although the crane pad and the “structure work area” would not be cleared during TSP replacement, existing vegetation in these areas would be crushed and the ground surface disturbed.

Equipment used to remove and replace TSPs would include truck-mounted, wheeled, or tracked cranes; flatbed trucks; hydraulic jacking equipment; and bucket trucks. After partial disassembly of the TSP by the maintenance crew, a crane would be used to lift the old TSP (in two or more pieces) off its foundation and place it on one or more flatbed trucks. These trucks would remove the damaged TSP, and the materials would be recycled and/or disposed of at a licensed landfill. SCE would use access roads to transport the replacement TSP to the structure pad in two or more sections on flatbed trucks. After initial assembly, the maintenance crew would use a crane to install the replacement TSP on the existing foundation and attach the conductors and OPGW to it.

After the replacement TSP has been installed and equipment and materials have been removed, all disturbed land in work areas outside of TSP pads (i.e., the structure work area and crane pad) would be revegetated.

### **LST Replacement**

To replace an LST, construction crews would use drivable surface of access roads, the structure pad, the adjacent structure work areas, and the crane pad associated with the LST. Although the

crane pad and the structure work area would not be cleared, vegetation in these areas would be crushed and the ground surface disturbed.

LST replacement involves removing both the LST structure and the footings. To replace an LST, SCE work crews would use flatbed and bucket trucks, hydraulic jacking equipment, truck- or tread-mounted augers, wheeled or tracked cranes, water trucks, ready-mix-concrete trucks, backhoes, and miscellaneous support vehicles.

The maintenance crew would disassemble the “hardware” attached to the LST (e.g., insulators, arms) and the steel sections of the LST, temporarily storing the disassembled pieces in the adjacent “structure work area” before they would be loaded on flatbed trucks. These trucks would remove the disassembled LST components to be recycled and/or disposed of at a licensed landfill. To support conductors and the OPGW during the repair, the construction crew may place poles on the structure pad during LST replacement.

The LST was constructed on four reinforced-concrete footings 15–49 feet deep. The construction crew would remove the upper portion of the existing LST footings and construct new footings for the replacement LST. A backhoe would be used to excavate the land around the base of the four footings to expose approximately 2–3 feet of the footing. The concrete footing would be jackhammered at that level and the upper part of the footing removed. The footing’s steel reinforcement also would be cut away and removed on flatbed trucks via access roads to be disposed of at a licensed landfill. The SCE crew would then fill and compact the excavated holes using a backhoe.

Following removal of the existing footings, an auger would be used to excavate four new holes for replacement footings. Crews would then set rebar cages in each new footing hole and pour concrete in from a ready-mix-concrete truck. Depending upon footing height, diameter, and depth, 15–100 cubic yards of concrete would be delivered to the LST replacement site to construct the four footings. The new replacement footings would extend 1–4 feet aboveground depending on site-specific conditions and engineering requirements.

SCE would use access roads to transport the steel sections and hardware of the replacement LST to the LST pad on flatbed trucks. After initial assembly, the maintenance crew would use a crane pad and a crane to install the replacement LST on the four new footings and reattach the conductors and OPGW to the new LST.

LST replacement activities would primarily use most of the structure work area. Based on their experience with new LSTs on other transmission lines, SCE estimates that up to two 1,200-foot-long segments of conductor would be repaired during the proposed permit term, and SCE will assume that the LST replacement occurs to an LST located east of the Friant–Kern Canal.

After the replacement LST has been installed and equipment and materials have been removed from outside of the LST structure pad, all disturbed land in LST structure work areas outside of LST structure pads would be revegetated.

### **Major Repairs to Conductors and OPGWs**

This O&M Covered Activity repairs damaged conductors and repairs/replaces the OPGW. The “pulling/tensioning/splicing work areas” and the “guard structure work areas” created during construction would be re-used to complete this O&M Covered Activity. These work areas would be located outside of access road surfaces and the structure pads. (Note that repairs to damaged conductors that can be performed without disturbing areas outside of access road surfaces and TSP/LST structure pads are in the Class I minor conductor repair category).

A major conductor repair would remove and replace a damaged conductor. For this activity, equipment and work crews would use existing access roads and structure pads (previously constructed). SCE equipment also may use the off-road travel corridors that were delineated during construction.

SCE estimates that the OPGW would be replaced between a pair of TSPs/LSTs in the proposed HCP Permit Area two times during the proposed permit term. Each of these replacements would use existing TSP and LST structure pads, the “pulling/tensioning/splicing” work areas, and temporary guard pole sites. Each replacement would also require helicopter removal and reattachment of any bird flight diverters that are attached to that section of OPGW. Helicopter use would not cause ground disturbance.

In addition, major repairs to conductors may include use of guard poles where conductors cross public and private roads, and communication and electrical lines. Installation of these guard poles would be at the same 78 locations where guard poles were placed during construction, plus one new location.

As the final step of each conductor or OPGW repair, all disturbed lands would be revegetated.

### **Repair/Replacement of Bird Flight Diverters**

Bird flight diverters would require periodic repair or replacement over the permit term. Some of these repairs and replacements may be performed during the replacement of the OPGW. However, based on experience with new bird flight diverters on other transmission lines, SCE estimates that 20 flight diverters would need to be repaired or replaced at other times during the permit term. Many of these repairs and replacements would be done from the drivable surface of access roads or TSP/LST structure pads by maintenance crews using bucket trucks or by helicopter. Nonetheless, some of these replacements would require off-road travel by a bucket truck.

### **Access Road Maintenance**

SCE plans to perform routine maintenance to the drivable surface of all SCE access roads in the proposed HCP Permit Area each year during the 30-year permit term. This routine maintenance involves smoothing the drivable surface of the road and filling potholes. SCE would conduct routine access road maintenance in spring.

SCE would also perform local repairs to roads on an as-needed basis. These repairs would differ from annual routine maintenance in that maintenance crews would repair cut and fill slopes that have failed onto the road or within the road shoulder. These failures would be filled with the displaced material, compacted, and revegetated. Equipment used for access road maintenance would include road graders, bulldozers, loaders, backhoes, and hand tools. This equipment would be operated within the facility footprint of access roads.

Based on experience maintaining and replacing drainage systems and stormwater diversion structures on new access roads, SCE estimates that 75 stormwater diversion structures (e.g., water bars) and road drainage systems (e.g., drainage dip crossings and McCarthy drains) would be repaired or replaced during plan implementation (i.e., 2–3 per year). SCE also estimates that, for up to 30 of these repairs/replacements (i.e., 1 per year), the area needed to repair and replace these features could extend beyond facility footprints of access roads (i.e., drivable surface, shoulder, and cut and fill slopes).

### **Maintenance and Replacement of Road Drainage Systems and Stormwater Diversion Structures**

Access roads would require repair and replacement of stormwater diversion structures (e.g., water bars) and road drainage systems (e.g., drainage dip crossings and McCarthy drains) during the 30-year permit term. These structures would be installed during access road construction in areas with greater topography where roads are susceptible to erosion from rainwater runoff. Repair, replacement, and installation of these structures would occur within the “facility footprint” of the access roads (i.e., drivable surface, shoulder, and cut and fill slopes) or road drainage system/diversion structures.

Equipment used to repair or replace these structures includes graders, backhoes, excavators, ready-mix concrete trucks, water trucks, and hand tools. All of this equipment would be operated within the facility footprints of access roads.

Repair and replacement of access road drainage systems and stormwater diversion structures would disturb areas on the road shoulders and cut and fill slopes that were revegetated following construction of access roads. SCE crews repairing and replacing the drainage systems and

stormwater diversion structures are expected to work within the “facility footprint” of the access road. The work area to complete this Covered Activity may be up to 0.04 acre per replacement.

Based on experience maintaining and replacing drainage systems and stormwater diversion structures on new access roads, SCE estimates that 75 stormwater diversion structures (e.g., water bars) and road drainage systems (e.g., drainage dip crossings and McCarthy drains) would be repaired or replaced during the proposed permit term (i.e., 2–3 activities per year). SCE also estimates that, for up to 30 of these repairs/replacements (i.e., 1 per year), the work area needed to repair and replace these features could extend beyond the access road’s footprint (i.e., drivable surface, shoulder, and cut and fill slopes).

### **Installation of Stormwater Pollution Prevention Plan Best Management Practices**

SWPPP BMPs are materials and temporary structures that would be installed around active work areas to stop rainwater run-off and associated soil erosion and the transport of sediments and pollutants.

During implementation of other O&M Covered Activities, these BMPs would be installed along the perimeter of the work areas (including both low- and high-disturbance work areas) to prevent rainwater runoff from leaving construction sites without infiltrating into the soil. BMPs materials would remain in place until construction is complete and the soil surface has been effectively stabilized, or until other means of controlling runoff and soil erosion have been implemented (e.g., mulch installed during revegetation).

### **Vegetation Management—Tree Pruning**

As part of routine O&M line patrols (see Routine Line Patrols in the proposed HCP Permit Area earlier in this chapter), SCE would identify any hazard trees or trees that must be pruned near the constructed facility to maintain compliance with state and federal regulations. These regulations require SCE to maintain a 25-foot clearance between trees and conductors (considering sway of the conductors), plus the distance of 1-year’s tree growth towards conductors. SCE maintains a separation of 25-foot clearance plus 2-years’ growth to allow pruning every other year.

Crews would prune trees from a truck-mounted man-lift with power and hand tools, including chainsaws, pole saws, and handsaws. Crews would gather cut branches by hand and feed them into a truck-towed chipper. Chipped woody debris would be removed by truck and disposed of at a landfill or other facility licensed to receive green waste.

Vegetation trimming would be anticipated to remain within the facility footprints of access roads (i.e., drivable surface, shoulder, and cut and fill slopes) or within the TSP and LST structure pads; however, there may be 30 instances (i.e., once each year) during the proposed

permit term where this activity may require new off-road vehicle travel in a corridor up to 650 feet in length and 12 feet wide (0.18 acre) to get to a mid-span location. (This 650 feet would be the maximum distance of any potential trimming site from an access road or TSP/LST structure pad.) SCE assumes that this new off-road travel would be west of Friant–Kern Canal.

### **Right-of-Way (ROW) Management—Brush and Weed Abatement**

Brush (woody plants) and herbaceous plants would be cleared from each TSP/LST structure pads and from the drivable surface of all access roads. Crews would mow herbaceous plants on TSP/LST structure pads. Herbicide may also be applied by SCE over the permit term as part of the Noxious Weed and Invasive Plant Control Plan, but herbicide application is not a proposed HCP Covered Activity.

Where brush is adjacent to access roads, it would be trimmed back to the edge of the road footprint (i.e., shoulder and cut/fill slopes) to prevent its lateral growth into the zone above the road's drivable surface. Crews would use a hand-held, gas-motor-driven, brush-cutter and chain saws and mechanical hand saws as necessary to trim brush. Crews would conduct this mowing and trimming while they and their equipment are on TSP/LST structure pads and access roads.

In the proposed HCP Permit Area, outside of developed areas, shrubs are largely restricted to the riparian vegetation at Cottonwood Creek and St. John's River. No access roads or LST/TSP structure pads would be within these areas. Therefore, brush clearing by crews would be limited to trimming isolated shrubs growing into roads or TSP and LST structure pads. Disturbance of vegetation would be entirely within the facility footprints of access roads and TSP/LST structure pads.

### **2.4.3 Conservation Strategy**

The biological goals of the Cross Valley Line HCP are commensurate with the specific impacts and the duration of the Covered Activities. To support the persistence of Covered Species in the HCP Permit Area and their regional conservation, the HCP has three overarching goals:

1. Help to maintain viable populations of each Covered Species within the HCP Permit Area over the 30-year permit term.
2. Help to conserve the amount and quality of Covered Species habitat existing within the HCP Permit Area over the 30-year permit term.
3. Contribute to local and/or regional conservation of Covered Species and Covered Species habitat to fully compensate for the unavoidable impacts resulting from implementation of the proposed HCP Covered Activities.

SCE would achieve HCP Biological Goal #1 and Goal #2 by implementing the construction and O&M AMMs. In addition, SCE would achieve HCP Biological Goals 1 and 2 by implementing species- and habitat-specific AMM measures whenever a HCP Covered Activity would be implemented within suitable habitat for that Covered Species. By avoiding and minimizing impacts to Covered Species and their suitable habitat over the proposed permit term, SCE would help to conserve the existing quality of species habitat within the HCP Permit Area, and will help maintain species populations presently occupying the HCP Permit Area.

HCP Biological Goal 3 would compensate for unavoidable effects to species and species habitat resulting from the implementation of the construction and O&M Covered Activities. SCE would achieve HCP Biological Goal 3 by implementing one or more methods to preserve high-quality species habitat in perpetuity. For example, SCE might preserve occupied species habitat by acquiring acceptable lands in fee-title, or by permanently protecting land through a conservation-easement purchase. SCE would then arrange for approved or certified land-management entities to manage the lands as species habitat in perpetuity (e.g., a “turn-key” mitigation preserve). Alternatively, SCE may purchase “credits” for habitat already preserved and managed as habitat at a Service-approved conservation bank. Finally, SCE may meet HCP Biological Goal 3 by implementing a combination of fee-title preserve, conservation easement, and use of conservation banks. If SCE decides to acquire preserve lands through conservation easement or fee title, SCE would provide a title report, title record, and an acceptable land management plan for the property prior to Service issuance of an ITP. The amount of land preservation needed to achieve HCP Biological Goal 3 is further discussed below.

Tables 2-1 and 2-2 summarize the conservation strategy measures for species and habitats.

**Table 2-1  
Proposed HCP’s Conservation Strategy Measures for Specific Species or Habitats**

Code	Title	Description
VP-1	Avoid and/or Minimize Effects on Vernal Pool/Swale Habitat	<p>During construction and Class 2 O&amp;M activities, SCE and SCE contract workers and equipment would avoid vernal pools, vernal swales, basins and stock ponds to the maximum extent practicable, by fencing or staking a minimum buffer of 250 feet around all vernal pools, vernal swales, basins and stockponds in the HCP Planning Area. If a full 250-foot buffer area around a particular feature would not allow construction or O&amp;M Covered Activity to occur, a smaller buffer of the maximum size possible would be delineated by SCE or its designated biologist prior to the implementation of construction or O&amp;M Covered Activity.</p> <p>The buffer would be delineated in the field through the placement of high-visibility flagging, stakes, and/or fencing by SCE or its designated biologist. The designated biologist would monitor this buffer for avoidance during the implementation of construction and O&amp;M Covered Activities and assure that no activities, including vegetation and soil disturbance, occur within the marked boundary of the buffer avoidance.</p>

**Table 2-1  
Proposed HCP’s Conservation Strategy Measures for Specific Species or Habitats**

Code	Title	Description
VP-2	Monitor Activities near Marked Buffers around Vernal Pool/Swale Habitat	A biological monitor employed by SCE and experienced with vernal pool habitats and associated vernal pool flora and fauna would be present during all construction and Class 2 O&M Covered Activities implemented within 500 feet of a vernal pool or swale, basin, stockpond, or puddle occurring in annual grassland. The biologist can temporarily stop work if they determine that the protected feature is being encroached upon by a construction or O&M Covered Activity that may impact the feature designated for avoidance.
VP-3	Mitigate Unavoidable Impacts on Vernal Pool/Swale Habitat	SCE would mitigate for the temporary disturbance and permanent direct and indirect loss of vernal pool/swale habitat suitable for vernal pool Covered Species resulting from construction or O&M Covered Activities by providing compensatory habitat through either: (1) purchasing mitigation credits at a USFWS-approved conservation bank(s); (2) preserving in perpetuity compensatory habitat for Covered Species at a USFWS-approved turnkey mitigation site; (3) through a combination of the above; (4) or through another means acceptable to the USFWS.
VELB-1	Mark and Avoid Buffer Areas around Elderberries	<p>Around elderberries with one or more stems greater than or equal to 1 inch in diameter, SCE would establish buffer areas that are a minimum 100 feet in width measured from the dripline of the plant (USFWS 1999). If a full 100-foot buffer area cannot be established around a particular elderberry, a smaller buffer of the maximum size possible (and at least 20 feet from the dripline of the shrub) will be established.</p> <p>Prior to implementation of construction or Class 2 O&amp;M Covered Activities, these buffers would be delineated in the field through the placement of high-visibility flagging, stakes, and/or fencing by SCE or its designated biologist. Vegetation and soil disturbance will not occur within these buffer areas. These areas would remain marked for avoidance until the Covered Activity is completed.</p>
VELB-2	Mitigate Unavoidable Impacts on Elderberries	<p>Where impacts on valley elderberry longhorn beetle habitat from construction or O&amp;M Covered Activities cannot be avoided, SCE would provide compensatory mitigation in accordance with USFWS guidelines (USFWS 1999), or another means acceptable to USFWS.</p> <p>Elderberry shrubs that cannot be avoided would be transplanted or replaced at a USFWS-approved facility according to stem count and habitat guidelines (USFWS 1999). USFWS general compensation guidelines call for replacement of elderberry plants in designated mitigation areas at a ratio from 2:1 to 5:1 for each stem greater than one inch in diameter (USFWS 1999). Note that replacement ratios are by stem and not by elderberry shrub. In addition, a mix of native plants must be planted at the transplant site. Cuttings from the elderberry shrub to be removed would be used if the cuttings are viable. Otherwise, locally available nursery stock would be used for additional plantings.</p> <p>Implementation of this compensatory mitigation measure is contingent on the species status as a federally listed species at the time of ITP issuance. Regardless of change in listing status of an HCP Covered Species after ITP issuance, the HCP’s conservation strategy for that species must be implemented as described in the permitted HCP document and the ITP terms and conditions.</p>
CTS-1	Conduct Preactivity Clearance Surveys for California Tiger Salamander	Where equipment or materials have been stored overnight, each day, before the start of work, the USFWS-approved biological monitor would check for adult and juvenile California tiger salamander under any equipment to be used that day. If California tiger salamanders are present, they would be allowed to leave on their own volition, before the initiation of Covered Activities for the day.

**Table 2-1  
Proposed HCP’s Conservation Strategy Measures for Specific Species or Habitats**

Code	Title	Description
		If salamanders are trapped or do not move on their own, a USFWS-approved biologist possessing a valid ESA Section 10(a)(1)(a) permit, or USFWS-approved biologist under an active Biological Opinion, would be used to move the salamander to a nearby ground-squirrel burrow opening or other suitable habitat (USFWS and CDFW 2003).
CTS-2	Cover Excavated Holes or Trenches that could Trap California Tiger Salamanders	To prevent inadvertent entrapment of California tiger salamanders during construction or Class 2 O&M activities, all excavated, step-walled holes or trenches more than 1 foot in depth would be covered by plywood or similar materials at the close of each working day. Escape ramps constructed of earth fill or wooden planks would be installed. When trenches covers are opened again, and before such holes or trenches are filled, they must be thoroughly inspected by a USFWS-approved biologist for trapped animals.
CTS-3	Prohibit Use of Monofilament Netting	Plastic monofilament netting (erosion control matting) or similar material would not be used within the HCP Planning Area because California tiger salamanders may become entangled or trapped. Examples of acceptable substitutes include coconut coir matting, weed-free straw, and tackified hydroseeding compounds.  Silt fencing required in CTS habitat as part of a SWPPP plan would be installed with appropriate overlapping gaps in the fencing so as to allow CTS passage.
CTS-4	Avoid or Minimize Effects on Burrow Complexes	Prior to ground-disturbing activities (i.e., construction and Class 2 O&M Covered Activities) in all land covers within 1.24 miles of aquatic breeding habitat suitable for California tiger salamander, a USFWS-approved biologist would survey for and flag the presence of ground squirrel and gopher burrow complexes. Where burrow complexes are present within 250 feet of potential work areas and can be avoided, a buffer would be marked to minimize potential disturbance to California tiger salamander. If a 250-foot buffer is not possible, a smaller buffer of the largest size practicable would be established.  The buffer will be delineated in the field through the placement of high-visibility flagging, stakes, and/or fencing by SCE or its designated biologist. The designated biologist would monitor this buffer for avoidance during the extent of construction and O&M Covered Activities and assure that no activities, including vegetation and soil disturbance, occur within the marked boundary of the buffer avoidance.
CTS-5	Mitigate Unavoidable Impacts on California Tiger Salamander	SCE would mitigate for the temporary disturbance and permanent direct and indirect loss of breeding habitat suitable for California tiger salamander and the temporary disturbance and permanent direct loss of upland aestivation habitat suitable for California tiger salamander that results from construction or O&M Covered Activities by providing compensatory habitat through either: (1) purchasing mitigation credits at a USFWS-approved conservation bank(s); (2) preserving in perpetuity compensatory habitat for Covered Species at a USFWS-approved “turnkey” mitigation site; (3) through a combination of the above; (4) or through another means acceptable to the USFWS.
WSFT-1	Conduct Pre-activity Clearance Surveys for Western Spadefoot Toad	Where construction and Class 2 O&M Covered Activities occur in grasslands within 1.24 miles of suitable western spadefoot toad aquatic habitat, and where equipment or materials have been stored overnight, a USFWS-approved biological monitor would check daily for toads under any equipment to be used that day before the start of work. If western spadefoot toads are present, they would be allowed to leave on their own volition before the initiation of construction activities for the day. If western spadefoot toads are trapped or do not move on their own volition, a USFWS-biologist would trap and move toads to nearby suitable habitat if any are found inside the area marked for avoidance.
WSFT-2	Cover Excavated Holes or Trenches that	To prevent inadvertent entrapment of western spadefoot toad during construction or Class 2 O&M activities, all excavated, step-walled holes or trenches more than 1 foot in depth

**Table 2-1  
Proposed HCP’s Conservation Strategy Measures for Specific Species or Habitats**

Code	Title	Description
	could Trap Western Spadefoot Toad	would be covered by plywood or similar materials at the close of each working day. Escape ramps constructed of earth fill or wooden planks would be installed. When trenches covers are opened again, and before such holes or trenches are filled, they must be thoroughly inspected by a USFWS-approved biologist for trapped animals.
BO-1	Conduct Preconstruction Surveys for Burrowing Owl	<p>A USFWS-approved biologist would conduct preconstruction surveys for burrowing owls no more than 14–30 days prior to the start of each new construction phase and prior to Class 2 O&amp;M activities disturbing soil in agricultural row crops or grasslands that may support BUOW. The Nesting Bird Management Plan (Appendix E in the HCP), which describes preconstruction surveys for BUOW, would be implemented; the most current CDFW protocol would be followed.</p> <p>Surveys will cover grassland areas within a 500-foot buffer from all project construction sites within suitable grasslands habitat, checking for adult and juvenile burrowing owls and owl nests. If owls are detected during surveys, occupied burrows will not be disturbed, where feasible, as described in SCE’s avian protection plan attached to the HCP.</p>
BO-2	Establish Exclusion Areas around Occupied Burrows	<p>For construction and Class 2 O&amp;M Covered Activities, buffer areas would be marked around occupied burrows in accordance with the Nesting Bird Management Plan (Appendix E in the HCP). No equipment or land disturbance would be allowed in the buffer areas.</p> <p>During the nonbreeding season (September 1 through January 31), the buffer area would extend 160 feet around occupied burrows. During the breeding season (February 1 through August 31), buffer areas would extend 250 feet around occupied burrows.</p> <p>If a full 160-foot or 250-foot- buffer cannot be maintained around a particular burrow, a smaller buffer of the maximum size possible would be delineated in coordination with the USFWS and CDFW.</p>
BO-3	Relocate Owls from Unavoidable Occupied Burrows	<p>Where HCP land-disturbing Construction and Class 2 O&amp;M Covered Activities cannot avoid occupied burrows, passive relocation of on-site owls may be implemented during the nonbreeding season (September 1 to January 31), with prior CDFW approval and in accordance with the Nesting Bird Management Plan (Appendix E in the HCP).</p> <p>Passive relocation would be accomplished by an approved biologist installing one-way doors on the entrances of burrows that cannot be avoided. The one-way doors would be left in place for 48 hours to ensure the owls have left the burrow. The burrows would then be hand excavated by an approved biologist. Construction and Class 2 O&amp;M Covered Activities would not proceed within 160-feet of occupied burrows until the activity area is deemed to be freed of owls by the approved biologist.</p>
BO-4	Compensate for Unavoidable Loss of Suitable Burrowing Owl Habitat	SCE would mitigate for the temporary disturbance and permanent direct loss of grassland and agricultural row crop habitat suitable for burrowing owl resulting from construction or O&M Covered Activities by providing compensatory habitat through either: (1) purchasing mitigation credits at a USFWS-approved conservation bank(s); (2) preserving in perpetuity compensatory habitat for Covered Species at a USFWS-approved “turnkey” mitigation site; (3) through a combination of the above; (4) or through another means acceptable to the USFWS.
Nesting Birds-1	Avoid or Minimize Effects of Construction and Class 2 O&M Activities on Nesting	To avoid or reduce the effects of construction and planned (i.e., non-emergency), Class 2 O&M Covered Activities on bird Covered Species, SCE would implement the following measures in accordance with the Nesting Bird Management Plan (Appendix E of the HCP):

**Table 2-1  
Proposed HCP’s Conservation Strategy Measures for Specific Species or Habitats**

Code	Title	Description
	Birds	<p>(A) Construction and Class 2 O&amp;M Covered Activities in and adjacent to riparian land cover would be scheduled during non-nesting periods (September 1 through January 31)</p> <p>(B) No more than two weeks before the construction or Class 2 O&amp;M Covered Activity in riparian land cover that could support nesting birds protected by the Migratory Bird Treaty Act (MBTA), a qualified wildlife biologist would conduct preconstruction surveys of all potential nesting habitat within 500 feet of the construction/O&amp;M site where access is available.</p> <p>(C) If active nests are not identified, no further action is necessary. If active nests are identified during preconstruction surveys, a no-disturbance buffer shall be created around active raptor nests and nests of other special-status birds during the breeding season, or until it is determined that all young have fledged. Typical buffers are 500 feet for raptors and 250 feet for other nesting birds (e.g., waterfowl, and passerine birds). The size of these buffer zones and types of construction activities that are allowed in these areas could be further modified during construction and O&amp;M Covered Activities in coordination with CDFW and USFWS and shall be based on existing noise and disturbance levels in the HCP Planning area.</p>
Nesting Birds-2	Mitigate Unavoidable Impacts	The biological functionality of riparian habitat would be enhanced along the St. John's River within 12 months in accordance with the Riparian Habitat Enhancement Plan (Appendix F of the HCP).
SJKF-1	Conduct Surveys for Kit Fox during Construction and Class 2 O&M Activities within or Adjacent to Suitable Kit Fox Habitat	<p>For ground-disturbing construction and non-emergency Class 2 O&amp;M Covered Activities implemented over the 30-year ITP term, surveys for San Joaquin kit fox would be conducted by an approved biologist within a 200-foot area surrounding the facility footprints, graded work-areas, and un-graded work areas, no less than 14 days and no more than 30 days prior to the start of a Covered Activity.</p> <p>Surveys would identify San Joaquin kit fox habitat features at the Covered Activity site, and evaluate their potential use by this species. The status of all potential dens would be defined (USFWS 2011) and mapped. Written results of the preconstruction/pre activity surveys would be sent to the USFWS within five days after survey completion and prior to start of ground disturbance and/or start of the covered-activity.</p> <p>If a known or suspected natal /pupping den is discovered in or within 200 feet of a facility footprint/ work area, the USFWS would be immediately notified. The den would not be disturbed or destroyed without prior written authorization by the USFWS. Because a great percentage of occupied dens show no evidence of use, and because the kit foxes change dens often, the status of a given den may change frequently and abruptly. All potential dens found in or within 200 feet of a facility footprint/graded work area shall be monitored by an approved biologist for at least three consecutive nights to determine if the den is in use or has been used in the past. Evidence of use may include kit fox sign such as tracks, scat, and/or prey remains, current spotlighting or radio telemetry data, and CNDDDB or other records. If the den is in use or has been used, the den would then be monitored by an approved biologist for an additional three consecutive days with tracking medium or infra-red beam camera to determine the current use.</p>

**Table 2-1  
Proposed HCP’s Conservation Strategy Measures for Specific Species or Habitats**

Code	Title	Description
		<p>If no kit fox activity is observed during this second three-day period, dens located within facility footprint or graded work-area would be immediately destroyed under the oversight of the authorized biologist to preclude subsequent use by kit fox. The entire den would be carefully excavated, filled with soil, and compacted to assure that kit fox cannot reenter the den while the Covered Activity is being implemented.</p> <p>If kit fox activity is observed at a den located within facility footprint or graded work-area during this second three day period, the den shall be monitored for least five additional days (USFWS 2011), and the authorized biologist or SCE would immediately contact the USFWS for additional guidance.</p>
SJKF-2	Establish Buffers Around Active Kit Fox Dens	<p>Ground disturbing construction and non-emergency Class 2 O&amp;M Covered Activities implemented over the 30-year ITP term must avoid San Joaquin kit fox dens located within 200 feet of facility footprints, graded work areas, ungraded work areas, and off-road travel corridors. The size of the exclusion buffer-area around each den would have a radius measured outward from the entrance or cluster of entrances due to the length of the dens underground. The following distances are minimums, and if they cannot be followed, the USFWS would be contacted:</p> <ul style="list-style-type: none"> <li>• Potential Den = 50-foot buffer zone</li> <li>• Atypical Den = 50-foot buffer zone</li> <li>• Known Den = 100-200 feet buffer zone</li> <li>• Natal/Pupping Den (occupied and unoccupied) = contact USFWS</li> </ul> <p>To ensure protection, the buffer-area would be demarcated by fencing that encircles each den at the appropriate distance and does not prevent access to the den by San Joaquin kit foxes. Acceptable fencing for known dens would be untreated wood particle-board, orange construction fencing, or fencing approved by the USFWS that has openings for kit fox ingress/egress and keeps humans and equipment out. However, fencing of potential dens may be limited to placement of 4-6 flagged stakes each 50-feet from the den entrances(s).</p> <p>SCE would assure that the buffer-zone exclusion fencing is maintained through weekly monitoring until Covered Activities are completed at the site. All fencing would be removed after activities are completed.</p> <p>If kit fox occupancy is determined at a given site or within 200 feet of a covered-activity site during implementation of AMM-SJKF-1, implementation of that Covered Activity would immediately be halted and the USFWS would be contacted.</p>
SJKF-3	Cover Excavated Holes and Trenches	<p>To prevent accidental entrapment of kit fox or other animals during construction and Class 2 O&amp;M Covered Activities, all excavated holes, ditches, or trenches greater than one foot deep would be covered at the end of each work day by suitable materials, or escape routes constructed of earthen materials or wooden planks would be provided. After opening and before filling, such holes, ditches, and trenches would be thoroughly inspected by an authorized biologist for trapped animals.</p>

**Table 2-1  
Proposed HCP’s Conservation Strategy Measures for Specific Species or Habitats**

Code	Title	Description
SJKF-4	Visually Inspect Stored Tubular or Open-Ended Materials and Equipment	In all Covered Activity sites, any pipes, culverts, or other tubular or open-ended materials and equipment that are stored at an activity site for one or more over night periods would be inspected for animals prior to, moving, burying, capping, or moving the pipe in any way to assure that no animals are present within the materials or equipment. If a San Joaquin kit fox is discovered inside a pipe, that section of pipe would not be moved until the USFWS has been consulted.
SJKF-5	Monitor O&M Activities near Active Kit Fox Dens	Monitoring would occur if San Joaquin kit fox dens are documented within 200 feet of Class 2 O&M Activities, in accordance with USFWS guidelines (USFWS 2011).
SJKF-6	Restrict Rodenticide Use	Rodenticide use would be prohibited by SCE and SCE contract workers within the HCP Planning Area over the 30-year ITP term to avoid poisoning of kit fox or their prey, per USFWS guidelines (USFWS 2011).
SJKF-7	Mitigate Unavoidable Impacts	SCE would mitigate for the temporary disturbance and permanent direct loss of grassland and agricultural lands suitable for San Joaquin kit fox resulting from construction or O&M Covered Activities by providing compensatory habitat through either: (1) purchasing mitigation credits at a USFWS-approved conservation bank(s); (2) preserving in perpetuity compensatory habitat for Covered Species at a USFWS-approved “turnkey” mitigation site; (3) through a combination of the above; (4) or through another means acceptable to the USFWS.
SSBC-1	Restrict Herbicide Use near Occupied Spiny-Sepaled Button-Celery Habitat	Herbicide applications over the 30-year ITP term within 100 feet of habitat occupied by spiny-sepaled button-celery would be restricted to spot applications developed in coordination with USFWS. USFWS would review proposed herbicide application guidelines to avoid or minimize effects to suitable habitat for spiny-sepaled button-celery. These herbicide treatments would be by licensed applicators using hand-held equipment consistent with label requirements, and primarily for the purpose of noxious weed control.
SSBC-2	Mitigate Unavoidable Impacts	SCE would mitigate for the temporary disturbance and permanent direct and indirect loss of habitat occupied by spiny-sepaled button celery resulting from construction or O&M Covered Activities by providing compensatory habitat through either: (1) preserving in perpetuity compensatory habitat for Covered Species at a USFWS-approved “turnkey” mitigation site; or (2) through another means acceptable to the USFWS.

Source: Compiled by SCE in 2013.

**Table 2-2  
Proposed Compensatory Mitigation and Mitigation Strategy Options for Covered Species and Habitats**

Species	Impacts (acres)	Proposed Mitigation (acres)	Approved Conservation Bank	Turnkey Mitigation Site	On-Site Habitat Restoration/ Protection
<i>Vernal Pool Fairy Shrimp</i>		<b>14.86</b>	Purchase vernal pool habitat credits equivalent to 14.86 acres at a USFWS-approved conservation bank	Dedicate 14.86 acres of vernal pools at a USFWS-approved permittee-responsible site	-
<i>Reproduction Habitat</i>					
Permanent Direct Impact	0.15				
Permanent Indirect Impact	4.71				
Temporary Impact	0.25				
<i>Vernal Pool Tadpole Shrimp</i>		<b>14.40</b>			
<i>Reproduction Habitat</i>					
Permanent Direct Impact	0.14				
Permanent Indirect Impact	4.58				
Temporary Impact	0.22				
<i>Valley Elderberry Longhorn Beetle</i>		<b>TBD<sup>1</sup></b>	Purchase VELB habitat credits French Camp Conservation Bank	-	-
<i>Elderberry Shrubs</i>					
Permanent Direct Impact	TBD				
Permanent Indirect Impact	TBD				
Temporary Impact	-				
<i>California Tiger Salamander</i>		<b>14.40</b>	<i>See above for vernal pool habitat credits</i>	<i>See above for vernal pool habitat mitigation</i>	-
<i>Reproduction Habitat</i>					
Permanent Direct Impact	0.14				
Permanent Indirect Impact	4.58				
Temporary Impact	0.22				
<i>Aestivation and Foraging Habitat</i>		<b>202.23</b>	Purchase CTS habitat (aestivation) credits equivalent to 202.23 acres of aestivation habitat at a USFWS-approved conservation	Dedicate 202.23 acres of grasslands (aestivation) habitat at a USFWS-approved permittee-responsible site	
Permanent Direct Impact - Group 1	30.02				
Permanent Direct Impact - Group 2	10.94				
Permanent Indirect Impact	-				
Temporary Impact	52.40				

**Table 2-2  
Proposed Compensatory Mitigation and Mitigation Strategy Options for Covered Species and Habitats**

Species	Impacts (acres)	Proposed Mitigation (acres)	Approved Conservation Bank	Turnkey Mitigation Site	On-Site Habitat Restoration/ Protection	
<i>Movement Habitat (All Agriculture)</i>						
Permanent Direct Impact - Group 1	11.65					
Permanent Direct Impact - Group 2	0					
Permanent Indirect Impact	–					
Temporary Impact	70.00					
<i>Western Spadefoot Toad</i>						
<i>Reproduction Habitat</i>		11.80	See above for vernal pool habitat credits	See above for vernal pool habitat mitigation	–	
Permanent Direct Impact	0.153					
Permanent Indirect Impact	3.69					
Temporary Impact	0.25					
<i>Aestivation and Foraging Habitat (Grassland)</i>						
Permanent Direct Impact - Group 1	30.02	169.58	See above for CTS habitat credits –	See above for CTS habitat mitigation	–	
Permanent Direct Impact - Group 2	10.94					
Permanent Indirect Impact	–					
Temporary Impact	52.40					
<i>Little Willow Flycatcher</i>						
<i>Reproduction/Foraging Habitat (Riparian Habitat)</i>		0.00 <sup>2</sup>	–	–	On-site restoration in accordance with the Riparian Habitat Enhancement Plan (Appendix F of the HCP)	
Permanent Direct Impact	–					
Permanent Indirect Impact	–					
Temporary Impact	–					
<i>Southwestern Willow Flycatcher</i>						
<i>Reproduction/Foraging Habitat (Riparian Habitat)</i>		0.00 <sup>2</sup>				On-site restoration in accordance with the Riparian Habitat Enhancement Plan (Appendix F of the HCP)
Permanent Direct Impact	–					
Permanent Indirect Impact	–					
Temporary Impact	–					

**Table 2-2  
Proposed Compensatory Mitigation and Mitigation Strategy Options for Covered Species and Habitats**

Species	Impacts (acres)	Proposed Mitigation (acres)	Approved Conservation Bank	Turnkey Mitigation Site	On-Site Habitat Restoration/ Protection
<i>Least Bell's Vireo</i>					
<i>Reproduction/Foraging Habitat (Riparian Habitat)</i>		0.00			
Permanent Direct Impact	-				
Permanent Indirect Impact	-				
Temporary Impact	-				
<i>Burrowing Owl</i>					
<i>Reproduction/Foraging Habitat (Annual Grassland)</i>		175.54	See below for SJKF habitat credits	See below for SJKF habitat mitigation	—
Permanent Direct Impact - Group 1	30.02				
Permanent Direct Impact - Group 2	10.94				
Permanent Indirect Impact	-				
Temporary Impact	52.40				
<i>Foraging Habitat (Agriculture - Row Crops)</i>					
Permanent Direct Impact - Group 1	2.33				
Permanent Direct Impact - Group 2	-				
Permanent Indirect Impact	-				
Temporary Impact	12.10				
<i>San Joaquin Kit Fox</i>					
<i>Reproduction Habitat (Annual Grassland)</i>		203.40	See above for CTS habitat (aestivation) credits. Purchase additional credits equivalent to 1.17 acres of SJKF habitat at an USFWS-approved conservation bank	See above for CTS habitat (aestivation) mitigation. Dedicate an additional 1.17 acres of grasslands habitat at an USFWS-approved permittee responsible site	—
Permanent Direct Impact - Group 1	30.02				
Permanent Direct Impact - Group 2	10.94				
Permanent Indirect Impact	-				
Temporary Impact	52.40				
<i>Foraging /Movement Habitat (Agriculture)</i>					
Permanent Direct Impact - Group 1	11.65				

**Table 2-2  
Proposed Compensatory Mitigation and Mitigation Strategy Options for Covered Species and Habitats**

Species	Impacts (acres)	Proposed Mitigation (acres)	Approved Conservation Bank	Turnkey Mitigation Site	On-Site Habitat Restoration/ Protection
Permanent Direct Impact - Group 2	0				
Permanent Indirect Impact	-				
Temporary Impact	70				
<i>Hoover's Spurge</i>			<i>See above for vernal pool habitat and CTS (aestivation) habitat credits</i>	<i>See above for vernal pool habitat and CTS (aestivation) habitat mitigation</i>	-
<i>Vernal Pools/Swales</i>		11.34			
Permanent Direct Impact	0.14				
Permanent Indirect Impact	3.56				
Temporary Impact	0.22				
<i>Annual Grassland Associated with Vernal Pools</i>			33.40		
Permanent Direct Impact	7.69				
Permanent Indirect Impact	-				
Temporary Impact	9.39				
<i>San Joaquin Valley Orcutt Grass</i>			<i>See above for vernal pool habitat and CTS (aestivation) habitat credits--</i>	<i>See above for vernal pool and CTS (aestivation) habitat</i>	<i>Protect occupied areas on-site</i>
<i>Vernal Pools/Swales</i>		11.34			
Permanent Direct Impact	0.14				
Permanent Indirect Impact	3.56				
Temporary Impact	0.22				
<i>Annual Grassland Associated with Vernal Pools</i>			33.40		
Permanent Direct Impact	7.69				
Permanent Indirect Impact	-				
Temporary Impact	9.39				
<i>Spiny-Sepaled Button Celery</i>			<i>See above for vernal pool habitat and CTS (aestivation) habitat</i>	<i>See above for vernal pool and CTS (aestivation) habitat</i>	<i>Protect occupied areas on-site</i>
<i>Occupied Habitat</i>		18.31			
Permanent Direct Impact - Group 1	1.2				

**Table 2-2  
Proposed Compensatory Mitigation and Mitigation Strategy Options for Covered Species and Habitats**

Species	Impacts (acres)	Proposed Mitigation (acres)	Approved Conservation Bank	Turnkey Mitigation Site	On-Site Habitat Restoration/ Protection
Permanent Indirect Impact	4.58		<i>credits</i>		
Temporary Impact	0.88				

**Source:** Data compiled by AECOM in 2013.

**Notes:** USFWS = U.S. Fish and Wildlife Service; VELB = valley elderberry longhorn beetle; CTS = California tiger salamander; SJKF = San Joaquin kit fox; TBD = To be determined. During preconstruction surveys, elderberry shrubs would be surveyed. Where Covered Activities would occur within 100 feet of a shrub, stem surveys of these shrubs would be conducted per the USFWS guidelines for this species (USFWS 1999). In accordance with these guidelines, mitigation for valley elderberry longhorn beetle would be determined (see also AMM VELB-2).

– Although Covered Activities would not result in the removal of any riparian habitat, temporary Covered Activities have the potential to cause harassment of nesting birds.

## 2.4.4 Monitoring Plan and Adaptive Management Plan

Per regulation, compliance monitoring must involve evidence of compliance with the terms of the HCP, verification of anticipated effects, and a measure of effectiveness of the HCP (50 CFR 17.22[b][1][iii] and the Service’s 5-Point Policy 65 Fed. Reg. 35241-35257, June 1, 2000. Three types of monitoring (compliance, effects, and effectiveness monitoring) would be implemented under the HCP. Compensatory mitigation will be completed at a Service-approved mitigation bank. Service-approved mitigation banks have approved monitoring plans, reporting, and adaptive management measures, and thus compliance monitoring will be completed by the mitigation bank under the terms of their banking agreement(s).

In addition to the conservation measures set forth in the HCP to avoid, minimize, or mitigate impacts to species, the following environmental commitments are incorporated into the covered activities to reduce the effects on the human environment associated with implementing the Cross Valley Transmission Line.

**Table 2-3  
Environmental Commitments**

Number	Environmental Topic	Description	Related EIR MM	Construction or O&M
EC GEO-1	Soils and Geology	For all segments of new access roads that would be within 300 feet of an existing surface water channel (including irrigation ditches where no berm or levee is currently in place) and traverse a ground slope greater than 2%, the following protective measures shall be installed: <ul style="list-style-type: none"> <li>• Permanent access roads shall be in-sloped with a rock-lined ditch on the inboard side;</li> <li>• Water bars, or a similar drainage feature, shall be installed at 150 foot intervals (so as to reduce the effective, connected length of the access road to 150 feet).</li> </ul>	4.8-1 (p. 4.8-17)	Construction
EC GEO-2	Soils and Geology	SCE and/or its contractors shall ensure that the following measures are taken: <ul style="list-style-type: none"> <li>• Replace soils in a manner that shall minimize any negative impacts on crop productivity. The surface and subsurface layers shall be stockpiled separately and returned to their appropriate locations in the soil profile; alternately, SCE may work with individual property owners to develop a different method for the disposition of any soils that are impacted on private property, assuming a mutual agreement may be reached.</li> <li>• To avoid over-compaction of the top layers of soil, monitor pre-construction soil densities and return the surface soil (approximately the top three feet) to within 5% of original density, except where higher soil density is necessary to meet engineering requirements for tower foundations within the tower buffer zone.</li> </ul>	4.2-1a (p. 4.2-11)	Construction

**Table 2-3  
Environmental Commitments**

Number	Environmental Topic	Description	Related EIR MM	Construction or O&M
		<ul style="list-style-type: none"> <li>• Where necessary, the top soil layers shall be ripped to achieve the appropriate soil density. Ripping may also be used in areas where vehicle and equipment traffic have compacted the top soil layers.</li> <li>• Avoid working or traveling on wet soil to minimize compaction and loss of soil structure.</li> <li>• Remove all construction-related debris from the soil surface. This shall prevent rock, gravel, and construction debris from interfering with agricultural activities.</li> <li>• Remove topsoil before excavating in fields. Return it to top of fields to avoid detrimental inversion of soil profiles.</li> </ul>		
HYD-2 through HYD-4	Hydrology, Water Quality, and Drainage	ECs GEO-1 and GEO-2.	4.2-1a (p. 4.2-11), 4.8-1 (p. 4.8-17)	Construction
EC CUL-1	Cultural Resources	<p><b>Archaeological Test Excavations.</b> In order to evaluate the identified archaeological resource for CRHR and NRHP eligibility, SCE shall have a qualified archaeologist conduct the following field work prior to commencement of construction:</p> <ul style="list-style-type: none"> <li>• Fourteen shovel test probe units will be laid out and excavated at the locations and to the specification described in the <i>Plan of Work for Archaeological Test Excavations at Archaeological Site CA-TUL-3005 and California Register Of Historical Resources and National Register Of Historic Places Evaluation</i> to determine if a cultural deposit is present, if additional milling features are present but obscured by topsoil, the depth to bedrock below the present soil surface, to confirm the existing boundaries or expand the boundaries of the archaeological site, and to evaluate if the site is eligible for listing in the CRHR or the NRHP.</li> <li>• If a discovery is made, with the exception of human remains, then the recovered archaeological materials will be collected, analyzed, catalogued, and the materials reburied on site, if feasible. The site record will be updated on standard California Department of Parks and Recreation DPR 523 forms to include the results and photographs of the evaluation program.</li> </ul>	4.5-2a (p. 4.5-22)	Construction

**Table 2-3  
Environmental Commitments**

Number	Environmental Topic	Description	Related EIR MM	Construction or O&M
EC CUL-2	Cultural Resources	<p><b>Archaeological Construction Monitoring.</b> A qualified archaeologist and Native American consultant shall monitor all grading and subsurface disturbance within 150 feet of recorded archaeological site locations and areas of high archaeological sensitivity. Areas of high archaeological sensitivity shall be determined prior to project construction between SCE and the archaeological contractor, taking into account Native American feedback regarding specific areas of cultural sensitivity.</p> <ul style="list-style-type: none"> <li>• Prior to beginning any work that requires monitoring, the qualified archaeologist shall coordinate with SCE and the project manager on the construction schedule to identify when and where monitoring is to begin, including the start date for monitoring.</li> <li>• The qualified archaeologist shall be present during grading/excavation and shall document such activity on a standardized form. A record of activity shall be sent to the project manager each month.</li> <li>• If a discovery is made, and when requested by the qualified archaeologist, or the archaeological principal investigator if the archaeological monitor is not qualified as a principal investigator, the project manager shall be contacted and shall divert, redirect, or temporarily halt ground disturbing activities in the area of the discovery to allow for preliminary evaluation of archaeological resources, in accordance with CUL-3.</li> </ul>	4.5-4b (p. 4.5-22)	Construction
EC CUL-3	Cultural Resources	<p><b>Evaluation of Inadvertent Archaeological Discoveries.</b> In the event of a discovery, and when requested by the qualified archaeologist, or the archaeological principal investigator if the archaeological monitor is not qualified as a principal investigator, the project manager shall be contacted and shall divert, redirect, or temporarily halt ground-disturbing activities in the area of discovery to allow for preliminary evaluation of potentially significant archaeological resources. The principal investigator shall also immediately notify the project applicant of such findings at the time of discovery.</p> <ul style="list-style-type: none"> <li>• The significance of the discovered resources shall be evaluated by the principal investigator. For archaeological resources considered significant by the principal investigator with concurrence from SCE, a research design and data recovery program shall be prepared and reviewed and approved by SCE, consistent with CUL-5, and carried out to mitigate impacts before ground-disturbing activities in the area of discovery shall be allowed to resume. SCE shall be responsible for providing notice to proceed after evaluation work has been completed.</li> <li>• If human remains are discovered, mitigation measure CUL-</li> </ul>	4.5-4b (p. 4.4-22)	Construction

**Table 2-3  
Environmental Commitments**

Number	Environmental Topic	Description	Related EIR MM	Construction or O&M
		<p>5 shall be implemented.</p> <ul style="list-style-type: none"> <li>• The qualified archaeologist shall notify the project applicant, as appropriate, in writing of the end date of monitoring.</li> <li>• Handling and Curation of Significant Artifacts and Letter of Acceptance: <ul style="list-style-type: none"> <li>○ The qualified archaeologist shall ensure that all significant cultural remains collected are cleaned, catalogued, and permanently curated with an appropriate institution; that a letter of acceptance from the curation institution has been submitted to SCE; that all artifacts are analyzed to identify function and chronology as they relate to the history of the area; that faunal material is identified as to species; and that specialty studies are completed, as appropriate.</li> <li>○ Curation of artifacts associated with the survey, testing and/or data recovery for this proposed action shall be completed in consultation with a Native American representative, as applicable.</li> </ul> </li> <li>• Prior to completion of the proposed action, a copy of the monitoring report (including evaluation and data recovery documents), which describe the results, analysis, and conclusions of the archaeological monitoring program (with appropriate graphics) shall be submitted to SCE and the CHRIS Southern San Joaquin Valley Information Center. For significant archaeological resources encountered during monitoring, the research design and data recovery program shall be included as part of the final results report.</li> </ul>		
EC CUL-4	Cultural Resources	<p><b>Mitigation for Inadvertent Discoveries.</b> If archaeological resources found during construction are determined to be significant after completion of significance evaluations in accordance with <b>CUL-3</b>, a qualified archaeologist, in consultation with SCE and the U.S. Fish and Wildlife Service (Service), shall implement measures to avoid impacts to these archaeological resources. Where avoidance of a significant archaeological resource is not feasible, a qualified archaeologist, in consultation with the SCE and the Service, shall implement data recovery measures. Data recovery measures shall include the following:</p> <ul style="list-style-type: none"> <li>• Prepare a research design and archaeological data recovery plan prior to the issuance of grading permits for the recovery of resources in unavoidable sites that will capture those categories of data for which the site is significant, and implement the data recovery plan prior to disturbance of the site.</li> <li>• Data recovery measures shall be based on the results of the significance evaluation required in <b>CUL-3</b>, and shall</li> </ul>	4.5-4b (p. 4.4-22)	Construction

**Table 2-3  
Environmental Commitments**

Number	Environmental Topic	Description	Related EIR MM	Construction or O&M
		<p>focus on recovering archaeological data sufficient to mitigate the destruction of a portion or the entire site within the APE.</p> <ul style="list-style-type: none"> <li>• If, in the opinion of the qualified archaeologist and in light of the data available, the significance of the site is such that data recovery cannot capture the values that qualify the site for inclusion on the CRHR, the applicant shall reconsider plans for the covered activities in light of the high value of the cultural resource, and implement more substantial modifications to the covered activities that would allow the site to be preserved intact, such as project redesign, or placement of fill.</li> <li>• The amount and location of excavations shall be determined through the results of the significance evaluation phase in CUL-3. Following completion of the test excavations, all cultural materials shall be washed, cataloged, and analyzed. Technical analyses may include artifact analysis, radiocarbon dating, obsidian hydration, pollen and protein residue, and other analyses as needed to describe the cultural materials and archaeological deposits. A data recovery report shall be prepared and filed with the CHRIS Southern San Joaquin Valley Information Center.</li> <li>• SCE shall provide for the permanent curation of recovered materials. Following completion of the data recovery program, SCE shall enter into an agreement with a facility for permanent curation of the collections.</li> </ul>		
EC CUL-5	Cultural Resources	<p><b>Treatment of Human Remains.</b> If human remains are found during significance evaluations, data recovery, construction monitoring, or any project-related ground disturbing activity, the remains shall be treated with appropriate dignity pursuant to the requirements of California Public Resources Code Section 5097.98. The discovery of human remains shall trigger the following requirements:</p> <ul style="list-style-type: none"> <li>• The project manager shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards, is not damaged or disturbed by further covered activities until the project manager has discussed and conferred with the Most Likely Descendants (MLD) about preferences for treatment, as described below, of the discovered remains.</li> <li>• The qualified archaeologist on behalf of the project manager shall contact the Tulare County coroner to determine that no investigation of the cause of death is required. If the discovered remains are determined by the coroner, or an authorized representative, to be Native American, the medical examiner shall contact the NAHC.</li> </ul>	4.5-6 (p. 4.5-24)	Construction

**Table 2-3  
Environmental Commitments**

Number	Environmental Topic	Description	Related EIR MM	Construction or O&M
		<p>The Tulare County coroner, in consultation with the NAHC and the MLD, may develop an agreement that applies to the discovery of human remains that meets the requirements of California Public Resources Code Section 5097.98.</p> <ul style="list-style-type: none"> <li>• The NAHC shall identify and contact the person or persons it believes to be the MLD from the deceased Native American.</li> <li>• The landowner shall provide the MLD with access to the discovery location for inspection. The MLD must complete their inspection and make a recommendation for treatment of the remains within 48 business hours of their notification by either the NAHC or the project manager, whichever is earlier.</li> <li>• Options for treatment include, but are not limited to: <ul style="list-style-type: none"> <li>○ Preservation of Native American human remains and associated items in place and avoidance of the adjacent area defined by a 100-foot radius.</li> <li>○ Nondestructive removal and analysis of the Native American human remains and associated items by a qualified archaeologist, osteologist, or physical anthropologist.</li> <li>○ Relinquishment of the Native American remains and associated items to the MLD for treatment.</li> <li>○ Reburial of the remains on the property by SCE at a location mutually agreeable to the MLD and SCE.</li> </ul> </li> <li>• If the MLD does not make a recommendation within 48 business hours, or if the recommendations are not acceptable to the County of Tulare following extended discussions and mediation pursuant to California Public Resources Code Sections 5097.98(b)(2) and 5097.94(k), SCE shall reinter the Native American remains and burial items with appropriate dignity on the site in a location not subject to further subsurface disturbance. The location of reinterment shall be protected by one or more of the following: <ul style="list-style-type: none"> <li>○ Record the site location with the NAHC or the CHRIS Southern San Joaquin Valley Information Center</li> <li>○ Record a document with the County of Tulare Recorder's Office.</li> </ul> </li> <li>• If multiple human remains are found, discussions shall be held with the MLD. If agreement on the treatment of these remains is not reached, the remains shall be reinterred in compliance with California Public Resources Code, Section 5097.98(e).</li> </ul>		

**Table 2-3  
Environmental Commitments**

Number	Environmental Topic	Description	Related EIR MM	Construction or O&M
EC AG-1a	Agricultural Resources	For each acre of <i>Prime Farmland, Unique Farmland, or Farmland of Statewide Importance</i> that is permanently converted, SCE shall obtain one (1) acre of agricultural conservation easements. An agricultural conservation easement is a voluntary, recorded agreement between a landowner and a holder of the easement that preserves the land for agriculture. The easement places legally enforceable restrictions on the land. The exact terms of the easement are negotiated, but restricted activities shall include subdivision of that property, non-farm development, and other uses that are inconsistent with agricultural production. The mitigation lands must be of equal or better quality (according to the latest available FMMP data) and have an adequate water supply. In addition, the mitigation lands must be within the same county as the impact.	4.2-2 (p. 4.2-14)	Construction
EC AG-1b	Agricultural Resources	<p>SCE and/or its contractors shall implement the following measures to reduce temporary impacts to farmland:</p> <ul style="list-style-type: none"> <li>• Replace soils in a manner that shall minimize any negative impacts on crop productivity. The surface and subsurface layers shall be stockpiled separately and returned to their appropriate locations in the soil profile; alternately, SCE may work with individual property owners to develop a different method for the disposition of any soils that are impacted on private property, assuming a mutual agreement may be reached.</li> <li>• To avoid over-compaction of the top layers of soil, monitor pre-construction soil densities and return the surface soil (approximately the top 3 feet) to within 5% of original density, except where higher soil density is necessary to meet engineering requirements for tower foundations within the tower buffer zone. Where necessary, the top soil layers shall be ripped to achieve the appropriate soil density. Ripping may also be used in areas where vehicle and equipment traffic have compacted the top soil layers.</li> <li>• Avoid working or traveling on wet soil to minimize compaction and loss of soil structure.</li> <li>• Remove all construction-related debris from the soil surface. This shall prevent rock, gravel, and construction debris from interfering with agricultural activities.</li> <li>• Remove topsoil before excavating in fields. Return it to top of fields to avoid detrimental inversion of soil profiles.</li> </ul>	4.2-1a (p. 4.2-11)	Construction
EC AG-2c	Agricultural Resources	SCE and/or its contractors shall incorporate the following measures into the project construction plans and specifications specific to lands designated as Farmland:	4.2-1b (p. 4.2-12)	Construction

**Table 2-3  
Environmental Commitments**

Number	Environmental Topic	Description	Related EIR MM	Construction or O&M
		<ul style="list-style-type: none"> <li>• Coordinate construction scheduling as practicable so as to minimize disruption of agricultural operations by scheduling excavation to occur before or after the growing season.</li> <li>• Minimize construction dust on crops by implementing CE-AQ1 (Air Quality).</li> <li>• Supply replacement crops and trees at a mitigation ratio of one to one, upon completion of construction.</li> <li>• Coordinate planting of replacement crops and trees with landowners.</li> </ul>		
EC TRA-1	Traffic and Transportation, Utilities and Public Service Systems	<p>SCE shall prepare and implement a Traffic Management Plan subject to approval of Caltrans and/or the applicable local agency governments (including, but not limited to the County of Tulare and City of Visalia). The approved Traffic Management Plan and documentation of agency approvals, including Caltrans and local encroachment permits, shall be submitted to the CPUC prior to the commencement of construction activities. At a minimum, the plan shall:</p> <ul style="list-style-type: none"> <li>• Include a discussion of work hours, haul routes, work area delineation, traffic control and flagging.</li> <li>• Identify all access and parking restriction and signage requirements.</li> <li>• Require workers to park personal vehicles at the approved staging area and take only necessary project vehicles to the work sites.</li> </ul>	4.14-1b	Construction
EC AQ-1	Air Quality and Climate Change	<p>During construction, SCE and/or its contractors shall implement the following dust control measures:</p> <ul style="list-style-type: none"> <li>• All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover, or vegetative ground cover.</li> <li>• All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.</li> <li>• All land clearing, grubbing, scraping, excavation, land leveling, grading, cut-and-fill, and demolition activities shall be effectively controlled for fugitive dust emissions utilizing application of water or by presoaking.</li> <li>• When materials are transported off-site, all material shall be covered or effectively wetted to limit visible dust emissions, and at least 6 inches of freeboard space from the top of the container shall be maintained.</li> <li>• All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry rotary</li> </ul>	4.3-1b (p. 4.3-19)	Construction and O&M

**Table 2-3  
Environmental Commitments**

Number	Environmental Topic	Description	Related EIR MM	Construction or O&M
		<p>brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions and the use of blower devices is expressly forbidden.)</p> <ul style="list-style-type: none"> <li>• Following the addition of materials to, or removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.</li> <li>• Within urban areas, trackout shall be immediately removed when it extends 50 or more feet from the site and at the end of each workday.</li> <li>• Traffic speed shall be limited on unpaved roads to 15 miles per hour (mph).</li> <li>• Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than 1%.</li> <li>• Windbreaks shall be installed at windward side(s) of construction areas.</li> <li>• Excavation and grading activity shall be suspended when winds exceed 20 mph.</li> <li>• Limit area subject to excavation, grading, and other construction activity at any one time.</li> </ul>		
EC AQ-2	Air Quality and Climate Change	<p>After construction, SCE shall, during operation of the project, utilize the following control measures to reduce fugitive PM<sub>10</sub> and PM<sub>2.5</sub> emissions from permanently disturbed land and new access and spur roads:</p> <ul style="list-style-type: none"> <li>• Apply and maintain water or dust suppressants to all un-vegetated areas;</li> <li>• Establish native vegetation that is compliant with SCE line clearance requirements on all previously disturbed areas; or</li> <li>• Apply and maintain gravel or apply and maintain chemical/organic stabilizers/suppressants to all open areas (CPUC 2009; Appendix A).</li> </ul>	4.3-3 (p. 4.3-20)	O&M
EC AQ-3	Air Quality and Climate Change	<p>During construction, SCE shall dispose of all removed trees and other green waste via the Tulare County's Wood and Green Waste Program. To ensure compliance with this program, SCE shall:</p> <ul style="list-style-type: none"> <li>• Collect all wood and green waste generated from the removal of orchard trees separately from other construction and demolition waste, and place wood and green waste in a separate recovery area;</li> <li>• Keep wood and green waste free of contaminants such as dirt, rock concrete, plastic, metal and other contaminants that can damage wood waste processing</li> </ul>	4.3-8b (p. 4.3-28)	Construction

**Table 2-3  
Environmental Commitments**

Number	Environmental Topic	Description	Related EIR MM	Construction or O&M
		<p>equipment, and reduce the quality of the compost; and</p> <ul style="list-style-type: none"> <li>Prohibit the inclusion of yucca leaves, palm fronds, or bamboo (which cannot be included in the salvage program) from the wood and green waste recovery area.</li> </ul>		
EC AQ-4	Air Quality and Climate Change	<p>Prior to the conclusion of construction, SCE shall establish, fund, and implement a tree replacement program with the Urban Tree Foundation of Visalia, California (or other comparable organization in Tulare County) for the replacement of all permanently removed orchard trees on a 1.5 to 1 basis. The tree replacement program shall provide for the Urban Tree Foundation to select the tree species and suitable locations for the plantings, and shall also provide for the maintenance of the plantings for a minimum of 1 full year to maximize survival rate. SCE shall provide the California Public Utilities Commission (CPUC) with documentation of the tree replacement program, including the types and quantities of each tree species to be planted, the planting locations, the planting schedule, and the methodology for maintaining the plantings. (Note: it is the intent of this EC to offset the loss of carbon sequestration from the permanent loss of trees, not to replace the loss of a particular crop; therefore, it is not required that the replacement trees be orchard species.).</p>	4.3-8c (p. 4.3-28)	Construction
EC NOI-1a	Noise	<p>SCE and/or its contractors shall employ the following noise reduction and suppression techniques during project construction to minimize the impact of temporary construction-related noise on nearby sensitive receptors:</p> <ul style="list-style-type: none"> <li>All construction equipment mufflers comply with manufacturers' requirements. If impact equipment such as jackhammers, pavement breakers, and rock drills are used during construction, hydraulically or electric-powered equipment shall be used whenever feasible to reduce noise associated with compressed-air exhaust from pneumatically powered tools. However, where pneumatically powered tool use is unavoidable, the construction contractor shall place exhaust mufflers on the compressed-air exhaust and external jackets on the tools themselves where feasible.</li> <li>Nearby residents shall be notified of the construction schedule and how many days they may be affected by construction noise prior to commencement of construction activities. Notification during conductor stringing activities that include helicopter usage shall include a schedule of predicted hovering times and locations as well as helicopter flight paths. Notices sent to residents shall include a project hotline where residents would be able to call and issue complaints. All calls shall</li> </ul>	4.10-4a (p.4.10-17)	Construction

**Table 2-3  
Environmental Commitments**

Number	Environmental Topic	Description	Related EIR MM	Construction or O&M
		<p>be returned by SCE and/or its contractor within 24 hours to answer noise questions and handle complaints. Documentation of the complaint and resolution shall be submitted to the California Public Utilities Commission (CPUC) weekly.</p> <ul style="list-style-type: none"> <li>• Idling of engines shall be minimized; engines shall be shut off when not in use except in cases where idling is required to ensure safe operation of equipment or when idling is necessary to accomplish work for which the piece of equipment was designed (such as operating a crane).</li> <li>• Compressors and other small stationary equipment shall be shielded with portable barriers when operated within 100 feet of residences.</li> <li>• Equipment staging and parking areas shall be located as far as feasible from residential schools and buildings.</li> <li>• Haul truck operations and helicopter operations shall be prohibited during the evening and nighttime hours between 8:00 p.m. –6:00 a.m.</li> </ul>		
EC NOI-1b	Noise	<p>In the event that nighttime (i.e., between 8:00 p.m. –6:00 a.m.) construction activity is determined to be necessary, a nighttime noise reduction plan shall be developed by SCE and submitted to the CPUC for review and approval. The noise reduction plan shall include a set of site-specific noise attenuation measures that apply state-of-the-art noise reduction technology to ensure that nighttime construction noise and levels and associated nuisance are reduced to the most extent feasible.</p> <p>The attenuation measures may include, but would not be limited to, the control strategies and methods for implementation that are listed below. If any of the following strategies are determined by SCE to not be feasible, an explanation as to why the specific strategy is not feasible shall be included in the nighttime noise reduction plan.</p> <ul style="list-style-type: none"> <li>• Plan construction activities to minimize the amount of nighttime construction.</li> <li>• Offer temporary relocation of residents within 200 feet of nighttime construction areas.</li> <li>• Temporary noise barriers, such as shields and blankets, shall be installed immediately adjacent to all nighttime stationary noise sources (e.g., drilling rigs, generators, pumps, etc.).</li> <li>• Install temporary noise walls that block the line of sight between nighttime activities and the closest residences.</li> <li>• The notification requirements identified in EC NOI-1a shall be extended to include residences within 1,000 feet of pending nighttime construction activities.</li> </ul>	4.10-4b (p. 4.10-17)	Construction

**Table 2-3  
Environmental Commitments**

Number	Environmental Topic	Description	Related EIR MM	Construction or O&M
EC NOI-2	Noise	<p>SCE and/or its contractors shall develop and implement a Blasting Plan for construction activities. The plan shall be submitted for review and approval by the CPUC. At a minimum, the plan shall include the following measures:</p> <ul style="list-style-type: none"> <li>• Evidence of licensing, experience, and qualifications of blasters.</li> <li>• A Blast Survey Workplan shall be prepared by the blaster. The plan shall establish vibration and settlement PPV threshold criteria limits of 0.5 inches per second (in/s) in order to protect structures from blasting activities, and shall identify specific monitoring points. At a minimum, a pre-blast survey shall be conducted of any potentially affected structures and underground utilities within 500 feet of a blast area, as well as the nearest commercial or residential structure, prior to blasting.</li> <li>• The survey shall include visual inspection of the structures; documentation of structures by means of photographs, video, and a level survey of the ground floor of structures or the crown of major and critical utility lines; and these shall be submitted to the City. This documentation shall be reviewed with the individual owners prior to any blasting operations. The CPUC and impacted property owners shall be notified at least 48 hours prior to the visual inspections.</li> <li>• Scaled drawings of blast locations, and neighboring buildings, streets, or other locations that could be inhabited.</li> <li>• Blasting notification procedures, lead times, and list of those notified. Public notification to potentially affected vibration receptors describing the expected extent and duration of the blasting.</li> <li>• Description of a blast vibration monitoring program.</li> <li>• If the vibration and settlement criteria of 0.5 in/s PPV is exceeded at any time or if damage is observed at any of the structures or utilities, then blasting shall immediately cease and the CPUC immediately notified. The stability of any structures, creek canals, etc. shall be monitored and any evidence of instability due to blasting operations shall result in immediate termination of blasting. The blaster shall modify the blasting procedures or use alternative means of excavating in order to reduce the vibrations to below the threshold values, prevent further settlement, slope instability, and/or to prevent further damage.</li> <li>• Post-construction monitoring of structures shall be performed to identify (and repair if necessary) all</li> </ul>	4.10-1 (p. 4.10-13)	Construction

**Table 2-3  
Environmental Commitments**

Number	Environmental Topic	Description	Related EIR MM	Construction or O&M
		<p>damage, if any, from blasting vibrations. Any damage shall be documented by photographs, video, etc. This documentation shall be reviewed with the individual property owners.</p> <ul style="list-style-type: none"> <li>• Reports of the results of the blast monitoring shall be provided to the CPUC, the local fire department, and owners of any buried utilities on or adjacent to the site within 24 hours following blasting. Reports documenting damage, excessive vibrations, etc. shall be provided to the CPUC and impacted property owners.</li> </ul>		
EC VR-1	Visual Resources	<p>Reduce visibility of staging areas. All staging areas shall be appropriately located away from areas of high public visibility. If visible from nearby roads, residences, public gathering areas, or recreational areas, facilities, or trails, construction sites and staging areas shall be visually screened using temporary screening fencing. Fencing shall incorporate aesthetic treatment through use of appropriate, non-reflective materials, such as chain-link fence with light brown vinyl slats. Southern California Edison (SCE) shall submit final construction plans demonstrating compliance with this measure to the California Public Utilities Commission (CPUC) for review and approval at least 60 days prior to the start of construction.</p>	4.1-2 (p. 4.1-41)	Construction
EC VR-2	Visual Resources	<p>Treat Surfaces with Appropriate Colors, Finishes, and Textures. SCE shall apply surface coatings with appropriate colors, finishes, and textures to most effectively blend the structures with the visible backdrop landscape. For structures that are visible from more than one sensitive viewing location, if backdrops are substantially different when viewed from different vantage points, the darker color shall be selected, because darker colors tend to blend into landscape backdrops more effectively than lighter colors, which may contrast and produce glare. At locations where a lattice steel tower or tubular steel pole would be silhouetted against the skyline, non-reflective, light gray colors shall be selected to blend with the sky.</p> <p>SCE shall develop an SCE Structure Surface Treatment Plan for the lattice steel towers, tubular steel poles, and any other visible structures in consultation with a visual specialist designated by the CPUC, as appropriate, to ensure that the objectives of this measure are achieved. SCE shall submit the Structure Surface Treatment Plan to the CPUC for review and approval at least 90 days prior to the start of construction.</p>	4.1-1a (p. 4.1-40)	Construction

**Table 2-3  
Environmental Commitments**

Number	Environmental Topic	Description	Related EIR MM	Construction or O&M
EC VR-3	Visual Resources	<b>Use Non-Specular and Non-Reflective Materials.</b> The transmission line conductors shall be non-specular and non-reflective, the insulators shall be non-reflective and non-refractive, and the lattice structures shall be non-reflective.	4.1-1b (p. 4.1-40)	Construction
EC VR-4	Visual Resources	<b>Reduce construction night lighting impacts.</b> SCE shall design and install all lighting at transmission line facilities, including construction and storage yards and staging areas, such that light bulbs and reflectors are not visible from public viewing areas; lighting does not cause reflected glare; and illumination of the transmission line facilities, vicinity, and nighttime sky is minimized. SCE shall submit a Construction Lighting Mitigation Plan to the CPUC for review and approval at least 90 days prior to the start of construction or the ordering of any exterior lighting fixtures or components, whichever comes first. SCE shall not order any exterior lighting fixtures or components until the Construction Lighting Mitigation Plan is approved by the CPUC. The plan shall include but is not limited to the following measures: <ul style="list-style-type: none"> <li>• Lighting shall be designed so exterior lighting is hooded, with lights directed downward or toward the area to be illuminated and so that backscatter to the nighttime sky is minimized. The design of the lighting shall be such that the luminescence or light sources are shielded to prevent light trespass outside the HCP Permit Area.</li> <li>• All lighting shall be of minimum necessary brightness consistent with worker safety.</li> <li>• High illumination areas not occupied on a continuous basis shall have switches or motion detectors to light the area only when occupied.</li> </ul>	4.1-6 (p. 4.1-50)	Construction
EC PH-1	Public Health Hazards	<b>Fire Control Measures.</b> All internal or external combustion engine equipment operated on any timber-, brush- or grass-covered land, including trails traversing such land, shall have a spark arrester, maintained in effective working order, meeting either (i) Department of Agriculture, Forest Service Standard 5100-1a; or (ii) the 80% efficiency level determined according to the appropriate Society of Automotive Engineers recommended Practices J335 and J350. SCE and/or its contractors shall have water tanks and/or water trucks sited/available in the project area for fire protection. All construction and maintenance vehicles shall have fire suppression equipment. Construction personnel shall be required to park vehicles away from dry vegetation. Prior to construction, SCE shall contact and coordinate with the California Department of Forestry (CalFire) and applicable local fire departments (i.e., Tulare County, City of Visalia) to determine the appropriate amounts of fire equipment to be	4.7-8 (p. 4.7-19)	Construction

**Table 2-3  
Environmental Commitments**

Number	Environmental Topic	Description	Related EIR MM	Construction or O&M
		carried on the vehicles and appropriate locations for the water tanks if water trucks are not used. SCE shall submit verification of its consultation with CalFire and the local fire departments to the CPUC.		
EC PH-2a	Public Health Hazards	As part of the siting and construction process, SCE shall identify objects, such as fences, metal buildings, and pipelines, that are within and near the ROW that have the potential for induced voltages and shall implement electrical grounding of metallic objects in accordance with SCE's standards. The identification of objects that have the potential for induced voltages shall document the threshold electric field strength and metallic object size at which grounding becomes necessary.	4.7-11a (p. 4.7-23)	Construction
EC PH-2b	Public Health Hazards	<p>Prior to construction, SCE shall coordinate with affected property owners to conduct an inventory of the groundwater wells (including wagon-wheel type wells) that are within the proposed ROW. To the extent feasible, SCE shall adjust the proposed ROW such that the centerline of the ROW shall be no closer than 50 linear feet from any existing well. Where adjusting the ROW is not feasible (either technically or economically), SCE shall proceed as follows:</p> <p><b>Wagon-Wheel Wells.</b> It would not be feasible to, and Cal/OSHA regulations would not permit one to, install or relocate a wagon-wheel type well. For this reason, SCE shall adjust the spacing and/or height of adjacent tower or pole structures to provide sufficient vertical clearance such that well maintenance activities may be safely conducted on any wagon-wheel well within the ROW. Safe working clearances shall be determined as identified in Cal/OSHA Title 8 of the California Code Section 2946, considering the maximum line sag at the well location(s) as well as the minimum height of equipment (e.g., boom trucks) that would be required to perform well maintenance activities.</p> <p><b>Other Groundwater Wells.</b> Using the working clearances identified in Cal/OSHA Title 8 of the CCR Section 2946, and considering the minimum height of equipment (e.g., boom trucks) that would be required to perform maintenance activities as well as the maximum line sag at the well locations, SCE shall identify wells that would not have the required minimum ground clearance to safely perform any necessary well maintenance and that could not be provided with adequate vertical clearance by adjusting the spacing and/or height of adjacent tower or pole structures. For those wells where adequate vertical clearance is not feasible (either technically or economically), SCE shall engage a well driller licensed in the State of California (C-57 Well</p>	4.7-11b (p. 4.7-23)	Construction

**Table 2-3  
Environmental Commitments**

Number	Environmental Topic	Description	Related EIR MM	Construction or O&M
		<p>Driller's License) to relocate those identified wells to another location.</p> <p>Prior to well relocation, it shall be demonstrated that the new location is capable of producing water of equal quantity and quality. For the existing well, a steady-state pump test shall be conducted, once in February or March and once in early October (prior to well relocation), to determine the existing average yield of the well. Also, water quality testing of the existing well shall be performed after each of the pump tests. Measured water quality parameters shall include pH, total suspended solids (TSS), total dissolved solids (TDS), and nitrates. Equivalent water quantity and quality testing (i.e., same tests, performed once in February or March and once in early October) shall be performed, using a properly installed, temporary monitoring well, at the new prospective well location. The average yield and water quality at the new prospective well location shall be at least equal to (if not better than) the existing well location; such a comparison shall be made based upon the testing specified in this mitigation measure. If the yield and quality at the new prospective well location are demonstrated to be at least equivalent to the existing well location, then a permanent well shall be installed at the new location; otherwise, a new prospective well location shall be identified and the same testing procedures shall be repeated until an adequate location is identified. All testing shall be conducted or overseen by a California registered hydrogeologist. A report summarizing all water quantity and quality testing shall be submitted by a California-registered hydrogeologist to the California Public Utilities Commission and otherwise be made publicly available. The report shall include a detailed description of testing approach, methodology, duration, and results. Abandonment of existing wells shall be conducted in accordance with all applicable well standards. All wells shall be relocated prior to electrifying the transmission line.</p>		
EC PH-3	Public Health Hazards	<p>A Blasting Safety Plan for construction shall be submitted to and approved by the CPUC and Tulare County Fire Department prior to construction that includes, at a minimum, the following:</p> <ul style="list-style-type: none"> <li>• Description of means for transportation and on-site storage and security of explosives in accordance with local, state, and federal regulations</li> <li>• Minimum acceptable weather conditions for blasting and safety provisions for potential stray current (if electric detonation)</li> <li>• Traffic control standards and traffic safety measures</li> </ul>	4.7-2 (p. 4.7-14)	Construction

**Table 2-3  
Environmental Commitments**

Number	Environmental Topic	Description	Related EIR MM	Construction or O&M
		<p>(see also EC TRA-2)</p> <ul style="list-style-type: none"> <li>• Requirement for provision and use of personal protective equipment</li> <li>• Minimum standoff distances and description of blast impact zones and procedures for clearing and controlling access to blast danger</li> <li>• Procedures for handling, setting, wiring, and firing explosives, and procedures for handling misfires per federal code</li> <li>• Type and quantity of explosives and description of detonation device. Sequence and schedule of blasting rounds, including general method of excavation, lift heights, etc.</li> <li>• Methods of matting or covering of blast area to prevent flyrock and excessive air blast pressure</li> <li>• Dust control measures in compliance with applicable air pollution control regulations (to interface with general construction dust control plan)</li> <li>• Emergency Action Plan to provide emergency telephone numbers and directions to medical facilities, as well as procedures for action in the event of injury.</li> <li>• Material Safety Data Sheets for each explosive or other hazardous materials to be used</li> <li>• Evidence of licensing, experience, and qualifications of blasters</li> <li>• Description of insurance for the blasting work.</li> </ul>		
EC PH-4	Public Health Hazards	SCE shall consult with landowners to determine which aerial applicators and helicopter pilots that offer frost protection cover agricultural parcels within 1 mile of the transmission line ROW. SCE shall provide written notification to all aerial applicators and helicopter pilots that offer frost protection stating when the new transmission line and towers would be erected. SCE shall also provide all aerial applicators and helicopter pilots that offer frost protection that operate in the area with recent aerial photos or topographic maps clearly showing the location of the new lines and towers, as well as all existing SCE lines and towers within 5 miles on either side of the corridor. The photos or maps shall also indicate the heights of the towers and conductors. SCE shall provide documentation of compliance to the CPUC.	4.7-6 (4.7-18)	Construction
EC PH-5a	Public Health Hazards	<p>SCE and/or its contractors shall implement construction best management practices including, but not limited to, the following:</p> <ul style="list-style-type: none"> <li>• Follow manufacturer's recommendations on use, storage, and disposal of chemical products used in</li> </ul>	4.7-1a (p. 4.7-13)	Construction

**Table 2-3  
Environmental Commitments**

Number	Environmental Topic	Description	Related EIR MM	Construction or O&M
		construction <ul style="list-style-type: none"> <li>• Avoid overtopping construction equipment fuel gas tanks</li> <li>• Use tarps and adsorbent pads under vehicles when refueling to contain and capture any spilled fuel</li> <li>• During routine maintenance of construction equipment, properly contain and remove grease and oils</li> <li>• Properly dispose of discarded containers of fuels and other chemicals.</li> </ul>		
EC PH-5b	Public Health Hazards	SCE shall prepare a Hazardous Substance Control and Emergency Response Plan (Plan) and implement it during construction to ensure compliance with all applicable federal, state, and local laws and guidelines regarding the handling of hazardous materials. The Plan shall prescribe hazardous material handling procedures to reduce the potential for a spill during construction, or exposure of the workers or public to hazardous materials. The Plan shall also include a discussion of appropriate response actions in the event that hazardous materials are released or encountered during excavation activities. The Plan shall be submitted to the CPUC for review and approval prior to the commencement of construction activities.	4.7-1b (p. 4.7-13)	Construction

### 2.4.5 Energy Conservation or Creating New Energy Sources

The alternative to a new transmission line would involve either managing the electrical demand to avoid the need for a new transmission line or constructing a new local energy source. Implementation of an energy conservation program to avoid the need for a new transmission line is not considered feasible since the demand for new power already exists, and there is no guarantee that energy conservation program would significantly lower the demand to the point where a new transmission line is not necessary. Constructing a new local energy source like wind or solar power is not considered feasible in either meeting the amount of power needed or meeting the need for power reliability in the area. These projects also have the potential to result in take of federally listed species because of the need to site them in available open spaces in the vicinity of the Big Creek 1-Rector and the Big Creek 3-Rector Transmission Lines and the Rector Substation.

SCE prepared two technical papers, *System Strength and Short Circuit Duty (SCD)/Short Circuit Ratio (SCR) Analysis* and *San Joaquin Cross Valley Loop Project Supplemental Routing Analysis*, which are presented in Appendix B of this EA. These SCE technical papers and the

additional analysis by the EA team helped to clarify that “safe and reliable electric service” in the Electrical Needs Area is currently limited by two critical system constraints: power flow capacity and system strength.

Limited power flow capacity is most acute in the summer (peak load) season, when the existing Big Creek 1-Rector and Big Creek 3-Rector 220-kilovolt (kV) transmission lines simply cannot move enough electricity from the Big Creek Hydroelectric Project to meet the demand at the Rector Substation.

This results in thermal overload (overheating) of the lines, which in turn results in reduced voltage in the system (brownouts) and/or dropped load (blackouts).

The system strength analysis is a more complex measure of the transmission system to provide safe and reliable electrical service. Four factors are used to measure the adequacy or sufficiency of the transmission system strength:

- System thermal capacity;
- System post-transient voltage stability;
- System dynamic stability; and
- System short circuit duty (SCD).

This system strength analysis showed the existing Rector Substation system to be the “weakest” load-serving substation in the entire SCE service territory, and that improving the system strength was critical. Therefore, trying to meet electrical power needs through energy conservation or alternative energy sources did not meet the purpose and need for the action, and they were not selected.

#### **2.4.6 Alternative Transmission Line Alignments**

An alternative alignment was considered by the CPUC (2009) and was not selected due to public concerns with impacts to the cities of Farmersville and Lemon Cove and to prime agricultural land. Other alignments considered in the EIR’s analysis (Alternatives 3–6) all had significant unavoidable impacts to various resources. Furthermore, the Service does not have the authority to select alternatives that were precluded from further consideration by the state oversight agency, in this case the CPUC.

In addition, the *System Strength and Short Circuit Duty (SCD)/Short Circuit Ratio (SCR) Analysis* and *San Joaquin Cross Valley Loop Project Supplemental Routing Analysis* (Appendix B), showed the effectiveness of various alternative routing configurations in addressing both the power flow constraint as well as the system strength constraint in the existing system. While

several routing configurations were shown to help alleviate the power flow constraint, only loop configurations (i.e., looping the under-utilized Big Creek–Springville 220 kV lines into the Rector Substation) would also result in a meaningful improvement in system strength. Further, the electrical effectiveness of different loop alignments was shown to be nearly identical for tap points located north of the Rector Substation, whereas electrical effectiveness decreased substantially for tap points located south of the Rector Substation. Therefore, where the alternative alignments could occur relative to the Rector Substation is somewhat limited, and these alternatives were already evaluated in the EIR (CPUC 2009, 2010). Therefore, trying to meet electrical power needs through alternative alignments did not meet the purpose and need for the action, and they were not selected.

### **2.4.7 Alternative Facility Designs along the Cross Valley Line**

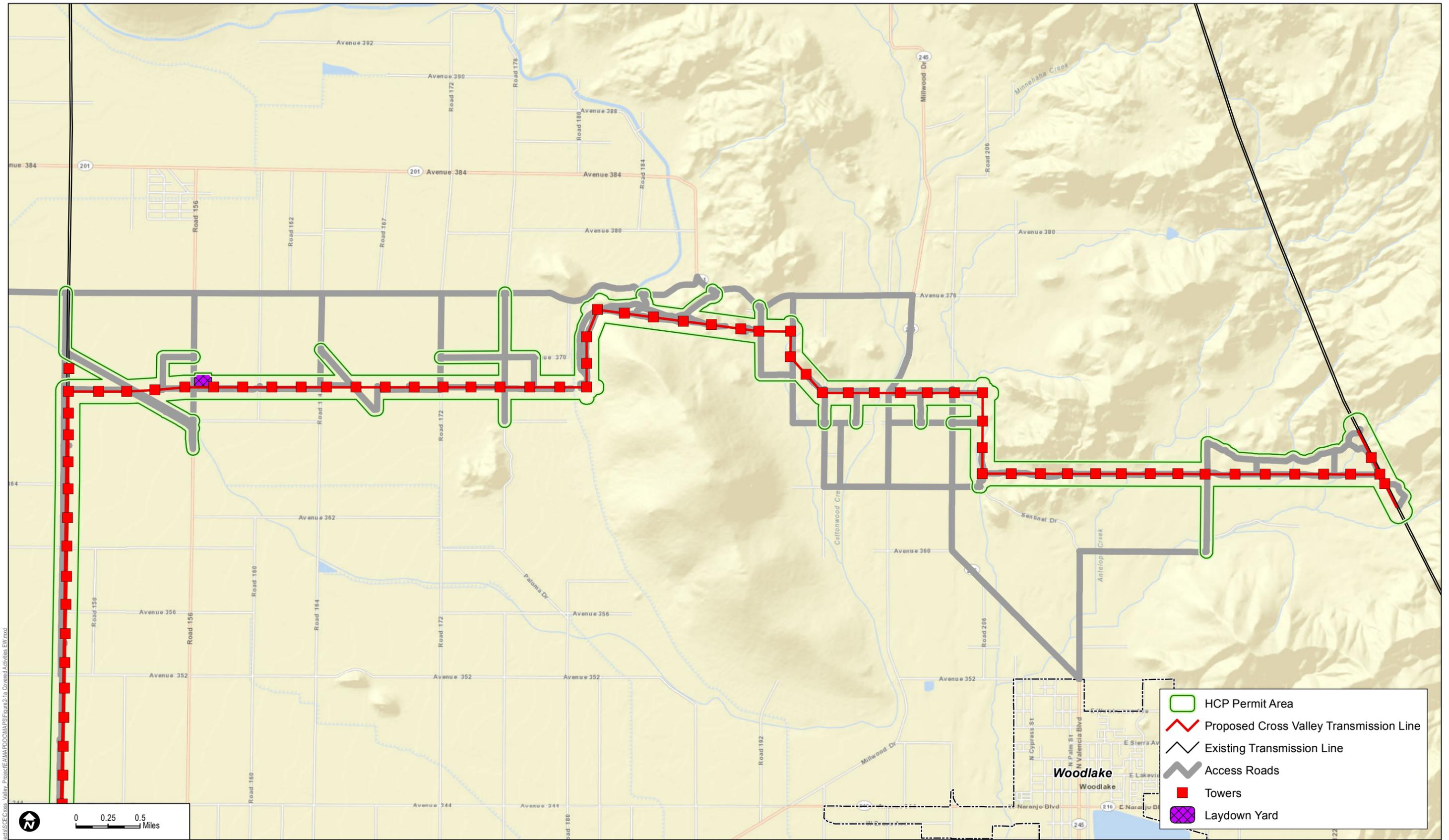
These alternatives involve construction of a new transmission line along the route of the Cross Valley Line, but with different facilities along the alignment. Facilities include access roads (including associated gates and drainage systems), transmission structures and prepared pads, and the conductors and other wires or cables (e.g., an optical ground wire (OPGW)). The Cross Valley Line was designed to avoid impacts to the greatest extent possible. Beyond what has already been incorporated into the transmission line's design, the alternative facility arrangements either did not avoid further impacts or changed the design of the transmission line beyond what was considered feasible. Therefore, alternative facility designs did not meet the purpose and need for the action and were eliminated from further consideration.

### **2.4.8 Alternatives to Specific Construction or O&M Covered Activities**

These alternatives involve construction, operation, and maintenance (O&M) of the Cross Valley Line, but with a different combination of Covered Activities than those included in the Cross Valley Line HCP. However, all the Covered Activities are necessary to construct the transmission line. In addition, while not implementing one or more of the O&M Covered Activities would reduce the amount of temporary disturbance, harm, and mortality to species, prudent practice require the utility to undertake O&M activities to reliably deliver energy in compliance with applicable laws and mandates. Therefore, alternatives not including all the Covered Activities would not meet the purpose and need for the action and were eliminated from further consideration.

## 2.5 REFERENCES CITED

- CPUC (California Public Utilities Commission). 2008. *San Joaquin Cross Valley Loop Project Scoping Report*. Prepared by ESA. San Francisco, California: ESA. October 2008.
- CPUC. 2009. *Southern California Edison's San Joaquin Cross Valley Loop 220 kV Transmission Line Project Draft Environmental Impact Report*. SCH no. 2008081090. Prepared by ESA. San Francisco, California: ESA. June 2009.
- CPUC. 2010. *Southern California Edison's San Joaquin Cross Valley Loop 220 kV Transmission Line Project Final Environmental Impact Report*. Prepared by ESA. San Francisco, California: June 2010.
- SCE (Southern California Edison). 2013. *Draft Habitat Conservation Plan for the San Joaquin Cross Valley Loop Transmission Line*. Prepared by AECOM. Sacramento, California: AECOM. May 2013.



-  HCP Permit Area
-  Proposed Cross Valley Transmission Line
-  Existing Transmission Line
-  Access Roads
-  Towers
-  Laydown Yard

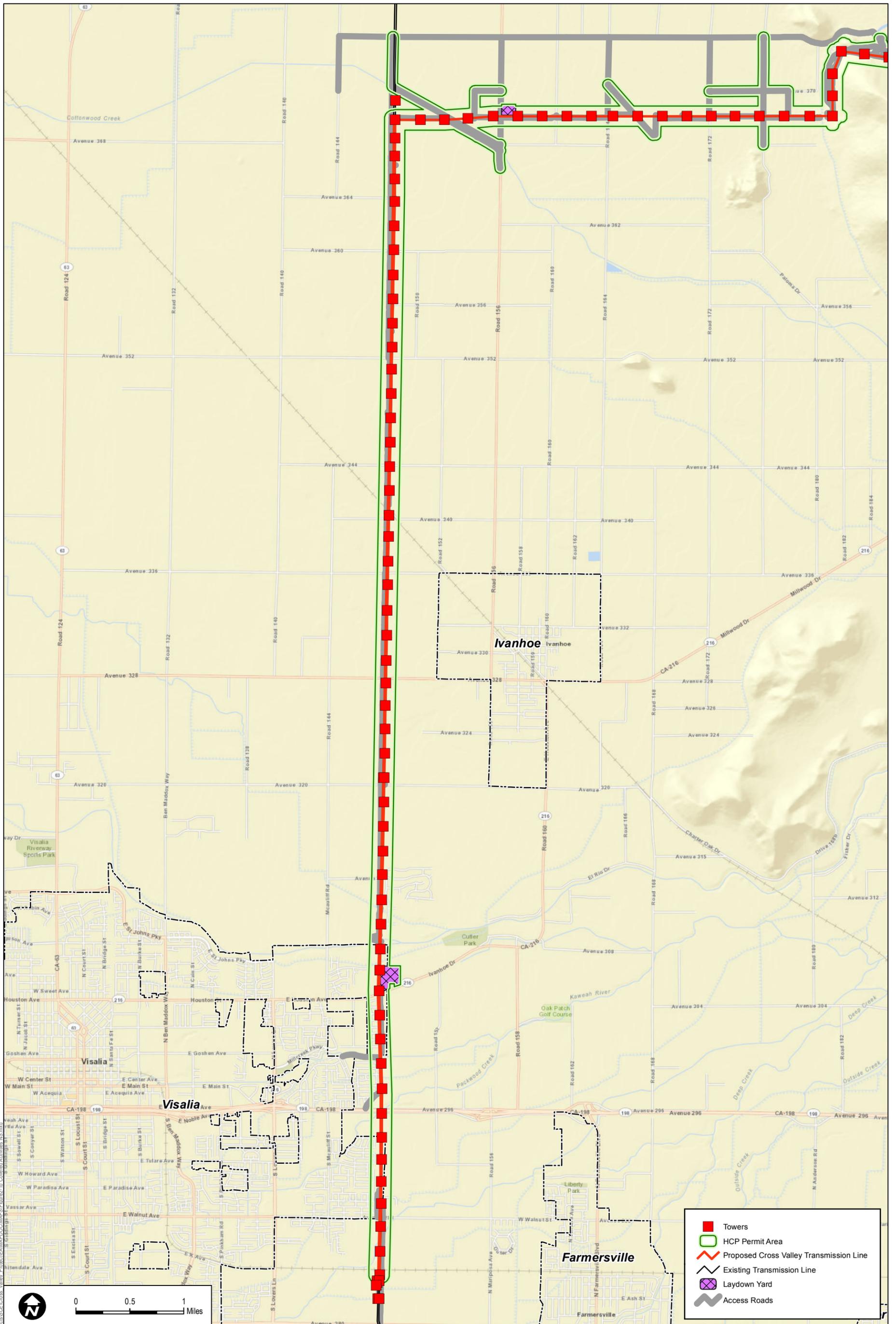
SOURCE: SCE 2013, ESRI 2010 & ESRI Online

FIGURE 2-1a

Covered Activities (E-W Alignment)

Path: \\vulpe.klasGIS\Biala\Projects\SCE\Cross Valley Project\EA\Map\DOCOMAP\Figure2-1a Covered Activities EIV.mxd

INTENTIONALLY LEFT BLANK

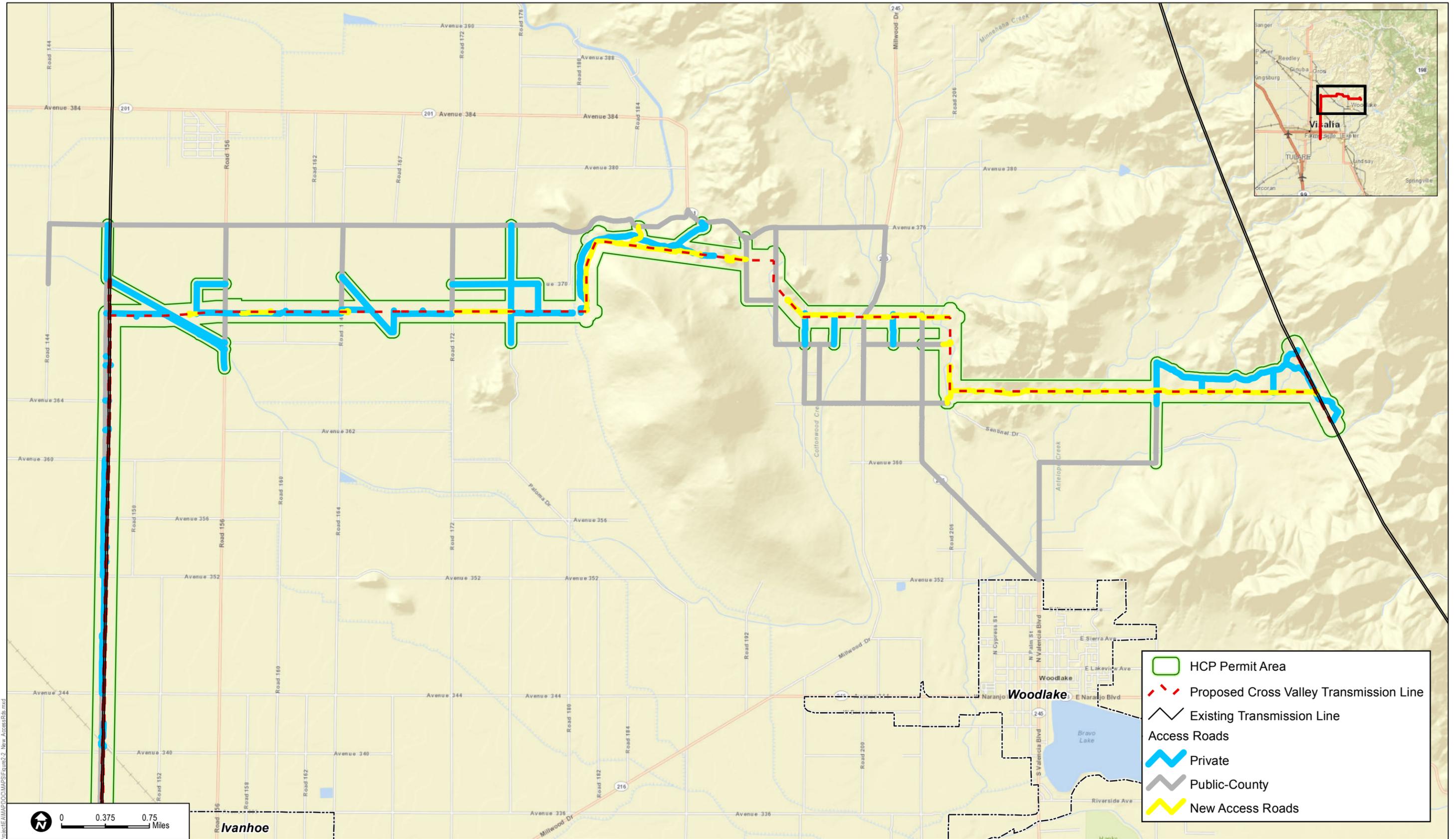


SOURCE: SCE 2013, ESRI 2010 & ESRI Online

FIGURE 2-1b

Covered Activities (N-S Alignment)

INTENTIONALLY LEFT BLANK



- HCP Permit Area
- Proposed Cross Valley Transmission Line
- Existing Transmission Line
- Access Roads
- Private
- Public-County
- New Access Roads

0 0.375 0.75  
Miles

SOURCE: SCE 2013, ESRI & ESRI Online

FIGURE 2-2

Proposed Location of New Access Roads

Z:\Projects\SCE\Cross Valley Project\EA\MAPS\DOCS\Figures\2 - New AccessRds.mxd

INTENTIONALLY LEFT BLANK

## **CHAPTER 3.0 INTRODUCTION TO THE RESOURCE CHAPTERS AND THE EFFECTS ANALYSIS**

---

This chapter describes the organization of the impact analysis in the Environmental Assessment (EA). As discussed previously in EA Section 1.4, Relationship of this EA to Other Environmental Documents, the scoping process identified 15 key resource issues deserving of study in this EA. Each significant resource will be analyzed within a separate resource chapter, as listed below:

- Chapter 4.0, Geology and Soils
- Chapter 5.0, Agricultural Resources
- Chapter 6.0, Hydrology and Water Quality
- Chapter 7.0, Biological Resources: Land Cover Types and Associated Native Species
- Chapter 8.0, Biological Resources: Special-Status Species
- Chapter 9.0, Land Use and Planning
- Chapter 10.0, Cultural Resources
- Chapter 11.0, Utilities and Public Service Systems
- Chapter 12.0, Traffic and Transportation
- Chapter 13.0, Air Quality and Climate Change
- Chapter 14.0, Noise
- Chapter 15.0, Visual Resources
- Chapter 16.0, Public Health Hazards
- Chapter 17.0, Recreation
- Chapter 18.0, Environmental Justice

Each of the EA's "resource chapters" will begin by describing the existing "affected environment" for that resource, as well as the "regulatory setting" for that resource. Next, the methodology or approach to conducting the impacts analysis for that resource is described in the beginning of the "Environmental Consequences" section. Each Environmental Consequences section will present an analysis of the No Action Alternative's impacts to that resource, followed by an analysis of the Proposed Action Alternative impact to that resource. For each alternative analyzed, the direct, indirect, and cumulative effects are presented, and a determination of "significance" is made.

### 3.1 DEFINITIONS/TERMINOLOGY

This section presents National Environmental Policy Act (NEPA) terms, Endangered Species Act Section 10 terms, and other terms used frequently throughout the EA:

*Affected Environment:* The Affected Environment sections of a NEPA document succinctly describe the existing environment within the area(s) that might be affected by the alternatives under consideration (40 CFR 1502.15).

*Cumulative Effect:* Cumulative impacts are those effects resulting from the incremental impacts of an action or activity when combined with other past, present, and reasonably foreseeable future actions (regardless of which agency or person undertakes such actions). Cumulative impacts could result from individually insignificant but collectively significant actions occurring over a period of time. Short-term impacts occur only for a short time after implementation of a management action; for example, construction noise impacts would be considered short term in nature. By contrast, long-term effects occur for an extended period after implementation of a management action; for example, operational noise during facility operations would be a long-term impact, as it would last for as long as the facility is in operation (40 CFR 1508.7).

*Effects or Impacts:* Effects are a change to the quality of the natural or the physical environment, or the relationship of people with that environment, resulting from an action or activity (40 CFR 1508.8). Effects include ecological effects (such as the effects on natural resources and on the components, structures, and functioning of ecosystems), and aesthetic, historic, cultural, economic, social, or health effects, whether direct, indirect, or cumulative. Effects also include beneficial and detrimental effects. The terms “effect” and “impact” are synonymous (40 CFR 1508.8). Short-term effects occur only for a short time during implementation of an action; for example, construction noise impacts would be considered short term in nature. By contrast, long-term effects occur for an extended period during implementation of an action; for example, operational noise during facility operations would be a long-term impact because it would last for as long as the facility is in operation.

*Environmental Consequences:* Environmental Consequences sections of a NEPA document present the environmental impacts of the alternatives (including the proposed action), which cannot be avoided should an alternative be implemented (40 CFR 1502.16). The Environmental Consequences sections provide the scientific and analytic basis for comparing the alternatives under consideration. The Environmental Consequences must include the following: (a) the environmental effects of each alternatives including the proposed action; (b) direct effects and their significance; (c) indirect effects and their significance; (d) possible conflicts between an alternative and the objectives of federal, regional, state, and local land use plans, policies, and

controls for the area concerned; (e) energy requirements and conservation potential of the various alternatives and mitigation measures; (f) the natural or depletable resource requirements and conservation potential of the various alternatives and mitigation measures; (g) the urban quality, historic, and cultural resources effects of each alternatives; and (h) a discussion of the means to mitigate adverse environmental impacts of each alternative (40 CFR 1502.16).

*HCP Covered Activity:* An otherwise lawful non-federal action or activity that (a) may result in the “take” of federally listed species, (b) is reasonably certain to occur; (c) for which a permit applicant has some form of control, and (d) is proposed for inclusion on an Incidental Take Permit (Service and NMFS 1996). In this EA, Covered Activities mean the proposed Southern California Edison activities named in the Cross Valley Transmission Line Habitat Conservation Plan (see Appendix A).

*HCP Covered Species:* A federally listed species or an unlisted species that has been adequately addressed in a Habitat Conservation Plan (HCP), and are proposed for inclusion on an Incidental Take Permit (Service and NMFS 1996). In this EA, Covered Species mean the species named in the Cross Valley Transmission Line HCP (see Appendix A).

*Direct Effect:* Direct effects are caused by an action or activity and occur at the same time and place as the action or activity (40 CFR 1508.8).

*Indirect Effect:* Indirect effects are caused by an action (activity) and occur later in time or further in distance, but are still reasonably foreseeable (40 CFR 1508.8). In this EA, effects caused by an HCP Covered Activity that occur after the activity is completed, and/or the effect occurs outside the proposed Cross Valley Line HCP Permit Area (see Appendix A), are discussed as indirect effects.

*Permanent Effect:* In this EA, a permanent effect is an impact to species suitable habitat that cannot be restored to pre-activity conditions within one season or one year.

*Temporary Effect:* In this EA, a temporary effect is an impact to species suitable habitat that will be restored to pre-activity conditions within one season or one year.

*Study Area:* The study area for direct effects is the proposed Habitat Conservation Plan (HCP) Permit Area, and the study area for most indirect effects is Tulare County.

*Aestivation:* The term aestivation was historically used to describe upland habitat associated with the California tiger salamander (*Ambystoma californiense*), which was believed to have a prolonged period of inactivity during the summer months. However, recent scientific information has determined that the California tiger salamander does not aestivate. Upland habitat associated with the California tiger salamander is now more accurately referred to as

upland dispersal habitat. For the purposes of this EA, the term aestivation used in conjunction with California tiger salamander simply refers to upland dispersal habitat.

## **3.2 CUMULATIVE EFFECTS ANALYSIS IN THIS EA**

NEPA and its implementing regulations require a reasonable analysis of the cumulative impacts of each alternative considered in a NEPA document. The adequacy of cumulative impact analysis depends on how well the analysis considers impacts that are due to past, present, and reasonably foreseeable actions. The cumulative analysis should adequately consider the following: (1) whether the existing environment has been degraded by past actions, and if so, to what extent; (2) whether ongoing activities in the area are causing impacts; and (3) the future trends for activities and impacts in the area (EPA 1999). Considering the past, present, and reasonable foreseeable future actions provides a needed context for assessing cumulative impacts of an alternative. The consideration of other actions occurring in proximity to the alternative is a necessary part of evaluating cumulative effects (EPA 1999). Cumulative impacts can result from individually minor but collectively significant action taking place over a period of time.

The analysis of cumulative effects begins with consideration of the direct and indirect effects on the environment that are expected or likely to result from an alternative. Agencies then look for existing effects of past actions that are, in the judgment of the agency, relevant because they have a relationship with the direct and indirect effects of the alternative. Once the agency has identified those existing effects of past actions that warrant consideration, the agency assesses the extent to which the effects of the alternative will add to, modify, or mitigate those existing effects. The final cumulative analysis documents the agency assessment of the direct and indirect effects of the alternative on the affected environment, when added to the total sum of the past, present, and the reasonably foreseeable future actions (CEQ 2005).

### **3.2.1 Past, Present, and Reasonably Foreseeable Actions Considered in Each Cumulative Effects Analysis**

#### **History of Land Development in the HCP Permit Area**

Visalia, Tulare County's largest city, was established in 1852 and has the distinction of being the first community established between Stockton and Los Angeles, California. At that time, Tulare County included all of the area between Mariposa and Los Angeles Counties, and stretched from the California Coast Ranges to the State of Nevada. Through the years, the Counties of Fresno, Tulare, Kings, Kern, and Inyo were formed out of what was once that original territory.

Initially, a number of farming "colonies" were established in the County. These small communities, such as Mount Whitney, Orosi, Oakview, Holliday, Vina, and McCall's, took advantage of affordable land and water. Communities along railroads grew to become the

County's larger cities, such as Tulare, Visalia, and Porterville. Visalia, the County seat, became the service, processing, and distribution center for the growing number of farms, dairies, and cattle ranches.

Tulare County is at the southern end of California's Central Valley and is presently the second-leading agricultural-producing county in the United States (County of Tulare 2010a). Present land use in eastern Tulare County is dominated by Sequoia and Kings Canyon National Parks. Agriculture and the food processing industry are the top employment industries in the County. Emerging employment sectors include finance, real estate, construction, and government jobs. The County experienced an average past annual growth rate of 1.9% from 1990–2007 and is expected to growth at an average annual future growth rate of 2.4% from 2007–2030 (County of Tulare 2010a). There are eight incorporated cities, all located in western Tulare County. Most of the cities in Tulare County are small, farming-service communities surrounded by active agricultural operations, with little or no natural lands remaining. One of the biggest issues surrounding the expansion of the cities is the ongoing conversion of prime agricultural land to support additional residential development, commercial development and other urban land uses, and the land use conflict that emerges at the intersection of daily agricultural operations and suburban uses.

In 2007, Tulare County's estimated population was 429,000 (County of Tulare 2010b). The incorporated cities of Porterville, Tulare, and Visalia contain the largest shares of the County's population—over 50%. The 2030 General Plan projected that year 2030 population would be 742,970 (County of Tulare 2010b). This population estimate was based on projections provided by the Tulare County Association of Governments (TCAG) and the California Department of Finance (DOF). Using these population projections, the County considered several population growth scenarios that addressed the County's incorporated and unincorporated areas' ability and capacity to grow and accommodate future population. In reviewing these population growth scenarios and TCAG traffic modeling projections, the County of Tulare determined the unincorporated portions of the County could accommodate approximately 25% of future new growth (County of Tulare 2010b). Therefore, while it is a goal of the County to have growth occur within the cities' urban development boundaries, significant future new growth is anticipated outside of these areas.

#### **Current Projects and Future Projects**

A total of 136 present projects or reasonably foreseeable future projects (approved or proposed) were identified within the general vicinity of the proposed Cross Valley Line HCP Permit Area (County of Tulare 2010c; Figure 3-1). The effects of these "other projects" were considered in each cumulative impact analysis presented in EA Chapters 4–18. In order to develop this list of 136 present or reasonably foreseeable future projects, the U.S. Fish and Wildlife Service

(Service) considered the Tulare County General Plan Recirculated Draft Environmental Impact Report (County of Tulare 2010b) to develop an initial list, and then follow-up phone calls were conducted with County of Tulare (Guerra pers. comm. 2013) and City of Visalia (Dong pers. comm. 2013) to confirm the reasonably foreseeable projects.

The timeframe used to develop the list of 136 current or reasonably anticipated projects included the years between 2009–2039. The vicinity (study area) considered in developing the list of 136 projects was the area over which direct or indirect effects of the alternatives (including the proposed action) could contribute to past and present effects. The same study area was used to estimate the cumulative effects on each resource identified in the Environmental Consequences section of each individual resource chapter (Chapters 4–18).

### **3.2.2 Methodology Used to Analyze Cumulative Effects**

This Draft EA analyzes the cumulative effect of the proposed HCP construction Covered Activities, the proposed maintenance Covered Activities, and proposed conservation strategy Covered Activities, taking into account the relevant effects on that resource from other past, present, and reasonably foreseeable future actions. The cumulative effects analysis highlights past actions that are closely related either in time or space (i.e., temporally or in geographic proximity) to the proposed action; present actions that are ongoing at the same time this EA was being prepared; and reasonably foreseeable future actions, including those for which there are existing decisions, funding, formal proposals, or that are highly probable based on known opportunities or trends (Figure 3-1).

Varying degrees of information exist about the 136 projects analyzed in the cumulative effects analyses. Therefore, for resources where quantitative information was available, a quantitative analysis is provided; otherwise, a qualitative cumulative-effect analysis is provided in Chapters 4–18.

Figure 3-1 provides a comprehensive listing of all existing and foreseeable projects that could contribute to a cumulative impact on the resources analyzed in EA Chapters 4 through 18. Most of the projects listed in Figure 3-1 have been, are being, or would be required to undergo their own independent environmental review under NEPA, the California Environmental Quality Act (CEQA), or both, as applicable. With the exception of climate change (analyzed in Chapter 13, Air Quality and Climate Change), which is a global issue, the Service has identified the San Joaquin Valley Air Basin as the largest area within which cumulative effects could be assessed in Chapters 4–18. For each resource analyzed in Chapters 4–18, the geographic scope of the cumulative effect analysis was determined by topography, the natural boundaries of the resource, and the extent of the direct and indirect effects, rather than jurisdictional boundaries. The geographic scope of each cumulative effect

analysis extends beyond the scope of the direct and indirect effects of the proposed action and alternatives, pursuant to EPA guidance (EPA 1999).

### **3.3 METHODOLOGY USED TO DETERMINE SIGNIFICANCE OF EFFECTS**

The significance of the direct, indirect, and cumulative effects should be determined based on both context and intensity of the effect. In its implementing regulations for NEPA, the Council on Environmental Quality (CEQ) states that “the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality” (40 CFR 1508.27). Significance may vary with the setting of the alternatives, including the proposed action (CEQ 1997).

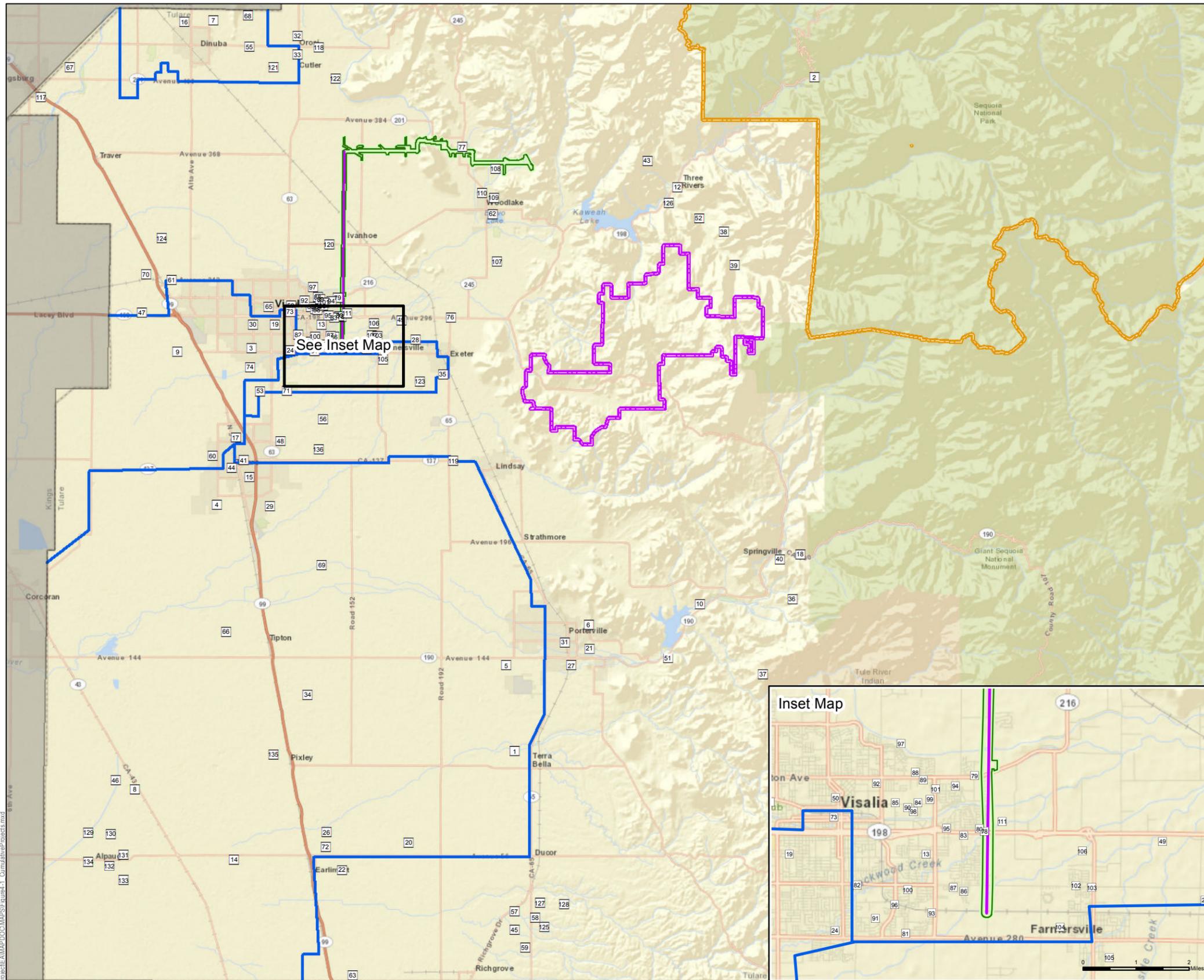
Intensity refers to the severity of the effect (40 CFR 1508.27). Factors that have been used to define the intensity of effects include the magnitude, geographic extent, duration, and frequency of the effect. “Magnitude” of an effect reflects relative size or amount of an effect. “Geographic extent” considers how widespread the effect might be. “Duration and frequency” refers to whether the effect is a one-time event, intermittent, or chronic (CEQ 1997). Both short- and long-term effects are relevant (43 CFR 1508.27).

Where a quantitative evaluation is possible, specific criteria/thresholds for significance should be explicitly identified and described. These “thresholds of significance” should reflect the resilience of the resource, ecosystem, or human community to the effects that are likely to occur. The thresholds/criteria (i.e., levels of acceptable change) used to determine the significance of effects will vary depending on the type of resource being analyzed, the condition of the resource, and the importance of the resource as an issue (as identified through scoping). Criteria can be quantitative units of measure such as those used to determine threshold values in economic impact modeling, or qualitative units of measure such as the perceptions of visitors to a recreational area. The significance threshold criteria used, including quantitative thresholds if appropriate, should be clearly stated in the assessment document (CEQ 1997).

In this EA, the Environmental Consequences section of each resource chapter (Chapters 4–18) considered each of these factors, as well as the context of the resource study area and the anticipated intensity of the direct and indirect effects expected from each alternative (including the proposed action), to identify a threshold of significance for each resource analyzed in Chapters 4–18. Where possible, the thresholds of significance are presented as a quantitative value. However, the characteristics of several resources analyzed in this EA required us to define the threshold of significance using qualitative units of measure.

### 3.4 REFERENCES CITED

- 40 CFR 1508.1–1508.28. Terminology and Index. Regulations for Implementing the National Environmental Protection Act, in Chapter 5: Council on Environmental Quality.
- CEQ (Council on Environmental Quality). 1997. *Considering Cumulative Effects Under the National Environmental Policy Act*. Washington, D.C.: Executive Office of the President. January 1997.
- CEQ. 2005. “Re: Guidance on the Consideration of Past Actions in Cumulative Effects Analysis.” Memorandum from James L. Connaughton, Chairman, to Heads of Federal Agencies. Washington, D.C.: Executive Office of the President. June 24, 2005.
- County of Tulare. 2010a. *Tulare County General Plan 2030 Update Background Report*. Prepared by ESA Associates. February 2010.
- County of Tulare. 2010b. *Recirculated Draft Environmental Impact Report for the Tulare County General Plan*. SCH No. 2006041162. Prepared by ESA Associates. February 2010.
- County of Tulare. 2010c. *Tulare County General Plan 2030 Update*. Tulare County, California.
- Dong, H. 2012. Personal communication (phone call) with Henry Dong (City of Visalia Planning Department) and Dudek staff. June 28, 2012.
- EPA (U.S. Environmental Protection Agency). 1999. *Consideration of Cumulative Impact in EPA Review of NEPA Documents*. Office of Federal Activities (2252A). Publication number: EPA 315-R-002/May 1999.
- Guerra, H. 2013. Personal communication (phone call) with Hector Guerra (County of Tulare Planning Department) and Dudek staff. June 3, 2013.
- Service and NMFS (U.S. Fish and Wildlife Service and National Marine Fisheries Service). 1996. *Habitat Conservation Planning Handbook*. Washington D.C.: U.S. Department of the Interior and the U.S. Department of Commerce National Oceanic and Atmospheric Administration. November 1996.



HCP Permit Area
 — Project 11
  Project 42
 — Project 112
  Project 75

Project Number, Name	
<input type="checkbox"/> 1, Final Site Plan No. PSR 12-001	<input type="checkbox"/> 68, Special Use Permit No. PSP 10-055
<input type="checkbox"/> 2, Rehabilitate Generals Highway	<input type="checkbox"/> 69, Lerda-Goni Farms Dairy
<input type="checkbox"/> 3, Avenue 280 Widening Project	<input type="checkbox"/> 70, Goshen
<input type="checkbox"/> 4, Anaerobic Co - Digestion Facility	<input type="checkbox"/> 71, Rancho Sierra
<input type="checkbox"/> 5, Special Use Permit No. PSP 08-122	<input type="checkbox"/> 72, Earlimart
<input type="checkbox"/> 6, State Route 190 and Road 284 Improvements	<input type="checkbox"/> 73, Visalia General Plan Update
<input type="checkbox"/> 7, Special Use Permit No. PSP 12-005	<input type="checkbox"/> 74, Southeast Area Plan
<input type="checkbox"/> 8, Alpaugh School Reconstruction	<input type="checkbox"/> 75, Yokohl Ranch Project Area
<input type="checkbox"/> 9, State Route 99 Tulare to Goshen Six-Lane Project	<input type="checkbox"/> 76, State Route 65 Widening
<input type="checkbox"/> 10, Tulare River Indian Reservation Road Improvement	<input type="checkbox"/> 77, State Route 245 to 201 Widening
<input type="checkbox"/> 11, Central Valley Independent Fiber Optic Network	<input type="checkbox"/> 78, State Route 198/Road 148 Interchange
<input type="checkbox"/> 12, Tentative Parcel Map No. PPM 11-013	<input type="checkbox"/> 79, River Run Ranch Vesting
<input type="checkbox"/> 13, Special Use Permit No. PSP 11-045	<input type="checkbox"/> 80, Willow Creek 2 Multifamily Development
<input type="checkbox"/> 14, Special Use Permit No. PSP 08-067	<input type="checkbox"/> 81, South Point Villas
<input type="checkbox"/> 15, State Route 99/Cartmill Ave Interchange Improvement	<input type="checkbox"/> 82, Willow Springs
<input type="checkbox"/> 16, Final Site Plan No. PSR 11-001	<input type="checkbox"/> 83, Deelynna Ranch
<input type="checkbox"/> 17, Tentative Tract Map No. TM 816	<input type="checkbox"/> 84, Eagle Meadows of Visalia 2
<input type="checkbox"/> 18, River Island Water Treatment Plant	<input type="checkbox"/> 85, Eagle Meadows of Visalia 1
<input type="checkbox"/> 19, Oakes Basin Project	<input type="checkbox"/> 86, Woodside Sousa Property
<input type="checkbox"/> 20, Special Use Permit No. PSP 09-068	<input type="checkbox"/> 87, Quail River
<input type="checkbox"/> 21, City of Porterville Plano St Bridge Widening	<input type="checkbox"/> 88, Rivers Edge Unit 3
<input type="checkbox"/> 22, Special Use Permit No. PSR 11-007	<input type="checkbox"/> 89, Lance Lane Estates
<input type="checkbox"/> 23, Bellota Substation Expansion	<input type="checkbox"/> 90, Riverbend Estates
<input type="checkbox"/> 24, Backfill Mooney Blvd Detention Basin	<input type="checkbox"/> 91, Maddox at Caldwell VI
<input type="checkbox"/> 25, Dept Water Resources Non-project Water Renewal	<input type="checkbox"/> 92, St Charles Park
<input type="checkbox"/> 26, Special Use Permit No. 09-038	<input type="checkbox"/> 93, Graystone
<input type="checkbox"/> 27, Riverwalk Marketplace Phase 2	<input type="checkbox"/> 94, Teakwood Estates
<input type="checkbox"/> 28, Special Use Permit No. PSP 10-041	<input type="checkbox"/> 95, Mineral King Business Park
<input type="checkbox"/> 29, Sunrise Park	<input type="checkbox"/> 96, Maddox at Caldwell VII
<input type="checkbox"/> 30, Medical Transport Helipad	<input type="checkbox"/> 97, St. John's Riverwalk
<input type="checkbox"/> 31, Routine River/Slough Channel	<input type="checkbox"/> 98, Sequoia Heights No. 2
<input type="checkbox"/> 32, Blending Tank Project	<input type="checkbox"/> 99, Oak Park Estates
<input type="checkbox"/> 33, Acquisition of Treiche/Ratcliff Parcels	<input type="checkbox"/> 100, Pinkham Ranch
<input type="checkbox"/> 34, Pixley Irrigation District System Expansion	<input type="checkbox"/> 101, La Dolce Villas
<input type="checkbox"/> 35, Special Use Permit No. PSP 10-010	<input type="checkbox"/> 102, Sierra Woods/Phase IV
<input type="checkbox"/> 36, Tentative Parcel Map/Final Site Plan No. PPM 11-014	<input type="checkbox"/> 103, Walnut Creek All-American
<input type="checkbox"/> 37, Special Use Permit No. PSP 11-013	<input type="checkbox"/> 104, Hacienda Place
<input type="checkbox"/> 38, Tule River Indian Tribe Wastewater (PSP 10-002)	<input type="checkbox"/> 105, Romero
<input type="checkbox"/> 39, Mountain Road M319 Bridge Replacement	<input type="checkbox"/> 106, Highway 198 Corridor Specific Plan
<input type="checkbox"/> 40, Water Facilities Replacement Project	<input type="checkbox"/> 107, Tentative Subdivision Map 767
<input type="checkbox"/> 41, College of The Sequoias Tulare Center Master Plan	<input type="checkbox"/> 108, Tentative Subdivision Map 805
<input type="checkbox"/> 42, Sierra Nevada Bighorn Sheep EA	<input type="checkbox"/> 109, Castle Rock Park
<input type="checkbox"/> 43, Tentative Parcel Map No. PPM 11-001	<input type="checkbox"/> 110, Majestic Homes
<input type="checkbox"/> 44, Pratt Mutual Water Company System Improvement	<input type="checkbox"/> 111, Future Community Park
<input type="checkbox"/> 45, Special Use Permit No. PSP 10-051	<input type="checkbox"/> 112, Big Creek Rebuild
<input type="checkbox"/> 46, Special Use Permit No. PSP 06-044	<input type="checkbox"/> 113, Visalia Future Class I Bike Projects
<input type="checkbox"/> 47, Special Use Permit No. PSP 10-003	<input type="checkbox"/> 114, Tulare County Future Class II Bike Projects
<input type="checkbox"/> 48, New Elementary School at Seminole and Morrison	<input type="checkbox"/> 115, Pena
<input type="checkbox"/> 49, Water Conservation Plant Upgrades	<input type="checkbox"/> 116, South County Correctional Facility
<input type="checkbox"/> 50, Packwood Creek Check Structure	<input type="checkbox"/> 117, Kingsburg 13 (Solar)
<input type="checkbox"/> 51, Wilcox Mine PWR 06-001	<input type="checkbox"/> 118, East Orosi 1 (Solar)
<input type="checkbox"/> 52, Robert Tucker (PPM 09-034)	<input type="checkbox"/> 119, Lindsay 134 (Solar)
<input type="checkbox"/> 53, Santa Fe Bike Path/Multipurpose Trail Connection	<input type="checkbox"/> 120, Ivanhoe 13 (Solar)
<input type="checkbox"/> 54, CA High Speed Train	<input type="checkbox"/> 121, Alta 16 (Solar)
<input type="checkbox"/> 55, Mountain View Ave/El Monte Way Widening	<input type="checkbox"/> 122, East Orosi 12 (Solar)
<input type="checkbox"/> 56, Special Use Permit No. PSP 09-075	<input type="checkbox"/> 123, Exeter 13 (Solar)
<input type="checkbox"/> 57, Vestal Almond Solar Generation Facilities	<input type="checkbox"/> 124, Tulare 12 (Solar)
<input type="checkbox"/> 58, Vestal Fireman Solar Generation Facilities	<input type="checkbox"/> 125, Vestal Almond (Solar)
<input type="checkbox"/> 59, Vestal Herder Solar Generation Facilities	<input type="checkbox"/> 126, Three Rivers (Solar)
<input type="checkbox"/> 60, Proposed Tower No. 2	<input type="checkbox"/> 127, Vestal Herder (Solar)
<input type="checkbox"/> 61, Betty Drive Interchange	<input type="checkbox"/> 128, Vestal Fireman (Solar)
<input type="checkbox"/> 62, Special Use Permit No. PSP 09-050	<input type="checkbox"/> 129, Atwell Island (Solar)
<input type="checkbox"/> 63, Special Use Permit No. PSP 09-011	<input type="checkbox"/> 130, Atwell Island West (Solar)
<input type="checkbox"/> 64, Order No. R5-20100130 Waste Discharge	<input type="checkbox"/> 131, Alpaugh North (Solar)
<input type="checkbox"/> 65, Preston St Crossing of Mill Creek	<input type="checkbox"/> 132, Alpaugh 50 (Solar)
<input type="checkbox"/> 66, Silver Oak Dairy	<input type="checkbox"/> 133, White River (Solar)
<input type="checkbox"/> 67, Special Use Permit No. PSP 10-020	<input type="checkbox"/> 134, White River West (Solar)
	<input type="checkbox"/> 135, Pixley Biogas
	<input type="checkbox"/> 136, Harvest Power (Wind)

\* Projects 23, 25, 54, & 64 are multi-jurisdictional planning level analyses and are not noted on the map



SOURCE: SCE 2012, Tulare County 2011, ESRI Online

**FIGURE 3-1**  
**Cumulative Projects**

Z:\Projects\SCE\Cross Valley Project\EA\MAPDOC\MAPS\Figures\1 - CumulativeProjects.mxd

INTENTIONALLY LEFT BLANK