

**PROPONENT'S ENVIRONMENTAL ASSESSMENT  
FOR THE  
TL 6975 SAN MARCOS TO ESCONDIDO PROJECT  
  
BINDER I**

Application 17-11-\_\_\_\_\_

Submitted by:



San Diego Gas & Electric Company  
8315 Century Park Court  
San Diego, CA 92123

**NOVEMBER 15, 2017**





## TABLE OF CONTENTS

---

<b>1.</b>	<b>PROPONENT’S ENVIRONMENTAL ASSESSMENT SUMMARY.....</b>	<b>1-1</b>
1.1	PROJECT LOCATION .....	1-1
1.2	PROJECT COMPONENTS .....	1-1
1.2.1	Segment 1 .....	1-2
1.2.2	Segment 2 .....	1-2
1.2.3	Segment 3 .....	1-2
1.3	PROJECT NEED AND ALTERNATIVES.....	1-2
1.4	PEA CONTENTS .....	1-3
1.5	PEA CONCLUSIONS .....	1-5
1.5.1	Resource Areas with No Impacts or Less-than-Significant Impacts .....	1-5
1.5.2	Resource Areas Requiring Applicant-Proposed Measures .....	1-5
1.5.3	Significant, Unavoidable Impacts.....	1-7
1.6	PUBLIC OUTREACH EFFORTS.....	1-7
1.7	AGENCY COORDINATION.....	1-7
1.7.1	San Diego County.....	1-7
1.7.2	The City of Carlsbad.....	1-7
1.7.3	The City of Escondido .....	1-7
1.7.4	The City of San Marcos .....	1-8
1.7.5	The City of Vista.....	1-8
1.8	AREAS OF CONTROVERSY .....	1-8
1.9	MAJOR ISSUES TO BE RESOLVED .....	1-8
<b>2.</b>	<b>PROJECT PURPOSE AND NEED .....</b>	<b>2-1</b>
2.1	OVERVIEW OF PROJECT NEED.....	2-1
2.1.1	Existing and Projected Electric System Constraints .....	2-1
2.1.2	SDG&E’s Proposed Project.....	2-1
2.2	PROJECT OBJECTIVES.....	2-2
2.2.1	Objective 1: Eliminate NERC Violations .....	2-2
2.2.2	Objective 2: Eliminate Existing Congestion and Improve Reliability .....	2-3
2.3	CONCLUSION .....	2-4
2.4	REFERENCES.....	2-5
<b>3.</b>	<b>PROJECT DESCRIPTION .....</b>	<b>3-1</b>
3.1	PROJECT LOCATION .....	3-1
3.2	EXISTING SYSTEM .....	3-2

3.2.1	Existing Transmission Alignment .....	3-2
3.2.2	Existing Substations.....	3-2
<b>3.3</b>	<b>PROJECT OBJECTIVES.....</b>	<b>3-3</b>
<b>3.4</b>	<b>PROJECT FACILITIES.....</b>	<b>3-3</b>
<b>3.5</b>	<b>PROJECT COMPONENTS .....</b>	<b>3-6</b>
3.5.1	Project Segments.....	3-6
3.5.2	Power Line.....	3-9
3.5.3	Poles/Towers.....	3-9
3.5.4	Conductors/Cables .....	3-11
3.5.5	Substation Work .....	3-11
<b>3.6</b>	<b>PERMANENT LAND/RIGHT-OF-WAY REQUIREMENTS .....</b>	<b>3-12</b>
3.6.1	Segment 1 .....	3-12
3.6.2	Segment 2 .....	3-13
3.6.3	Segment 3 .....	3-13
<b>3.7</b>	<b>CONSTRUCTION.....</b>	<b>3-14</b>
3.7.1	Temporary Work Areas .....	3-14
3.7.2	Access Roads .....	3-19
3.7.3	Helicopter Access .....	3-20
3.7.4	Permanent Work Areas .....	3-21
3.7.5	Vegetation Clearance .....	3-21
3.7.6	Erosion and Sediment Control and Pollution Prevention during Construction .	3-22
3.7.7	Cleanup and Post-Construction Restoration .....	3-22
3.7.8	Power Line Construction (Above Ground).....	3-23
3.7.9	Substation Construction.....	3-30
3.7.10	Dewatering.....	3-31
3.7.11	Blasting .....	3-31
3.7.12	Unexploded Ordnance .....	3-31
3.7.13	Construction Workforce and Equipment .....	3-31
3.7.14	Construction Schedule .....	3-39
<b>3.8</b>	<b>OPERATION AND MAINTENANCE .....</b>	<b>3-40</b>
3.8.1	General Project Operation and Maintenance Activities and Practice .....	3-40
3.8.2	Road Maintenance .....	3-40
3.8.3	Pole Structure Brushing and Tree Trimming.....	3-41
3.8.4	Application of Herbicides .....	3-41
3.8.5	Equipment Repair and Replacement.....	3-41
3.8.6	Use of Helicopters .....	3-41
<b>3.9</b>	<b>ANTICIPATED PERMITS AND APPROVALS .....</b>	<b>3-42</b>
<b>3.10</b>	<b>APPLICANT-PROPOSED MEASURES .....</b>	<b>3-42</b>
<b>3.11</b>	<b>IMPLEMENTATION OF APPLICANT-PROPOSED MEASURES .....</b>	<b>3-44</b>

<b>4.0</b>	<b>ENVIRONMENTAL IMPACT ASSESSMENT (INCLUDING ENVIRONMENTAL SETTING).....</b>	<b>4-1</b>
<b>4.1</b>	<b>AESTHETICS.....</b>	<b>4.1-1</b>
4.1.1	Introduction.....	4.1-1
4.1.2	Methodology.....	4.1-1
4.1.3	Existing Conditions.....	4.1-2
4.1.4	Potential Impacts.....	4.1-11
4.1.5	Applicant-Proposed Measures .....	4.1-13
4.1.6	References.....	4.1-13
<b>4.2</b>	<b>AGRICULTURE AND FORESTRY RESOURCES.....</b>	<b>4.2-1</b>
4.2.1	Introduction.....	4.2-1
4.2.2	Methodology .....	4.2-2
4.2.3	Existing Conditions.....	4.2-2
4.2.4	Potential Impacts.....	4.2-7
4.2.5	Applicant-Proposed Measures .....	4.2-10
4.2.6	References.....	4.2-10
<b>4.3</b>	<b>AIR QUALITY .....</b>	<b>4.3-1</b>
4.3.1	Introduction.....	4.3-1
4.3.2	Methodology .....	4.3-1
4.3.3	Existing Conditions.....	4.3-2
4.3.4	Potential Impacts.....	4.3-10
4.3.5	Applicant-Proposed Measures .....	4.3-17
4.3.6	References.....	4.3-17
<b>4.4</b>	<b>BIOLOGICAL RESOURCES.....</b>	<b>4.4-1</b>
4.4.1	Introduction.....	4.4-1
4.4.2	Methodology .....	4.4-2
4.4.3	Existing Conditions.....	4.4-7
4.4.4	Potential Impacts.....	4.4-34
4.4.5	Applicant-Proposed Measures .....	4.4-51
4.4.6	References.....	4.4-53
<b>4.5</b>	<b>CULTURAL RESOURCES.....</b>	<b>4.5-1</b>
4.5.1	Introduction.....	4.5-2
4.5.2	Methodology .....	4.5-2
4.5.3	Existing Conditions.....	4.5-4
4.5.4	Potential Impacts.....	4.5-23
4.5.5	Applicant-Proposed Measures .....	4.5-28
4.5.6	References.....	4.5-30
<b>4.6</b>	<b>GEOLOGY, SOILS AND MINERAL RESOURCES.....</b>	<b>4.6-1</b>
4.6.1	Introduction.....	4.6-2

4.6.2	Methodology .....	4.6-2
4.6.3	Existing Conditions.....	4.6-2
4.6.4	Potential Impacts.....	4.6-11
4.6.5	Applicant-Proposed Measures .....	4.6-16
4.6.6	References.....	4.6-17
<b>4.7</b>	<b>GREENHOUSE GAS EMISSIONS .....</b>	<b>4.7-1</b>
4.7.1	Introduction.....	4.7-1
4.7.2	Methodology .....	4.7-1
4.7.3	Existing Conditions.....	4.7-2
4.7.4	Potential Impacts.....	4.7-9
4.7.5	Applicant-Proposed Measures .....	4.7-12
4.7.6	References.....	4.7-13
<b>4.8</b>	<b>HAZARDS AND HAZARDOUS MATERIALS.....</b>	<b>4.8-1</b>
4.8.1	Introduction.....	4.8-1
4.8.2	Methodology .....	4.8-2
4.8.3	Existing Conditions.....	4.8-3
4.8.4	Potential Impacts.....	4.8-17
4.8.5	Applicant-Proposed Measures .....	4.8-25
4.8.6	References.....	4.8-25
<b>4.9</b>	<b>HYDROLOGY AND WATER QUALITY .....</b>	<b>4.9-1</b>
4.9.1	Introduction.....	4.9-2
4.9.2	Methodology .....	4.9-2
4.9.3	Existing Conditions.....	4.9-2
4.9.4	Potential Impacts.....	4.9-12
4.9.5	Applicant-Proposed Measures .....	4.9-20
4.9.6	References.....	4.9-20
<b>4.10</b>	<b>LAND USE AND PLANNING .....</b>	<b>4.10-1</b>
4.10.1	Introduction.....	4.10-1
4.10.2	Methodology .....	4.10-1
4.10.3	Existing Conditions.....	4.10-2
4.10.4	Potential Impacts.....	4.10-10
4.10.5	Applicant-Proposed Measures .....	4.10-13
4.10.6	References.....	4.10-13
<b>4.11</b>	<b>MINERAL RESOURCES.....</b>	<b>4.11-1</b>
4.11.1	Introduction.....	4.11-1
4.11.2	Methodology .....	4.11-1
4.11.3	Existing Conditions.....	4.11-1
4.11.4	Potential Impacts.....	4.11-3
4.11.5	Significance Criteria .....	4.11-4

4.11.6	Applicant-Proposed Measures .....	4.11-4
4.11.7	References.....	4.11-4
<b>4.12</b>	<b>NOISE .....</b>	<b>4.12-1</b>
4.12.1	Introduction.....	4.12-1
4.12.2	Methodology .....	4.12-2
4.12.3	Existing Conditions.....	4.12-2
4.12.4	Potential Impacts.....	4.12-19
4.12.5	Applicant-Proposed Measures .....	4.12-35
4.12.6	References.....	4.12-36
<b>4.13</b>	<b>PALEONTOLOGICAL RESOURCES.....</b>	<b>4.13-1</b>
4.13.1	Introduction.....	4.13-1
4.13.2	Methodology .....	4.13-1
4.13.3	Existing Conditions.....	4.13-1
4.13.4	Potential Impacts.....	4.13-6
4.13.5	Applicant-Proposed Measures .....	4.13-8
4.13.6	References.....	4.13-9
<b>4.14</b>	<b>POPULATION AND HOUSING .....</b>	<b>4.14-1</b>
4.14.1	Introduction.....	4.14-1
4.14.2	Methodology .....	4.14-1
4.14.3	Existing Conditions.....	4.14-1
4.14.4	Potential Impacts.....	4.14-3
4.14.5	Applicant-Proposed Measures .....	4.14-5
4.14.6	References.....	4.14-5
<b>4.15</b>	<b>PUBLIC SERVICES .....</b>	<b>4.15-1</b>
4.15.1	Introduction.....	4.15-1
4.15.2	Methodology .....	4.15-1
4.15.3	Existing Conditions.....	4.15-2
4.15.4	Potential Impacts.....	4.15-8
4.15.5	Applicant-Proposed Measures .....	4.15-12
4.15.6	References.....	4.15-12
<b>4.16</b>	<b>RECREATION .....</b>	<b>4.16-1</b>
4.16.1	Introduction.....	4.16-1
4.16.2	Methodology .....	4.16-1
4.16.3	Existing Conditions.....	4.16-1
4.16.4	Recreational Setting.....	4.16-2
4.16.5	Potential Impacts.....	4.16-3
4.16.6	Applicant-Proposed Measures .....	4.16-5
4.16.7	References.....	4.16-6

<b>4.17</b>	<b>TRANSPORTATION AND TRAFFIC .....</b>	<b>4.17-1</b>
4.17.1	Introduction.....	4.17-1
4.17.2	Methodology .....	4.17-2
4.17.3	Existing Conditions.....	4.17-2
4.17.4	Potential Impacts.....	4.17-11
4.17.5	Applicant-Proposed Measures .....	4.17-17
4.17.6	References.....	4.17-17
<b>4.18</b>	<b>UTILITIES AND SERVICE SYSTEMS .....</b>	<b>4.18-1</b>
4.18.1	Introduction.....	4.18-1
4.18.2	Methodology .....	4.18-1
4.18.3	Existing Conditions.....	4.18-2
4.18.4	Potential Impacts.....	4.18-8
4.18.5	Applicant-Proposed Measures .....	4.18-12
4.18.6	References.....	4.18-13
<b>4.19</b>	<b>CUMULATIVE ANALYSIS.....</b>	<b>4.19-1</b>
4.19.1	Introduction.....	4.19-1
4.19.2	Significance Criteria .....	4.19-1
4.19.3	Area of Analysis .....	4.19-2
4.19.4	Methodology .....	4.19-2
4.19.5	Existing/Operating Projects .....	4.19-2
4.19.6	Foreseeable Projects Inventory .....	4.19-3
4.19.7	Potential Cumulative Impacts .....	4.19-11
4.19.8	Applicant-Proposed Measures .....	4.19-30
4.19.9	References.....	4.19-31
<b>5.</b>	<b>DETAILED DISCUSSION OF SIGNIFICANT IMPACTS.....</b>	<b>5-1</b>
<b>5.1</b>	<b>INTRODUCTION .....</b>	<b>5-1</b>
<b>5.2</b>	<b>APPLICANT-PROPOSED MEASURES TO MINIMIZE SIGNIFICANT IMPACTS .....</b>	<b>5-1</b>
<b>5.3</b>	<b>DESCRIPTION OF PROJECT ALTERNATIVES AND IMPACT ANALYSIS ....</b>	<b>5-1</b>
5.3.1	Introduction.....	5-1
5.3.2	Methodology .....	5-2
5.3.3	Proposed Project Objectives .....	5-3
5.3.4	Alternatives Evaluated but Rejected.....	5-3
5.3.5	Conclusion .....	5-13
<b>5.4</b>	<b>GROWTH-INDUCING IMPACTS .....</b>	<b>5-13</b>
5.4.1	Economic or Population Growth .....	5-13
5.4.2	New Employment .....	5-14
5.4.3	Extended Access or Public Services .....	5-14

5.4.4	Existing Community Services .....	5-15
5.4.5	New Development .....	5-15
5.4.6	Conclusion .....	5-15
<b>5.5</b>	<b>REFERENCES.....</b>	<b>5-16</b>
<b>6.</b>	<b>LIST OF PREPARERS.....</b>	<b>6-1</b>

## LIST OF APPENDICES

---

Appendix 3-A: TL 6975 Power Line Route Map

Appendix 3-B: TL 6975 Structure Detail Table

Appendix 3-C: Typical Structure Diagrams

Appendix 3-D: Agency Correspondence

Appendix 3-E: Stakeholder List

---

Appendix 4.3-A: Air Quality and Greenhouse Gas Assessment

---

Appendix 4.4-A: Biological Technical Report

Appendix 4.4-B: Special-Status Species with Potential to Occur

Appendix 4.4-C: Jurisdictional Delineation Report

Appendix 4.4-D: SDG&E Natural Community Conservation Plan (NCCP) and Operational Protocols

---

Appendix 4.5-A: Inventory of Cultural Resources along San Diego Gas & Electric Company's TL 6975 Project (Confidential)

Appendix 4.5-B: Archaeological Survey Report

---

Appendix 4.8-A: EDR Corridor Study

Appendix 4.8-B: Construction Fire Prevention Plan

---

Appendix 4.12-A: Ambient Noise Survey Report

---

Appendix 4.13-A: Paleontological Resources Technical Report



**LIST OF PEA PREPARERS AND CONTRIBUTORS**

<b>Task/Section</b>	<b>Person and Title</b>	<b>Organization</b>
Project Management	Hilary Haskell, Environmental Specialist, Project Manager	SDG&E
	Shannon Bottenberg, Project Manager	KP Environmental
	Devon Muto, Principal	ICF
General, Technical, and Peer Reviewers	Hilary Haskell, Environmental Specialist, Project Manager	SDG&E
	Addie Woodard	
	Allen Trial	
	Annamay Luyun	
	Barbara Montgomery	
	Brian Yim	
	Bruno Velosa	
	Cam Rogers	
	Cameron Durckel	
	Cheryl Bowden-Renna	
	Colleen Fin	
	Danielle Weizman	
	Elizabeth Cason	
	Emily Hom	
	Eric Johnson	
	Francisco Pena	
	Joseph Gabaldon	
	Kevin Toyne	
	Matt Jensen	
	Matthew Belden	
	Nicole Morgan	
	Neal Bartek (Formerly of SDG&E)	
	Oscar Kebriti	
	Richard Veihl	
	Stanislav Dekic	
	Tamara Spear	
	Timothy Lyons	
	Todd Easley	
	Todd Voorhees	
	Shannon Bottenberg, Project Manager	KP Environmental
	Devon Muto, Principal	ICF
	Makela Mangrich, Senior Associate	
	Lanika Cervantes, Senior Associate	
	Peter Hardie, Technical Specialist	
	Terrance Wong, Technical Specialist	
	Karen Crawford, Technical Director	
	Makela Mangrich, Senior Associate	

<b>Task/Section</b>	<b>Person and Title</b>	<b>Organization</b>
1.0 PEA Summary	Emily Seklecki, Environmental Planner	ICF
2.0 Project Purpose and Need	Hilary Haskell, Environmental Specialist, Project Manager	SDG&E
	Hailey Brown, Land Planner	TRC
	Emily Seklecki, Environmental Planner	ICF
3.0 Project Description	Hilary Haskell, Environmental Specialist, Project Manager	SDG&E
	Shannon Bottenberg, Project Manager	KP Environmental
	Emily Seklecki, Environmental Planner	ICF
4.1 Aesthetics	Alexis Anderson-Santos, Land Planner	KP Environmental
4.2 Agriculture and Forestry Resources	Emily Seklecki, Environmental Planner	ICF
4.3 Air Quality	Terrance Wong, Technical Specialist	ICF
	Brian Yim	SDG&E
4.4 Biological Resources	Tamera Spear Todd Easley	SDG&E
	Lance Woolley, Associate Kimberley Davis, Associate Brett Bowen, Associate Lanika Cervantes, Senior Associate Makela Mangrich, Senior Associate	ICF
4.5 Cultural Resources	Patrick McGinnis, Senior Associate Rachel Droessler, Analyst Karen Crawford, Technical Director	ICF
	Nicole Morgan Cheryl Bowden-Renna	SDG&E
4.6 Geology, Soils, and Minerals Resources	Dustin Joseph, Land Planner	KP Environmental
4.7 Greenhouse Gas Emissions	Terrance Wong, Technical Specialist	ICF
	Brian Yim	SDG&E
4.8 Hazards and Hazardous Materials	Emily Seklecki, Environmental Planner	ICF
	Barbara Montgomery	SDG&E
4.9 Hydrology and Water Quality	Hailey Brown, Land Planner	KP Environmental
	Brett Bowen, Associate	ICF
	Emily Seklecki, Environmental Planner	
	Tamara Spear	SDG&E

<b>Task/Section</b>	<b>Person and Title</b>	<b>Organization</b>
4.10 Land Use and Planning	Alexis Anderson-Santos, Land Planner	KP Environmental
	Emily Seklecki, Environmental Planner	ICF
4.11 Mineral Resources	Kristen Bottenberg, Land Planner	KP Environmental
	Emily Seklecki, Environmental Planner	ICF
4.12 Noise	Julian Milone, Noise Analyst	ICF
	Peter Hardie, Technical Specialist	
4.13 Paleontological Resources	Patrick McGinnis, Senior Associate Rachel Droessler, Analyst Karen Crawford, Technical Director	ICF
	Nicole Morgan Cheryl Bowden-Renna	SDG&E
4.14 Population and Housing	Hailey Brown, Land Planner	KP Environmental
	Emily Seklecki, Environmental Planner	ICF
4.15 Public Services	Emily Seklecki, Environmental Planner	ICF
4.16 Recreation	Hailey Brown, Land Planner	KP Environmental
	Emily Seklecki, Environmental Planner	ICF
4.17 Transportation and Traffic	Emily Seklecki, Environmental Planner	ICF
4.18 Utilities and Service Systems	Dustin Joseph, Land Planner	KP Environmental
	Emily Seklecki, Environmental Planner	ICF
4.19 Cumulative Impacts	Dustin Joseph, Land Planner	KP Environmental
	Emily Seklecki, Environmental Planner	ICF
5.0 Detailed Discussion of Significant Impacts	Emily Seklecki, Environmental Planner	ICF
	Dustin Joseph, Land Planner	KP Environmental
Graphics	Rachel Clark, GIS Analyst	KP Environmental
	Nicholas Janssen, Associate	ICF

## LIST OF FIGURES

---

Figure 3-1: Project Location Map.....	3-45
Figure 3-2: Project Overview Map .....	3-47
Figure 3-3: Existing System Configuration One-Line Diagram.....	3-49
Figure 3-4: Proposed System Configuration One-Line Diagram .....	3-51
Figure 3-5: WPI Double Circuit Direct Buried.....	3-53
Figure 3-6: Type DC-X Double Circuit Foundation.....	3-55
Figure 3-7: WPI Single Circuit Direct Buried .....	3-57
Figure 3-8: YPI Single Circuit Foundation.....	3-59
Figure 3-9: Typical Underground Duct Bank.....	3-61
<hr/>	
Figure 4.1-1: Regional Landscape Context .....	4.1-15
Figure 4.1-2: Photograph Viewpoint Locations.....	4.1-17
Figure 4.1-3: Photographs of Existing Facilities and Vicinity .....	4.1-19
<hr/>	
Figure 4.2-1: Agricultural Resources.....	4.2-13
<hr/>	
Figure 4.4-1: CNDDDB Occurrences within the Proposed Project Area.....	4.4-59
Figure 4.4-2: Vegetation Communities Map .....	4.4-61
<hr/>	
Figure 4.6-1: Geologic Units .....	4.6-19
<hr/>	
Figure 4.8-1: Fire Hazard Severity Map.....	4.8-27
<hr/>	
Figure 4.9-1: Hydrologic Area, Watersheds, and Drainages .....	4.9-23
<hr/>	
Figure 4.10-1: Existing Land Use Map.....	4.10-17
Figure 4.10-2: General Plan Land Use Designations Map .....	4.10-19
Figure 4.10-3: Zoning Designations Map.....	4.10-21
<hr/>	
Figure 4.12-1: Ambient Noise Measurement Locations.....	4.12-37

---

Figure 4.15-1: Public Services .....	4.15-15
--------------------------------------	---------

---

Figure 4.19-1: Foreseeable Projects Map .....	4.19-33
---	---------

---

Figure 5-1: Project Alternatives Map .....	5-17
Figure 5-2: Project Alternative A .....	5-19
Figure 5-3: Project Alternative B.....	5-21
Figure 5-4: Project Alternative C.....	5-23

## LIST OF TABLES

---

Table 1-1: PEA Checklist Key Table.....	1-9
<hr/>	
Table 3-1: Proposed Project Power Line Segments.....	3-4
Table 3-2: Proposed Project Pole Summary (Approximate Value).....	3-8
Table 3-3: Permanent Land and ROW Requirements .....	3-12
Table 3-4: Temporary Work Areas.....	3-14
Table 3-5: Potential Staging Yards.....	3-18
Table 3-6: Access Road Characteristics .....	3-20
Table 3-7: Summary of Permanent Work Areas.....	3-21
Table 3-8: Common Destination of Retired Project Components .....	3-23
Table 3-9: Minimum Conductor Ground Clearance .....	3-29
Table 3-10: Estimated Construction Equipment and Personnel .....	3-33
Table 3-11: Anticipated Construction Equipment .....	3-37
Table 3-12: Proposed Construction Schedule.....	3-39
Table 3-13: Anticipated Permits and Approvals .....	3-42
Table 3-14: Applicant-Proposed Measures by Resource Area .....	3-43
<hr/>	
Table 4.1 1: Summary of Landscape Units.....	4.1-7
<hr/>	
Table 4.3-1: State and Federal Ambient Air Quality Standards .....	4.3-7
Table 4.3-2: Local Air Quality Levels.....	4.3-9
Table 4.3-3: Sensitive Receptors within 0.25 Mile of the Proposed Project .....	4.3-10
Table 4.3-4: SDAPCD Pollutant Thresholds .....	4.3-11
Table 4.3-5: Peak Daily Unmitigated Construction Emissions .....	4.3-14
<hr/>	
Table 4.4-1: Vegetation Communities within the PSA .....	4.4-15
Table 4.4-2: Impacts on Vegetation Communities .....	4.4-36
Table 4.4-3: Impacts on Special-Status Plant Species .....	4.4-38
<hr/>	
Table 4.5-1: Field Survey Results within the Survey Area .....	4.5-18
<hr/>	
Table 4.6-1: Geologic Units along the Proposed Project Alignment.....	4.6-7
Table 4.6-2: Major Faults in the Region.....	4.6-8
Table 4.6-3: Soils in the Proposed Project Area.....	4.6-11
<hr/>	
Table 4.7-1: Global Warming Potentials and Atmospheric Lifetimes of Greenhouse Gases ....	4.7-2
Table 4.7-2: Greenhouse Gas Construction Emissions.....	4.7-11

Table 4.8-1: Hazardous Materials Sites Along the Proposed Project .....	4.8-14
Table 4.8-2: Hazardous Materials Sites Within 200 feet of the Proposed Project .....	4.8-15
Table 4.8-3: Description of Databases Searched by EDR .....	4.8-15
Table 4.8-4: Schools Within 0.25 Mile of the Proposed Project .....	4.8-17
Table 4.8-5: Hazardous Materials Typically Used for Construction .....	4.8-19
<hr/>	
Table 4.9-1: Carlsbad Hydrologic Unit Jurisdictional Summary .....	4.9-7
Table 4.9-2: Rainfall Data Summary for the Proposed Project Area (in inches) .....	4.9-11
<hr/>	
Table 4.10-1: Designated and Existing Land Uses in the Proposed Project Area .....	4.10-7
<hr/>	
Table 4.12-1: Human Response to Transient Vibration .....	4.12-5
Table 4.12-2: City of Escondido Sound Level Limits .....	4.12-6
Table 4.12-3: City of San Marcos Sound Level Limits .....	4.12-7
Table 4.12-4: City of Carlsbad Land Use Compatibility for Community Noise Environments Matrix .....	4.12-8
Table 4.12-5: City of Vista Sound Level Limits .....	4.12-9
Table 4.12-6: County of San Diego Sound Level Limits .....	4.12-10
Table 4.12-7: County of San Diego Impulsive Sound Level Limits .....	4.12-10
Table 4.12-8: Sensitive Noise Receptors .....	4.12-11
Table 4.12-9: Summary of Measured Ambient Noise Levels (dBA), LT1 .....	4.12-12
Table 4.12-10: Summary of Hourly Background Measured Ambient Noise Levels (dBA), LT2 .....	4.12-15
Table 4.12-11: Summary of Measured Ambient Noise Levels (dBA) .....	4.12-18
Table 4.12-12: Typical Preconstruction Activity Sound Levels (Staging Yard Setup, Road Refreshing, Vegetation Trimming, BMP Installation) .....	4.12-22
Table 4.12-13: Estimated Typical Preconstruction Sound Levels Adjusted for 8-Hour Work Day .....	4.12-22
Table 4.12-14: Direct-Bury Pole Construction Sound Levels .....	4.12-23
Table 4.12-15: Estimated Direct-Bury Pole Construction Sound Levels Adjusted for 8-Hour Work Day .....	4.12-23
Table 4.12-16: Typical Pier Foundation Construction Sound Levels .....	4.12-24
Table 4.12-17: Estimated Pier Foundation Construction Sound Levels Adjusted for 8-Hour Work Day .....	4.12-24
Table 4.12-18: Typical Structure Installation and Assembly Sound Levels .....	4.12-25
Table 4.12-19: Estimated Structure Installation and Assembly Sound Levels Adjusted for 8-Hour Work Day .....	4.12-25
Table 4.12-20: Typical Stringing/Transfer Conductor/Sagging Activity Sound Levels .....	4.12-25

Table 4.12-21: Estimated Stringing/Transfer Conductor/Sagging Activity Sound Levels Adjusted for 8-Hour Work Day .....	4.12-26
Table 4.12-22: Typical Trenching for Installation of Underground Cables Sound Levels .....	4.12-26
Table 4.12-23: Estimated Trenching for Installation of Underground Cables Sound Levels Adjusted for 8-Hour Work Day .....	4.12-26
Table 4.12-24: Typical Demobilization/Right-of-Way Restoration and Cleanup/ Road Refreshing Sound Levels.....	4.12-27
Table 4.12-25: Estimated Demobilization/Right-of-Way Restoration and Cleanup/ Road Refreshing Sound Levels Adjusted for 8-Hour Work Day .....	4.12-27
Table 4.12-26: Proposed Project Staging Areas .....	4.12-29
Table 4.12-27: Vibration Source Levels for Construction Equipment at 50 Feet .....	4.12-31
<hr/>	
Table 4.14-1: Population Totals and Trends.....	4.14-2
Table 4.14-2: Housing Units and Vacancy Rate (2010).....	4.14-3
<hr/>	
Table 4.15 1: Firestations Near the Proposed Project Area.....	4.15-3
Table 4.15 2: Schools Within 0.25 Mile of the Proposed Project Area.....	4.15-6
<hr/>	
Table 4.17-1: Level of Service Calculations Values .....	4.17-2
Table 4.17-2: Average Daily Traffic Volumes for Proposed Project Area Major Roadways .....	4.17-8
<hr/>	
Table 4.19-1: Planned and Proposed Projects Near the Proposed Project Area.....	4.19-4
<hr/>	
Table 5-1: Alternatives Considered .....	5-2



## ACRONYMS AND ABBREVIATIONS

---

°F	degrees Fahrenheit
AADT	Annual Average Daily Traffic
AAQS	ambient air quality standards
AB	Assembly Bill
ACSR/AW	Aluminum Conductor Steel Reinforced/AW Core
ACSS/AW	Aluminum Conductor Steel Supported/AW Core
ADA	Americans with Disabilities Act
ADT	average daily traffic
AIA	Airport Influence Areas
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
AMSL	above mean sea level
APLIC	Avian Power Line Interaction Committee
APM	Applicant-Proposed Measure
ATCM	airborne toxic control measure
BCC	Birds of Conservation Concern
BGEPA	Bald and Golden Eagle Protection Act
BMP	best management practices
CAA	Clean Air Act
CAAQS	California's Ambient Air Quality Standards
CAISO	California Independent System Operator
CAL FIRE	California Department of Forestry and Fire Protection
Cal NAGPRA	California Native American Graves Protection and Repatriation Act
Cal/OSHA	California Occupational Safety and Health Administration
CalEEMod	California Emissions Estimator Model
CAL Fire	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFD	City of Carlsbad Fire Department
CFGF	California Fish and Game Commission
CFR	Code of Federal Regulations
CH <sub>4</sub>	methane
CHMIRS	CHMIRS= California Hazardous Material Incident Reporting System
CHRIS	California Historic Resources Information System
CMP	Congestion Management Plan
CNDDB	California Natural Diversity Database

CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> e	carbon dioxide equivalent
Code	San Diego County Code of Regulatory Ordinances
COS	Conservation and Open Space
CPA	Community Plan Area
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CSUSM	California State University San Marcos
CUPA	Certified Unified Program Agency
CUSD	Carlsbad Unified School District
CWA	Clean Water Act
dB	Decibels
dBA	A-weighted sound level
DOC	Department of Conservation
DOT	U.S. Department of Transportation
DPM	diesel particulate matter
DPR	Department of Parks and Recreation
DTSC	Department of Toxic Substances Control
E.O.	Executive Order
EDR	Environmental Data Resource, Inc.
EFD	City of Escondido Fire Department
EFHRD	Elfin Forest Harmony Grove Fire Department
EMI	EMI = Emergency Management Institute
ENF	ENF = Enforcement
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESAs	Environmentally Sensitive Areas
FAA	Federal Aviation Administration
FC	Candidates
FCC	Federal Species of Concern
FE	Endangered
FEMA	Federal Emergency Management Agency
FFRMS	Federal Flood Risk Management Standard
FIA	Federal Insurance Administrator
FINDs	Facility Index System
FIRM	Flood Insurance Rate Maps
FLP	Forest Legacy Program
FMMP	Farmland Mapping and Monitoring Program

FP	Fully Protected Species
FPA	Focused Planning Area
FT	Threatened
FTZ	Fire Threat Zone
G.O.	General Order
GHG	greenhouse gas
GIS	Geographical Information System
GPS	global positioning system
H&SC	Health and Safety Code
HA	Hydrologic Areas
HAZNET	Hazardous Waste Information System
HCP	habitat conservation plan
Hist	Hist = Historical
HMBP	Hazardous Materials Business Plan
HMMD	Hazardous Materials Management Division
HOA	Homeowners Association
HSA	Hydrologic Sub-Areas
HSWA	Hazardous and Solid Waste Act
HU	Hydrologic Unit
HWCL	Hazardous Waste Control Law
I	Interstate
I-	Interstate
ILA	incidental landing areas
JUA	Joint Use Agreement
kV	kilovolt
L <sub>dn</sub>	day-night noise level
L <sub>eq</sub>	equivalent noise level
L <sub>max</sub>	maximum noise level
L <sub>min</sub>	minimum noise level
L <sub>n</sub>	statistical sound level
LOS	level of service
LTPP	long-term procurement plan
LUP	Linear Underground/Overhead Project
LUST	LUST = leaking underground storage tank
MCM	thousand circular mils
MHCP	Multiple Habitat Conservation Program
MJHMP	Multi-Jurisdictional Hazard Mitigation Plan
MLD	Most Likely Descendent
MMT	million metric tons
mph	mile per hour
MRZs	mineral resource zones
MS4	Municipal Separate Storm Sewer System

MSCP	Multiple Species Conservation Program
MT	metric tons
MVA	megavolt amperes
MW	megawatts
N <sub>2</sub> O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Plan
NCTD	North County Transit District
NERC	North American Electric Reliability Corporation
NFIP	National Flood Insurance Program
NO <sub>2</sub>	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration's
NO <sub>x</sub>	nitrogen oxides
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NSA	noise-sensitive area
NWI	National Wetland Inventory
O&M	operations and maintenance
O <sub>3</sub>	ozone
OES	Office of Emergency Services
OHWM	ordinary high water mark
OPGW	optical ground wire
OPR	Office of Planning and Research
OSHA	Occupational Health and Safety Administration
PAMAs	pre-approved mitigation areas
PEA	Proponent's Environmental Assessment
PFCs	perfluorocarbons
PFO	potential for occurrence
PM	particulate matter
PM <sub>10</sub>	particulate matter 10 microns or less in diameter
PM <sub>2.5</sub>	particulate matter 2.5 microns or less in diameter
ppb	part per billion
ppm	part per million
PPV	peak particle velocity
PRC	Public Resources Code
Proposed Project	Tie-Line (TL) 6975 San Marcos to Escondido
PSFS	Public Safety, Facilities, and Services
PTC	Permit to Construct

PVC	polyvinyl chloride
QCB	Quino Checkerspot Butterfly
RAQS	Regional Air Quality Strategy
RCRA	Resource Conservation and Recovery Act
RCS	Resource Conservation Strategy
Regional Plan	San Diego Forward: The Regional Plan
ROW	right-of way
RSFSD	Rancho Santa Fe School District
RTIP	Regional Transportation Improvement Program
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SCIC	South Coastal Information Center
SDAPCD	San Diego Air Pollution Control District
SDG&E	San Diego Gas & Electric Company
SDG&E Subregional NCCP	SDG&E's Subregional Natural Community Conservation Plan
SDSURF	San Diego State University Research Foundation
SEMS	Standardized Emergency Management System
SF <sub>6</sub>	sulfur hexafluoride
SIP	State Implementation Plan
SLIC	SLIC = Spills Leaks Investigation and Cleanup
SMFD	San Marcos Fire Department
SO <sub>2</sub>	sulfur dioxide
SO <sub>x</sub>	sulfur oxides
SPCC	Spill Prevention, Control, and Countermeasure
SR	State Route
SSC	Species of Special Concern
SWEEPS	SWEEPS = Statewide Environmental Evaluation and Planning System
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
SWRCY	SWRCY = Solid Waste Recycling
TAC	toxic air contaminant
TCRs	tribal cultural resources
TDM	transportation demand management
TDS	total dissolved solids
TL	tie-line
TMDLs	Total Maximum Daily Loads
TPP	Transmission Planning Process
TQs	threshold quantities
U.S.	United States

U.S.C.	United States Code
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	UST = underground storage tank
UXO	unexploded ordnance
VFD	Vista Fire Department
VOC	volatile organic compound
VUSD	Vista Unified School District
WDRs	Waster Discharge Requirements
WL	Watch List
WP	Water Purveyors
WQIP	Water Quality Improvement Plan
WRRs	Water Reclamation Requirements
$\mu\text{g}/\text{m}^3$	micrograms per cubic meter

## Table of Contents

<b>1. PROPONENT’S ENVIRONMENTAL ASSESSMENT SUMMARY .....</b>	<b>1-1</b>
<b>1.1 Project Location .....</b>	<b>1-1</b>
<b>1.2 Project Components.....</b>	<b>1-1</b>
1.2.1 Segment 1.....	1-2
1.2.2 Segment 2.....	1-2
1.2.3 Segment 3.....	1-2
<b>1.3 Project Need and Alternatives .....</b>	<b>1-2</b>
<b>1.4 PEA Contents .....</b>	<b>1-3</b>
<b>1.5 PEA Conclusions.....</b>	<b>1-5</b>
1.5.1 Resource Areas with No Impacts or Less-than-Significant Impacts .....	1-5
1.5.2 Resource Areas Requiring Applicant-Proposed Measures .....	1-5
1.5.3 Significant, Unavoidable Impacts .....	1-7
<b>1.6 Public Outreach Efforts .....</b>	<b>1-7</b>
<b>1.7 Agency Coordination .....</b>	<b>1-7</b>
1.7.1 San Diego County .....	1-7
1.7.2 The City of Carlsbad.....	1-7
1.7.3 The City of Escondido .....	1-7
1.7.4 The City of San Marcos .....	1-8
1.7.5 The City of Vista.....	1-8
<b>1.8 Areas of Controversy .....</b>	<b>1-8</b>
<b>1.9 Major Issues to be Resolved.....</b>	<b>1-8</b>

## List of Tables

Table 1-1: PEA Checklist Key.....	1-9
-----------------------------------	-----

## **Acronyms and Abbreviations**

APMs	Applicant-Proposed Measures
CPUC	California Public Utilities Commission
G.O.	General Order
JUA	Joint Use Agreement
kV	kilovolt
MW	Megawatts
NCCP	Natural Community Conservation Plan
NERC	North American Electric Reliability Corporation
PEA	Proponent's Environmental Assessment
PTC	Permit to Construct
Proposed Project	TL 6975 San Marcos to Escondido
ROW	right-of-way
SDG&E	San Diego Gas & Electric Company
TL	tie-line



# 1. PROPONENT’S ENVIRONMENTAL ASSESSMENT SUMMARY

---

In accordance with California Public Utilities Commission (CPUC) General Order (G.O.) 131-D, this Proponent’s Environmental Assessment (PEA) has been prepared by San Diego Gas & Electric Company (SDG&E) to support SDG&E’s application for a Permit to Consult (PTC) for the TL 6975 San Marcos to Escondido Project (Proposed Project).

As discussed in detail in the following paragraphs, the overall purpose of the Proposed Project is to eliminate North American Electric Reliability Corporation (NERC) Category P0 (Cat A) and Category P1 (Cat B) violations on tie-line (TL) 680C (San Marcos–Melrose Tap) and TL 684 (Escondido to San Marcos), to eliminate the existing congestion in the Escondido/San Marcos area, and to improve reliability by providing an additional feed to the existing San Marcos Substation.

This chapter briefly describes the location and primary components of the Proposed Project, the Proposed Project need and range of alternatives considered, the PEA contents, the major conclusions of the PEA, SDG&E’s public outreach and consultation efforts, areas of controversy, and issues to be resolved. As discussed herein, in light of the existing environmental baseline, standard operating procedures, and Applicant-Proposed Measures (APMs) incorporated into the Proposed Project, no significant environmental impacts have been identified.

## 1.1 PROJECT LOCATION

The Proposed Project site is located in San Diego County, California, within the cities of Carlsbad, Escondido, San Marcos, and Vista as well as unincorporated San Diego County. Additionally, the Proposed Project has an existing auxiliary staging yard in the City of San Diego that may be utilized for the Proposed Project. Two poles will be removed from service and two poles will have overhead work on the border of the City of San Marcos and the City of Vista. The Proposed Project location is discussed in more detail in Chapter 3, Project Description. The Proposed Project travels a total of 12.0 miles from San Marcos Substation to Escondido Substation and includes acquiring a minimal amount of new right-of-way (ROW).

## 1.2 PROJECT COMPONENTS

As discussed in Chapter 3, the Proposed Project would add a second power line that connects the existing San Marcos Substation to the existing Escondido Substation. The Proposed Project would be a combination of new overhead single circuit power line structures, the rebuild of existing structures, and reconductoring and re-energizing of existing conductors. The Proposed Project includes the following three main components, broken out by segments, which are discussed further below:

- **Segment 1 Rebuild:** Rebuilding approximately 1.8 miles of an existing 69 kilovolt (kV) power line to the west of San Marcos Substation.

- **Segment 2 New Build:** Addition of approximately 2.8 miles of a new single circuit 69 kV overhead power line from the end of Segment 1 to the existing Meadowlark Junction.
- **Segment 3 Reconductoring/Re-energizing:** Reconductoring approximately 7.4 miles of a de-energized power line (TL 13811/13825) from Meadowlark Junction to the existing Escondido Substation. Minor work at the existing Escondido Substation to accommodate this new circuit.

### 1.2.1 Segment 1

The proposed rebuild of the existing 69 kV circuit power line would result in a double circuit line supporting both the existing TL 680C and the proposed TL 6975. All wood structures would be replaced with dulled, galvanized steel poles; all porcelain insulators would be replaced with polymer; and reconductoring would be required. Segment 1 would require approximately 1.2 acres of new ROW, where the existing ROW would be widened. Improvements at San Marcos Substation would include the addition of a 69 kV sulfur hexafluoride (SF<sub>6</sub>) circuit breaker, as well as two 69 kV 2,000-amp disconnects.

### 1.2.2 Segment 2

The Proposed Project would result in the addition of a new single circuit 69 kV overhead power line segment approximately 2.8 miles long, to be constructed on new steel poles adjacent to the existing TL 13811/13825 power line within the existing utility corridor. The existing 12 kV distribution line would be reconfigured with the Proposed Project at Meadowlark Junction. This new build portion of the Proposed Project is entirely within the SDG&E easement.

### 1.2.3 Segment 3

The third segment of the Proposed Project consists of reconductoring a portion of an existing de-energized double circuit power line. This segment runs approximately 7.4 miles along existing lattice towers. The copper conductor and porcelain insulators on the north side of the towers would be removed and replaced with polymer insulators and 636 ACSS/AW conductor. Minor work on the existing Escondido Substation would also take place to accommodate the new line and would help avoid unnecessary overhead line crossings.

## 1.3 PROJECT NEED AND ALTERNATIVES

The Proposed Project has been developed by SDG&E to achieve the following project objectives (refer to Chapter 2, Proposed Project Purpose and Need):

1. Eliminate NERC Category P0 (Cat A) and Category P1 (Cat B) violations on TL 684 (Escondido to San Marcos) and TL 680C (San Marcos–Melrose Tap).
2. Meet mandatory NERC reliability criteria in the Escondido Area Load Pocket and alleviate the existing 69 kV congestion at Escondido/San Marcos Substations.

Section 5.3, Description of Project Alternatives and Impact Analysis, outlines four alternatives to the Proposed Project, including a no project alternative and three alternative power line alignments. One of these alternatives could meet the Proposed Project objectives; however, all of the alternative alignments would result in at least one of the following:

- Higher costs
- Increased and/or more severe adverse environmental effects
- Increased regulatory approval requirements

## **1.4 PEA CONTENTS**

The PEA was prepared in accordance with the PEA Checklist issued by the CPUC, and is divided into five sections and a series of corresponding appendices. PEA section contents are briefly described as follows:

Chapter 1 – Proponent's Environmental Assessment Summary: discusses the contents and conclusions of the PEA and describes SDG&E's ongoing and past coordination efforts.

Chapter 2 – Project Purpose and Need: outlines the Proposed Project's two objectives, which have been discussed previously.

Chapter 3 – Project Description: describes the whole of the Proposed Project, including construction, operation, and maintenance activities. The Project Description includes a detailed description of construction methods, construction schedule, existing facilities, proposed facilities, and anticipated permit requirements.

Chapter 4 – Environmental Impact Assessment: includes a discussion of the existing conditions and potential and anticipated impacts of the Proposed Project for each of the following resource areas:

- 4.1 – Aesthetics
- 4.2 – Agricultural and Forestry Resources
- 4.3 – Air Quality
- 4.4 – Biological Resources
- 4.5 – Cultural Resources
- 4.6 – Geology and Soils
- 4.7 – Greenhouse Gas Emissions
- 4.8 – Hazards and Hazardous Materials
- 4.9 – Hydrology and Water Quality
- 4.10 – Land Use and Planning
- 4.11 – Mineral Resources
- 4.12 – Noise
- 4.13 – Paleontological Resources

- 4.14 – Population and Housing
- 4.15 – Public Services
- 4.16 – Recreation
- 4.17 – Transportation and Traffic
- 4.18 – Utilities and Service Systems

Section 4.19 includes an assessment of potential cumulative impacts that could occur as a result of impacts from the Proposed Project contributing to cumulatively considerable adverse effects when analyzed with respect to other foreseeable projects.

Chapter 5 – Detailed Discussion of Significant Impacts, includes a detailed discussion of significant impacts that will result from the Proposed Project, evaluates alternatives to the Proposed Project, describes the justification for the preferred alternative, and discusses the Proposed Project's potential to induce growth in the area.

SDG&E has provided specific information to address the items outlined within the CPUC's PEA Checklist throughout the PEA sections and appendices. Table 1-1: PEA Checklist Key has been included at the end of this chapter and identifies the sections in which each checklist item is addressed.

The PEA also contains technical appendices in support of Chapters 1 through 5, as well as other items required by the CPUC PEA Checklist and G.O. 131-D. Specifically, the PEA includes the following appendices:

- Appendix 3-A: TL 6975 Power Line Route Map
- Appendix 3-B: TL 6975 Structure Detail Table
- Appendix 3-C: Typical Structure Diagrams
- Appendix 3-D: City/County Correspondence
- Appendix 3-E: Stakeholder List
- Appendix 4.3-A: Air Quality and Greenhouse Gas Assessment
- Appendix 4.4-A: Biological Technical Report
- Appendix 4.4-B: Special-Status Species with Potential to Occur
- Appendix 4.4-C: Jurisdictional Delineation Report
- Appendix 4.4-D: SDG&E Habitat Management Plan (HMP) and Operational Protocols
- Appendix 4.5-A: Inventory of Cultural Resources along San Diego Gas & Electric Company's TL 6975 Project (Confidential)
- Appendix 4.5-B: Archeological Survey Report
- Appendix 4.8-A: EDR Corridor Study
- Appendix 4.8-B: Construction Fire Prevention Plan
- Appendix 4.12-A: Ambient Noise Survey Report
- Appendix 4.13-A: Paleontological Resources Technical Report

## **1.5 PEA CONCLUSIONS**

As discussed throughout the PEA, the Proposed Project is located almost entirely within currently existing SDG&E ROW and substation properties, with the exception of the proposed widening of the ROW for Segment 1 improvements. The existing electric transmission, distribution, and substation facilities constitute the existing setting and baseline from which the potential impacts of the Proposed Project were analyzed. SDG&E’s standard operating procedures have been incorporated into the design of the Proposed Project.

### **1.5.1 Resource Areas with No Impacts or Less-than-Significant Impacts**

The PEA analyzes the potential environmental impacts associated with construction, operation, and maintenance of the Proposed Project. Ten resource areas would not have Proposed Project–related environmental impacts or would experience less-than-significant impacts. These resource areas include:

- 4.1 – Aesthetics
- 4.2 – Agriculture and Forestry Resources
- 4.3 – Air Quality
- 4.6 – Geology and Soils
- 4.7 – Greenhouse Gas
- 4.9 – Hydrology and Water Quality
- 4.10 – Land Use
- 4.11 – Mineral Resources
- 4.14 – Population and Housing
- 4.18 – Utilities and Service Systems

### **1.5.2 Resource Areas Requiring Applicant-Proposed Measures**

In addition, the following eight resource areas could result in potentially significant impacts that could be reduced to a less-than-significant level with the incorporation of APMs (see Table 3-15: Applicant-Proposed Measures). APMs could also be used to minimize an impact that is already less than significant.

- 4.4 – Biological Resources
- 4.5 – Cultural Resources
- 4.8 – Hazards and Hazardous Materials
- 4.12 – Noise
- 4.13 – Paleontological Resources
- 4.15 – Public Services
- 4.16 – Recreation
- 4.17 – Transportation

The impacts that would be less than significant with incorporation of mitigation measures are discussed by resource area in the following subsections.

#### **1.5.2.1 Section 4.4 – Biological Resources**

Potential impacts on biological resources from construction, operation, and maintenance of the Proposed Project include impacts on candidate, sensitive, or special status species and impacts on other sensitive vegetation communities. These impacts would be reduced to a less-than-significant level through implementation of APMs BIO-1 through BIO-9.

#### **1.5.2.2 Section 4.5 – Cultural Resources**

Potential impacts on cultural resources include impacts on historical, archeological, and tribal cultural resources, and the potential for disturbance to human remains. These impacts would be reduced to a less-than-significant level through implementation of APMs CUL-1 through CUL-9.

#### **1.5.2.3 Section 4.8 – Hazards and Hazardous Materials**

While not anticipated, potential impacts related to accidental release of hazardous materials would be minimized through implementation of APM HAZ-1 through HAZ-3.

#### **1.5.2.4 Section 4.12 – Noise**

Potential noise impacts include an increase in ambient noise and exceedance of local noise ordinances. These potential impacts would be discussed with applicable jurisdictions to reduce significance levels, and would also be minimized with the implementation of APMs NOI-1 and NOI-2.

#### **1.5.2.5 Section 4.13 – Paleontological Resources**

While not anticipated, potential impacts include destruction of unique paleontological resources, and would be minimized through implementation of APMs PALEO-1 through PALEO-5.

#### **1.5.2.6 Section 4.15 – Public Services**

Potential impacts on park facilities would be reduced through implementation of APMs PS-1 through PS-4.

#### **1.5.2.7 Section 4.16 – Recreation**

Potential impacts on parks or recreational facilities would be reduced through implementation of APMs PS-1 through PS-4.

### **1.5.2.8 Section 4.17 – Transportation**

Impacts on transportation include increased hazards due to design features and inadequate emergency access. Potential impacts would be reduced to less-than-significant levels through implementation of APMs TRA-1 and TRA-2.

### **1.5.3 Significant, Unavoidable Impacts**

No significant, unavoidable adverse impacts were identified during the preparation of the PEA (refer to PEA Sections 4.1 through 4.19).

## **1.6 PUBLIC OUTREACH EFFORTS**

Preliminary public outreach has already occurred for the Proposed Project in its early stages. City and County jurisdiction officials have been informed of the Proposed Project schedule and activities and are reviewing the Proposed Project. SDG&E will continue to maintain contact and coordination with citizens and/or organizations potentially affected by the Proposed Project throughout the planning and construction phases of the Proposed Project. SDG&E strives to ensure that the local community and property owners receive information to minimize disruptions to their daily lives as a result of Proposed Project-related activities. Furthermore, efforts to keep all potentially affected agencies and interested parties informed will be pursued.

## **1.7 AGENCY COORDINATION**

During the engineering and planning processes for the Proposed Project, SDG&E coordinated with governmental agencies. The key agency coordination is further described in the following subsections.

### **1.7.1 San Diego County**

SDG&E notified the County of San Diego about the Proposed Project on September 26, 2017 to initiate coordination and outreach regarding the Proposed Project. SDG&E met with the County on October 30, 2017, to discuss the Proposed Project.

### **1.7.2 The City of Carlsbad**

Coordination with officials from the City of Carlsbad took place in June and July 2017 to inform the City of the goals and requirements of the Proposed Project.

### **1.7.3 The City of Escondido**

Coordination with officials from the City of Escondido took place on February 23, 2017, to inform the City of the goals and requirements of the Proposed Project.

#### **1.7.4 The City of San Marcos**

Coordination with officials from the City of San Marcos took place on March 2, 2017, and October 24, 2017, to inform the City of the goals and requirements of the Proposed Project.

#### **1.7.5 The City of Vista**

SDG&E notified the City of Vista about the Proposed Project on September 26, 2017 to initiate coordination and outreach regarding the Proposed Project.

### **1.8 AREAS OF CONTROVERSY**

To date, SDG&E has not identified any areas of controversy regarding the Proposed Project.

### **1.9 MAJOR ISSUES TO BE RESOLVED**

To date, SDG&E has not identified any major issues that remain unresolved prior to construction of the Proposed Project.



**Table 1-1: PEA Checklist Key**

Location in PEA Checklist	Checklist Item	Location within PEA
<b>Chapter 1: PEA Summary</b>		
	Include major conclusions of the PEA.	Section 1.5, PEA Conclusions
	List any areas of controversy.	Section 1.8, Areas of Controversy
	Identify any major issues that must be resolved, including the choice among reasonably feasible alternatives and mitigation measures, if any.	Section 1.9, Major Issues to be Resolved
	Include a description of inter-agency coordination if any.	Section 1.7, Agency Coordination
	Include a description of public outreach efforts, if any.	Section 1.6, Public Outreach Efforts
<b>Chapter 2: Project Purpose and Need</b>		
<b>2.1 Overview</b>	Include an analysis of Proposed Project objectives and purpose and need that is sufficiently detailed so that the Commission can independently evaluate the Proposed Project need and benefits in order to accurately consider them in light of the potential environmental impacts.	Chapter 2, Project Purpose and Need
	Explain the objective(s) and/or purpose and need for implementing the Proposed Project.	Chapter 2, Project Purpose and Need
<b>2.2 Project Objectives</b>	Include an analysis of the reason why attainment of these objectives is necessary or desirable. Such analysis must be sufficiently detailed to inform the Commission in its independent formulation of Proposed Project objectives which will aid any appropriate CEQA alternatives screening process.	Chapter 2, Project Purpose and Need
<b>Chapter 3: Project Description</b>		
<b>3.1 Project Location</b>	Identify geographical location: County, City (provide Proposed Project location map[s]).	Section 3.1, Project Location Figure 3-1: Project Location Map Figure 3-2: Project Overview Map
	Provide a general description of land uses within the Proposed Project site (e.g., residential, commercial, agricultural, recreation, vineyards, farms, open space, number of stream crossings, etc.).	Section 4.10, Land Use and Planning Figure 4.10-1: Existing Land Use Map
	Determine whether the Proposed Project is located within an existing property owned by the Applicant, traverses existing ROWs, or requires new ROWs. Provide the approximate area of the property or the length of the Proposed Project that is in an existing ROW or which requires new ROWs.	Section 3.1, Project Location Section 3.6, Permanent Land/Right-of-Way Requirements
<b>3.2 Existing System</b>	Describe the local system to which the Proposed Project relates.	Chapter 2, Project Purpose and Need
	Provide a schematic diagram and map of the existing system.	Figure 3-3: Existing System One-Line Diagram

Location in PEA Checklist	Checklist Item	Location within PEA
		Appendix 3-A: TL 6975 Power Line Route Map
	Provide a schematic diagram that illustrates the system as it would be configured with the implementation of the Proposed Project.	Figure 3-4: Proposed System One-Line Diagram Figure 3-2: Project Overview Map
<b>3.4 Proposed Project</b>	Describe the Proposed Project. Is it an upgrade, a new line, new substations, etc.?	Section 3.3, Project Objectives Section 3.4, Project Facilities
	Describe how the Proposed Project fits into the regional system. Does it create a loop for reliability, etc.?	Chapter 2, Project Purpose and Need
	Describe all reasonably foreseeable future phases, or other reasonably foreseeable consequences of the Proposed Project.	Section 3.4, Project Facilities
	Provide the capacity increase in megawatts (MW). If the Proposed Project does not increase capacity, state that.	Section 3.4, Project Facilities
	Provide GIS (or equivalent) data layers for the Proposed Project preliminary engineering, including estimated locations of all physical components of the Proposed Project, as well as those related to construction.	GIS Data is confidential and not included
<b>3.5 Project Components</b> <b>3.5.1 Transmission Line</b>	Describe what type of line exists and what type of line is proposed.	Section 3.4, Project Facilities
	Identify the length of the upgraded alignment, the new alignment, etc.	Section 3.4, Project Facilities Table 3-1: Proposed Project Power Line Segments
	Describe whether construction would require one-for-one pole replacement, new poles, steel poles, etc.?	Section 3.4, Project Facilities Section 3.5, Project Components
	Describe what would happen to other lines and utilities that may be collocated on the poles to be replaced (e.g., distribution, communication, etc.).	Section 3.4, Project Facilities
<b>3.5.2 Powerline</b>	Provide information for each pole/tower that would be installed and for each pole/tower that would be removed.	Section 3.4, Project Facilities Appendix 3-C: Typical Structure Diagrams
	Describe any specialty poles or towers; note where they would be used; make sure to note if any guying would likely be required across a road.	Section 3.4, Project Facilities
	If the Proposed Project includes pole-for-pole replacement, describe the approximate location of where the new poles would be installed relative to the existing alignment.	Section 3.4, Project Facilities
	Describe any special pole types and any special features.	
<b>3.5.3 Conductor/Cable</b> <b>3.5.3.1 Above-Ground Installation</b>	Describe the type of line to be installed on the poles/tower.	Section 3.4, Project Facilities Section 3.5, Project Components
	Describe the number of conductors required to be installed on the poles or tower and the number on each side including applicable engineering design standards.	Section 3.4, Project Facilities

Location in PEA Checklist	Checklist Item	Location within PEA
	Provide the size and type of conductor and insulator configuration.	Section 3.4, Project Facilities
	Provide the approximate distance from the ground to the lowest conductor and the approximate distance between the conductors (i.e., both horizontally and vertically). Provide specific information at highways, rivers, or special crossings.	Section 3.4, Project Facilities
	Provide the approximate span lengths between poles or towers, note where different if distribution is present or not if relevant.	Section 3.4, Project Facilities Appendix 3-A: TL 6975 Power Line Route Map
	Determine whether other infrastructure would likely be collocated with the conductor; if so, provide conduit diameter of other infrastructure.	Section 3.4, Project Facilities
<b>3.5.3.2 Foundations</b>	Describe the type of line to be installed.	Section 3.4, Project Facilities
	Describe the type of casing the cable would be installed in; provide the dimensions of the casing.	Section 3.4, Project Facilities
	Provide an engineering ‘typical’ drawing of the duct bank and describe what types of infrastructure would likely be installed within the duct bank.	Appendix 3-C: Typical Structure Diagrams
<b>3.5.4 Substations</b>	Provide “typical” plan and profile views of the proposed substation and the existing substation if applicable.	Not provided at this time.
	Describe the types of equipment that would be temporarily or permanently installed and provide details as to what the function/use of said equipment would be.	3.5.5, Substation Work 3.6.9, Substation Construction
	Provide the approximate or “typical” dimensions (width and height) of new structures including engineering and design standards that apply.	3.5.5, Substation Work 3.7.9, Substation Construction
	Describe the extent of the Proposed Project. Would it occur within the existing fence line, existing property line or would either need to be expanded?	3.5.5, Substation Work 3.7.9, Substation Construction
	Describe the electrical need area served by the distribution substation.	Chapter 2, Project Purpose and Need
<b>3.6 Right-of-Way Requirements</b>	Describe the ROW location, ownership, and width. Would the existing ROW be used or would a new ROW be required?	Section 3.5.6, Permanent Land/Right-of-Way Requirements
	If a new ROW is required, describe how it would be acquired and approximately how much land would be required (length and width).	Section 3.5.6, Permanent Land/Right-of-Way Requirements
	List the properties likely to require acquisition.	Section 3.5.6, Permanent Land/Right-of-Way Requirements
<b>3.7 Construction</b> <b>3.7.1 For All Projects</b> <b>3.7.1.1 Staging Areas</b>	Where would the main staging area(s) likely be located?	Section 3.7.1, Temporary Work Areas
	Approximately how large would the main staging area(s) be?	Section 3.7.1, Temporary Work Areas
	Describe any site preparation required, if known, or generally describe what might be required.	Section 3.7.1, Temporary Work Areas
	Describe what the staging area would be used for.	Section 3.7.1, Temporary Work Areas

Location in PEA Checklist	Checklist Item	Location within PEA
<b>3.7.1.1 Staging Areas</b>	Describe how the staging area would be secured, would a fence be installed? If so, describe the type and extent of the fencing.	Section 3.7.1, Temporary Work Areas
	Describe how power to the site would be provided if required.	Section 3.7.1, Temporary Work Areas
	Describe any grading activities and/or slope stabilization issues.	Section 3.7.1, Temporary Work Areas
<b>3.7.1.2 Work Areas</b>	Describe known work areas that may be required for specific construction activities.	Section 3.7.1, Temporary Work Areas Section 3.7.4, Permanent Work Areas
	For each known work area, provide the area required (include length and width) and describe the types of activities that would be performed.	Section 3.7.1, Temporary Work Areas Section 3.7.4, Permanent Work Areas
	Identify the approximate location of known work areas in the GIS database.	GIS Data is Confidential and not included Appendix 3-A: TL 6975 Power Line Route Map
	Describe how the work areas would likely be accessed.	Section 3.7.1, Temporary Work Areas Section 3.7.4, Permanent Work Areas
	If any site preparation is likely required, generally describe what and how it would be accomplished.	Section 3.7.1, Temporary Work Areas Section 3.7.4, Permanent Work Areas
	Describe any grading activities and/or slope stabilization issues.	Section 3.7.1, Temporary Work Areas Section 3.7.4, Permanent Work Areas
	Based on the information provided, describe how the site would be restored.	Section 3.7.1, Temporary Work Areas Section 3.7.4, Permanent Work Areas Section 3.7.7, Cleanup and Post-Construction Restoration
<b>3.7.1.3 Access Roads and/or Spur Roads</b>	Describe the types of roads that would be used and/or would need to be created to implement the Proposed Project.	Section 3.7.2, Access Road Table 3-6: Access Road Characteristics
	For road types that require preparation, describe the methods and equipment that would be used.	Section 3.7.2, Access Road
	Identify approximate location of all access roads (by type) in the GIS database.	GIS Data is confidential and not included.
	Describe any grading activities and/or slope stabilization issues.	Section 3.7, Construction
<b>3.7.1.4 Helicopter Access</b>	Identify which proposed poles/towers would be removed and/or installed using a helicopter.	Section 3.7.3, Helicopter Access
	If different types of helicopters are to be used, describe each type and what activities they would be used for.	Section 3.7.3, Helicopter Access Section 3.8.6, Use of Helicopters
	Provide information as to where the helicopters would be staged, where they would refuel, where they would land within the Proposed Project site.	Section 3.8.6, Use of Helicopters
	Describe any BMPs that would be employed to avoid impacts caused by use of helicopters, for example: air quality and noise considerations.	Chapter 4.2, Air Quality Chapter 4.12, Noise
	Describe flight paths, payloads, hours of operations for known locations, and	Section 3.7.3, Helicopter Access

Location in PEA Checklist	Checklist Item	Location within PEA
	work types.	Section 3.8.6, Use of Helicopters
<b>3.7.1.5 Vegetation Clearance</b>	Describe the types of vegetation clearing that may be required and why.	Section 3.7.5, Vegetation Clearance
	Identify the preliminary location and provide an approximate area of disturbance in the GIS database for each type of vegetation removal.	GIS Data is confidential and not included.
	Describe how each type of vegetation removal would be accomplished.	Section 3.7.5, Vegetation Clearance Section 3.8.4, Application of Herbicides
	For removal of trees, distinguish between tree trimming as required under GO-95D and tree removal.	Section 3.8, Operation and Maintenance
	Describe the types and approximate number and size of trees that may need to be removed.	Section 4.4, Biological Resources
	Describe the type of equipment typically used.	Section 3.7.13, Construction Workforce and Equipment Table 3-11: Anticipated Construction Equipment
<b>3.7.1.6 Erosion and Sediment Control and Pollution Prevention during Construction</b>	Describe the areas of soil disturbance including estimated total areas and associated terrain type and slope. List all known permits required. For project sites of less than 1 acre, outline the BMPs that would be implemented to manage surface runoff.	Section 3.7.1, Temporary Work Areas Table 3-4: Temporary Work Areas Table 3-7: Summary of Permanent Work Areas
	Describe any grading activities and/or slope stabilization issues.	Section 4.6, Geology, Soils, and Mineral Resources Section 4.8, Hydrology and Water Quality
	Describe how construction waste would be disposed.	Section 3.7.7, Cleanup and Post-Construction Restoration Section 4.15, Utilities and Service Systems
<b>3.7.1.7 Cleanup and Post-Construction Restoration</b>	Describe how cleanup and post-construction restoration would be performed.	Section 3.7.7, Cleanup and Post-Construction Restoration
<b>3.7.2 Transmission Line Construction (Above Ground)</b> <b>3.7.2.1 Pull and Tension Sites</b>	Provide the general or average distance between pull and tension sites.	Section 3.7.1.1, Stringing Sites Appendix 3-A: TL 6975 Power Line Route Map
	Provide the area of pull and tension sites including the estimated length and width.	Section 3.7.1.1, Stringing Sites
	According to the preliminary plan, identify the number of pull and tension sites that would be required, and their locations. Provide the location information in GIS.	Section 3.7.1.1, Stringing Sites GIS Data is Confidential and not included
	Describe the type of equipment that would be required at these sites.	Section 3.7.1.1, Stringing Sites Table 3-11: Anticipated Construction Equipment
	If conductor is being replaced, describe how it would be removed from the site.	Section 3.7.7, Cleanup and Post-Construction Restoration
<b>3.7.2.2 Pole Installation and Removal</b>	Describe how the construction crews and their equipment would be transported to and from the pole site locations. Provide vehicle type, number	Section 3.7.1, Temporary Work Areas Section 3.7.2, Access Roads

Location in PEA Checklist	Checklist Item	Location within PEA
	of vehicles, estimated number of trips, and hours of operation.	
	Describe the process of removing the poles and foundations.	Section 3.5.3, Poles/Towers
	Describe what happens to the holes that the poles were in (i.e., reused or backfilled)?	Section 3.5.3, Poles/Towers
	If the holes are to be backfilled, what type of fill would be used and where would it come from?	Section 3.5.3, Poles/Towers
	Describe any surface restoration that would occur at the pole sites.	Section 3.7.7, Cleanup and Post-Construction Restoration
	Describe how the poles would be removed from the sites.	Section 3.5.3, Poles/Towers
	If topping is required to remove a portion of an existing transmission pole that would now only carry distribution lines, describe the methodology to access and remove the tops of these poles. Describe any special methods that would be required to top poles that may be difficult to access, etc.	Not Applicable.
	Describe the process of how the new poles/towers would be installed; specifically identify any special construction methods for specific locations or for different types of poles/towers.	Section 3.5.3, Poles/Towers
<b>3.7.2.2 Pole/Tower Installation</b>	Describe the types of equipment and their use as related to pole/tower installation.	Section 3.5.3, Poles/Towers Table 3-11: Anticipated Construction Equipment
	Describe the actions taken to maintain a safe work environment during construction.	Section 3.7, Construction
	Describe what would be done with soil that is removed from a hole/foundation site.	Section 3.5.3, Poles/Towers
	For any foundations required, provide a description of the construction method(s), approximate average depth and diameter of excavation, approximate volume of soil to be excavated, approximate volume of concrete or other backfill required, etc.	Section 3.7.8, Power Line Construction (Above Ground)
	Describe briefly how poles/towers and associated hardware are assembled.	Section 3.5.3, Poles/Towers
	Describe how the poles/towers and associated hardware would be delivered to the site; would they be assembled off-site and brought in or assembled on site?	Section 3.5.3, Poles/Towers
	Provide the following information about pole/tower installation and associated disturbance area estimates; pole diameter, lattice tower base dimension, auger hole depth, permanent footprint per pole/tower, number of poles/towers, average work area around poles/towers, and total permanent	Section 3.5.3, Poles/Towers Table 3-4: Temporary Work Areas Appendix 3-A: TL 6975 Power Line Route Map

Location in PEA Checklist	Checklist Item	Location within PEA
	footprint for poles/towers.	
<b>3.7.2.3 Conductor/Cable Installation</b>	Provide a process-based description of how new conductor/cable would be installed and how old conductor/cable would be removed, if applicable.	Section 3.7.8, Power Line Construction (Above Ground)
	Generally, describe the conductor/cable splicing process.	Section 3.7.8, Power Line Construction (Above Ground)
	If vaults are required, provide their dimensions and approximate location/spacing along the alignment.	Not Applicable; use of vaults is not anticipated.
	Describe in what areas conductor/cable stringing/installation activities would occur.	Section 3.4, Project Facilities Section 3.7.1.1, Stringing Sites Appendix 3-A: TL 6975 Power Line Route Map
	Describe any safety precautions or areas where special methodology would be required.	Section 3.7.11, Blasting Section 3.8.6, Use of Helicopters
<b>3.7.3 Transmission Line Construction (Below Ground)</b> <b>3.7.3.1 Trenching</b>	Describe the approximate dimensions of the trench (e.g., depth, width).	Section 3.5.4.2, Belowground Installation Section 3.7.8.4, Belowground Construction
	Describe the methodology of making the trench.	Section 3.5.4.2, Belowground Installation Section 3.7.8.4, Belowground Construction
	Provide the total approximate cubic yardage of material to be removed from the trench, the amount to be used as backfill and the amount to subsequently be removed/disposed of off-site.	Section 3.5.4.2, Belowground Installation Section 3.7.8.4, Belowground Construction
	Provide off-site disposal location, if known, or describe possible option(s).	Section 3.5.4.2, Belowground Installation Section 3.7.8.4, Belowground Construction
	If engineered fill would be used as backfill, provide information as to the type of engineered backfill and the amount that would be typically used.	Not Applicable, engineered fill is not anticipated.
	Describe if dewatering would be anticipated, if so, how the trench would be dewatered, what the anticipated flows of the water are, whether there would be treatment, and how the water would be disposed.	Section 3.7.10, Dewatering
	Describe the process for testing excavated soil or groundwater for the presence of pre-existing environmental contaminants that could be exposed as a result of trenching operations.	Section 4.7, Hazards and Hazardous Materials
	If pre-existing hazardous waste was encountered, describe the process of removal and disposal.	Section 4.7, Hazards and Hazardous Materials
	Describe any standard BMPs that would be implemented.	Section 4.7, Hazards and Hazardous Materials
<b>3.7.3.2 Trenchless Techniques: Microtunnel, Bore and Jack, Horizontal Directional Drilling</b>	Provide the approximate location of the bore pits.	Not Applicable, no sending or receiving pits are proposed.
	Provide the length, width and depth of the sending and receiving pits.	Not Applicable, no sending or receiving pits are proposed.
	Describe the methodology of excavating and shoring the pits.	Not Applicable, no sending or receiving pits are proposed.
	Describe the methodology of the trenchless technique.	Not Applicable, no sending or receiving pits are proposed.

Location in PEA Checklist	Checklist Item	Location within PEA
	Provide the total cubic yardage of material to be removed from the pits, the amount to be used as backfill and the amount to subsequently be removed/disposed of off-site.	Not Applicable, no sending or receiving pits are proposed.
	Describe the process for safe handling of drilling mud and bore lubricants.	Not Applicable, no drilling mud is proposed.
	Describe the process for detecting and avoiding “fracturing-out” during horizontal directional drilling operations.	Not Applicable, no horizontal directional drilling is proposed.
	Describe the process for avoiding contact between drilling mud/lubricants and stream beds.	Not Applicable, no drilling mud is proposed.
	If engineered fill would be used as backfill, provide information as to the type of engineered backfill and the amount that would be typically used.	Not Applicable, no engineered fill is anticipated.
	If dewatering is anticipated, describe how the pit would be dewatered, what the anticipated flows of the water are, whether there would be treatment, and how the water would be disposed.	Section 3.7.10, Dewatering
	Describe the process for testing excavated soil or groundwater for the presence of pre-existing environmental contaminants.	Not Applicable, no trenchless techniques are anticipated.
	If a pre-existing hazardous waste was encountered, describe the process of removal and disposal.	Not Applicable, no trenchless techniques are anticipated.
	Describe any grading activities and/or slope stabilization issues.	Not Applicable, no trenchless techniques are anticipated.
	Describe any standard BMPs that would be implemented.	Not Applicable, no trenchless techniques are anticipated.
<b>3.7.4 Substation Construction</b>	Describe any earth moving activities that would be required; what type of activity and, if applicable, estimate cubic yards of materials to be reused and/or removed from the site for both site grading and foundation excavation.	Not Applicable, no earth moving activities at substations are proposed. For pole installations/removals at substations see: Section 3.5.5, Substation Work
	Provide a conceptual landscape plan in consultation with the municipality in which the substation is located.	Not Applicable, no landscape plan is proposed.
	Describe any grading activities and/or slope stabilization issues.	Not Applicable, no grading activities are expected.
	Describe possible relocation of commercial or residential property, if any.	Not Applicable, no relocation of commercial or residential property is being proposed as part of this project.
<b>3.7.5 Construction Workforce and Equipment</b>	Provide the estimated number of construction crew members.	Section 3.7.13, Construction Workforce and Equipment
	Describe the crew deployment, whether crews would work concurrently, if they would be phased, etc.	Section 3.7.13, Construction Workforce and Equipment
	Describe the different types of activities to be undertaken during construction, the number of crew members for each activity, and the number and types of equipment expected to be used for said activity. Include a	Section 3.7, Construction Section 3.4.11, Construction Workforce and Equipment



Location in PEA Checklist	Checklist Item	Location within PEA
	written description of the activity.	
	Provide a list of the types of equipment expected to be used during construction of the Proposed Project as well as a brief description of the use of the equipment.	Table 3-11: Anticipated Construction Equipment
<b>3.7.6 Construction Schedule</b>	Provide a preliminary project construction schedule; include contingencies for weather, wildlife closure periods, etc.	Section 3.7.14, Construction Schedule
<b>3.8 Operation and Maintenance</b>	Describe the general system monitoring and control.	Section 3.8, Operation and Maintenance
	Describe the general maintenance program of the Proposed Project include timing of inspections, type of inspection, and a description of how the inspection would be implemented.	Section 3.8.1, General Project Operation and Maintenance Activities
	If additional full time staff would be required for operation and/or maintenance, provide the number of workers and for what purpose they are required.	Section 3.7.13, Construction Workforce and Equipment
<b>3.9 Applicant Proposed Measures</b>	If there are measures that the Applicant would propose to be part of the Proposed Project, include those measures and reference plans or implementation descriptions.	Section 3.10, Applicant Proposed Measures Sections 4.1 through 4.19
<b>3.10 Electric and Magnetic Fields Summary</b>	Electric and Magnetic Fields Summary	Not Applicable; not required to be included at this time
<b>Chapter 4: Environmental Setting</b>		
	For each resource area discussion within the PEA, include the following: a description of the physical environment in the vicinity of the Proposed Project and a description of the regulatory environment/context.	Sections 4.1 through 4.18
	Limit detailed descriptions to those resource areas which may be subject to a potentially significant impact.	Sections 4.1 through 4.18
<b>Chapter 5: Environmental Impact Assessment Summary</b>		
<b>5.1 Aesthetics</b>	Provide visual simulations of prominent public view locations, including scenic highways, to demonstrate the views before and after project implementation.	Section 4.1, Aesthetics
<b>5.2 Agriculture Resources</b>	Identify the types of agricultural resources affected.	Section 4.2, Agriculture and Forestry Resources
<b>5.3 Air Quality</b>	Provide supporting calculations/spreadsheets/technical reports that support emission estimates in the PEA.	Appendix 4.3-A: Air Quality and Greenhouse Gas Assessment
	Provide documentation of the location and types of sensitive receptors that could be impacted by the project.	Section 4.3, Air Quality
	Identify Proposed Project greenhouse gas (GHG) emissions.	Section 4.3, Air Quality

Location in PEA Checklist	Checklist Item	Location within PEA
		Section 4.7, Greenhouse Gas
<b>5.3 Air Quality</b>	Ensure that the assessment of air quality impacts are consistent with PEA Sections 3.7.5 and 3.7.6, as well as with the PEA's analysis of impacts during construction, including traffic and all other emissions.	Section 4.3, Air Quality
<b>5.4 Biological Resources</b>	Provide a copy of the Wetland Delineation and supporting documentation. If verified, provide supporting documentation.	Appendix 4.4-B: Biological Technical Report
	Provide a copy of special-status surveys for wildlife, botanical and aquatic species, as applicable. Any GIS data documenting locations of special-status species should be provided.	Appendix 4.4-B: Biological Technical Report GIS Data is Confidential and not included
<b>5.5 Cultural Resources</b>	Cultural Resources Report documenting a cultural resources investigation of the Proposed Project.	Appendix 4.5-A: Archaeological Survey Report
	Provide a copy of the records found in the literature search.	Appendix 4.5-A: Archaeological Survey Report Appendix 4.5-B: Paleontological Resources Record Search
	Provide a copy of all letters and documentation of Native American consultation.	Appendix 4.5-B: Archaeological Survey Report
<b>5.6 Geology, Soils, and Seismic Potential</b>	Provide a copy of the geotechnical investigation if completed, including known and potential geologic hazards such as ground shaking, subsidence, liquefaction, etc.	Geotechnical Report pending.
<b>5.7 Hazards and Hazardous Materials</b>	Include the Environmental Data Resources report.	Appendix 4.8-A: EDR Corridor Study
	Include a Hazardous Substance Control and Emergency Response Plan, if required.	Not Applicable. <sup>1</sup>
	Include a Health and Safety Plan, if required.	Not Applicable. <sup>1</sup>
	Describe the Worker Environmental Awareness Program	Not Applicable, will be developed at time of construction
<b>5.7 Hazards and Hazardous Materials</b>	Describe which chemicals would be used during construction and operation of the Proposed Project.	Section 4.8, Hazards and Hazardous Materials
<b>5.8 Hydrology and Water Quality</b>	Describe impacts to groundwater quality including increased runoff due to construction of impermeable surfaces, etc.	Section 4.9, Hydrology and Water Quality
	Describe impacts to surface water quality including the potential for accelerated soil erosion, downstream sedimentation, and reduced surface water quality.	Section 4.9, Hydrology and Water Quality
<b>5.9 Land Use and Planning</b>	Provide GIS data of all parcels within 300 feet of the Proposed Project with the following data: APN number, mailing address, and parcel's physical address.	GIS Data is confidential and not included. Parcel data also included as Appendix C of the PTC application.
<b>5.10 Mineral Resources</b>	Data needs already specified under Chapter 3 would generally meet the data	Section 4.11, Mineral Resources

Location in PEA Checklist	Checklist Item	Location within PEA
	needs for this resource area.	
<b>5.11 Noise</b>	Provide long term noise estimates for operational noise.	Section 4.12, Noise
<b>5.12 Population and Housing</b>	Data needs already specified under Chapter 3 would generally meet the data needs for this resource area.	Section 4.14, Population and Housing
<b>5.13 Public Services</b>	Data needs already specified under Chapter 3 would generally meet the data needs for this resource area.	Section 4.15, Public Services
<b>5.14 Recreation</b>	Data needs already specified under Chapter 3 would generally meet the data needs for this resource area.	Section 4.16, Recreation
<b>5.15 Transportation and Traffic</b>	Discuss traffic impacts resulting from construction of the Proposed Project including ongoing maintenance operations.	Section 4.17, Transportation and Traffic
	Provide a preliminary description of the traffic management plan that would be implemented during construction of the Proposed Project.	Section 4.17, Transportation and Traffic
<b>5.16 Utilities and Services Systems</b>	Describe how treated wood poles would be disposed of after removal, if applicable.	Section 3.7.7, Cleanup and Post-Construction Restoration
<b>5.17 Cumulative Analysis</b>	Provide a list of projects within the Proposed Project Area that the applicant is involved in.	Section 4.19, Cumulative Impacts Table 4.19-1: Planned and Proposed Projects near the Proposed Project Area
	Provide a list of projects that have the potential to be approximate in space and time to the Proposed Project.	Section 4.19, Cumulative Impacts Table 4.19-1: Planned and Proposed Projects near the Proposed Project Area
<b>5.18 Growth-Inducing Impacts, If Significant</b>	Provide information on the Proposed Project’s growth- inducing impacts.	Section 5.3, Growth-Inducing Impacts
<b>Chapter 6: Detailed Discussion of Significant Impacts</b>		
<b>6.1 Mitigation Measures Proposed to Minimize Significant Effects</b>	Discuss each mitigation measure and the basis for selecting a particular mitigation measure should be stated.	Sections 4.1 through 4.19 Section 3.10, Applicant Proposed Measures
<b>6.2 Description of Project Alternatives and Impact Analysis</b>	Provide a summary of the alternatives considered that would meet most of the objectives of the Proposed Project and an explanation as to why they were not chosen as the Proposed Project. Include system or facility alternatives, route alternatives, route variations, alternative locations.	Section 5.2, Description of Project Alternatives to Minimize Significant Effects
	Include a description of a “No Project Alternative.”	Section 5.2, Description of Project Alternatives to Minimize Significant Effects
<b>6.2 Description of Project Alternatives and Impact</b>	If significant environmental effects are assessed, the discussion of alternatives shall include alternatives capable of substantially reducing or	Section 5.2, Description of Project Alternatives to Minimize Significant Effects

Location in PEA Checklist	Checklist Item	Location within PEA
<b>Analysis</b>	eliminating any said significant environmental effects, even if the alternative(s) substantially impede the attainment of the Proposed Project objectives and are more costly.	
<b>6.3 Growth-Inducing Impacts</b>	Discussion should be fairly succinct and focus on if the Proposed Project will foster economic or population growth, cause an increase in population that could further tax existing community service facilities, or encourage and facilitate other activities that would cause population growth that could significantly affect the environment.	Section 5.3, Growth-Inducing Impacts
<b>6.4 Suggested Applicant Proposed Measures to address GHG Emissions</b>	Include a menu of suggested APM's that applicants can consider.	Section 3.10, Applicant Proposed Measures
<b>Chapter 7: Other Process-Related Data Needs</b>		
	Include an excel spreadsheet that identifies all parcels within 300 feet of any Proposed Project component with the following data: APN number, owner mailing address, and parcels physical address.	Parcel data also included as Appendix C of the PTC application.
<sup>1</sup> SDG&E would prepare plans if required.		

## Table of Contents

<b>2. PROJECT PURPOSE AND NEED .....</b>	<b>2-1</b>
<b>2.1 Overview of Project Need.....</b>	<b>2-1</b>
<b>2.1.1 Existing and Projected Electric System Constraints .....</b>	<b>2-1</b>
<b>2.1.2 SDG&amp;E’s Proposed Project.....</b>	<b>2-1</b>
<b>2.2 Project Objectives .....</b>	<b>2-2</b>
<b>2.2.1 Objective 1: Eliminate NERC Violations .....</b>	<b>2-2</b>
<b>2.2.2 Objective 2: Eliminate Existing Congestion and Improve Reliability.....</b>	<b>2-3</b>
<b>2.3 Conclusion .....</b>	<b>2-5</b>
<b>2.4 References .....</b>	<b>2-5</b>

## Acronyms and Abbreviations

APMs	Applicant-Proposed Measures
CAISO	California Independent System Operator
CPUC	California Public Utilities Commission
G.O.	General Order
JUA	Joint Use Agreement
kcml	thousand circular mil
kV	kilovolt
MW	Megawatts
NCCP	Natural Community Conservation Plan
NERC	North American Electric Reliability Corporation
PEA	Proponent’s Environmental Assessment
Proposed Project	Tie-Line 6975 San Marcos to Escondido
PTC	Permit to Consult
PTO	Participating Transmission Owners
ROW	right-of-way
SDG&E	San Diego Gas & Electric Company
TL	tie-line
TPP	Transmission Planning Process

## 2. PROJECT PURPOSE AND NEED

---

This section of the Proponent's Environmental Assessment (PEA) identifies the objectives, purpose, and need for San Diego Gas & Electric Company's (SDG&E's) TL 6975 San Marcos to Escondido (Proposed Project).

### 2.1 OVERVIEW OF PROJECT NEED

SDG&E is a regulated public utility that provides electric service to 3.4 million customers within a 4,100-square-mile service area that encompasses 25 cities throughout San Diego and southern Orange counties. SDG&E requests approval of the Proposed Project to ensure the reliability of the transmission system, meet State of California policy goals, accommodate load growth, and improve system efficiency.

A project's purpose is defined as a set of objectives the project intends to meet, whereas a project's need is the deficiency that the project was initiated to address. In this context, the Proposed Project's purpose and need is described in the following paragraphs.

#### 2.1.1 *Existing and Projected Electric System Constraints*

SDG&E's electric transmission system serving the San Diego metropolitan area comprises a series of power lines for energy transport and flows into substations that import and disperse the electricity over a network of smaller scale power lines throughout the area. Examples of the large scale power lines are the high voltage 500 kilovolt (kV) Southwest Powerlink and Sunrise Powerlink power lines as well as several 230 kV lines throughout the region. A variety of substations tap into the local utility infrastructure and serve the customer load.

SDG&E's ability to operate its electric transmission system reliably and efficiently has become constrained, particularly for lower voltage power lines and substations that serve as the energy veins for communities within local cities and towns. These system constraints are projected to increase over time. In addition, significant renewable generation is currently under development in the Imperial Valley and elsewhere in the southwestern United States, which will further increase energy flow and constraints on the utility infrastructure in San Diego. During periods of high customer demand and high energy imports, as well as during periods of high renewable energy generation in the Imperial Valley, the energy flows result in congestion and subsequent North American Electric Reliability Corporation (NERC) reliability criteria violations on the 230 kV, 138 kV, and 69 kV transmission and power lines downstream, requiring dispatch of less efficient generation, increasing energy costs for ratepayers, and eventually requiring upgrades to these downstream facilities.

#### 2.1.2 **SDG&E's Proposed Project**

Currently, there are two feeds at San Marcos Substation: Tie-Line (TL) 680C traverses to the west to the Melrose Tap and San Luis Rey Substations, and TL 684 traverses to the east to Escondido Substation. There is congestion along the existing lines and substations, and reliability issues that compromise future energy needs for the surrounding communities. The

Proposed Project would result in a second 69 kV power line from San Marcos Substation to Escondido Substation. This would be accomplished by intercepting an existing power line (TL 680C to double circuit and rebuild), building a small portion of new 69 kV power line within existing utility easements, and reconductoring/re-energizing a de-energized 138 kV power line and converting it to 69 kV.

The Proposed Project would meet mandatory NERC reliability criteria in the Escondido Area Load Pocket and alleviate the existing 69 kV congestion at existing Escondido/San Marcos Substations. The approximately 12-mile-long Proposed Project installs 636-thousand circular mil (kcmil) aluminum conductor steel supported conductor and 636-kcmil aluminum conductor steel reinforced conductor and reenergizes existing 900-kcmil aluminum conductor steel supported conductor from San Marcos Substation to Escondido Substation to achieve 137 megavolt-amperes continuous/emergency rating. This cost-effective project was identified during the 2013/2014 and the 2015/2016 Transmission Planning Process (TPP) to mitigate NERC thermal and voltage violations, and improve reliability in the San Marcos area.

As a result of the 2013/1024 TPP it was determined that the loading on TL 684 between San Marcos and Escondido Substations is not expected to improve in the near future, it is actually likely to worsen as load at San Marcos grows and additional renewables are developed in the Imperial Valley.

The Proposed Project would require minimal additional land rights to existing power line right-of-way (ROW), would utilize existing utility corridors, and would make use of existing facilities such as structures, access roads, and work areas where feasible.

Refer to Chapter 3, Project Description, for figures depicting the existing and Proposed Project system configurations.

## **2.2 PROJECT OBJECTIVES**

The Proposed Project would meet the following two primary objectives identified by SDG&E:

1. Eliminate NERC Category P0 (Cat A) and Category P1 (Cat B) violation on TL 684 (Escondido to San Marcos) and 680C (San Marcos–Melrose Tap).
2. Meet mandatory NERC reliability criteria in the Escondido Area Load Pocket and alleviate the existing 69 kV congestion at Escondido/San Marcos Substations.

### **2.2.1 Objective 1: Eliminate NERC Violations**

The California Independent System Operator (CAISO) conducts a TPP each year, which is a roughly 15-month planning cycle. The TPP kicks off in January of each year, when the three Participating Transmission Owners (PTOs) (Pacific Gas and Electric Company, Southern California Edison, and SDG&E) provide the CAISO with updated system data (completed projects, load forecasts, etc.). The CAISO staff, in conjunction with planners at each PTO, then study the reliability of the system over a 10-year window (for example, the current 2013/2014



planning cycle studies the system for years 2014–2023). The plan builds upon the previous year's plan and assumes that any project previously approved is in service by the date the plan specified.

In the CAISO's 2015/2016 TPP, NERC Category P0 (Cat A) violations were identified on TL 684 (Escondido to San Marcos circuit 1). This condition was projected to occur as early as 2016 in a summer peak case when dispatching both Escondido peakers. In addition, modeling a non-coincident peak load at San Marcos under the same conditions identifies an overload of TL 684 by 4.5 percent in 2016. The Category P0 violation exists until a second Escondido to San Marcos 69 kV line is in service.

In the 2013/2014 TPP, NERC Category P7 violations were identified in Real Time Operations studies: the SDG&E system routinely operates with high northbound flow from SDG&E to Southern California Edison at San Onofre, high import on Sunrise Powerlink 500 kV line, and max output at Palomar Energy Center. Under these conditions, the simultaneous outage (P7) of TL 23003 and TL 23011 will overload TL 684.

Lastly, NERC Category P1 violations were identified during the 2013/2014 study cycle: loss of TL 684 (San Marcos–Escondido) creates overloads on the TL 680C (San Marcos–Melrose Tap). Initially this condition occurred in 2022; however, because the San Marcos Substation forecast significantly increased to approximately 100 megawatts (MW), the overload was detected in 2017. In addition, this contingency causes a 6.3 percent voltage deviation at San Marcos Substation.

The CAISO Board of Governors approved the Proposed Project in March 2014. The Proposed Project is required to meet mandatory NERC reliability criteria in the Escondido Area Load Pocket and alleviate the existing 69 kV congestion at Escondido and San Marcos Substations. The Proposed Project continues to be the most cost-effective alternative identified during the 2013/2014 and the 2015/2016 TPPs to mitigate NERC thermal and voltage violations, but most importantly, improves the reliability in the San Marcos Area.

## **2.2.2 Objective 2: Eliminate Existing Congestion and Improve Reliability**

Until the permanent mitigation for the forecast overloads can be put into place, system operators will need to adjust system generation to prevent NERC violations during real-time operations. These system adjustments are sometimes referred to as congestion management. For the Proposed Project, these adjustments will likely involve curtailing the allowable generation in the Escondido area (including the Palomar Energy Center and Escondido peakers) as this generation has the most direct effect on the constraining element (the existing Escondido–San Marcos line). This has an economic and environmental cost, in that efficient generation at Escondido is being curtailed for older and less efficient (and thus more expensive and more polluting) generation in the Los Angeles basin.

However, loop flow through the San Diego-area transmission system also has a significant effect on this constraint. Following the retirement of SONGS in 2012, flow at San Onofre has been consistently northbound, ranging from approximately 300 to 1,500 MW. This represents flow

through the San Diego transmission system to serve load in the Los Angeles load center. Under heavy northbound flow conditions, having Escondido generators dispatched further aggravates loading on TL 684 and can cause P0 overloads on this circuit. Similarly, the simultaneous outage (P7) of TL 23003 and TL 23011 causes overloads on TL 684 under these conditions. These are both NERC violations and currently being mitigated through congestion management.

Other operator actions available to mitigate these forecasted NERC violations include sectionalizing part of the SDG&E sub-transmission system. This type of mitigation is effective but highly undesirable, as it leaves portions of customer load vulnerable to loss of a service for a P1 contingency that would not normally exist.

Current mitigations to solve these overloads, pre-contingency, include the following:

- a. Ask CAISO not to dispatch the Escondido Peakers. This is included in all SDG&E's Transmission Network Analysis (next day studies).
- b. Sectionalize TL 680B by opening TL 680B (Melrose to Melrose Tap). This mitigation might cause overload on TL 6966 (San Marcos to Melrose #1) for the loss of TL 693 (San Marcos to Melrose #2) and requires the dispatch of the Pala (Orange Grove) units under high load condition.
- c. Sectionalize San Marcos Substation by opening the San Marcos bus tie. This mitigation is only used if the first two cannot be implemented or did not work as it radializes load at San Marcos and exposes it to load drop for an N-1.
- d. Sectionalize TL 680B at Melrose by opening the TL 680 circuit breaker to offset congestion from Escondido.
- e. Reduce power injection into the Sycamore Canyon 69 kV and 138 kV buses by generation re-dispatch, thus helping to mitigate 69 kV congestion in that area.
- f. A Remedial Action Scheme will automatically open TL 680 at Melrose TAP if an overload is sensed on TL 684 post contingency. This Remedial Action Scheme will be removed when TL 6975 is in service.

As previously mentioned, the 2013/1024 TPP determined that the loading on TL 684 between San Marcos and Escondido Substations is not expected to improve in the near future, it is actually likely to worsen as load at San Marcos grows and additional renewables are developed in the Imperial Valley. Current modeling being performed forecasts multiple, possible NERC violations.

Adding a third line at San Marcos (second line between San Marcos and Escondido) would not only mitigate NERC violations, but also improve reliability to the substation.

## 2.3 CONCLUSION

The Proposed Project would result in the construction of a new 69 kV power line to support existing and future area load and to prevent potentially long outages or disruption of service to existing and new customers in the communities and the surrounding area. In doing so, the Proposed Project would meet the two objectives outlined above and would be consistent with the Proposed Project identified in CAISO's 2013/2014 and 2015/2016 TPPs. The Proposed Project also maximizes the utilization of existing facilities and land, including existing ROW, utility-owned property, existing franchise rights, existing structures, and existing access road networks.

## 2.4 REFERENCES

California Energy Commission. 2016. *California Energy Demand 2016–2026. Revised Electricity Forecast, Volume 1: Statewide Electricity Demand and Energy Efficiency*. January. Online: [http://docketpublic.energy.ca.gov/PublicDocuments/15-IEPR-03/TN207439\\_20160115T152221\\_California\\_Energy\\_Demand\\_20162026\\_Revised\\_Electricity\\_Forecast.pdf](http://docketpublic.energy.ca.gov/PublicDocuments/15-IEPR-03/TN207439_20160115T152221_California_Energy_Demand_20162026_Revised_Electricity_Forecast.pdf). Site visited on March 2, 2017.

This Page Intentionally Left Blank

## Table of Contents

<b>3. PROJECT DESCRIPTION.....</b>	<b>3-5</b>
<b>3.1 Project Location.....</b>	<b>3-5</b>
<b>3.2 Existing System .....</b>	<b>3-6</b>
3.2.1 Existing Transmission Alignment.....	3-6
3.2.2 Existing Substations .....	3-6
<b>3.3 Project Objectives .....</b>	<b>3-7</b>
<b>3.4 Project Facilities.....</b>	<b>3-7</b>
<b>3.5 Project Components.....</b>	<b>3-10</b>
3.5.1 Project Segments .....	3-10
3.5.2 Power Line .....	3-13
3.5.3 Poles/Towers .....	3-13
3.5.4 Conductors/Cables .....	3-15
3.5.5 Substation Work.....	3-16
<b>3.6 Permanent Land/Right-of-Way Requirements.....</b>	<b>3-16</b>
3.6.1 Segment 1.....	3-17
3.6.2 Segment 2.....	3-17
3.6.3 Segment 3.....	3-17
<b>3.7 Construction.....</b>	<b>3-18</b>
3.7.1 Temporary Work Areas.....	3-18
3.7.2 Access Roads .....	3-24
3.7.3 Helicopter Access.....	3-25
3.7.4 Permanent Work Areas .....	3-25
3.7.5 Vegetation Clearance .....	3-26
3.7.6 Erosion and Sediment Control and Pollution Prevention during Construction .....	3-27
3.7.7 Cleanup and Post-Construction Restoration .....	3-27
3.7.8 Power Line Construction (Above Ground) .....	3-28
3.7.9 Substation Construction .....	3-35
3.7.10 Dewatering .....	3-35
3.7.11 Blasting .....	3-35
3.7.12 Unexploded Ordnance.....	3-36
3.7.13 Construction Workforce and Equipment.....	3-36
3.7.14 Construction Schedule.....	3-43
<b>3.8 Operation and Maintenance .....</b>	<b>3-44</b>
3.8.1 General Project Operation and Maintenance Activities and Practice .....	3-44
3.8.2 Road Maintenance.....	3-44
3.8.3 Pole Structure Brushing and Tree Trimming .....	3-45
3.8.4 Application of Herbicides .....	3-45
3.8.5 Equipment Repair and Replacement.....	3-45
3.8.6 Use of Helicopters.....	3-45
<b>3.9 Anticipated Permits and Approvals .....</b>	<b>3-46</b>
<b>3.10 Applicant-Proposed Measures.....</b>	<b>3-46</b>
<b>3.11 Implementation of Applicant-Proposed Measures .....</b>	<b>3-48</b>

## List of Figures

Figure 3-1: Project Location Map.....	3-49
Figure 3-2: Project Overview Map .....	3-51
Figure 3-3: Existing System Configuration One-Line Diagram.....	3-53
Figure 3-4: Proposed System Configuration One-Line Diagram .....	3-55
Figure 3-5: WPI Double Circuit Direct Buried.....	3-57
Figure 3-6: Type DC-X Double Circuit Foundation.....	3-59
Figure 3-7: WPI Single Circuit Direct Buried .....	3-61
Figure 3-8: YPI Single Circuit Foundation.....	3-63
Figure 3-9: Typical Underground Duct Bank.....	3-65

## List of Tables

Table 3-1: Proposed Project Power Line Segments.....	3-8
Table 3-2: Proposed Project Pole Summary (Approximate Value).....	3-12
Table 3-3: Permanent Land and ROW Requirements .....	3-16
Table 3-4: Temporary Work Areas.....	3-19
Table 3-5: Potential Staging Yards .....	3-22
Table 3-6: Access Road Characteristics .....	3-24
Table 3-7: Summary of Permanent Work Areas.....	3-26
Table 3-8: Common Destination of Retired Project Components .....	3-28
Table 3-9: Minimum Conductor Ground Clearance .....	3-33
Table 3-10: Estimated Construction Equipment and Personnel .....	3-37
Table 3-11: Anticipated Construction Equipment .....	3-41
Table 3-12: Proposed Construction Schedule.....	3-43
Table 3-13: Anticipated Permits and Approvals.....	3-46
Table 3-14: Applicant-Proposed Measures by Resource Area .....	3-47

## List of Appendices

Appendix 3-A: TL 6975 Power Line Route Map
Appendix 3-B: TL 6975 Structure Detail Table
Appendix 3-C: Typical Structure Diagrams
Appendix 3-D: Agency Correspondence
Appendix 3-E: Stakeholder List

## Acronyms and Abbreviations

ACSR/AW	Aluminum Conductor Steel Reinforced/AW Core
ACSS/AW	Aluminum Conductor Steel Supported/AW Core
APMs	applicant-proposed measures
BMPs	Best Management Practices
CAISO	California Independent System Operator
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CPUC	California Public Utilities Commission
G.O.	General Order
ILA	incidental landing areas
kV	kilovolt
MCM	thousand circular mils
NCCP	Natural Community Conservation Plan
NERC	North American Electric Reliability Corporation
OPGW	optical ground wire
PEA	Proponent's Environmental Assessment
PTC	Permit to Construct
PVC	polyvinyl chloride
ROW	right-of-way
SDG&E	San Diego Gas and Electric Company
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TPP	Transmission Planning Process
UXO	unexploded ordnance

Page Intentionally Left Blank



### 3. PROJECT DESCRIPTION

---

San Diego Gas and Electric Company (SDG&E) is a regulated public utility that provides electric and natural gas service to approximately 3.4 million consumers within an approximately 4,100-square-mile service area, covering 25 communities and many unincorporated areas within San Diego County and Southern Orange County.

This chapter defines the Proposed Project’s location, objectives, and components; describes the existing electric system; and explains how the Proposed Project would be implemented. This chapter also identifies any permits or other approvals that may be needed to implement the Proposed Project. Finally, this chapter identifies any measures proposed by SDG&E to avoid or minimize potential environmental impacts.

The California Public Utilities Commission (CPUC) will be the lead agency for the Proposed Project under the California Environmental Quality Act (CEQA). SDG&E is submitting this Proponent’s Environmental Assessment (PEA) (Volume II of II) in support of its Application (Volume I of II) for a Permit to Construct (PTC).

#### 3.1 PROJECT LOCATION

SDG&E requests approval of the Proposed Project to ensure the reliability of the transmission system, meet State of California policy goals, accommodate load growth, and improve system efficiency in SDG&E’s service territory. In this effort, SDG&E proposes construction and reconductoring/re-energizing of approximately 12 miles of 69 kilovolt (kV) overhead electric power line from the existing San Marcos Substation to the existing Escondido Substation. The Proposed Project would be a combination of new overhead single-circuit electric power line structures, rebuild of existing structures from single circuit to double circuit, and reconductoring and re-energizing of existing conductors.

As shown in Figure 3-1: Project Location Map, components of the Proposed Project are located in the cities of Carlsbad, Escondido, Vista, and San Marcos, as well as unincorporated San Diego County, in San Diego County, California. The Proposed Project also has two auxiliary existing staging yards in the City of San Diego that may be utilized for the Proposed Project. Two poles will be removed from service (RFS) and two poles will have overhead work on the border of the City of San Marcos and the City of Vista. The proposed power line would be constructed and/or rebuilt within SDG&E right-of-way (ROW), collocated with existing utility infrastructure, with minimal new ROW required. The Proposed Project starts from SDG&E’s existing San Marcos Substation in the west and terminates at SDG&E’s existing Escondido Substation in the east. The area including the Proposed Project components—the existing utility corridor, the new ROW, the staging yards, stringing sites, and all associated access roads—is identified throughout this PEA as the “Proposed Project Area.”

The Proposed Project includes the following components, broken out by segment:

- Segment 1 Rebuild: Rebuild of approximately 2.0 miles of an existing 69 kV circuit power line near San Marcos Substation.
- Segment 2 New Build: Addition of approximately 2.8 miles of a new single-circuit 69 kV overhead power line from the end of Segment 1 to the existing Meadowlark Junction.
- Segment 3 Reconductoring/Re-Energizing: Reconductoring approximately 7.4 miles of a de-energized power line segment to the existing Escondido Substation. Segment 3 includes minor work at the existing Escondido Substation to accommodate this new circuit.

The locations of these Proposed Project segments are depicted in Figure 3-1: Project Location Map, and Figure 3-2: Project Overview Map, and are described in more detail in subsequent sections.

## **3.2 EXISTING SYSTEM**

### **3.2.1 Existing Transmission Alignment**

As shown in Figure 3-1: Project Location Map, and Figure 3-2: Project Overview Map, the Proposed Project is located in the North County portion of San Diego County, California, in portions of the Cities of Carlsbad, Escondido, Vista, and San Marcos as well as in unincorporated San Diego County. The City of Carlsbad is 1.85 miles from San Marcos Substation, and the City of Vista is approximately 2 miles from San Marcos Substation; the Proposed Project is approximately 25 miles north of downtown San Diego. The Proposed Project would be collocated with existing power lines in SDG&E easements for most of the alignment, including portions of the existing TL 680C, TL 13811/13825, and portions of an existing de-energized 138 kV line, TL 13811A, which would be converted to 69 kV. Approximately 1.2 acres of new ROW would be required in Segment 1 to widen the existing ROW and accommodate the new structures. Permanent disturbance areas would be necessary for maintenance of the new power line and improvements to the existing utility infrastructure.

As shown in Figure 3-1: Project Location Map, the Proposed Project is situated south of Highway 78 and just west of Interstate 15. A portion of the Proposed Project traverses along San Marcos Boulevard and crosses Rancho Santa Fe Road as well as other local existing roadways. The power line would be constructed and/or rebuilt within SDG&E ROW, collocated with existing utility infrastructure, with minimal new ROW required. The areas in and around the Proposed Project include residential neighborhoods, industrial facilities, open space and preserves, commercial areas, and vacant lands. Figure 3-3: Existing System Configuration One-Line Diagram, depicts the existing system configuration and Figure 3-4: Proposed System Configuration One-Line Diagram, depicts the proposed system configuration.

### **3.2.2 Existing Substations**

The existing San Marcos Substation is located on Discovery Street on the south side of Highway 78, within the City of San Marcos. The substation currently has two power lines accessing it; the

Proposed Project would create a third power line at that substation. The existing Escondido Substation is located southwest of the intersection of Highway 78 and Interstate 15, just north of Auto Park Way, within the City of Escondido. Escondido Substation currently has 11 power lines accessing the substation; the Proposed Project would create a twelfth power line at that substation.

### **3.3 PROJECT OBJECTIVES**

The Proposed Project is intended to meet the following objectives:

1. Eliminate North American Electric Reliability Corporation (NERC) Category P0 (Cat A) and Category P1 (Cat B) violation on TL 684 (Escondido to San Marcos) and 680C (San Marcos–Melrose Tap).
2. Meet mandatory NERC reliability criteria in the Escondido Area Load Pocket and alleviate the existing 69 kV congestion at Escondido/San Marcos Substations.

A detailed description of the objectives of the Proposed Project can be found in Chapter 2, Project Purpose and Need.

### **3.4 PROJECT FACILITIES**

The Proposed Project includes the rebuild, new build, and reconductoring/re-energizing of approximately 12 miles of 69 kV overhead electric power line from the existing San Marcos Substation to the existing Escondido Substation. In addition to improving the reliability to the area by adding a third line into San Marcos Substation, the Proposed Project would also mitigate identified NERC thermal/voltage violations and the ongoing 69 kV congestion on the corridor between Escondido to San Marcos Substations. In the 2013–2014 Transmission Planning Process (TPP), the Proposed Project was approved by the California Independent System Operator (CAISO). The Proposed Project was included in the 2013–2014 and 2015–2016 TPP. The “need” date for the Proposed Project was anticipated for June 2016.

The Proposed Project components are listed below, included in Table 3-1: Proposed Project Power Line Segments, depicted in Figure 3-2: Project Overview Map, and described in more detail in Section 3.5, Project Components.

**Table 3-1: Proposed Project Power Line Segments**

<b>Segment No.<sup>1</sup></b>	<b>Length (miles)</b>	<b>Description of Work</b>
1. Rebuild	2.0	Rebuild of approximately 2.0-mile segment of an existing 69 kV circuit (TL 680C) from a single-circuit structure power line to a double-circuit structure power line, supporting both a reconductored TL 680C and proposed TL 6975. All wood structures would be replaced with steel poles, all porcelain insulators would be replaced with polymer insulators, and reconductoring would be required associated with the existing distribution underbuilt line. This rebuild portion of the Proposed Project is from the existing San Marcos Substation, along West San Marcos Boulevard (which turns into Palomar Airport Road), until it reaches an existing SDG&E corridor west of White Sands Drive. Segment 1 would require approximately 1.2 acres of new ROW where the existing ROW would be widened.
2. New Build	2.8	Addition of a new single-circuit 69 kV overhead power line segment, approximately 2.8 miles long, to be constructed on new steel poles adjacent to the existing TL 13811/13825 power line. Segment 2 of the Proposed Project would be entirely within the existing SDG&E corridor (approximately 50 feet east of the centerline of the existing structures) and extend from Palomar Airport Road west of White Sands Drive to Meadowlark Junction, which is located just north of San Elijo Road and Hidden Canyon Road. Additionally, at Meadowlark Junction, the existing 12 kV distribution line would be reconfigured with the Proposed Project.
3. Reconductoring/ Re-Energizing	7.4	From Meadowlark Junction to Escondido, the new power line would transition to existing steel lattice towers that contain a segment of overhead conductor that is currently de-energized. Segment 3 of the Proposed Project would be approximately 7.4 miles long and would involve reconductoring, re-energizing of existing conductor, and installation of hardware and insulators. The 250 thousand circular mils (MCM) copper conductor and porcelain insulators on the north side of the towers would be removed and replaced with polymer insulators and new 636 ACSS/AW conductor. The reconductoring would be between Meadowlark Junction and an existing structure on Harmony Grove Road near Kauana Loa Drive. From this point to Escondido Substation, the existing conductor would remain in place. Minor work at the existing Escondido Substation on relocated existing circuits would be required to accommodate this new circuit.
<p>Notes:</p> <p>Table contents based on preliminary engineering and subject to change.</p> <p><sup>1</sup> Refer to Figure 3-2: Project Overview Map, for segment locations.</p>		

The Proposed Project includes the following main components:

- Removal of approximately 19 poles from service.
- Replacement of approximately 40 wooden power line poles with 40 duffed galvanized steel poles that would be direct-bury or supported by foundations.

- Installation of approximately 18 new steel dulled galvanized poles that would be either supported by foundations or direct-bury.
- Pole-top work for reconductoring/re-energizing at approximately 43 structures. Structures would not be replaced; however, two of these structures would have anchor work.
- Reconductoring near San Marcos Substation of the existing TL 680C 69 kV line with 636 Aluminum Conductor Steel Reinforced/AW Core (ACSR/AW).
- Stringing near San Marcos Substation for TL 6975 (would have 636 Aluminum Conductor Steel Supported/AW Core [ACSS/AW]).
- Reconductoring the existing distribution underbuild.
- Reconductoring near Meadowlark Junction of the existing lattice tower and steel pole line with 636 ACSS/AW conductor.
- One new access road and four spur roads will be installed.
- Road-extension work in one existing access road area to provide access to the new steel poles and distribution line area at Meadowlark Junction.
- Installation of approximately 50 temporary guard structures.
- Use of approximately 21 stringing sites (12 stringing sections).
- Potential use of 10 staging yards.
- Removal of an oil containment wall and a Circuit Breaker Pad at Escondido Substation.
- At Escondido Substation, existing circuits would be relocated to available bay positions.
- Installation of approximately 360 feet of primary and secondary underground conduit from new pole positions to intercept locations along existing conduit packages.
- At San Marcos Substation, a new Circuit Breaker Pad, seven piers, and an A-frame would be installed for the new line.
- Fifteen structures along the alignment were identified as not requiring work.
- Four structures were identified for possible work.

## 3.5 PROJECT COMPONENTS

### 3.5.1 Project Segments

SDG&E proposes the rebuild, new build, and reconductoring/re-energizing of approximately 12 miles of 69 kV overhead electric power line from the existing San Marcos Substation to the existing Escondido Substation. The Proposed Project would be a combination of rebuild of existing structures from single circuit to double circuit, new build of overhead single-circuit electric power line structures, and reconductoring and re-energizing of existing conductors. The new build and reconducted portions of the power line would be entirely within existing ROWs, with a small portion of the Segment 1 rebuild requiring approximately 1.2 acres of new ROW where the existing ROW would be widened. In the Segment 1 rebuild section, the existing distribution underbuilt line, currently co-located with the Proposed Project, would be reconducted, and, based on new pole positions, some trenching would be involved to intercept existing underground conduit and reroute the conduit to the new pole. At Meadowlark Junction, the existing distribution line would also be reconfigured and rerouted to the new pole locations, along with an extended access road. In the portion of the Proposed Project where the existing power line would be reconducted and re-energized, all modifications would occur on the existing structures.

The following provides a detailed description of the scope of work for each of the three segments of the Proposed Project.

#### 3.5.1.1 Segment 1 Rebuild

##### **(Rebuild an Existing Line from San Marcos Substation to Create a Double-Circuit 69 kV Line)**

Segment 1 of the Proposed Project would consist of rebuild of approximately 2.0 miles of an existing 69 kV circuit (TL 680C) from a single-circuit structure line into a double-circuit structure line, supporting both the existing TL 680C and proposed TL 6975. All wood structures would be replaced with steel poles, all porcelain insulators would be replaced with polymer insulators, and TL 680C would be reconducted with 636 ACSR/AW. For the proposed TL 6975, 636 ACSS/AW would be strung. The line would be rebuilt from San Marcos Substation, along San Marcos Boulevard and Palomar Airport Road, until it reaches the existing 150-foot-wide SDG&E corridor, approximately 800 feet west of White Sands Drive. At that location, TL 680C would continue on its existing alignment north within the SDG&E corridor, and TL 6975 would split off to the south (Segment 2). The existing ROW would be widened to accommodate the new structures, for a total of 1.2 acres of new ROW. The existing distribution underbuilt would be reconducted. A portion of the existing line that has two 12 kV circuits on one level would be changed to two levels. The existing SDG&E and third party communication lines underbuilt in Segment 1 would be transferred to the new structures. There are existing cable poles along this line. Based on new pole positions, some trenching would be involved to intercept existing underground conduit and reroute the conduit to the new pole.

### **3.5.1.2 Segment 2 New Build**

#### **(New 69 kV Line into Meadowlark Junction within an Existing SDG&E Utility Corridor)**

A new segment of single-circuit 69 kV overhead power line would be constructed on new steel poles in the existing SDG&E corridor. The new power line segment would be approximately 2.8 miles long, starting at the end of Segment 1, and traveling south to the existing Meadowlark Junction (north of San Elijo Road and Hidden Canyon Road), and be located adjacent to the existing TL 13811/13825 power line. The new single-circuit 69 kV steel poles would be constructed within the SDG&E corridor, approximately 50 feet east of centerline of the existing structures. All of the new steel poles would have graded access roads and access/maintenance pads associated with them in order to facilitate construction and provide long-term maintenance access. The existing access road would be extended and widened to provide access to the new steel poles. At Meadowlark Junction, the existing 12 kV distribution line would be reconfigured. Segment 2 can accommodate additional communication lines, but they will not be installed as part of the Proposed Project.

### **3.5.1.3 Segment 3 Reconductoring/Re-Energizing**

#### **(Reconductoring/Re-Energizing an Existing Line into Escondido Substation and Converting It to 69 kV)**

From Meadowlark Junction to Escondido Substation, the new power line would transition to existing steel lattice towers that contain a segment of overhead conductor that is currently de-energized. Approximately 7.4 miles of reconductoring would be required for the de-energized segment that is on the existing lattice towers. The existing lattice tower and steel pole line contains conductor, hardware, and insulators on both sides of the double-circuit structures. For the Proposed Project, the 250 thousand circular mils (MCM) copper conductors and porcelain insulators on the north side of the towers would be removed and replaced with polymer insulators and new 636 ACSS/AW conductors. The reconductoring would be between Meadowlark Junction and a structure on Harmony Grove Road, approximately 500 feet east of Kauana Loa Drive. From this point to the Escondido Substation, the existing 900 ACSS/AW conductors would remain in place.

At Escondido Substation, existing overhead conductor would be transferred from the 138 kV rack to an existing 69 kV bay position within the substation for the new TL 6975. Three existing 69 kV circuits would be transferred to different bay positions to accommodate this new circuit and avoid power line crossings. The last overhead spans (drop spans) of existing power lines TL 6908, TL 6934, and TL 689 would be relocated to available bay positions. New steel poles and replacement guys and anchors would be required to accomplish these relocations. The Proposed Project would include these substation modifications, as addressed in Section 3.5.5, Substation Work.

Appendix 3-A: TL 6975 Detailed Power Line Route Map, and Appendix 3-B: TL 6975 Structure Detail Table, provide a list and map of all proposed new 69 kV poles by type, all poles to be removed (including replacements), and existing poles to be utilized in place. Drawings of the

typical types of structures to be installed and removed are included in Appendix 3-C: Typical Structure Diagrams. The Proposed Project is based on preliminary engineering design and is subject to change based on final engineering design.

A summary of poles to be replaced is available in Table 3-2: Proposed Project Pole Summary (Approximate Value). The maximum pole height denotes the height of the pole only, while the maximum height above ground includes the height of the pole and the foundation, if applicable.

**Table 3-2: Proposed Project Pole Summary (Approximate Value)**

Pole Type	Approximate Quantity	Maximum Pole Height	Maximum Height Above Ground	Average Base Diameter at Grade	Average Tip Diameter
		(feet)	(feet)	(feet)	(inches)
Segment 1 Rebuild					
Direct-Bury	25	99	101	2.5	15
Micropile Foundation	0	0	0	0	0
Pier Foundation	11	98	100	8	29
Remove from Service	10	41	43	N/A	N/A
Pole-Top Work	6	41	43	N/A	N/A
No Work	4	54.5	56.5	N/A	N/A
Racks	2	N/A	N/A	N/A	N/A
Segment 2 New Build					
Direct-Bury	5	86	88	2.5	15
Micropile Foundation	0	0	0	0	0
Pier Foundation	11	108	110	8	29
Pole-Top Work	1	N/A	85	N/A	N/A
No Work	4	83	85	N/A	N/A
Racks	0	N/A	N/A	N/A	N/A
Segment 3 Reconductoring/Re-Energizing					
Direct-Bury	1	41.1	43.1	2.5	15
Micropile Foundation	0	0	0	0	0
Pier Foundation	4	83	85	8	29
Remove from Service	9	72.5	74.5	N/A	N/A
Existing Structure Re-Energize Conductors (No Work)	5	N/A	160	N/A	N/A
Pole-Top Work	36	116.3	118.3	N/A	N/A
No Work	7	138	140	N/A	N/A
Racks	5	N/A	N/A	N/A	N/A
Note: This table is preliminary and subject to change based on final engineering. Data from SDG&E GIS Shapefiles/Mapbook dated 05/10/2107 and the HAG table dated 04/20/2017.					



### 3.5.2 Power Line

The Proposed Project includes the rebuild, new build, and reconductoring/re-energizing of several types of power line poles and towers, including overhead structures and underground duct packages. Each facility being proposed for installation is briefly described in the following subsections. Two types of poles would be used for the Proposed Project: direct-bury dilled galvanized steel poles and engineered dilled galvanized steel poles supported by foundations. In Segment 1, the 69 kV steel poles would have a total of six transmission arms and two distribution arms. In Segment 2 the steel poles would be a post with insulators. The new power line would be on existing steel lattice towers in Segment 3. Segment 1 tangents and dead-ends would have three phases on both sides of the pole. Segment 2 tangents would have two phases on one side and one phase on the other. Please see Appendix 3-C: Typical Structure Diagrams, for drawings of typical structures. All new poles would be fabricated with dilled galvanized steel.

Existing wood poles would be completely removed and the holes backfilled with soils from the pole replacement. Soil would not be taken from the surrounding areas to fill the holes. If additional backfill material is required, clean, decomposed granite would be used to backfill the old pole holes. Excess soil from the new holes would be placed on top of the decomposed granite. In some cases, existing poles would be cut at ground level, and the remainder of the pole would be left in place to avoid impacts on sensitive resources.

Appendix 3-A: TL 6975 Power Line Route Map, and Appendix 3-B: TL 6975 Structure Detail Table, provide a list and map of all proposed new 69 kV poles by type, all poles to be removed (including replacements), and existing poles to be utilized in place.

### 3.5.3 Poles/Towers

In general, the new 69 kV steel poles (direct-bury and foundation) would range in height from approximately 50 to 110 feet height above ground level. The tallest 69 kV structure would stand approximately 110 feet above the ground surface. The pole-top diameter can vary from 12 to 24 inches. The average existing height above ground is approximately 71.5 feet; the new average overall height above ground would be approximately 80.8 feet, which would be an approximate 15.4-foot average overall height increase to allow for increased vertical spacing between conductors, in accordance with current design standards. The anticipated maximum pole height increase would be approximately 44.0 feet for the overall Proposed Project, excluding the new poles on the power line. All poles would be constructed to current SDG&E standards, including design standards for avian protection.

#### 3.5.3.1 Direct-Bury Steel Poles

Direct-bury steel poles are light- and heavy-duty weathering steel poles that are secured using a concrete backfill. Direct-bury steel poles would require an approximate 35- by 50-foot work area to provide a safe and adequate temporary workspace, including a temporary work area in the access road. The poles would range in height from approximately 56.5 to 101.5 feet above grade. The diameter of the pole at ground level is approximately 30 inches for light-duty steel poles and

approximately 42 inches for heavy-duty steel poles. The poles would be inserted into the ground to a depth of approximately 7 to 16 feet, as necessary for installation. Light-duty steel poles would be used at 31 locations. It is not anticipated that heavy-duty steel poles would be needed for the Proposed Project.

### **3.5.3.2 Foundation Poles**

Concrete-pier foundation poles are engineered steel poles that are anchor bolted to a reinforced concrete foundation. Foundation construction would require an approximate 35- by 50-foot work area to provide a safe and adequate temporary workspace, including a temporary work area in the access road. The new poles would have a height of approximately 43 to 110 feet height above ground. Twenty-six concrete-pier foundation poles would be installed. The concrete base would measure approximately 6 to 11 feet in diameter, and approximately 2 vertical feet of the base would be exposed above ground level.

### **3.5.3.3 Distribution Underbuild**

As described in the sections above, existing distribution lines are currently underbuilt through portions of the TL 6975 route between San Marcos Substation and Escondido Substation. In the Segment 1 Rebuild, the existing distribution underbuilt line, currently co-located with the Proposed Project, would be reconducted, and, based on new pole positions, some trenching would be involved to intercept existing underground conduit and reroute to the new pole. At Meadowlark Junction, the existing distribution line would also be reconfigured and rerouted to the new pole locations, along with an extended access road. One new pole with a height above ground of 85 feet would be installed at the junction of Segment 1 and Segment 2. Overhead work would occur at two poles at Meadowlark Junction, at a maximum height of 80 feet height above ground.

### **3.5.3.4 Reconductoring/Re-energizing**

As described in the sections above, the Proposed Project would include reconductoring/re-energizing existing SDG&E power lines within the existing SDG&E ROW. Within the 1.8-mile Segment 1 rebuild portion of the Proposed Project, all wood structures would be replaced with steel poles, all porcelain insulators would be replaced with polymer insulators, and TL 680C would be reconducted with 636 ACSS/AW; TL 6975 would have 636 ACSS/AW. Within the Segment 3 reconductoring/re-energizing portion of the Proposed Project, an approximately 7.4-mile reconductoring is required of the de-energized segment that is on the existing lattice towers. The existing lattice tower and steel pole line contains conductors, hardware, and insulators on both sides of the double-circuit structures. The 250 MCM copper conductor and porcelain insulators on the north side of the towers would be removed and replaced with polymer insulators and new 636 ACSS/AW conductors. In Segment 3, for the re-energizing portion of the Proposed Project, the existing 900 ACSS/AW conductors would remain in place.

### 3.5.3.5 Segment 2 Conductor

New 69 kV steel poles would be installed along Segment 2. A 3-636 ACSS/AW conductor and polymer insulators would be installed along the new TL 6975 line from the junction with TL 680C at Palomar Airport Road and Meadowlark Junction.

## 3.5.4 Conductors/Cables

### 3.5.4.1 Above-Ground Installation

Figure 3-5: WPI Double Circuit Direct Buried, Figure 3-6: Type DC-X Double Circuit Foundation, Figure 3-7: WPI Single Circuit Direct Buried, and Figure 3-8: YPI Single Circuit Foundation depict sample drawings of direct-bury and supported foundation pole types. The distance from the ground to the lowest conductor would be at least 30 feet. The approximate distance between the conductors would be approximately 9 feet. The span lengths between poles would vary with terrain but, overall, would generally range from 365 to 1,230 feet. In Segment 1, along San Marcos Boulevard, the span averages approximately 365 feet; in Segment 2, the span lengths average approximately 1,230 feet; and in Segment 3, the span lengths average approximately 1,125 feet.

The components used to construct the 69 kV line would have non-reflective surfaces. The insulators would be constructed of a gray polymer, the conductors would be made from aluminum-wrapped steel, and the power poles and hardware would be dulled galvanized steel.

### 3.5.4.2 Below-Ground Installation

Within the Segment 1 rebuild portion of the Proposed Project, there are existing cable poles on which the distribution lines transition underground along the existing line. Based on new pole positions for the Proposed Project, some trenching would be involved to intercept existing underground conduit and reroute to the new pole.

Trenching activities would typically be performed within a 10- to 30-foot radius of the poles. A sketch of a typical distribution line duct bank (trench package) is included in Appendix 3-C: Typical Structure Diagrams.

As part of the Proposed Project, alternating current (AC) interference effects from the proposed TL 6975 power line on gas pipelines within the Proposed Project area were investigated. The following gas lines were taken into consideration:

- SDG&E L-1604 16" pipeline
- SDG&E L-49-111 4" pipeline
- SDG&E L-49-111 3" pipeline
- SDG&E L-49-106 8" pipeline
- SDG&E L-49-369 4" pipeline

These pipelines are subject to AC electrical interference effects from six existing and the proposed

TL6975 power line which parallel and cross the pipeline segments. The *AC Interference Analysis & Mitigation System Design Report* (ARK Engineering, September 22, 2017) based on this investigation summarized the AC electrical interference coupling effects on the gas pipelines. The report recommends additional AC mitigation methods. Two sections of AC mitigations are proposed to be installed to reduce the pipeline AC density. In addition, two coupon test stations to monitor the pipeline AC density area also recommended. The final design and details of the proposed AC mitigations will be determined based on the options presented for implementing this mitigation included in the report.

### 3.5.5 Substation Work

At San Marcos Substation, a new Circuit Breaker Pad, approximately 7 by 7 feet, would be installed. Seven piers, approximately 2 feet in diameter and 6 feet long, would be installed as well as an approximately 30-foot A-frame with two approximately 9- by 13-foot footings. A 69 kV SF<sub>6</sub> circuit breaker, as well as two 69 kV 2,000-amp disconnects, would be installed for the new line. The new power line would connect from the A-frame to the TL 6975 power pole via a single conductor/phase. Required control and protection relays would be installed in the existing control shelter.

At Escondido Substation, the existing overhead conductor would be transferred from the 138 kV rack to an existing 69 kV bay position for the new TL 6975. Three existing 69 kV circuits would be transferred to different bay positions to accommodate this new circuit and avoid power line crossings. The last overhead spans (drop spans) of existing power lines TL 6908, TL 6934, and TL 689 would be relocated to available bay positions. TL 6975 would take the existing bay location of TL 689, TL689 would take the bay location of TL6934, TL 6934 would take the bay position of TL6908, and TL6908 would relocate to Bay 16. At Bay 16, an oil containment wall that is approximately 14 by 12 feet and a Circuit Breaker Pad that is approximately 8 by 8 feet would be removed because the oil Circuit Breaker would be replaced with a Gas Circuit Breaker. A new, larger Circuit Breaker Pad of approximately 10 by 10 feet would be installed. To connect TL 6908, two 69 kV 2,000-amp disconnects and one 69 kV SF<sub>6</sub> circuit breaker would be installed. Relay settings would be modified as required in the existing control shelter. New steel poles and replacement guys and anchors would be required at the bay locations.

### 3.6 PERMANENT LAND/RIGHT-OF-WAY REQUIREMENTS

The following discussion describes the land and ROW requirements for each segment of the Proposed Project. These requirements are also summarized in Table 3-3: Permanent Land and ROW Requirements .

**Table 3-3: Permanent Land and ROW Requirements**

Proposed Project Segment	Approximate Length (feet)	Approximate Area (acres)
<b>Rebuild Segment 1</b>		
Widen existing ROW to accommodate replacement poles	5,146	1.224

Proposed Project Segment	Approximate Length (feet)	Approximate Area (acres)
New Build Segment 2	0	0
Reconductoring/Re-energizing Segment 3	0	0

### 3.6.1 Segment 1

SDG&E currently has existing easements and franchise agreement rights in the rebuild portion of the Proposed Project along a 10- or 20-foot-wide SDG&E ROW corridor. In portions of the corridor where the existing easement is 10 feet wide, additional ROW would be acquired to provide a 20-foot-wide easement and accommodate the new structures. This segment is approximately 1.8 miles between San Marcos Substation, along San Marcos Boulevard and Palomar Airport Road, to an existing SDG&E corridor west of White Sands Drive. This portion includes an existing 69 kV circuit to be converted from a single-circuit structure line into a double-circuit structure line to support both the existing (TL 680C) circuit and the proposed TL 6975 circuit. All poles are within city streets are in a franchise position.

SDG&E currently owns the approximate 1.87-acre parcel that contains San Marcos Substation. All anticipated work to integrate the new power line would be done within the existing SDG&E substation area. No new ROW would be required.

Construction access and permanent access are currently provided by existing SDG&E easements and SDG&E franchise rights landowners. No additional land acquisition for access purposes is anticipated.

### 3.6.2 Segment 2

SDG&E currently has valid easements and franchise agreement rights in the new build portion of the Proposed Project along a 150-foot-wide SDG&E corridor. This segment is approximately 2.8 miles long, starting at Palomar Airport Road west of White Sands Road at the end of Segment 1, and traveling south to the existing Meadowlark Junction (north of San Elijo Road and Hidden Canyon Road), adjacent to the existing TL 13811/13825 power line. This portion includes a single-circuit 69 kV overhead power line that would be constructed on new steel poles within the SDG&E corridor approximately 50 feet east of centerline of the existing structures. All of the new steel poles would have graded roads and access/maintenance pads built to them in order to facilitate construction and provide long-term maintenance access.

Construction access and permanent access are currently provided by existing SDG&E easements and SDG&E franchise rights. No additional land acquisition for access purposes is anticipated.

### 3.6.3 Segment 3

SDG&E currently has valid easements and franchise agreement rights in the reconductor/re-energize portion of the Proposed Project along an existing SDG&E ROW corridor. This

segment is approximately 7.4 miles long, between Meadowlark Junction and Escondido Substation. This portion includes reconductoring and re-energizing the existing 138 kV power line and converting it to 69 kV within the SDG&E corridor. All pole replacements within Segment 3 have existing graded roads and access/maintenance pads to facilitate construction and long-term access. The new poles located near Escondido Substation would not require any grading and existing access is sufficient. The only grading required on Segment 3 is for a spur road near Meadowlark Junction.

Construction access and permanent access are currently provided by existing SDG&E easements and SDG&E franchise rights landowners. No additional land acquisition for access purposes is anticipated.

SDG&E currently owns the approximately 6-acre parcel for Escondido Substation. All anticipated work to integrate the new 69 kV Proposed Project would be done within the existing SDG&E substation area. No new ROW would be required.

### **3.7 CONSTRUCTION**

This section includes an overview of the typical methods that would be used for construction of the Proposed Project. Specifically, this section describes typical construction methods for overhead facilities, pole types, construction equipment, and temporary construction work areas.

Typical drawings for the Proposed Project structures are included in Appendix 3-C: Typical Structure Diagrams.

It is anticipated that construction of the Proposed Project would result in up to approximately 45 to 90 cubic yards of excavation for concrete foundations at each location. Cut and fill would also be required at some structure locations to create construction and line maintenance pads. Detailed civil engineering for these work pads has yet to be completed. Actual cut-and-fill grading amounts may vary, dependent upon actual field conditions and final detailed engineering, but are estimated to be approximately 3,751 cubic yards of cut and 4,072 cubic yards of fill. Approximately 3,063 cubic yards of soil would be imported, and 2,742 cubic yards of soil would be exported.

#### **3.7.1 Temporary Work Areas**

Temporary work areas would be required for construction of new facilities, rebuilding and removal of existing facilities, and storage and staging of construction equipment and materials. Each of these temporary work areas is described in detail in the following paragraphs; summarized in Table 3-4: Temporary Work Areas; and shown in Appendix 3-A: TL 6975 Power Line Route Map. All temporary work areas would be accessed from existing access roads, by

overland<sup>1</sup> travel, or by foot. To provide a safe and adequate work area for construction workers and avoid and minimize impacts on sensitive resources, the precise location, configuration, and number of temporary work areas may change at the time of construction because of site conditions and construction requirements. The initial estimate of impact would be for the worst-case scenario, and the goal would be to not exceed the original estimate. All changes and impacts would be documented during construction to ensure that the worst-case scenario is not exceeded. As appropriate, the on-site biological monitor would assist construction crews in locating work areas to minimize impacts.

**Table 3-4: Temporary Work Areas**

Type of Work Area	Approximate Quantity	Total Approximate Area (acres)
Stringing Sites	21	1.8
Helicopter Incidental Landing Areas	0	0
Staging Yards	10	74.1
Guard Structures	50	0.40
Pole Work Areas	93	7.3
Turnaround Areas	N/A	N/A
Underground Construction	N/A <sup>1</sup>	0.1
Temporary Poles <sup>2</sup>	TBD	TBD
Notes:		
<sup>1</sup> : A total of 360 feet of underground conduit would be installed.		
<sup>2</sup> : Temporary poles would occasionally be used during construction; however, location and quantity are yet to be determined.		

All work areas would be restored, as described in Section 3.7.7, Cleanup and Post-Construction Restoration.

### 3.7.1.1 Stringing Sites

Approximately 21 stringing sites would be established to provide a safe work space for installation and removal of overhead conductors and underground cables. These stringing sites would generally be located adjacent to designated 69 kV poles, as shown in Appendix 3-A: TL 6975 Power Line Route Map. The stringing sites would be approximately 20 feet long, 125 feet wide, and located directly in line with or offset from the conductor. As a result, the approximately 21 stringing sites would require approximately 1.8 acres of land in total. Grading of the stringing sites is not expected to be necessary.

<sup>1</sup> Overland travel refers to temporary vehicular access across unimproved areas. Overland travel areas are not graded or subjected to other earthwork improvements. Following construction, these areas are returned to an approximate pre-construction state.

The location of stringing sites may be modified or additional stringing sites may be identified during construction in order to safely and efficiently string the conductors. These changes could result from site conditions and construction requirements.

### 3.7.1.2 Pole Work Areas

To accommodate construction equipment and activities during the installation and removal of power poles and structures and while transferring the power line conductors and re-energizing, temporary work areas would be cleared and graded at each location. Work areas for the different pole types are summarized below. It is anticipated that each of the:

- Direct-bury steel poles, removal poles, and overhead-work-only poles would require an approximately 40-foot-diameter work area;
- Each of the micropile foundation steel poles, if required, would require an approximately 35-by 50-foot work area; and
- Each of the pier foundation steel poles would require an approximately 35- by 50-foot work area

The work areas for each type of pole foundation would generally be centered on the existing pole location; however, actual work areas would vary in shape and size and be determined by site conditions and access requirements. The on-site biological monitor, as appropriate, would assist construction crews in locating pole work areas. For purposes of analysis, temporary impact areas for direct-bury steel poles and pier foundation poles, including the work area previously described, and an additional potential impact area (approximate total of 35 by 50 feet) would be located primarily within the access road to account for minor modifications made in the field during construction. In addition, in order to maintain a safe working space for crewmembers while working directly under poles, construction vehicles, equipment, and materials may need to be staged off of existing access roads and/or outside of delineated temporary work areas; however, the on-site biological monitor would assist crews in locating appropriate staging areas for construction vehicles, equipment, and materials. Any temporary impacts associated with construction work areas would be recorded by the biological monitor and be included in the Proposed Project's Post-Construction Report; these impacts would be mitigated or the areas restored, as necessary. Please see Section 3.7.7, Cleanup and Post-Construction Restoration, below, as well as, Section 4.4, Biological Resources, for a further discussion of remediation of temporary impacts.

All dimensions would be dictated by site conditions but could be customized per site. In total, the installation of the new 69 kV steel poles for the Proposed Project, as described in Section 3.5.3, Poles/Towers, would typically require approximately 50.3-square-foot work areas (this area may be smaller or larger at various locations); however, because most of the new poles in Segment 1 would be located in the immediate vicinity of existing poles, the actual proposed work areas would often be much smaller because existing maintenance pads and access roads would be utilized during construction of new poles as much as possible. These work spaces



provide a safe working area for equipment, vehicles, and materials during pole installation and maintenance. A minimum of 15 feet of clearance (approximately 700 square feet) would be maintained around certain new poles for the purposes of maintenance and inspection activities. A total of approximately 93 work areas, totaling approximately 7.3 acres, would be required.

### **3.7.1.3 Underground Construction**

To accommodate the installation of the underground duct banks, temporary workspaces, centered on the duct bank alignments, would be established (Figure 3-9: Typical Underground Duct Bank). These areas would be cleared and graded, as needed, to provide a safe operating space for the construction equipment.

The Proposed Project would include installing approximately 360 feet of primary and secondary underground 12 kV conduit from new poles to intercept locations along existing conduit packages. To accommodate installation of the underground distribution line, utilizing the cut-and-cover construction method, an approximately 15-foot-wide workspace would be required. A total of approximately 3,000 square feet of workspace, requiring approximately 0.10 acre, would be established prior to construction.

### **3.7.1.4 Guard Structures**

Bucket trucks are often utilized as guard structures during stringing activities. Where wooden poles are used as guard structures instead, installation requires the temporary use of an area measuring up to approximately 1,500 square feet, depending upon guard structure configuration and location. The temporary work area is located in the immediate vicinity of the guard structure location. No permanent impacts would result from the utilization of guard structures. Guard structure installation, utilizing wood poles, would include excavating holes that would be approximately 3 feet in diameter and 10 feet deep, along with an additional 14- by 25-foot temporary work area. Excavated soils would be temporarily stockpiled and replaced within the excavation following stringing activities. If boom trucks are used as guard structures, the temporary work area would be 14 by 25 feet.

### **3.7.1.5 Temporary Poles**

Temporary poles would occasionally be used for the Proposed Project. These poles are used to temporarily hold conductors while work, including the installation of permanent poles and structures, is being completed in adjacent areas. It is anticipated that each of the temporary poles would require an approximate 20-foot-diameter work area plus the use of the existing road.

### **3.7.1.6 Staging Yards**

The Proposed Project includes approximately 10 temporary construction staging yards (refer to Appendix 3-A: TL 6975 Power Line Route Map), resulting in a total area of approximately 74.1 acres. The staging yards may be used as refueling areas for vehicles, and construction equipment; as equipment wash stations; for pole assemblage; for storage of material and equipment, storage containers, construction trailers, and portable restrooms; and for parking and

lighting. These areas may include generator use for temporary power in construction trailers. Construction workers would typically meet at the staging yard each morning and park their vehicles at the yard. In-ground fencing would be installed at the staging yards wherever it is not already installed. Gravel may be used to line the ground at staging yards and avoid the creation of unsafe surface conditions and unnecessary sediment transport off-site.

SDG&E has attempted to identify a reasonable number of staging yards, commensurate with the size, location, and scope of the Proposed Project. Past staging yards were identified as well as large undeveloped areas near one or more portions of the Proposed Project that have been previously disturbed and/or graded. Although SDG&E has exercised reasonable diligence in identifying potential construction staging yards, there is no guarantee that the identified staging yards would be available by the time construction begins for the Proposed Project. Other potential staging yards may be identified as part of the environmental review process. Potential staging yards are identified in Table 3-5: Potential Staging Yards.

Two auxiliary staging yards were identified in Table 3-5: Potential Staging Yards. These two yards are not located within the Proposed Project Area and would not be used for the majority of Proposed Project activities. The Kearny staging yard is currently owned by SDG&E and used for other projects. The Icon 3PL Materials Yard could serve as a potential vendor drop for materials ahead of yard/site delivery. These auxiliary yards could provide additional storage as necessary, although they would not be a site for vehicle refueling, construction trailers, portable restrooms, parking, or equipment wash areas. These auxiliary yards are not intended for use throughout the phases of the Proposed Project; they are intended for use only in extenuating circumstances. Therefore, they have not been included in the analysis found within this PEA.

**Table 3-5: Potential Staging Yards**

Staging Yard Name	Description	Size (acres <sup>1</sup> )	Location in Relation to the Proposed Project
Carlsbad Business Park within the City of Carlsbad	Staging yard has been previously disturbed and graded, within an industrial area. Located along Eagle Drive north of Palomar Airport Road.	5.94	Northern portion of the Proposed Project. Approximately 0.36 mile west of Pole 51.
Eagle Drive #2 within the City of Carlsbad	Staging yard has been previously disturbed and graded, within an industrial area. It has graded access within the lot. Located along Eagle Drive north of Palomar Airport Road.	5.8	Northern portion of the Proposed Project. Approximately 0.46 mile west of Pole 51.
Lionshead Ave #5 within the City of Carlsbad	Staging yard has been previously disturbed and graded, within an industrial area. It has graded access within the lot. Located along Lionshead Avenue north of Palomar Airport Road.	4.5	Northern portion of the Proposed Project. Approximately 0.06 mile north of Pole 51.

Staging Yard Name	Description	Size (acres <sup>1</sup> )	Location in Relation to the Proposed Project
Montiel and Rock Springs within San Diego County	Staging yard has been previously disturbed and graded, within a residential area. Located along Rock Springs Road.	5 <sup>2</sup>	Northern portion of the Proposed Project. Approximately 0.71 mile northeast of Escondido Substation.
Recycling Plant within the City of San Marcos	Staging yard has been previously disturbed and graded, within a large warehouse recycling yard. It has graded access and paved indoor storage. Located along San Elijo Road.	Lot 1: 5.6 Lot 2: 1.45	Southern portion of the Proposed Project. Approximately 0.21 mile south of Pole 77.
NE District Employee Parking Lot in Escondido	The staging yard is an existing parking lot with planters at the end of the rows with small trees. It is located along Commercial Street	1	Eastern portion of the Proposed Project. Approximately 300 feet south of Escondido Substation
Harmony Grove in unincorporated San Diego County	The staging yard is graded and devoid of vegetation. The staging yard is two lots north and south of Harmony Grove Village Parkway.	Lot 1: 2.54 Lot 2: 1.85	Eastern portion of the Proposed Project (south/right ½). Approximately 0.4 mile south of Pole 106.
South Andreasen in the City of Escondido	The staging yard has four lots that are already graded, with dedicated entry points and low vegetation growth. The staging yard is along Citracado Parkway.	Lot 1: 2.95 <sup>2</sup> Lot 2: 1.062 Lot 3: 1.92 <sup>2</sup> Lot 4: 2.2 <sup>2</sup>	Eastern portion of the Proposed Project. Approximately 100 feet west of Pole 109.
Kearny in the City of San Diego (Auxiliary)	The staging yard is owned by SDG&E and located along Overland Avenue.	15.98	Auxiliary
Icon 3PL Materials Yard in unincorporated San Diego County (Auxiliary)	The staging yard is a potential vendor drop for materials ahead of yard/site delivery.	14.5	Auxiliary
Notes: <sup>1</sup> Acreage is approximate because sensitive habitats within the staging yards would be avoided.			

### 3.7.1.7 Helicopter Incidental Landing Area/Zone during Construction

Helicopters would be used during stringing and installation activities; however, there would not be incidental landing areas (ILAs) for the Proposed Project. The helicopter would be staged at Palomar Airport and would not be required to land at the Proposed Project.

### 3.7.2 Access Roads

Construction access would use existing access roads and public roadways to the extent possible. Most work areas are accessible by vehicle on unpaved SDG&E-maintained access roads or by overland travel. To provide crews and equipment access to the associated poles, existing access roads may require smoothing or refreshing and/or vegetation clearing may be necessary to maintain some existing access roads and re-establish unmaintained access roads. Pursuant to SDG&E's *Subregional Natural Community Conservation Plan* (NCCP), SDG&E is not required to mitigate for impacts on vegetation resulting from maintenance (i.e., re-establishing) of existing access roads. At designated drainage-crossing locations along the access roads, the blade of the smoothing equipment would be lifted 25 feet on either side of the drainage to avoid affecting the drainage. Drainage crossings may be temporarily bridged where feasible.

Based on preliminary engineering, four new spur roads would be required for access to Structures 68, 70, 77, and 78. Approximately 225 linear feet of new spur road from the Structure 68, 70, 77, and 78 pads to the existing access road would be built to access a new capacitor for maintenance. The four new spur roads would be approximately 14 feet wide, requiring approximately 0.09 acre of land (see Table 3-6: Access Road Characteristics). A new access road would also be constructed to access Pole 36. It would be 88 feet long and 14 feet wide, requiring an approximate area of 0.03 acres.

**Table 3-6: Access Road Characteristics**

Type of Road	Description	Approximate Area (acres) <sup>1</sup>
Existing Dirt Road	Typically, double track. May have been graded previously. No other preparation required, although a few sections may need to be regraded and crushed rock applied in very limited areas for traction.	28.46
New Permanent Spur Roads	Roads would be 14 feet wide, graded. No other preparation required, although crushed rock may need to be applied in very limited areas for traction.	0.09
New Permanent Access Road	Roads would be approximately 14 feet wide, graded. No other preparation required, although crushed rock may need to be applied in very limited areas for traction.	0.03
Overland Access	No preparation required. Typically, grassy areas that are relatively flat. No restoration would be necessary.	0
Footpath	Foot paths may require minor trimming to traverse. Construction crews would be selective regarding which paths they choose to use.	0
Notes:		
<sup>1</sup> Based on typical road width of 14 feet.		

Vehicles would remain within existing access roads, previously disturbed areas, and designated temporary work areas, where feasible. In addition, contractors may require additional turn-around and vehicle passing locations to safely operate construction vehicles and equipment. The on-site monitor would assist crews in locating vehicle turn-around and passing areas that avoid and minimize impacts on sensitive resources. Any temporary impacts associated with turn-around and passing areas would be recorded by the biological monitor and included within the project Post-Construction Report and mitigated as necessary, pursuant to the *SDG&E Subregional NCCP*.

### **3.7.3 Helicopter Access**

Helicopters would be utilized as a construction tool for specific activities, including (but not necessarily limited to) stringing of overhead conductor, installation or removal of structures, and transportation of equipment associated with the Proposed Project. SDG&E anticipates that light- or medium-duty helicopters (e.g., K-Max and Astar) may be utilized. Helicopters would be utilized during daylight hours, and flight paths would generally be limited to the existing ROW, except for ingress and egress from the helicopter landing staging area, Palomar Airport.

Helicopter flight would be generally limited to within SDG&E's existing easement. Helicopter activities are anticipated to require up to 8 hours of total operation. SDG&E Best Management Practices (BMPs) would be implemented at the helicopter landing areas to reduce potential impacts related to air quality, hazards and hazardous materials, and noise. These specific practices are discussed in detail in Section 4.3, Air Quality; Section 4.8, Hazards and Hazardous Materials; and Section 4.12, Noise.

### **3.7.4 Permanent Work Areas**

The Proposed Project would be located predominantly within existing utility corridors and franchise areas that currently feature permanent work pads and access roads. Operation and maintenance of the Proposed Project would utilize these existing work areas and roads as well as limited additional proposed permanent work areas that would remain following completion of construction activities. Table 3-7: Summary of Permanent Work Areas, outlines the anticipated permanent work areas that would be created as a result of the Proposed Project. Also see Appendix 3-A Power Line Route Mapbook for the location of permanent work areas. It is important to note that the permanent work areas described in Table 3-7 would be contained within the temporary work areas described in Section 3.7.1, Temporary Work Areas, and Table 3-4: Temporary Work Areas. Cut and fill would also be required at some structure locations to create construction and line maintenance pads. Detailed civil engineering for these work pads has yet to be completed. Actual cut-and-fill grading amounts may vary, dependent upon actual field conditions and final detailed engineering, but are estimated to be approximately 3,751 cubic yards of cut and 4,072 cubic yards of fill. Approximately 3,063 cubic yards of soil would be imported, and 2,742 cubic yards of soil would be exported.

**Table 3-7: Summary of Permanent Work Areas**

<b>Work Area</b>	<b>Approximate Number</b>	<b>Approximate Area (acres)</b>
New Structure Operation Work Pads <sup>1</sup>	60	1.92
New Permanent Spur Roads <sup>2</sup>	4	0.12
New Permanent Access Road	1	0.18
<p>Notes:</p> <p>Table contents based on preliminary engineering and subject to change.</p> <p><sup>1</sup> Note that permanent structure operation work pads would be contained within the temporary structure installation work areas described in Section 3.7.1, Temporary Work Areas, and Table 3-4: Temporary Work Areas. Retaining walls and other area required to create a safe operations work pad are also included within this calculation. Areas are included here only where new work pads would be required. Therefore, the number of new work pads is less than the total number of new structures.</p> <p><sup>2</sup> The Proposed Project would be located within existing utility corridors with extensive existing access and spur roads. Operation and maintenance of the Proposed Project would utilize these existing roads for the vast majority of access requirements. Only newly required spur roads are included within this table because the existing access road network is considered part of the existing environment.</p>		

### 3.7.5 Vegetation Clearance

The Proposed Project would require some vegetation clearing associated with access and work areas during construction and operation and maintenance of the facilities. Work areas utilized solely for construction are often simply cleared of vegetation, and grading is undertaken only where relatively flat areas are not already present. Construction activities will often utilize existing flat, cleared areas such as existing access roads and previously disturbed areas. For pole construction within existing utility corridors, including projects that involve pole replacements, the line maintenance pads are also utilized for construction activities. Most of the new poles associated with the Proposed Project would be constructed close to existing poles. The amount of space needed for construction of new structures would vary, depending on the size and type of the structure, the surrounding topography, and the presence of sensitive resources.

Power line maintenance pads are cleared and graded flat and maintained free of vegetation for the operational life of the Proposed Project. As needed, retaining walls would be installed to ensure safety and stability of the power line maintenance pad where geologic and topographic conditions warrant.

The specific amounts and types of vegetation removed may not be known until plant surveys, field reviews, and Proposed Project engineering are complete. SDG&E is expected to have a reasonable estimate of the vegetation clearance required for the Proposed Project, based on established data available at that time.

### 3.7.6 Erosion and Sediment Control and Pollution Prevention during Construction

Soil disturbance would occur at pole installation locations along the power line and at temporary work areas. A list of potentially affected soils can be found in Table 4.6-3. As described above, these areas would require vegetation clearing and minor grading.

SDG&E will adhere to National Pollutant Discharge Elimination System Construction General Permit requirements if applicable. Projects that disturb 1 acre or more of soil are required to obtain coverage under California State Water Resources Control Board (SWRCB) General Permit for Storm Water Discharges Associated with Construction Activity Order No. 2009-0009-DWQ (General Construction Permit). This permit is meant to control the discharge of pollutants from point sources. The General Construction Permit requires the applicant to develop a Stormwater Pollution Prevention Plan (SWPPP) that includes a selection of BMPs to control erosion and discharge of sediments. Furthermore, the BMPs included in the SWPPP must be monitored and revised throughout the construction process, as needed. In addition, SDG&E would implement its *BMP Manual and Operational Protocols*. This manual includes BMPs that reduce impacts on soil loss and help ensure BMP usage is consistent with applicable rules and regulations.

### 3.7.7 Cleanup and Post-Construction Restoration

SDG&E would restore all areas that are temporarily disturbed by Proposed Project activities (including stringing sites, structure removal sites, and staging areas) to approximate pre-construction conditions, consistent with fire break requirements. Restoration could include reseedling; planting replacement vegetation; restoring removed curbs, gutters, and sidewalks; repaving all removed or damaged paved surfaces; or replacing structures (such as fences), as appropriate. In addition, all construction materials and debris would be removed from the Proposed Project Area and recycled or properly disposed of off-site. See Table 3-8: Common Destination of Retired Project Components, for information on construction material disposal. SDG&E would conduct a final survey to ensure that cleanup activities have been successfully completed, as required.

Impacts on vegetation within and in the vicinity of proposed staging yards, proposed and existing access roads, and public roads may occur (discussed in Chapter 5, Detailed Discussion of Significant Impacts). Restoration activities would occur under the direction of a habitat restoration specialist. Temporarily disturbed areas where native vegetation would be affected that would not need to be maintained in a cleared state would be enhanced through vegetation restoration, habitat reclamation, or a combination of the two. Habitat reclamation involves the elimination of existing exotic vegetation (i.e., weed abatement) to facilitate the natural recolonization of a native habitat. Habitat restoration entails a range of techniques, including seeding, imprinting, and soil and plant salvage. The specific technique, type of equipment, and number of personnel required would depend on the size of the restoration area and the condition of the habitat, including the soil. Post-construction activities would also include erosion control and trash and debris removal immediately following completion of construction. Where land is rented from private landowners (such as staging yards), post-construction restoration may be completed in consultation with the

landowner. All disturbed areas such as access roads and staging yards would be regraded to existing contours using a grader. Trenches within public roadways would be restored using rollers, pavers, graders, and concrete trucks.

Removed wood poles would be reused, recycled, or disposed of. Non-reusable treated wood would be disposed of in a composite-lined portion of a municipal solid waste landfill approved by the Regional Water Quality Control Board. In San Diego, Otay Landfill is currently the only composite-lined landfill that will accept utility poles and treated wood. Otay Landfill is located approximately 40 miles southeast of the Proposed Project.

**Table 3-8: Common Destination of Retired Project Components**

<b>Project Structure, Material, or Component</b>	<b>Common End Use or Destination</b>	<b>Estimated Quantities</b>
Wood Power Line Structures/Poles	Sanitary disposal	120 tons
Conductor Cable	Recycled	30,000 feet
Insulators	Sanitary disposal	2 tons
Scrap Steel, Copper, and Other Metal	Recycled	1 ton
Concrete	Recycled	1 ton
Soils	Reused on-site or disposed of pursuant to applicable laws	15,000 cubic yards
Batteries	Recycled	N/A

### **3.7.8 Power Line Construction (Above Ground)**

The procedures for bringing personnel, materials, and equipment to each structure site; installing the supporting structure foundations; installing the supporting structure; and stringing the conductors may vary slightly along each segment or at any particular structure site. The general methods used to construct an overhead power line are described in the following paragraphs.

#### **3.7.8.1 Site Preparation for Structure Foundations**

Prior to installing the structure foundations, vegetation at each of the structure sites would be cleared, and the area would be graded either flat or in a terraced fashion, as needed. At some sites, soil may be imported as necessary to raise the elevation of the structure pads, and retaining walls may be needed. Material removed during the process would be spread over existing access roads and work pads as appropriate or disposed of off-site according to all applicable laws.

#### **3.7.8.2 Concrete Pier Foundations**

A large auger would be used to excavate holes, which could range from 6 to 11 feet in diameter. Foundation depths would typically range from approximately 20 to 50 feet but could increase because of soil conditions. If unstable soil conditions are encountered, hole excavations may



require the installation of steel casings to stabilize the sides of the excavation. The casing diameter would approximately match the diameter of the excavation. The length of the casing installed would normally be to the full depth of the excavation. The length of the individual section of the casing is typically limited to 20 feet; therefore, multiple sections of casing may be used on deeper foundations. Following excavation, a reinforcing steel cage and anchor bolt cage would be installed in each hole. The steel cages would typically be assembled at the materials storage and staging areas, then transported to each of the structure sites. The anchor bolt cages would be assembled off-site and delivered to each structure site. Typical foundations would require approximately 45 to 90 cubic yards<sup>2</sup> of excavation and a slightly larger volume of concrete placed into the holes because the foundations would extend approximately 2 feet above the ground surface. Because of their larger diameter, cable pole foundations could require up to approximately 175 cubic yards<sup>3</sup> of concrete. The concrete curing period would be approximately 1 month, during which time workers would remove the concrete forms and place backfill around the foundations, as needed.

### 3.7.8.3 Micropile Foundations

A micropile foundation consists of several small-diameter, drilled, and grouted reinforced foundations, which are arranged in a circular pattern. For electric power line structure support, a series of approximately four to 16 (or more) individual micropiles are arranged in a circular pattern to take the place of a larger conventional reinforced concrete drilled pier that would typically be approximately 4 to 10 feet diameter and 10 to 40 feet deep. One micropile typically consists of a small hole (approximately 6 to 8 inches in diameter) excavated to a depth of approximately 10 to 40 feet, depending on the properties of the soil or rock underlying the surface. A steel rod would be inserted into the hole and centered, and the surrounding annulus would be filled with a non-shrink grout. The steel rod would protrude above grade to be connected to a transition steel plate that would support the structure above grade. Loads from the above structure would be transferred to the steel rod, then transferred from the rod to the grout to the surrounding soil. A steel pipe or casing is often inserted in the upper portions of the micropile to add strength for shear transfer and provide for local upper-portion unbonded axial movement of the rod.

The micropiles are typically installed from a platform situated approximately 6 feet above the ground surface. The platforms and all equipment can be placed by a truck-mounted crane or flown to sites by helicopter. The platform would be supported on four to six telescoping legs that would be adjusted to support the platform on slopes. The drilling process would take place from the platform, and drills would be powered by generators or compressors that would either rest on the platform or be supported nearby on the ground.

Equipment used for the micropile installations would be smaller and more portable than the large drill rigs used for drilled pier excavation and construction and could be flown into inaccessible

---

<sup>2</sup> Assumes a typical 9-foot diameter foundation extended to depths ranging from 20 to 40 feet.

<sup>3</sup> Assumes an 11-foot-diameter foundation extended to an extra-deep excavation (50 feet) because of unstable soils.

areas. Micropile foundations are more suitable for areas that are inaccessible because of terrain and areas where access may be prohibited because of environmental, resource agency, or CPUC concerns. Micropile foundations are also suitable for rock areas where excavation of the rock for conventional drilled piers would be difficult, entailing the use of blasting or rock breakers with augers or core barrels. The spoils and local disturbances created by micropiles would be much less than those of conventional drilled concrete piers.

### **Other Considerations during Foundation Construction**

It is not currently anticipated that blasting would be required to complete construction of the Proposed Project; however, in some locations where significant or dense rock is present, blasting may be required. Section 3.7.11, Blasting, describes the blasting process, should it be necessary.

Dewatering may also be necessary in some locations. Prior to construction, SDG&E would acquire coverage under the General Construction Permit from the SWRCB and prepare a SWPPP. The SWPPP would detail project information, dewatering procedures, stormwater runoff prevention control procedures, monitoring and reporting procedures, and BMPs. Bentonite or similar stabilizing materials may be used to support foundation installation when water is present within the excavation.

### **Steel Pole Installation for Concrete Pier and Micropile Foundations**

Based on preliminary engineering and constructability review, it is anticipated that construction of power line structures would utilize ground equipment such as cranes, flatbed trucks, drill rigs, and excavators. Helicopters may be used during stringing activities and would be used for installation at Poles 61, 63, 64, and 65. The proposed alignment contains existing access and work space, which would help accommodate ground-based construction equipment.

New steel poles would be delivered to the structure sites in two or more sections via flatbed truck and assembled on-site using a small truck-mounted crane. Please see Figure 3-5: WPI Double Circuit Direct Buried, Figure 3-6: Type DC-X Double Circuit Foundation, Figure 3-7: WPI Single Circuit Direct Buried, and Figure 3-8: YPI Single Circuit Foundation for depictions of the standard pole types. After assembly, a large crane would be used to lift and set the pole sections into place on the anchor bolts, which would either be embedded in the concrete foundation or attached to the micropile foundations. The nuts on the foundation would then be tightened and secured. Steel poles would require the installation of two 8-foot-long by 4-inch-wide grounding rods, approximately 6 feet apart; the rods would be buried approximately 8 to 18 inches below the ground surface within the established work areas.

### **Direct-Bury Steel Pole Construction**

To install the direct-bury steel poles, pole holes measuring approximately 54 inches in diameter would be excavated by using a drill rig mounted on the back of a truck, by hand, or by blasting with the aid of a hand jack powered by an air compressor. The temporary work area would be within an approximate 40-foot radius around the base of the pole. The diameter of the steel pole would measure up to approximately 30 to 42 inches. Plywood boards and plastic covering would be used to cover the excavated holes until pole installation activities begin. The excavated soil

would be temporarily stockpiled adjacent to the excavated hole within the temporary work area. Once the pole bases are installed, concrete would be used to backfill the holes. Crews would spread and compact excess soil as close to the pole as possible (i.e., within 10 feet of the pole). Any additional excess soil would be dispersed evenly and compacted onto existing unpaved access roads where vehicle accessibility would be maintained. The appropriate BMPs would be used before, during, and after all Proposed Project-related construction activities where necessary to prevent off-site sedimentation. Direct-bury steel poles would require the installation of two 8-foot-long by 4-inch-wide grounding rods, approximately 6 feet apart; the rods would be buried approximately 8 to 18 inches below the ground surface within the established work areas. Steel poles would include galvanized pole steps if the pole locations are not accessible by a 24-hour all-weather access road.

### **Guard Structure Installation**

Prior to removing the existing conductor and installing the new overhead conductor, SDG&E would utilize temporary guard structures at road crossings and other locations where the new conductor could come in contact with existing electrical and communication facilities, or vehicular and/or pedestrian traffic, in the event the line accidentally falls during stringing operations. Different types of guard structures may be used, depending on the site conditions, including boom and bucket trucks and wooden poles. Where wooden poles are used as guard structures, they typically are directly embedded wooden poles with a cross beam. In some locations, such as paved areas, a boom or bucket truck may be used as a guard structure. Where embedded wooden guard structures are used, an auger would be used to excavate the holes where the wooden poles would be installed, and a crane or line truck would lift the poles into place. No concrete foundations would be required to set the guard poles, and no grading or other site work is anticipated. The temporary guard poles would be removed following the completion of conductor stringing operations, and the holes would be backfilled with excavated soil.

Alternatively, SDG&E may use flaggers to temporarily hold traffic for brief periods of time while the overhead line is installed at road crossings. Typically, guard structures are utilized at crossings such as roadways, waterways, and utility crossings. Traffic control is typically utilized for small roadway crossings. For extremely large crossings, such as freeways, both guard structures and traffic control may be used as well as netting between the guard structures. Segment 1 will have 16 road crossings, six of which would have traffic plans and 10 would utilize a guard pole or boom truck. Segment 2 would have 10 road crossings, two of which would have a traffic plan and eight would utilize a guard pole or boom truck. Segment 3 would have nine road crossings, one of which would require a traffic plan; the other eight would utilize a guard pole or boom truck. SDG&E would acquire all required road crossing approvals, including implementation of any special guard structure procedures or requirements, as directed by each applicable land use jurisdiction.

### **Existing Facilities Removal**

As previously described, construction of the Proposed Project segments would involve removing certain existing power line poles and structures (mainly wood but with a few steel structures). Refer to Appendix 3-A: TL 6975 Power Line Route Map, for the location of all poles to be

removed. First, the existing conductor would be removed from the poles using wire trucks and pulling rigs. Guard structures would be utilized, as needed. For segments requiring reconductoring, existing hardware and insulators would be removed and replaced with new polymer insulators and hardware.

For steel poles and lattice structures that would be removed from service, the poles and lattice structures would be dismantled by cranes and aerial man-lifts in sections. The sections would be transferred to a flatbed truck using a small truck-mounted crane. The steel poles would then be transported off-site for recycling or disposal at an approved facility. The lattice structures would be further dismantled within SDG&E's utility easement or at the appropriate staging area. Following disassembly, the individual steel members would be cut into smaller sizes, placed in recycling receptacles, and transported to an approved SDG&E recycling center. After the poles have been removed, any existing concrete foundations would be jack hammered to approximately 1 to 2 feet below grade; debris would be removed and recycled or disposed of at an approved facility. The hole would then be backfilled with soil or materials similar to those in the surrounding area, and the site would be restored.

Wooden pole removal would begin with crews dismantling the hardware on the existing poles using cranes and aerial man-lifts. Crews may also climb poles to dismantle hardware. The wooden poles would be removed completely and transported off-site by flatbed truck for disposal at an approved facility. The base of the pole will be abandoned in place if it cannot be removed. If the base of the pole is removed, the void will be backfilled and compacted with native soil. All structural removal work would be completed from existing work pads (typically 35 by 75 feet) located at each existing pole site or temporary work areas for new structures, as needed. No new impact areas are anticipated to be required for pole removal. These areas would be kept clear of vegetation for operation and maintenance activities.

### **Conductor Stringing**

Following guard structure installation, SDG&E would coordinate with the CAISO to obtain all of the necessary line clearances prior to beginning conductor installation. This would ensure that the existing power lines could be taken out of service and that power could be redistributed to service centers and customers. SDG&E would coordinate line outages to maintain system reliability and construction personnel safety. Based on preliminary engineering, SDG&E does not anticipate any Proposed Project-based interruption of service to customers during construction.

Conductor stringing operations begin with the installation of travelers, or "rollers," on the bottom of each of the insulators using helicopters or aerial man-lifts (bucket trucks). The travelers allow the conductor to be pulled through each structure until the entire line is ready to be pulled up to the final tension position. Following installation of the travelers, a sock line (a small cable used to pull the conductor) or the old conductor is pulled onto the travelers from structure to structure using helicopters or aerial man-lifts traveling along the ROW. Once the sock line is in place, it is attached to a steel cable and pulled back through the travelers. The conductor is then attached to the cable and pulled back through the travelers using conventional tractor-trailer pulling

equipment located at the stringing sites. Anchors would be required to stabilize the equipment. Alternatively, specialized equipment may be utilized by helicopter for areas with limited access.

In some cases, sleeves or splices may be installed on the power line. This might occur when the conductor is slightly damaged during stringing operations or if the conductor is not long enough and needs to be joined to another segment. If the conductor is damaged, a repair sleeve would be wrapped around the outside of the conductor and pressed into place to protect the conductor. Full tension splices, or compression splices, are utilized when the conductor is damaged too severely for a repair sleeve, when the conductor is not long enough to span between dead-end structures, or if stringing locations are spread too far apart. During full-tension splices, the two ends of the conductor are connected with the use of heavy-duty vices or, alternatively, a small engineered implosive charge is wrapped around a specially designed metallic sleeve, creating a controlled implosive compression and connecting the two conductors.

Approximately 21 designated stringing sites would be required to tension the conductor to a pre-calculated level. The sites would also be needed to load the tractors and trailers with reels of conductors and the trucks with tensioning equipment. These stringing sites would also be used to collect conductors that would be removed from the existing lines onto reels for transport off-site. Appendix 3-A: TL6975 Power Line Route Map, details the locations of all stringing sites. Each stringing site would require clearing an area between approximately 0.05 and 0.52 acre. As described previously, depending on topography, some incidental grading may be required at stringing sites to create level pads for equipment.

After the conductor is pulled into place, the sags between the poles are adjusted to a pre-calculated level. Pursuant to General Order (G.O.) 95, the line would be installed with a minimum ground clearance dictated by the surrounding land uses, as described in Table 3-9: Minimum Conductor Ground Clearance. The conductor is then clipped into the end of each insulator, the travellers are removed, and vibration dampers and other accessories are installed.

**Table 3-9: Minimum Conductor Ground Clearance**

<b>Conductor Voltage</b>	<b>Minimum Ground Clearance (feet)</b>	<b>Minimum Ground Clearance with Pedestrian Access Only (feet)</b>
230 kV	30	25
138 kV	30	25
69 kV	30	25
12 kV	25	25

Source: PG&E

During the conductor stringing, an Optical Ground Wire (OPGW, a shield wire with fiber optics) is sometimes strung on top of the power line poles, similar to the conductor stringing.

A helicopter would be used during stringing operations in Segment 2 to install the sock line that would be used to pull in the conductor. For stringing operations, it takes approximately half a day to pull in three phases of conductor for approximately 9,000 feet of power line. The helicopter would not be needed again for 2 to 3 weeks, until the next section of line is ready to be pulled. Helicopter activities would be staged out of the Palomar Airport and would not require incidental landing areas within the Proposed Project Area.

#### **3.7.8.4 Belowground Construction**

The general methods used to construct an underground distribution line are described in the following paragraphs. Within the Segment 1 rebuild, the existing underground distribution line that would be adjacent to the Proposed Project would be reconducted. Based on the new pole positions, some trenching would be involved to intercept the existing underground conduit and reroute it to the new pole.

#### **3.7.8.5 Belowground Distribution Line Construction**

The general methods used to construct an underground distribution line are described in the following paragraphs.

### **12 kV Distribution Installation**

#### *Trenching*

Prior to trenching, other utility companies would be notified to locate and mark existing underground utilities along the proposed underground alignment. Exploratory excavations (i.e., potholing) would also be conducted to verify the locations of existing facilities in the ROW. Coordination with the City of San Marcos, City of Escondido, and San Diego County would also occur in order to secure encroachment permits for trenching in the applicable ROW, as required. It is anticipated that some lanes of traffic on active roadways such as San Marcos Boulevard would occasionally be closed during trenching activities. During lane closures, traffic controls would be implemented, as required by the encroachment permit.

#### *Duct Bank Installation*

Duct banks will be installed to intercept the existing conduit packages. As the trenches for the underground 12 kV duct banks are completed, SDG&E would install the cable conduits (separated by spacers) and pour concrete around the conduits to form the duct banks. The duct banks would typically consist of eight 5-inch-diameter PVC conduits, which house the electrical cables. The dimensions of the duct banks would be approximately 1.5 feet wide by 2.7 feet tall for a vertical configuration. The duct package generally consists of a single 12 kV distribution circuit.

Where the distribution duct bank would cross other substructures that operate at normal soil temperature (e.g., gas lines, telephone lines, water mains, storm drains, sewer lines), a minimal radial clearance of 12 inches would be required. In instances where the duct bank would be installed parallel to other substructures, a minimum radial clearance of 24 inches would be

required. Ideal clearances of 2 to 5 feet are preferred. Where the duct banks cross or run parallel to substructures that operate at temperatures significantly exceeding normal soil temperature (e.g., other underground power line circuits, primary distribution cables, steam lines, heated oil lines), additional radial clearance may be required. All work would be done in conformance with SDG&E's current construction and operating practices.

#### *Cable Pulling, Splicing, and Termination*

After installation of the conduit, SDG&E would install the distribution cable in the duct banks. To pull the cable through the ducts, a cable reel would be placed at one end of the section, and a pulling rig would be placed at the other end. A large rope would then be pulled into the duct using a pull line, then attached to the pulling eyes to pull the cable into the duct. A lubricant would be applied to the cable as it enters the duct to decrease friction during pulling. The electric cables and the communication cable would be pulled through the individual ducts at the rate of two or three segments between vaults per day.

### **3.7.9 Substation Construction**

The Proposed Project would not include earthmoving construction activities at San Marcos Substation or Escondido Substation. As discussed previously in Section 3.5.5, Substation Work, a circuit breaker pad, a SF<sub>6</sub> circuit breaker, seven piers, and an A-frame would be installed at San Marcos Substation. The new power line would connect from the A-frame to the TL 6975 power pole via a single conductor. At Escondido Substation, existing overhead conductor would be transferred from the 138 kV rack to an existing 69 kV bay position for the new TL 6975. Three existing 69 kV circuits would be transferred to different bay positions to accommodate this new circuit and avoid power line crossings. The last overhead spans (drop spans) of existing power lines TL 6908, TL 6934, and TL 689 would be relocated to available bay positions. A new circuit breaker pad and circuit breaker would be installed, and the old circuit breaker pad and an oil containment wall would be removed from Bay 16 of the substation.

### **3.7.10 Dewatering**

Dewatering may also be necessary in some locations. Prior to construction, SDG&E would acquire coverage under the General Permit from the SWRCB and prepare a SWPPP. The SWPPP would detail Proposed Project information, dewatering procedures, stormwater runoff prevention control procedures, monitoring and reporting procedures, and BMPs.

### **3.7.11 Blasting**

If rock is encountered during excavation, a hydraulic rock drilling and splitting (rock-splitting) procedure may be used to minimize trenching or drilling time, depending on site-specific conditions. The procedure involves drilling a hole in the rock and inserting a non-blasting cartridge of propellant. Activation of the cartridge is mechanically initiated by an impact generation device. This hydro-fracturing effect causes controlled tensile crack propagation in the rock but does not result in flyrock, noxious fumes, or ground vibrations.

In the unlikely event that rock blasting is used during construction in areas where solid rock is present and the hydraulic rock drilling and splitting procedure would be ineffective, the following procedure would be utilized to minimize both drilling time and noise impacts. The procedure would involve drilling approximately 3-inch-diameter blast holes and inserting explosives. Blasting caps would be connected, and a non-electric detonator would be employed. Flyrock protection would be installed prior to blasting, and seismographs would be placed to measure and record peak particle velocity and air blast levels at various distances from the blast site. Dust control would include a combination of steel plate covering and geo-textile fabric with chain-link fence covering and wetting the blasting surface. If blasting is utilized by the Proposed Project, the blasting contractor will be required to obtain a blasting permit and explosive permit per applicable local regulatory ordinances. The appropriate BMPs would be used before, during, and after all Proposed Project-related construction activities, where necessary, to prevent erosion and off-site sedimentation.

### **3.7.12 Unexploded Ordnance**

Unexploded ordnances (UXO) are explosives (e.g., bombs, shells, grenades, land mines, naval mines) that did not explode when they were employed but still pose a risk of detonation, potentially many decades after they were used or discarded. The Proposed Project is not located on or adjacent to any UXO sites, based on the environmental database review conducted by EDR, Inc. (Appendix 4.8).

### **3.7.13 Construction Workforce and Equipment**

It is estimated that the Proposed Project would involve approximately 80 construction crew members. Construction activities would involve several crews working concurrently at different locations (e.g., preparing staging yards). Power line construction would be conducted using stringing crews to string the conductor, foundation crews to work on the power line structure, and grading crews to prepare the structure sites for construction. In addition, the installation of underground power lines would also involve construction crews. For the Proposed Project, up to approximately 55 workers could be used at one time during power line construction, assuming that pier foundation construction occurs concurrently with direct-bury construction (refer to Table 3-11: Anticipated Construction Equipment). Refer to Table 3-10: Estimated Construction Equipment and Personnel, for a complete list of the construction equipment and the number of personnel.



**Table 3-10: Estimated Construction Equipment and Personnel**

Activity	People	# of Days	Equipment	Quantity	Horsepower Rating	Hours of Use per Day	Total Hours of Use	Segment Number
Access Road Construction/ Refreshing	1 crew of 4-5	30	motor grader	1	174	6	6	Segment 2
			pickup truck	2	250	5	10	Segment 2
			water truck	1	250	4	4	Segment 2
Material Haul	1 crew of 5	30	yard and field crane or line truck	1 at each end	250		0	All segments
			fork lift	1 at each end	83		0	All segments
Preconstruction Activities (Staging Yard Setup, Road Refreshing, Vegetation Trimming/BMP Installation)	2 crews of 4-5 (8-10 total)	30	dump truck	2	250	3	6	All segments
			excavator	2	162	3	6	All segments
			loader	2	37	4	8	All segments
			motor grader	2	174	5	10	All segments
			mower	2	74	4	8	All segments
			tractor/ trailer unit	1	250	4	4	All segments
			pickup truck	2	250	4	8	All segments
			water truck	1	250	4	4	All segments
Auger Holes, Direct-Bury Poles TL6975: (approx. 34 poles)	2 crews of 4-5 (8-10 total)	45	air compressor	2	78	4	8	Segments 1 and 2
			boom truck	2	250	6	12	Segments 1 and 2
			drilling rig	2	82	6	12	Segments 1 and 2
			line truck	2	250	5	10	Segments 1 and 2
			pickup truck	2	250	4	8	Segments 1 and 2
			pressure digger	1	82	4	4	Segments 1 and 2
			tractor/ trailer unit	1	250	3	3	Segments 1 and 2
			water truck	2	250	4	8	Segments 1 and 2

Activity	People	# of Days	Equipment	Quantity	Horsepower Rating	Hours of Use per Day	Total Hours of Use	Segment Number
Foundation Construction (micropile) (approx. 0 poles)	2 crews of 4–5 (8–10 total)	45	air compressor	2	78	3	6	N/A
			backhoe	1	97	3	3	N/A
			crane	2	226	3	6	N/A
			crew truck	2	250	4	8	N/A
			flatbed truck	2	250	4	8	N/A
			forklift	2	83	3	6	N/A
			fuel truck	1	250	3	3	N/A
			generator	2	84	4	8	N/A
			grout plant	1	84	2-3	1	N/A
			pickup truck	1	250	4	4	N/A
			tractor/trailer unit	1	250	3	3	N/A
			water truck	2	250	3	6	N/A
Foundation Construction (pier) (approx. 24 poles)	1 Crew of 4–5	30	air compressor	1	78	4	12	All segments
			boom truck	1	250	3	9	All segments
			drilling rig	1	82	7	21	All segments
			excavator	1	162	4	12	All segments
			forklift	1	83	3	9	All segments
			generator	1	84	3	9	All segments
			loader	1	37	3	9	All segments
			pickup truck	1	250	4	12	All segments
			water truck	1	250	3	9	All segments

Activity	People	# of Days	Equipment	Quantity	Horsepower Rating	Hours of Use per Day	Total Hours of Use	Segment Number
Structure Installation and Assembly, per Crew, 2 Crews Required (included old pole removal) (approx. 100 new structures, 19 removed structures)	2 crews of 4–5 (8–10 total)	60	pickup truck	2	250	4	8	All segments
			bucket truck	3	250	6	18	All segments
			line truck	2	250	5	10	All segments
			helicopter, light duty	1		4	4	(Segment 2 only)
			boom truck	3	250	6	18	All segments
Stringing Activities/ Transfer Conductor/ Sagging Activities (includes removal of old conductor) (approx. 42 structures reconducted/re-energized)	2 crews of 4–5 (8–10 total)	10	boom truck	2	250	6	12	All segments
			double-bull-wheel tensioned (heavy)	1	300	6	6	All segments
			drum puller	1	300	6	6	All segments
			forklift	1	83	3	3	All segments
			line truck	2	250	4	8	All segments
			pickup truck	2	250	4	8	All segments
			water truck	1	250	4	4	All segments
			wire truck	1	82	5	5	All segments
			helicopter, light duty	1		4	4	(Segment 2 only)
Trenching for Installation of Underground Cables	1 crew (4–5 total)	10 (4–5 days for concrete truck and wire dolly)	concrete truck	2	400	3	6	Segments 1 and 2
			crane	1	226	4	4	Segments 1 and 2
			dump truck	1	250	3	3	Segments 1 and 2
			line truck	1	250	4	4	Segments 1 and 2
			water truck	1	250	3	3	Segments 1 and 2
			wire dolly	1	82	3	3	Segments 1 and 2
			pulling rig	1	82	4	4	Segments 1 and 2
			backhoe	1	97	3	3	Segments 1 and 2

Activity	People	# of Days	Equipment	Quantity	Horsepower Rating	Hours of Use per Day	Total Hours of Use	Segment Number
Demobilization/ Right-of-Way Restoration and Cleanup/Road Refreshing	2 crews of 4–5 (8–10 total)	20	backhoe	1	97	4	4	All segments
			dump truck	1	400	5	5	All segments
			excavator	1	162	4	4	All segments
			loader	1	37	4	4	All segments
			motor grader	1	174	4	4	All segments
			mower	1	74	4	4	All segments
			pickup truck	2	250	4	8	All segments
			tractor/ trailer unit	1	250	4	4	All segments
			water truck	1	250	4	4	All segments

Table 3-11: Anticipated Construction Equipment, describes how the equipment described in Table 3-10: Estimated Construction Equipment and Personnel, would most likely be used for the Proposed Project.

**Table 3-11: Anticipated Construction Equipment**

Equipment Type	Equipment Use
Two-ton flatbed trucks	Haul materials (including new poles)
Aerial bucket trucks	Access poles, string conductor, modify structure arms, provide guard structures, and other various uses
Air compressors	Operate air tools
Asphalt grinder	Grind asphalt
Backhoe	Excavate trenches
Bobcat	Excavate trenches
Boom truck	Access poles and other height-restricted items Lift/set steel
Boom truck with trailer	Deliver steel, disc, panels and insulators
Bucket truck/man-lift	Set steel Install equipment Use as guard structure
Bulldozer	Grade pads and access road Demolition Excavate and backfill walls
Bull wheel tensioner	Control conductor at pulling tension during pulling operation
Cable dolly	Pull cable
Cable dolly (trailer)	Transport reels of conductor (no engine; can be pulled by assist truck)
Compactor	Compact soil Clear/grub/finish
Concrete saw	Cut and saw concrete and asphalt
Concrete truck	Transport and process concrete
Crane	Lift, position structures
Crew truck	Transport crew
Drilling rig/truck-mounted augur	Excavate for direct-bury and micropile poles Excavate trenches
Drum puller	Transmission and power line pulls
Dump truck	Haul excavated materials/import backfill, as needed
Dump truck with compressor and emulsion sprayer	Street repair

Equipment Type	Equipment Use
Excavator	Excavate soils/materials (trenching)
Flatbed boom truck	Haul and unload materials
Forklift	Transport materials at structure sites and staging yards
Fuel truck	Contains fuel
Generator	Portable electricity
Grader	Road construction and maintenance
Grout plant	Foundation construction
Helicopter (typically light and medium duty)	Transport materials, string conductor, install and remove travelers, set structures
Hydraulic rock-splitting/rock-drilling equipment	Drill through rock, as needed
Jackhammer	Break concrete and asphalt
Line truck	Install clearance structures Pull cables/connections
Loader	Demolition Load dump trucks
Mobile fueling trucks	Refuel equipment
Mower	Clear vegetation
Motor grader	Grading
Oil processing rig	Used for transformer oil processing
Paver	Paving of new asphalt
Pickup trucks	Transport construction personnel
Portable generators	Operate power tools
Pulling rig	Pull conductor into position or duct and secure it at the correct tension
Reel trailer	Feed new conductor to the pulling and tensioner Collect old conductor
Relay/telecommunication van	Transport and support construction personnel
Roller	Repair streets
Scraper	Grade pads and access roads
Splice trailer	Store splicing supplies
Spreader	Spread asphalt
Underground combo truck	Pull cable and connections
Tool van	Tool storage
Tractor/Trailer Unit	Transport materials at structure sites and staging yards
Vacuum truck	Pump water and liquids, as needed

Equipment Type	Equipment Use
Water truck	Dust control
Wire truck	Hold spools of wire
Source: SDG&E	

### 3.7.14 Construction Schedule

SDG&E estimates that construction of the Proposed Project would take a total of approximately 12 months to complete, depending upon unforeseen/unpredictable factors such as weather and required transmission outages. Two of the 12 months account for preconstruction activities. Construction is scheduled to begin in February 2020 and run through November 2020. The complete construction schedule, outlined by task, is summarized in Table 3-12: Proposed Construction Schedule.

**Table 3-12: Proposed Construction Schedule**

Project Activity	Approximate Duration (days)	Anticipated Start and End Date
Pre-construction activities	30	Dec 30, 2019–Feb 7, 2020
Access road construction/refreshing	63	Feb 2020–Apr 2020
Material haul	30	Jan 21, 2020–Mar 2, 2020
Auger holes, direct-bury poles: (approx. 31 poles)	59	Segment 1: Feb 2020–Mar 2020 Segment 2: Mar 2020
Foundation construction (micropile)	N/A	N/A
Foundation construction (pier foundation), approx. 26 poles	136	Segment 1: Feb 2020–May 2020 Segment 2: May 2020–Aug 2020 Segment 3: May 2020
Structure installation and assembly, per crew, two crews required (including old pole removal) (approx. 100 new structures, 19 removed structures)	117	Segment 1: Mar 2020–May 2020 Segment 2: Aug 2020 Segment 3: May 2020
Stringing activities/transfer conductor/sagging activities	121	Segment 1: May 2020–Jul 2020 Segment 2: Sep 2020–Oct 2020 Segment 3: Jul 2020–Sep 2020
Trenching for installation of underground cables	98	Segment 1: May 2020–Jul 2020
Demobilization/right-of-way restoration and cleanup/road refreshing	112	Segment 1: Jul 2020–Sep 2020 Segment 2: Oct 2020–Nov 2020 Segment 3: Sep 2020–Oct 2020

### **3.8 OPERATION AND MAINTENANCE**

#### **3.8.1 General Project Operation and Maintenance Activities and Practice**

This section describes the standard operation and maintenance activities and procedures that SDG&E currently conducts and would continue to conduct along the proposed power line route. For several years, SDG&E has continuously operated the facilities that would be modified by the Proposed Project. Following construction of the Proposed Project, SDG&E would continue to conduct these activities to be consistent with its standard operating procedures, including the *Subregional NCCP*, which is described in greater detail in Section 4.4, Biological Resources. No change in SDG&E's operation and maintenance protocols and procedures is anticipated or included as part of the Proposed Project.

SDG&E would regularly inspect, maintain, and repair TL 6975, pending agency review of the Proposed Project and following completion of Proposed Project construction. These activities would involve both routine preventive maintenance and emergency procedures to maintain service continuity. SDG&E would perform aerial and ground inspections of Proposed Project facilities and patrol above-ground components annually. Inspection for corrosion, equipment misalignment, loose fittings, and other common mechanical problems would be performed at least every 3 years (per CPUC G.O. 165) for power lines.

The existing power line alignment requires some maintenance activities that would no longer be needed because of the installation of steel poles and reconductoring/re-energizing of the existing de-energized line. The existing wooden poles require intrusive inspections every 10 years, which would no longer be necessary with the new steel poles. The de-energized power line requires insulator washing four times a year. This activity would not be required once the power line is re-energized. This would result in a decrease in heavy truck miles, from approximately 91 to 84 miles per month. De-energized lines on Segment 3 are currently inspected and maintained the same way as energized lines; therefore, when the line is reconductored, it will not require additional maintenance activities or additional trips to the Proposed Project; however, the new structures in Segment 2 would require more maintenance. Because of the additional structures and hardware, Segment 2 would require more inspections, with more items that could require repair or replacement, which would result in more trips to the segment. The miles traveled by light-duty trucks per month would increase from approximately 156 to 168 miles, primarily due to the additional inspections required. Based on the estimated maintenance the Proposed Project would require, overall miles traveled per month would be approximately 252, which is relatively similar to the current approximately 247 miles traveled per month. Generally, maintenance activities would increase slightly with implementation of the Proposed Project.

#### **3.8.2 Road Maintenance**

Road maintenance includes grading of existing access roads, installation of BMPs specified in the SWPPP, spot repair of erosion sites, and vegetation trimming, as needed. The specific BMPs to be installed would be based on site conditions, but typical BMPs for road maintenance include fiber rolls, sandbag barriers, diversion berms, and drainage swales. SDG&E performs road



maintenance as necessary. Road maintenance may require the use of a motor grader, water truck, and pickup trucks.

### **3.8.3 Pole Structure Brushing and Tree Trimming**

In accordance with firebreak clearance requirements in Public Resources Code 4292 and Title 14, Section 1254, of the California Code of Regulations (CCR), SDG&E would trim or remove flammable vegetation in the area surrounding subject power line poles to reduce potential fire and other safety hazards. One-person crews typically conduct this work using mechanical equipment, consisting of chain saws, weed trimmers, rakes, shovels, and leaf blowers. SDG&E typically inspects poles on an annual basis to determine if brushing is required.

In accordance with tree and power line clearance requirements in Public Resources Code 4293 and Title 14, Section 1256, of the CCR as well as CPUC G.O. 95, SDG&E would trim trees and vegetation to manage fire and safety hazards and ensure electrical reliability. Regular inspection, regardless of habitat type, is necessary to maintain proper line clearances. SDG&E conducts tree-trimming activities with a two-person crew in an aerial lift truck and a chipper trailer. SDG&E typically inspects trees in its service area for trimming needs on an annual basis.

### **3.8.4 Application of Herbicides**

An application of herbicides may follow the mechanical trimming of vegetation to prevent vegetation from recurring. This activity generally requires one person in a pickup truck, taking only minutes to spray around the base of the pole structure within a radius of approximately 10 feet. The employee either walks from the nearest access road to apply the herbicide or drives a pickup truck directly to each pole structure location as access permits.

### **3.8.5 Equipment Repair and Replacement**

Pole structures may support a variety of equipment, such as conductors, insulators, switches, transformers, lightning arrest devices, and line junctions as well as other electrical equipment. SDG&E may need to add, repair, or replace equipment to maintain uniform, adequate, safe, and reliable service. SDG&E may remove and replace an existing structure with a larger or stronger structure at the same location or at a nearby location because of damage or changes in conductor size. Equipment repair or replacement requires crew access to the equipment to be repaired or replaced.

### **3.8.6 Use of Helicopters**

SDG&E uses helicopters in the visual inspection of overhead facilities and routinely patrols power lines. SDG&E uses helicopters for patrolling power lines during trouble jobs (e.g., outages or service curtailments) and for conducting maintenance activities in areas that have no vehicle access or are in rough terrain.

### 3.9 ANTICIPATED PERMITS AND APPROVALS

**Table 3-13: Anticipated Permits and Approvals**

Permit/Approval/Consultation	Agency	Jurisdiction/Purpose
<b>Federal Agencies</b>		
Lighting and Aerial Marking	FAA	Construction of overhead facilities potentially requiring aerial marking will be determined with the FAA at a later date.
Congested Area Plan	FAA	Use of helicopters within populated areas will be coordinated with the FAA as applicable.
<b>State Agencies</b>		
PTC	CPUC	Overall project approval and CEQA review
NPDES – General Construction Permit	SWRCB	Stormwater discharges associated with construction activities disturbing more than 1 acre of land.
<b>Local Agencies<sup>2</sup></b>		
Encroachment Permit and Traffic Control Plan(s)	City of San Marcos, Carlsbad, Escondido, and San Diego County	Construction within, under, or over city roadways (West San Marcos Blvd, Palomar Airport Road, S Rancho Santa Fe Road, San Elijo Road, Country Club Road, Kauana Loa Drive, and Auto Park Way)
Grading Permit	City of San Marcos	Required for permanent work pads and road extensions located in the Cities of San Marcos and Carlsbad
<p>Notes:</p> <p>Table contents based on preliminary engineering and subject to change.</p> <p><sup>1</sup> Permit is not currently anticipated to be required but may be required as a result of further refined project design or direct consultation with regulatory agencies.</p> <p><sup>2</sup> Noise variance approvals are not included herein because SDG&amp;E would meet and confer with local agencies where construction is anticipated to exceed noise limits published within the applicable local noise codes. Actual noise variances would not be procured; therefore, this process is not listed within this table.</p>		

### 3.10 APPLICANT-PROPOSED MEASURES

In addition to the above project design features and ordinary construction/operating restrictions included as part of the Proposed Project description, SDG&E will also incorporate the Applicant-Proposed Measures (APMs) that have been identified and developed specifically for the Proposed Project during preparation of the PEA. Table 3-14: Applicant-Proposed Measures by Resource Area, identifies the APMs that are applicable to each resource area. The various

resource sections of this document outline how and when the APMs will be applied to avoid or minimize impacts to a less-than-significant level.

**Table 3-14: Applicant-Proposed Measures by Resource Area**

Resource Area	Relevant Applicant-Proposed Measures
Aesthetics	N/A
Agriculture and Forestry Resources	N/A
Air Quality and Greenhouse Gases	N/A
Biological Resources	APM BIO-1 through APM BIO-9
Cultural Resources	APM CUL-1 through APM CUL-9
Geology, Soils, and Minerals	N/A
Hazards and Hazardous Materials	APM HAZ-4
Hydrology and Water Quality	N/A
Land Use and Planning	N/A
Mineral Resources	N/A
Noise	N-1, N-2, N-3
Population and Housing	N/A
Public Services	APM PS-1, APM PS-2, APM PS-3, APM PS-4
Recreation	APM PS-2
Transportation and Traffic	APM TRA-1, APM TRA-2
Utilities and Service Systems	N/A
Cumulative Impacts	N/A
Notes: N/A = Not Applicable	

Linear electric infrastructure projects, such as this one, typically traverse multiple jurisdictional boundaries, natural resource features, and habitat types. Until final design, and in some cases until installation, utility projects must remain more flexible in the definition of their ultimate configuration and placement than most non-linear projects. The Proposed Project may encounter unique topographical and natural features or site-specific engineering challenges along the power line ROW that could not be reasonably foreseen and specifically planned for in advance. The APMs take into consideration the potential for the Proposed Project to encounter such features and enhance SDG&E's ability to avoid or minimize future potential impacts on sensitive environmental resources.

The APMs allow for limited project design flexibility while avoiding or minimizing environmental impacts, to the extent feasible. Per CEQA, "feasible" is defined as being "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors" while attaining the Proposed Project's basic objectives and its purpose and need.

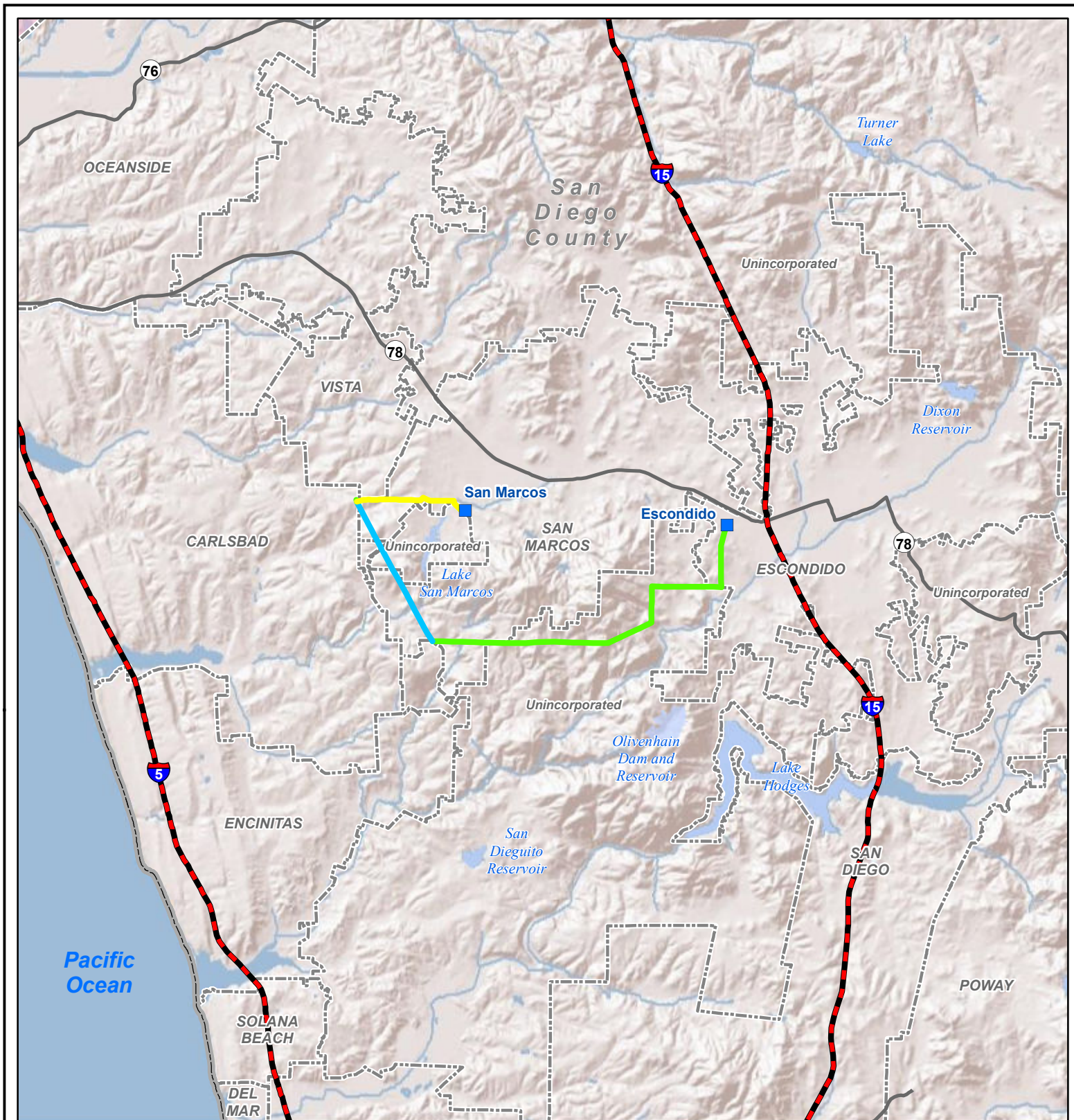
### 3.11 IMPLEMENTATION OF APPLICANT-PROPOSED MEASURES

SDG&E would be responsible for overseeing the assembly of the construction and environmental teams that would implement and evaluate the Proposed Project APMs. SDG&E maintains an environmental compliance management program to allow for implementation of the APMs to be monitored, documented, and enforced during each Proposed Project phase, as appropriate. All those contracted by SDG&E to perform this work would be contractually bound to properly implement the APMs and ensure their effectiveness in reducing potential environmental effects.










Implementation of the proposed APMs would be the responsibility of the environmental compliance team. The team would include an environmental project manager, resource specialists, and environmental monitors. All APMs would be implemented consistent with applicable federal, state, and local regulations. The environmental compliance team would be responsible for inspection, documentation, and reporting SDG&E compliance with all APMs as proposed. As needed, environmental specialists would be retained to verify that all APMs are properly implemented during the construction phase.

If conditions occur where construction may adversely affect a known or previously unknown environmentally sensitive resource, or if construction activities significantly deviate from Proposed Project requirements, SDG&E monitors and/or contract administrators would have the authority to halt construction activities, if needed, until an alternative method or approach can be identified. Any concerns that arise during implementation of the APMs would be communicated to the appropriate authority to determine if corrective action is required or the concerns would be addressed on-site, as applicable.

As the proposed APMs are implemented, environmental monitors from SDG&E would be responsible for the review and documentation of such activities. Field notes and digital photographs would be used to document and describe the status of APMs, as necessary.

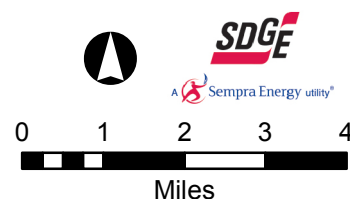


**Legend**

- |  |   |
|--|---|
|  Existing Substation    |  Interstate      |
| <b>Project Alignment</b>   |  State Highway   |
|  Segment 1 - Rebuild     |  City Boundary   |
|  Segment 2 - New Build   |  County Boundary |
|  Segment 3 - Reconductor |  Waterbody       |

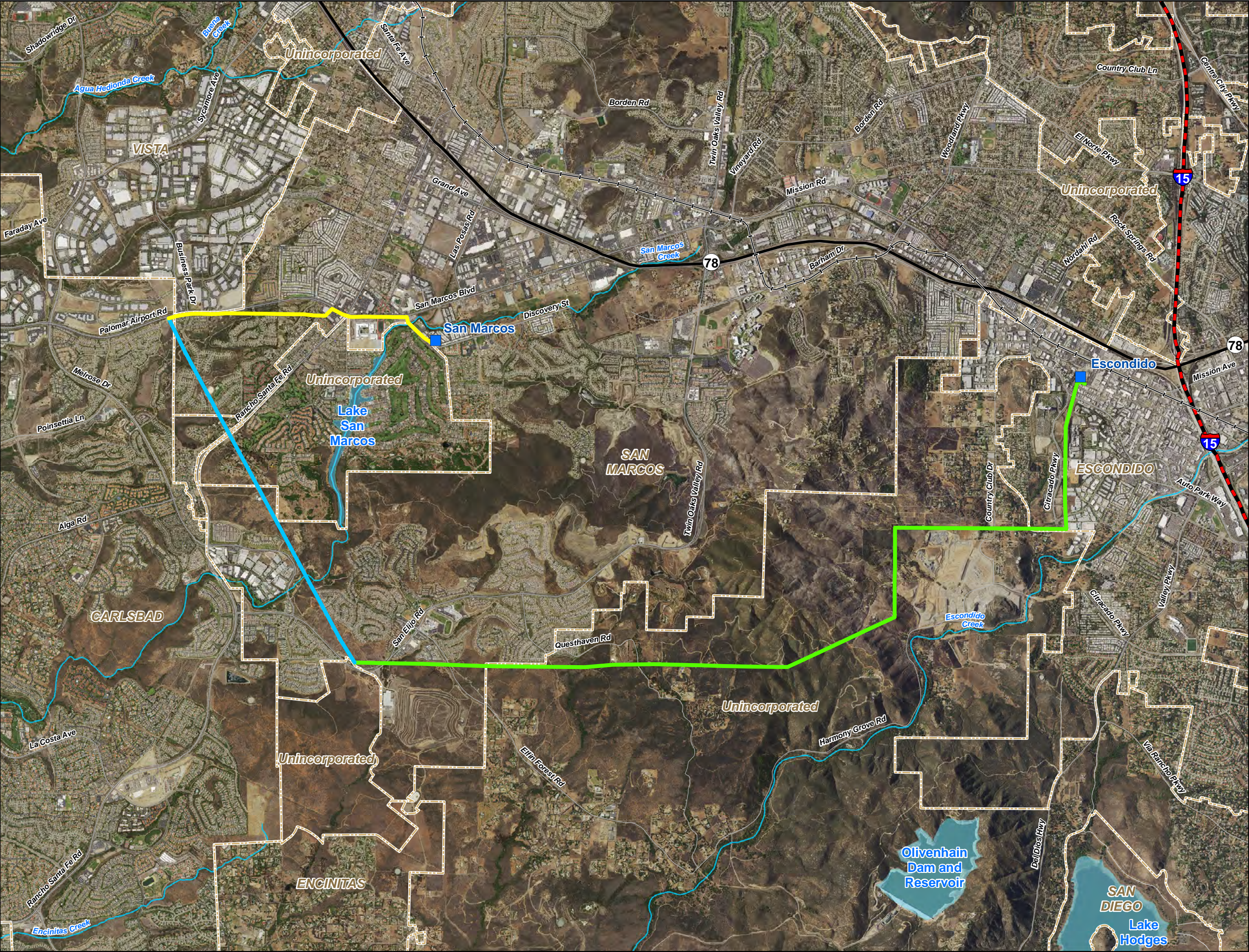


**TL6975 San Marcos to Escondido  
Figure 3-1:  
Project Location**









TL6975 San Marcos to Escondido  
Figure 3-2:  
Project Overview

Legend

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconnector

General Features

Existing Substation

Interstate

State Highway

Major Road

Railroad

Major Waterway

City Boundary

County Boundary

Waterbody

Orange County

Riverside County

San Diego County

Pacific Ocean

MAP LOCATION

0 1,000 2,000 3,000 4,000 5,000

Feet

SDGE

Sempra Energy utility

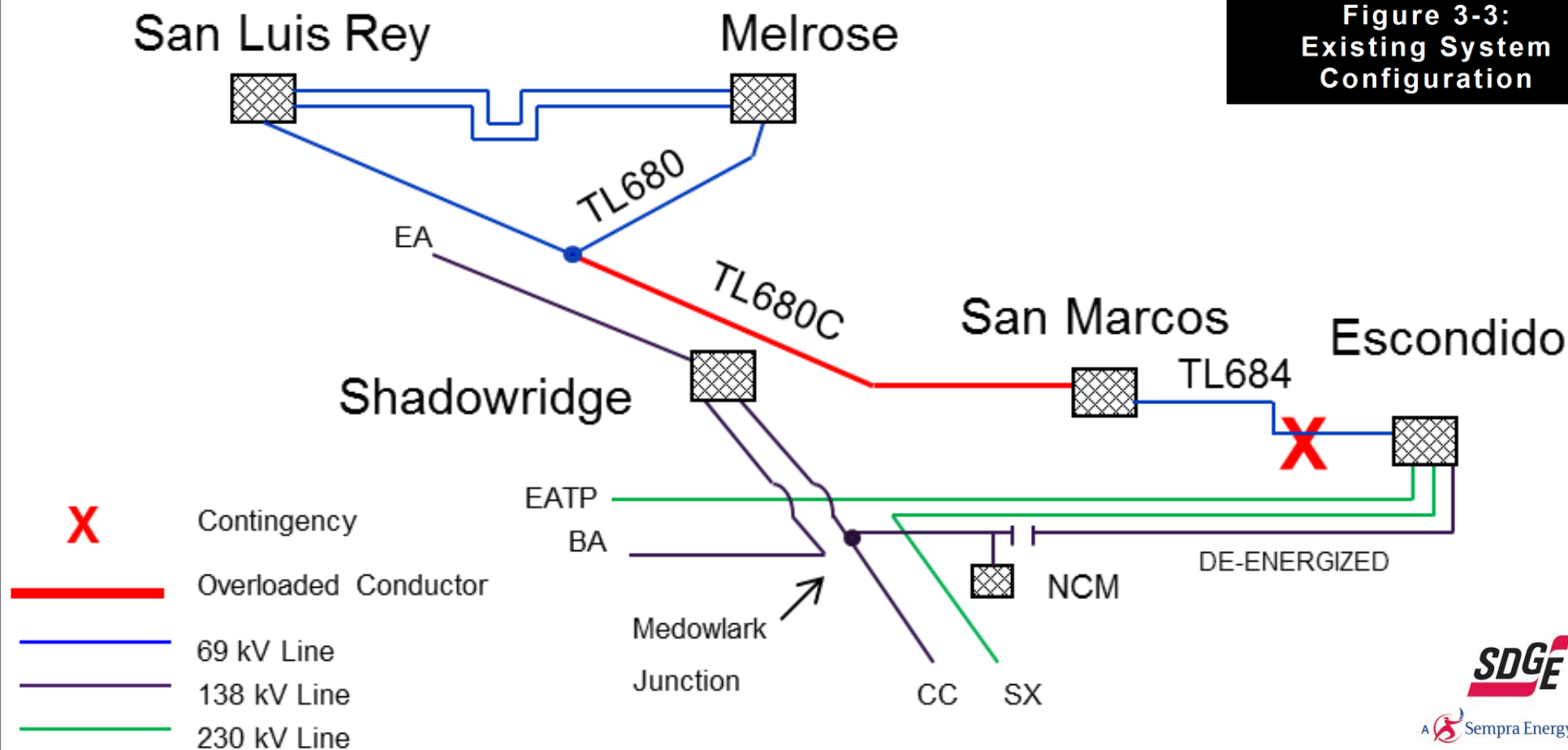






# Existing

TL6975 San Marcos  
to Escondido  
Figure 3-3:  
Existing System  
Configuration





# Proposed

TL6975 San Marcos  
to Escondido  
Figure 3-4:  
Proposed System  
Configuration

San Luis Rey

Melrose

Shadowridge

San Marcos

EATP  
BA

Medowlark  
Junction

NCM

CC SX

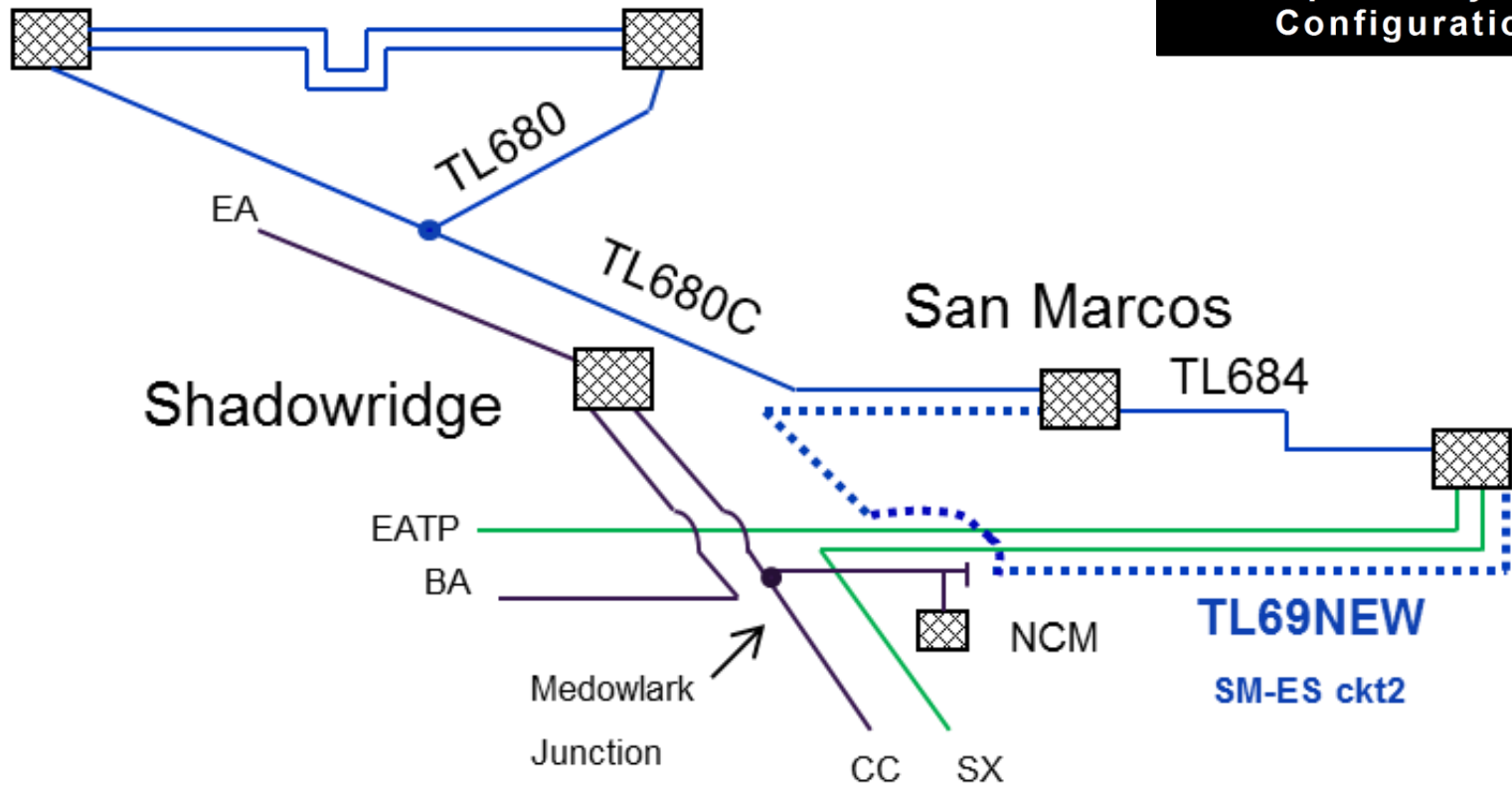
TL680

TL680C

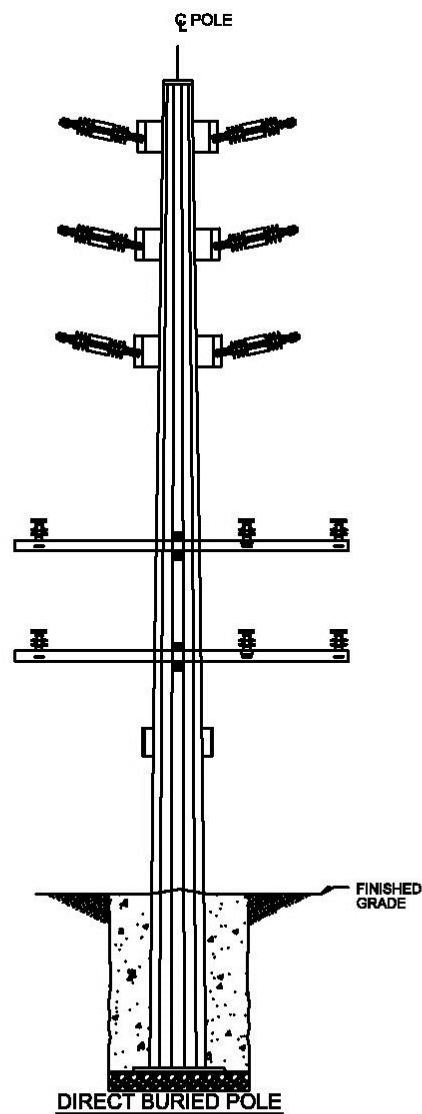
TL684

**TL69NEW**  
SM-ES ckt2

--- New 69 kV Line



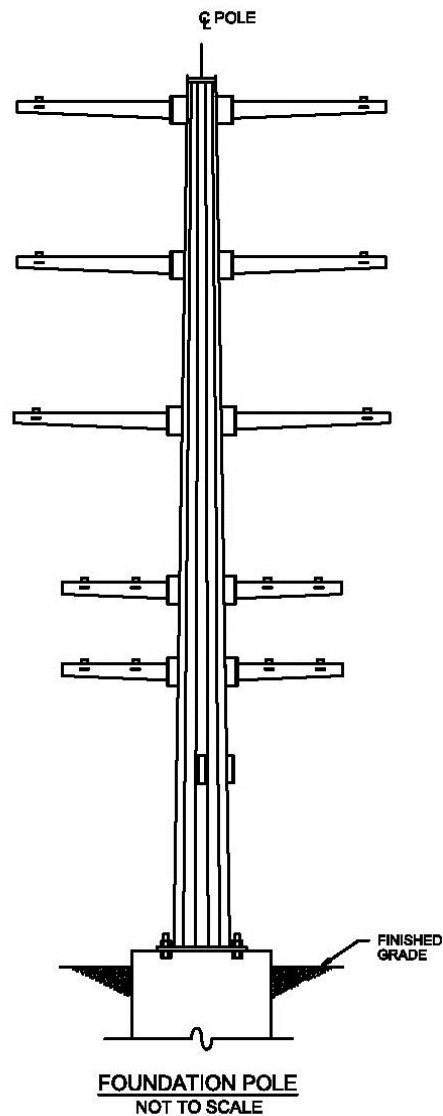




**TL6975 San Marcos  
to Escondido  
Figure 3-5:  
WPI Double Circuit  
Direct Buried**

NOT TO SCALE									
C								 <b>SAN DIEGO GAS &amp; ELECTRIC</b> TRANSMISSION ENGINEERING TL 0073 SAN MARCOS TO ESCONIDO	<b>GENERAL ARRANGEMENT</b> 69KV STEEL POLE WPM DOUBLE CIRCUIT DIRECT BURIED
B									
A									
-									
				ORIGINAL	AHH		4/7/17		
REV	BUDGET	CONST	ORDER	CHANGE	DRAWN	CHK'D	APP'D	DATE	SHEET 1 OF 1





**TL6975 San Marcos  
to Escondido  
Figure 3-6:  
Type DC-X Double  
Circuit Foundation**

[illegible]





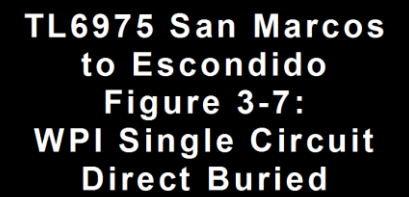


Diagram illustrating a **DIRECT BURIED POLE**. The pole is shown vertically, with a cross-section view of the base embedded in a trench. The base is surrounded by a layer of material (likely gravel or concrete) and is labeled **NOT TO SCALE**. The top of the pole is labeled **POLE**. The horizontal cross-arm is labeled **FINISHED GRADE**.

[illegible]



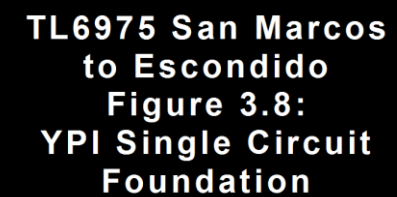
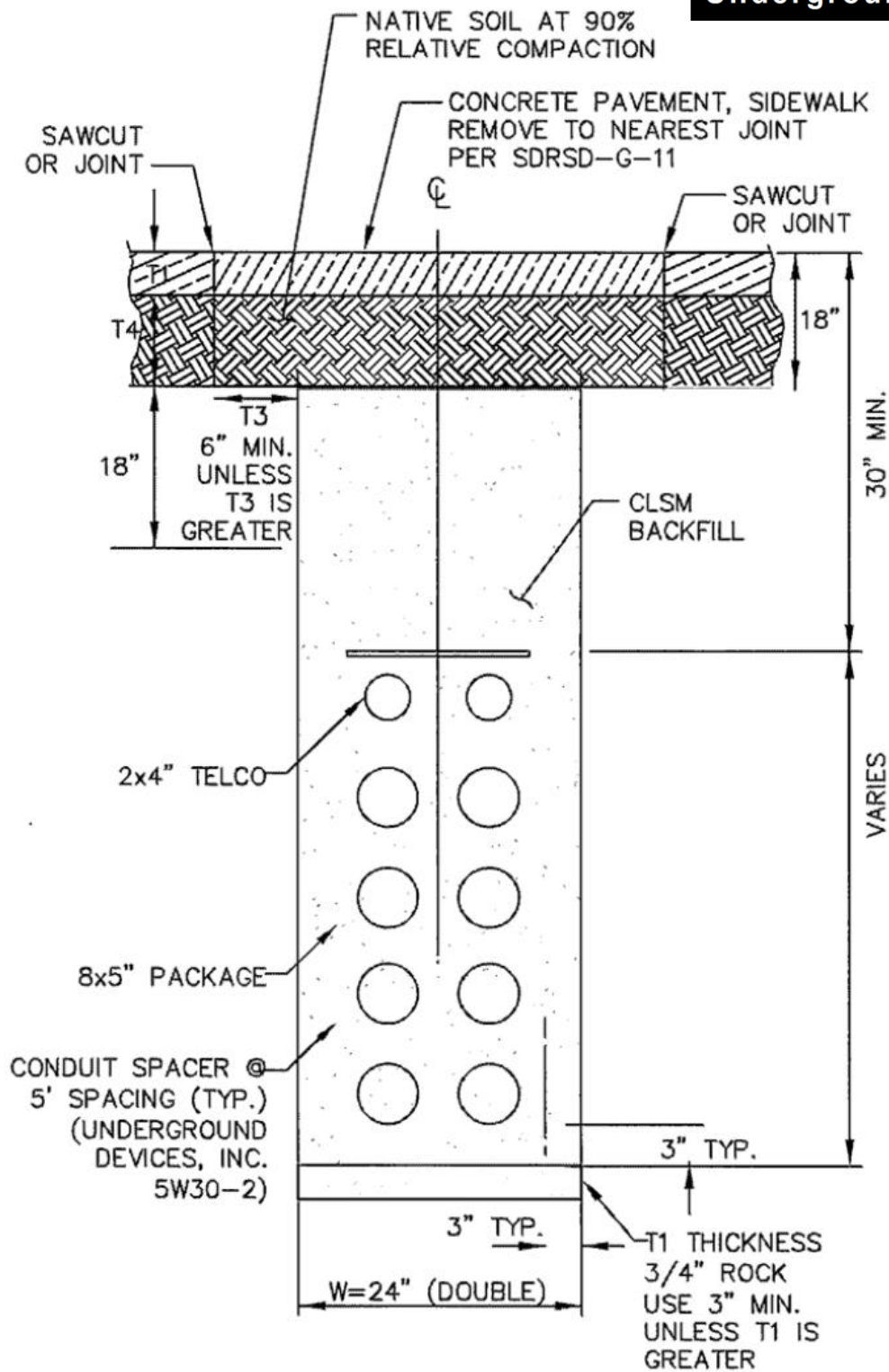


Diagram illustrating the foundation and structure of a pole. The pole is labeled "POLE" at the top. The foundation is labeled "FOUNDATION POLE" and "NOT TO SCALE". The ground level is indicated by a horizontal line labeled "FINISHED GRADE". The pole is shown with cross-arms and insulators, and the foundation is shown with a base and a cross-section view.

[illegible]





DETAIL 0

ASPHALT THICKNESS ENCOUNTERED IN THE  
POTHOLING VARIED BETWEEN x & x" THICK,  
UNDERLYING CONCRETE FOUND APPROXIMATELY x & x" THICK.



## Table of Contents

<b>4. ENVIRONMENTAL IMPACT ASSESSMENT .....</b>	<b>4-1</b>
---	------------

## **Acronyms and Abbreviations**

CEQA	California Environmental Quality Act
CPUC	California Public Utilities Commission
PEA	Proponent's Environmental Assessment



## 4. ENVIRONMENTAL IMPACT ASSESSMENT

---

This chapter of the Proponent's Environmental Assessment (PEA) presents an evaluation of the potential impacts associated with the Proposed Project for identified environmental resource areas derived from California Public Utilities Commission (CPUC) requirements (CPUC Section 1001-1013) and California Environmental Quality Act (CEQA) requirements (Public Resources Code Section 21080 et seq.).

For each resource area, the analysis includes a description of the existing environment and an evaluation of potential adverse environmental consequences (also referred to as environmental impacts or effects) associated with the construction, operation, and maintenance of the Proposed Project. In general, construction-related impacts discussed within the PEA are those temporary impacts that could occur as a result of construction activities. Operations and maintenance-related impacts discussed within the PEA are those permanent (or on-going) impacts that result from the operation and maintenance of the Proposed Project facilities following completion of construction. To the extent operation and maintenance of the Proposed Project would occur in the same location as existing facilities and would serve a similar purpose to the existing facilities, they would also have approximately the same or substantially the same impacts. While fewer maintenance trips would be required for Segment 1, slightly more maintenance trips would be required for the proposed structures in Segment 2. This slight increase would not represent a significant change to existing operations and maintenance activities. Such operations and maintenance activities are incorporated into the existing environmental setting and baseline for assessing impacts. Cumulative impacts are considered to account for other projects in vicinity of the Proposed Project that, when considered together with the Proposed Project, could potentially compound or increase environmental impacts.

The analyses presented in this section are based on the following: (1) details of the Proposed Project as presented in Chapter 3, Project Description; (2) requirements under CEQA and the State CEQA Guidelines; (3) CPUC requirements, including General Order 131-D and guidance materials; and (4) consideration of input from responsible and reviewing agencies.

Potential impacts are identified and evaluated based upon the significance criteria outlined in Appendix G of the State CEQA Guidelines. A completed CEQA checklist for each resource area is provided at the beginning of each resource chapter. For example, the completed aesthetics CEQA checklist is provided on Page 4.1-1 of Section 4.1, Aesthetics.

The individual impact assessments for each of the resource areas are organized within this chapter as follows:

- 4.1 – Aesthetics
- 4.2 – Agriculture and Forestry Resources
- 4.3 – Air Quality
- 4.4 – Biological Resources
- 4.5 – Cultural Resources
- 4.6 – Geology, Soils, and Mineral Resources

- 4.7 – Greenhouse Gas
- 4.8 – Hazards and Hazardous Materials
- 4.9 – Hydrology and Water Quality
- 4.10 – Land Use and Planning
- 4.11 – Mineral Resources
- 4.12 – Noise
- 4.13 – Paleontological Resources
- 4.14 – Population and Housing
- 4.15 – Public Services
- 4.16 – Recreation
- 4.17 – Transportation and Traffic
- 4.18 – Utilities and Service Systems
- 4.19 – Cumulative Impacts

Technical support and reference for the impact assessments are provided in the following technical appendices:

- Appendix 4.3-A: Air Quality and Greenhouse Gas Assessment
- Appendix 4.4-A: Biological Technical Report
- Appendix 4.4-B: Special-Status Species with Potential to Occur
- Appendix 4.4-C: Jurisdictional Delineation Report
- Appendix 4.4-D: SDG&E NCCP and Operational Protocols
- Appendix 4.5-A: Inventory of Cultural Resources along San Diego Gas & Electric Company's TL 6975 Project (Confidential)
- Appendix 4.5-B: Archeological Survey Report
- Appendix 4.8-A: EDR Corridor Study
- Appendix 4.9-A: Water Quality Construction Best Management Report
- Appendix 4.12-A: Ambient Noise Survey Report
- Appendix 4.13-A: Paleontological Resources Technical Report

## Table of Contents

<b>4.1</b>	<b>Aesthetics .....</b>	<b>4.1-1</b>
4.1.1	Introduction.....	4.1-1
4.1.2	Methodology .....	4.1-1
4.1.3	Existing Conditions.....	4.1-2
4.1.4	Potential Impacts.....	4.1-11
4.1.5	Applicant-Proposed Measures .....	4.1-13
4.1.6	References.....	4.1-13

## List of Figures

Figure 4.1-1: Regional Landscape Context .....	4.1-15
Figure 4.1-2: Photograph Viewpoint Locations.....	4.1-17
Figure 4.1-3: Photographs of Existing Facilities and Vicinity .....	4.1-19

## List of Tables

Table 4.1-1: Summary of Landscape Units .....	4.1-7
---	-------

## Acronyms and Abbreviations

APM	Applicant-Proposed Measure
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
GIS	Geographical Information System
I	Interstate
PEA	Proponent’s Environmental Assessment
ROW	right-of-way
SDG&E	San Diego Gas & Electric Company
SR	State Route

## 4.1 AESTHETICS

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a.	Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b.	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d.	Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 4.1.1 Introduction

This section of the Proponent's Environmental Assessment (PEA) describes the existing conditions related to visual and aesthetic resources within the Proposed Project Area, and potential impacts on these resources that could result from construction, operation, and maintenance of the Proposed Project.

Visual or aesthetic resources are generally defined as both the natural and built features of the landscape that are seen and that contribute to the public's experience and appreciation of the environment. Visual resource or aesthetic impacts are generally defined in terms of a project's physical characteristics and potential visibility, and the extent to which Proposed Project's presence would alter the perceived visual character and quality of the environment. The Proposed Project's potential effects on aesthetic resources were evaluated using the significance criteria set forth in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. The analysis concludes that the Proposed Project would have a *less-than-significant* impact on visual or aesthetic resources.

### 4.1.2 Methodology

The analysis of potential visual effects associated with the Proposed Project is based on site reconnaissance, Geographical Information System (GIS) data, and review of aerial mapping. The analysis is also based on ground-level photographs of the existing alignment, local planning documents, and the *Guidelines for the Visual Impact Assessment of Highway Projects* from the California Department of Transportation (Caltrans). Field observations were made in April 2017 to document existing visual conditions in the vicinity of the Proposed Project and identify potentially affected sensitive viewing locations.

### 4.1.3 Existing Conditions

#### 4.1.3.1 Regulatory Setting

##### **Federal**

No federal regulations related to aesthetics are applicable to the Proposed Project.

##### **State**

###### *California Department of Transportation: Scenic Highway Program*

Caltrans' Scenic Highway Program was created in 1963. Its purpose is to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. The State Scenic Highway System includes highways that are either eligible for designation as scenic highways or have been designated as such. The status of a state scenic highway changes from "eligible" to "officially designated" when the local jurisdiction adopts a scenic corridor protection program, applies to Caltrans for scenic highway approval, and receives the designation from Caltrans. A city or county may propose adding routes with outstanding scenic elements to the list of eligible highways; however, state legislation is required for designation.

##### **Local**

The Proposed Project is not subject to local discretionary regulations because the California Public Utilities Commission has exclusive jurisdiction over the siting, design, and construction of the Proposed Project. The following summary of local regulations related to visual resources is provided for informational purposes.

###### *County of San Diego*

###### *San Diego County General Plan Land Use Element*

Chapter 3, Land Use Element, of the *San Diego County General Plan* (2011), contains provisions regarding siting utilities within preserve areas.

**LU-12.4 Planning for Compatibility:** Plan and site infrastructure for public utilities and public facilities in a manner compatible with community character, minimize visual and environmental impacts, and whenever feasible, locate any facilities and supporting infrastructure outside preserve areas.

###### *San Diego County General Plan Conservation and Open Space Element*

Chapter 5, the Conservation Element, contains a general discussion of scenic resources. Specifically, it contains a dark-skies policy, policies related to undergrounding utilities, and policies related to scenic county routes. County policies for protecting scenic resources include:

**Goal COS 11: Preservation of Scenic Resources.** Preservation of scenic resources, including vistas of important natural and unique features, where visual impacts of development are minimized.

**Policy COS 11.1: Protection of Scenic Resources.** Require the protection of scenic highways, corridors, regionally significant scenic vistas, and natural features, including prominent ridgelines, dominant landforms, reservoirs, and scenic landscapes.

**Policy COS 11.5: Collaboration with Private and Public Agencies.** Coordinate with the California Public Utilities Commission, power companies, and other public agencies to avoid siting energy generation, transmission facilities, and other public improvements in locations that affect visually sensitive areas, whenever feasible. Require the design of public improvements within visually sensitive areas to blend into the landscape.

**Policy COS 11.7: Underground Utilities.** Require new development to place utilities underground and encourage “undergrounding” in existing development to maintain viewsheds, reduce hazards associated with hanging lines and utility poles, and keep pace with current and future technologies.

**Goal COS 12: Preservation of Ridgelines and Hillsides.** Preserve ridgelines and steep hillsides for their character and scenic value.

**Policy COS 12.1: Hillside and Ridgeline Development Density.** Protect undeveloped ridgelines and steep hillsides by maintaining semi-rural or rural designations on these areas.

**Policy COS 12.2: Development Location on Ridges.** Require development to preserve physical features by being located down and away from ridgelines so that structures are not silhouetted against the sky.

### *San Diego County Zoning Ordinance*

The San Diego County Zoning Ordinance contains regulations that apply to designated scenic areas, including scenic highway corridors and areas adjacent to significant recreational, historic, or scenic resources. These regulations include provisions for undergrounding utilities, grading, signage, and lighting.

### 5202 Application of the Scenic Area Regulations

The Scenic Area Regulations shall be applied to areas of unique scenic value, including, but not limited to, scenic highway corridors designated by the *San Diego County General Plan*, and areas adjacent to significant recreational, historic, or scenic resources, including, but not limited to, federal and state parks.

### 5210 Site Plan Review Criteria

- e. *Aboveground Utilities.* Utilities shall be constructed and routed underground, except in those situations where natural features prevent undergrounding or where safety considerations necessitate aboveground construction and routing. Aboveground utilities shall be constructed and routed to minimize detrimental effects on the visual setting of the designated area. Where it is practical, aboveground utilities shall be screened from view from either the scenic highway or the adjacent scenic, historic, or recreational resource by existing topography, by the placement of buildings and structures, or by landscaping and plantings that harmonize with the natural landscape of the designated area.
- f. *Grading.* The alteration of the natural topography of the site shall be minimized and shall avoid detrimental effects on the visual setting of the designated area and the existing natural drainage system. Alterations of the natural topography shall be screened from view from either the scenic highway or the adjacent scenic, historic, or recreational resource by landscaping and plantings that harmonize with the natural landscape of the designated area, except when such alterations add variety to or otherwise enhance the visual setting of the designated area.
- g. *Signs.* Off-site signs shall be prohibited in areas that are subject to the Scenic Area Regulations. The number, size, location, and design of all other signs shall not detract from the visual setting of the designated area or obstruct significant views. Subsequent to site plan review and approval, any alteration to signs, other than general maintenance, shall be subject to an Administrative Permit.
- h. *Lighting.* The interior and exterior lighting of buildings and structures and the lighting of signs, roads, and parking areas shall be compatible with the lighting employed in the designated area.

#### *City of Carlsbad General Plan*

The *City of Carlsbad General Plan* (2013) was created to outline the community's vision for the future development of Carlsbad. It designates open space to preserve aesthetic, cultural, and educational resources. Landforms that are protected under the general plan include, but are not limited to, trails, preserves, hillsides, and habitats. There are no specific goals, policies, or ordinances that would be relevant to aesthetic concerns associated with utility projects.

#### *City of Escondido General Plan*

The *City of Escondido General Plan* (2017) was created to guide the use of private and public lands within the city's boundaries. Landforms, natural or built, with a known aesthetic view are protected by the plan in order for future generations to enjoy. There are no specific goals, policies, or ordinances that would be relevant to aesthetic concerns associated with utility projects.



### *City of San Marcos General Plan*

The purpose of the *City of San Marcos General Plan* (2013) is to preserve the city's scenic resources for residents and visitors to enjoy. Scenic landforms that are protected include, but are not limited to, undeveloped hillsides, prominent landforms, creek corridors, and historic buildings. There are no specific goals, policies, or ordinances that would be relevant to aesthetic concerns associated with utility projects.

### *City of Vista General Plan 2030*

The *City of Vista General Plan 2030* (2012) was prepared to guide the physical development of the incorporated city and any land outside of the city's boundaries that bear a relationship to its planning activities. Parks, designated open space, and places, buildings, and objects that embody the city's history are protected under this plan. There are no specific goals, policies, or ordinances that would be relevant to aesthetic concerns associated with utility projects.

#### **4.1.3.2 Regional and Local Landscape Setting**

The Proposed Project is located in the northeastern region of San Diego County, in the vicinity of San Marcos Lake, San Elijo Hills, and Double Peak Regional Park. It would cross into the cities of San Marcos, Escondido, Vista, and Carlsbad as well as areas of unincorporated San Diego County. Elevations within the Proposed Project site range from 500 to 1,150 feet above sea level. Figure 4.1-1: Regional Landscape Context, shows the Proposed Project's regional context (figures are located at the end of the section).

The Proposed Project would be located along residential, commercial, industrial, open space/park/recreation, agriculture, public/institutional, roads, freeways, undeveloped/vacant land, access roads, and mixed-use land uses.

To the north of the Proposed Project site is Ronald Packard Parkway, or State Route (SR) 78, which intersects with Interstate (I) 15 just northeast of the Proposed Project Area. SR 78 travels east-west and connects inland areas to I-5 and the coast. The Proposed Project would cross several arterial roads, including San Marcos Boulevard, Rancho Santa Fe Road, and Elfin Forest Road in San Marcos and Country Club Drive and Nordahl Road in Escondido.

The Proposed Project is within the coastal hills of San Diego County's northern valley. The Proposed Project crosses diverse terrain with a variety of vegetation communities. The Proposed Project Area contains disturbed habitat, urban/developed land, orchards/vineyards, intensive agricultural areas, coastal sage scrub, chaparral, grasslands, wetlands, marshes, riparian forests, woodlands, and freshwater habitats.

Segment 1 of the Proposed Project would involve rebuilding an existing power line from a single-circuit structure line into a double-circuit structure line. All existing wood poles would be replaced with steel poles, and existing porcelain insulators would be replaced with polymer insulators. The majority of Segment 1 is adjacent to San Marcos Boulevard, which turns into Palomar Airport Road, as well as commercial, industrial, and residential development in an

urban area. Segment 2 of the Proposed Project would be constructed on new steel poles within an existing electric utility corridor. Segment 2 would span primarily through residential and open space areas. Segment 3 would involve reconductoring/re-energizing an existing power line on existing steel lattice towers. Segment 3 would traverse residential areas, undeveloped/ open space, rolling hills, and industrial and commercial areas.

#### **4.1.3.3 Proposed Project Viewshed**

The Proposed Project viewshed is defined as the general area from which a project is visible. For purposes of describing a project's visual setting and assessing potential visual impacts, the viewshed can be broken down into foreground, middleground, and background zones. The foreground is defined as the zone within 0.25 to 0.5 mile of the viewer. Landscape detail is noticeable; objects are most prominent when seen in the foreground. The middleground can be defined as the zone that extends from the foreground up to 3 to 5 miles from the viewer. The background extends from approximately 3 to 5 miles to infinity.

Analysis of the Proposed Project considers primarily the potential effects of the Proposed Project's elements on foreground viewshed conditions, although consideration is also given to middleground and background views. As described in the following paragraphs, the Proposed Project would be visible from some nearby locations along public roads. In addition, it would be visible from residential, public recreation, open space, commercial, agricultural, and industrial areas. At many locations, intervening natural landforms would partially or fully screen public views of the Proposed Project. The Proposed Project's visibility would be limited where it blends in with surrounding or backdrop vegetation and the landforms in many areas.

The majority of the Proposed Project would follow an existing power line within an existing utility corridor, resulting in little change to existing views. Given the existing conditions, as well as the length of the overall alignment, the Proposed Project would not be visible in its entirety from any single viewing location.

Within the Proposed Project Area, power and distribution structures, including substations, steel and wooden poles, and overhead conductors associated with existing power lines, are the established features seen within the landscape setting.

#### **4.1.3.4 Landscape Units and Representative Views**

A set of five distinct landscape units have been identified for purposes of documenting and describing the Proposed Project's foreground viewshed. Table 4.1-1: Summary of Landscape Units, summarizes the landscape units identified within the Proposed Project's viewshed. Figure 4.1-2: Photograph Viewpoint Locations, delineates the Proposed Project's route and photograph viewpoint locations. Figure 4.1-3: Photographs of Existing Facilities and Vicinity, presents a set of 12 photographs that show representative visual conditions and existing public views within the Proposed Project Area from the points shown in Figure 4.1-2: Photograph Viewpoint Locations.

**Table 4.1-1: Summary of Landscape Units**

<b>Landscape Unit (approximate length/size)</b>	<b>Primary Affected Viewers</b>	<b>Representative Photograph Numbers</b>
San Marcos Substation to Rancho Carrillo Master Association (2.03 miles)	Motorists, residents	1, 2, 3
Rancho Carrillo Master Association to Pole 65 (2.2 miles)	Motorists, residents	4, 5, 6
Pole 65 to Pole 87 (1.86 miles)	Residents	7, 8
Pole 87 to Country Club Drive intersection (4.1 miles)	Residents	9, 10
Country Club Drive intersection to Escondido Substation (1.61 miles)	Motorists, residents	11, 12

As depicted in the photographs of representative views, extensive electric transmission, distribution, and substation facilities are visible in all of the landscape units and throughout the entire Proposed Project Area.

#### **Landscape Unit 1: San Marcos Substation to Rancho Carrillo Master Association**

Located in San Marcos, Landscape Unit 1 is the most populated part of the Proposed Project Area. The unit runs mostly along San Marcos Boulevard and other busy streets, which have a steady flow of daytime traffic and many commercial businesses along the route. San Marcos Substation is set back from the main roads, bringing the Proposed Project alignment into a residential area for a short distance. The west end of this landscape unit turns from busy San Marcos Boulevard into a much less densely populated residential area. Along this section of the Proposed Project, the power line would be rebuilt from a single circuit to double circuit. All wood structures would be replaced with steel poles, and all porcelain insulators would be replaced with polymer.

The three representative photographs (Figure 4.1-3: Photographs of Existing Facilities and Vicinity) discussed below were taken from locations along Discovery Street and San Marcos Boulevard. Photograph 1 is a view from the St. Mark Golf Club, looking northeast toward Discovery Street. From this location, the power line is the prominent feature between the golf course and Discovery Street. On the other side of the power line is a residential neighborhood, with little vegetation blocking the view of the power line.

Photograph 2 depicts the view along San Marcos Boulevard heading south from the intersection with Discovery Street. The vegetation in this area is sparse, and views of the existing power line from the main road and adjacent residences and businesses are obscured by vegetation.

Photograph 3 shows the view while heading north along San Marcos Boulevard from the Citibank shopping center parking lot. The existing power line is the prominent feature along the road and partially obstructs the view of mountains in the distance.

The primary viewers for this landscape unit include motorists along San Marcos Boulevard, residents along Discovery Street, and staff/visitors for the business centers along San Marcos Boulevard.

### **Landscape Unit 2: Rancho Carrillo Master Association to Pole 65**

Landscape Unit 2 is located primarily in San Marcos but crosses into Carlsbad and parts of unincorporated San Diego County. Although this landscape unit of the Proposed Project briefly crosses over several dense residential communities, it lies largely within open space and undeveloped lands. This unit also crosses the Center for Natural Lands Management property and San Marcos Creek. This landscape unit would include construction of a new overhead power line with new steel poles. The new power line would parallel TL 680C.

The three representative photos (Figure 4.1-3: Photographs of Existing Facilities and Vicinity) were taken along White Sands Drive and within residential neighborhoods along the existing power line route. Photograph number 4 is facing west along White Sands Drive. The alignment runs parallel to the road and is partly screened by vegetation. The alignment partially obstructs the view down the slope south of the road.

Photograph 5 depicts the view facing northwest from White Sands Drive. The proposed power line continues over a designated specific plan area. The alignment does not block scenic views from the point of view of motorists and is not obstructed by any vegetation or natural features within the landscape unit. Farther in the background of the photo, the alignment changes direction and makes a sharp turn from San Marcos Boulevard.

Photograph 6 shows the proposed power line while heading south from the residential area on Coast Avenue. The views are unobstructed by the proposed power line through the valley and the small residential community off Rancho Santa Fe Road. The view of the alignment is not obstructed by any vegetation; existing power lines and steel poles are seen running across the valley.

The primary viewers along this landscape unit include motorists and residences on and around White Sands Drive.

### **Landscape Unit 3: Pole 65 to Pole 87**

Landscape Unit 3 is located almost entirely in vacant/undeveloped land but skirts several residential areas. The alignment would follow east below Questhaven Road toward Escondido. The Proposed Project would add a new overhead power line along the proposed power line up to Pole 70, at which point the Proposed Project's alignment would meet back up with the existing line and require only reconductoring along the rest of this landscape unit to Pole 87.

The two representative photographs (7 and 8) were taken from residential areas off of San Elijo Road (see Figure 4.1-3: Photographs of Existing Facilities and Vicinity). Photograph 7 shows the view facing northwest from Cooper Court, a private residential community in San Marcos. The alignment is visible outside the residential area and on the hills in the background where it

becomes unobstructed by vegetation. Photograph 8 was taken from a private road off Elfin Forest Road, facing west. This photograph shows the view of the existing alignment running unobstructed along open space and over small hills and valleys. The primary viewers in this portion of the alignment are mainly residents and motorists.

#### **Landscape Unit 4: Pole 87 to Country Club Drive Intersection**

Landscape Unit 4 is located in Escondido and parts of unincorporated San Diego County. This landscape unit crosses almost entirely undeveloped land until reaching the eastern Escondido city border. Here, the Proposed Project crosses some residential areas, some agricultural and orchard lands, and open space. This portion of the Proposed Project would include the reconductoring of the existing power line as well as the addition of an approximately 0.18 acre access road at Pole 36.

There is limited public access to this landscape unit, as there are no developed roads within Landscape Unit 4. Much of this segment runs through vacant and agricultural land but was not accessible to take photographs. Photograph 9 was taken from Questhaven Road, facing east. Views of the existing power line are almost entirely unobstructed where it runs through vacant land. Photograph 10 was taken from Country Club Drive, facing west. It shows that the view of the existing power line is partially obstructed by vegetation as it runs through agricultural land. The primary viewers in this portion of the alignment are mainly residents and motorists.

#### **Landscape Unit 5: Country Club Drive Intersection to Escondido Substation**

From Country Club Drive to Escondido Substation, the Proposed Project stays undeveloped land but crosses very close to residential, industrial areas, and a hospital. Reconductoring would take place along the line up to Pole 108, where the work would switch to re-energizing existing structures.

Photograph 11 is facing east from Kuana Loa Drive. This photograph depicts a turn from east to north in the alignment. The view of the existing power line is partially obstructed by vegetation, but it may be visible to residents and motorists through the vacant and residential areas. Photograph 12 faces north from Citracado Parkway. This portion of the alignment, which crosses through an industrial area, has a much higher volume of motorists. This view of the alignment is unobstructed as it spans to the Escondido Substation along this road.

The primary viewers within this landscape unit include residents, motorists, and workers and visitors of the industrial district in Escondido.

##### **4.1.3.5 Potentially Affected Viewers**

Accepted visual assessment methods, including those adopted by the Federal Highway Administration and other federal agencies, establish sensitivity levels as a measure of public concern for changes to scenic quality. Viewer sensitivity, one of the criteria for evaluating visual impact significance, can be divided into high, moderate, and low categories. Factors considered in assigning a sensitivity level include viewer activity, view duration, viewing distance, adjacent

land uses, and special management or planning designations. According to the U.S. Department of Transportation's *Guidelines for the Visual Impact Assessment of Highway Projects*, research on the subject suggests that certain activities tend to heighten viewer awareness of visual and scenic resources, while others tend to be distracting. The primary potentially affected viewer groups within the Proposed Project Area are described briefly in the following paragraphs.

### **Motorists**

Motorists, the largest viewer group that could be affected by the Proposed Project, include people traveling on San Marcos Boulevard, Palomar Airport Road, San Elijo Road, and Citracado Parkway. Local travelers are the primary motorists in the Proposed Project Area and are familiar with the visual setting. Affected views for motorists are generally brief in duration, typically lasting less than a few minutes. Affected views along San Marcos Boulevard, Palomar Airport Road, San Elijo Road, and Citracado Parkway would be present only during construction associated with rebuilding the existing line. Viewer sensitivity is considered low to moderate.

### **Pedestrians and Cyclists**

Within the Proposed Project Area, pedestrians and cyclists are a smaller viewer group. With their travel speeds being slower than those of motorists, the view duration of pedestrians and cyclists is generally longer; therefore, this viewer group may be more likely to notice detail with respect to visual change in the environment. Viewer sensitivity for pedestrians and cyclists is considered moderate.

### **Recreationalist**

Recreationalists, another potentially affected viewer group, include hikers, equestrians, and cyclists who use trails and recreation areas at the following locations:

- Simmons Family Park
- Bradley Park
- San Elijo Park
- Elfin Forest Recreational Reserve
- Escondido Creek Preserve
- Rancho La Costa Preserve
- Copper Creek
- Rancho Santa Fe Trail
- Morgan Trail
- Diamond Trail
- Rancho El Dorado Trail
- Canyon Trail
- Carillo Trail
- Quarry Trail
- Quarry-Morgan Connector Trail
- Old Creek Ranch Trail

The view duration for this group could range from several minutes to several hours, and viewer sensitivity is considered moderate to high.

## **Residents**

Residents within the areas that border the power line and substations (i.e., the communities of Lake San Marcos and San Elijo Hills, Escondido, scattered rural areas) compose the third viewer group. Residential views tend to be long in duration; sensitivity to visual change for this viewer group is considered moderate to high.

### **4.1.4 Potential Impacts**

The Proposed Project includes removing existing wood pole structures, installing new steel pole structures, and reconductoring for the existing TL 680C power lines; constructing a new power line segment; and converting a de-energized line to a 69 kV power line. The operation and maintenance activities required for the power lines would not change from those currently required for the existing system. The new steel poles would require less maintenance and repair than the existing wood poles; however, due to the additional structures and hardware in Segment 2, there would be a slight increase in frequency of maintenance. Because the increase would be slight, effects from the operation and maintenance of the Proposed Project on the environment would be negligible. Therefore, the impact analysis is focused on construction activities that are required to install the new conductor, remove the existing wood pole structures, install the new steel pole structures, and establish temporary work areas, as described in Chapter 3, Project Description.

#### **4.1.4.1 Significance Criteria**

According to Section 15002(g) of the CEQA Guidelines, “a significant effect on the environment is defined as a substantial adverse change in the physical conditions that exist in the area affected by the proposed project.” As stated in Section 15064(b) of the CEQA Guidelines, the significance of an activity may vary with the setting. The potential significance of Proposed Project-related impacts on aesthetics were evaluated with respect to the applicable criteria in Appendix G of the CEQA Guidelines, as discussed in the following sections.

Factors considered in applying the criteria to determine significance include the extent of the Proposed Project’s visibility from residential areas, public open space, and designated scenic routes; the extent of change in the landscape’s composition and character; the degree to which various Proposed Project elements would contrast with or be integrated into the existing landscape; and the number and sensitivity of viewers.

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

#### **Construction, Operation and Maintenance – Less-than-Significant Impact**

The Proposed Project Area includes existing power lines, distribution lines, and substation facilities that are currently visible within the public viewshed. The Proposed Project is largely an

improvement to existing facilities. These existing facilities are included in the baseline from which impacts are measured. The State CEQA Guidelines do not provide a definition of what constitutes a “scenic vista” or discuss from what vantage point(s) the scenic vista, if any, should be observed. For the purposes of this evaluation, a scenic vista is defined as a distant public view along or through an opening or corridor that is recognized and valued for its scenic quality. The Proposed Project would be visible from some locations at the Rancho La Costa Preserve, Diamond Trail Preserve, and Escondido Creek Preserve. While these preserves contain views that could be considered a scenic vista, the roadways leading to these areas are unpaved, and provide only limited access to hikers and off-road vehicles. Furthermore, the number of potentially affected viewers is relatively low. There are no scenic vistas that are intersected by the viewshed of the Proposed Project in the foreground, although some scenic vistas can be found surrounding the Proposed Project route. As described in detail below under question “c” below, and demonstrated in Figure 4.1-2: Photograph Viewpoint Locations, the Proposed Project would not substantially alter the existing landscape or visual character experienced from the trail system. Although the Proposed Project could be visible from preserve areas, it would not intersect scenic vistas with the Proposed Project in the foreground. The steel poles would require less maintenance than the existing wood poles in Segment 1; however, Segment 2 would require a slight increase in the frequency of maintenance trips due to the additional structures. Maintenance trips are generally performed periodically and are short-term. This slight increase would not be enough to result in a substantial change in the Proposed Project’s viewshed. Therefore, the Proposed Project would not have a substantial adverse effect on a scenic vista and impacts would be less than significant.

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

**Construction, Operation and Maintenance – No Impact**

There are no designated State Scenic Highways within the Proposed Project viewshed; therefore, the Proposed Project would not substantially damage scenic resources within a State Scenic Highway, resulting in no impacts from construction, operations or maintenance.

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

**Construction, Operation and Maintenance – Less-than-Significant Impact**

Portions of the Proposed Project would be visible to motorists, recreationalists, pedestrians, bicyclists, and residents of the cities of San Marcos, Escondido, Carlsbad, Vista, and unincorporated San Diego County; however, most of the Proposed Project would consist of changes and improvements to existing power lines. Segment 2 of the Proposed Project would consist of new construction; however, it would occur within an existing San Diego Gas & Electric Company (SDG&E) utility right-of-way (ROW) adjacent to an existing steel-pole power line. Therefore, it would be in an area that is already affected by the presence of the power lines in the viewshed. Segment 2 would not substantially alter the visual character of the landscape. Segments 1 and 3 of the Proposed Project would consist of rebuilding and reconductoring



existing power lines that are currently prominent features of the viewshed in the Proposed Project Area, as described above in Landscape Unit 1, Landscape Unit 4, and Landscape Unit 5. Therefore, Segments 1 and 3 of the Proposed Project would not significantly affect visual character. In addition, construction-related effects would be short term and temporary. Operations and maintenance activities would remain the same but would increase slightly in frequency, as discussed above. This slight increase would not be enough to result in a substantial change in the Proposed Project's viewshed. Therefore, there would be a less-than-significant impact on visual character.

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

**Construction, Operation and Maintenance – Less-than-Significant Impact**

Minor nighttime construction may be required in sections of underground work and where construction would be in road ROW. Cutover activities may or may not occur at night; the schedule for these activities would be dictated by loading and outage constraints that cannot be predicted ahead of time; however, even if these activities occur at night, they would be very short in duration (2 to 4 hours) and would not require a significant source of light. Operations and maintenance would not require any additional nighttime light. In addition, the new galvanized steel poles would be treated with a dulling chemical that would create a final matte finish. The matte finish would minimize potential shine and glare from the new poles. Therefore, the impact would be less than significant.

**4.1.5 Applicant-Proposed Measures**

The Proposed Project would have no potentially significant impacts on aesthetics; therefore, no Applicant-Proposed Measures are proposed.

**4.1.6 References**

City of Carlsbad. 2013. *City of Carlsbad General Plan*. Online: <http://www.carlsbadca.gov/services/depts/planning/general.asp>. Site visited on June 13, 2017.

City of Escondido. 2012. *City of Escondido General Plan*. Online: <https://www.escondido.org/general-plan.aspx>. Site visited on June 13, 2017.

City of San Marcos. 2013. *City of San Marcos General Plan*. Online: <http://www.san-marcos.net/work/economic-development/general-plan>. Site visited on June 13, 2017.

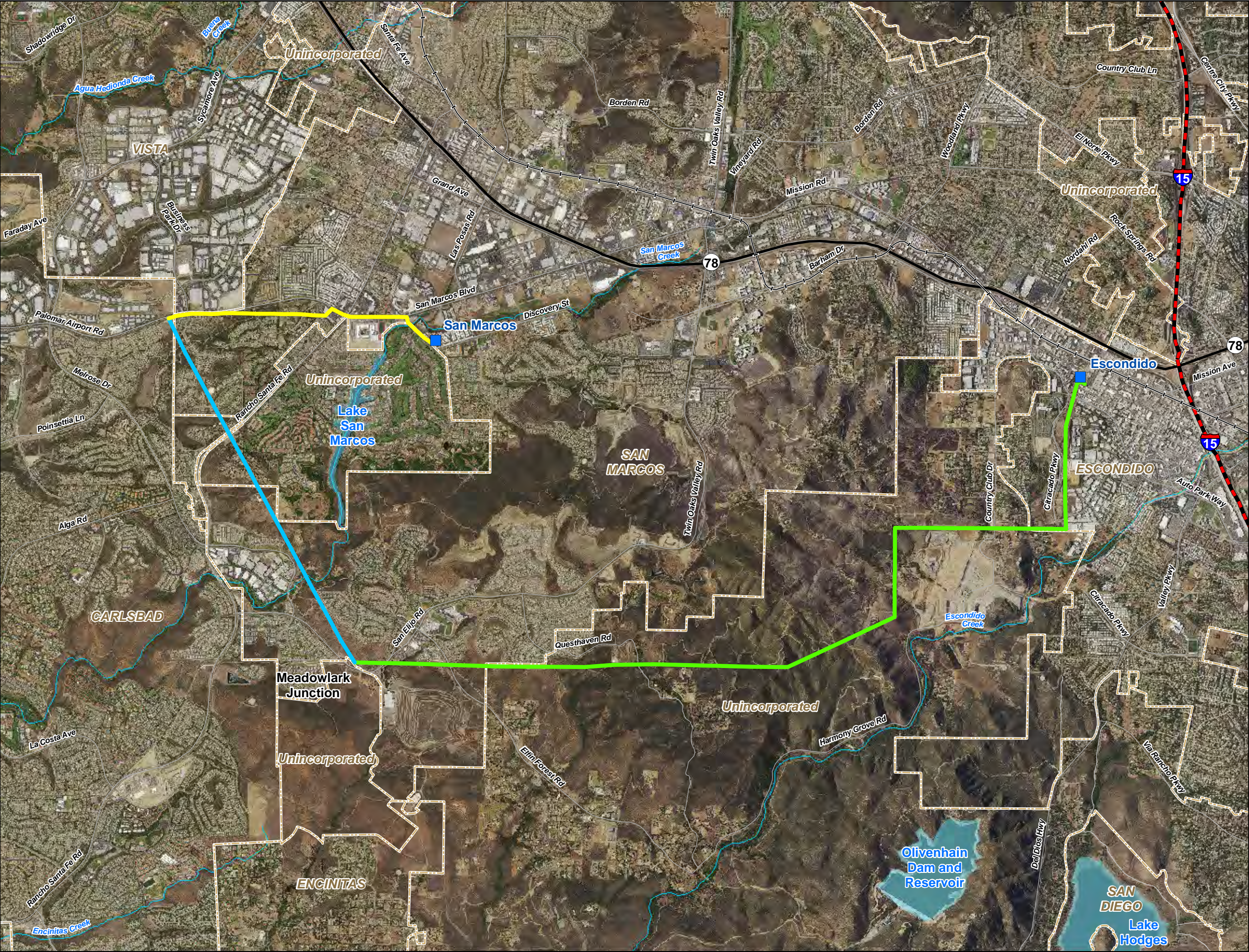
City of Vista. 2012. *City of Vista General Plan*. Online: <http://records.cityofvista.com/WebLink/Browse.aspx?dbid=0&startid=201438>. Site visited on July 19, 2017.

San Diego County. 2011. *San Diego County General Plan*. Chapter 3, Land Use Element. Adopted August 3, 2011.

San Diego Geographic Information Source. 2017. *Regional GIS Data Warehouse*. Online: <http://www.sangis.org/download/index.html>. Site visited on January 6, 2017.

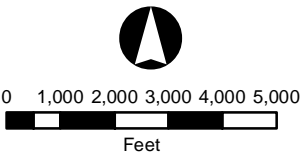
U.S. Department of Transportation. 2015. *Guidelines for the Visual Impact Assessment of Highway Projects*.





TL6975 San Marcos to Escondido  
Figure 4.1-1: Regional Landscape Context

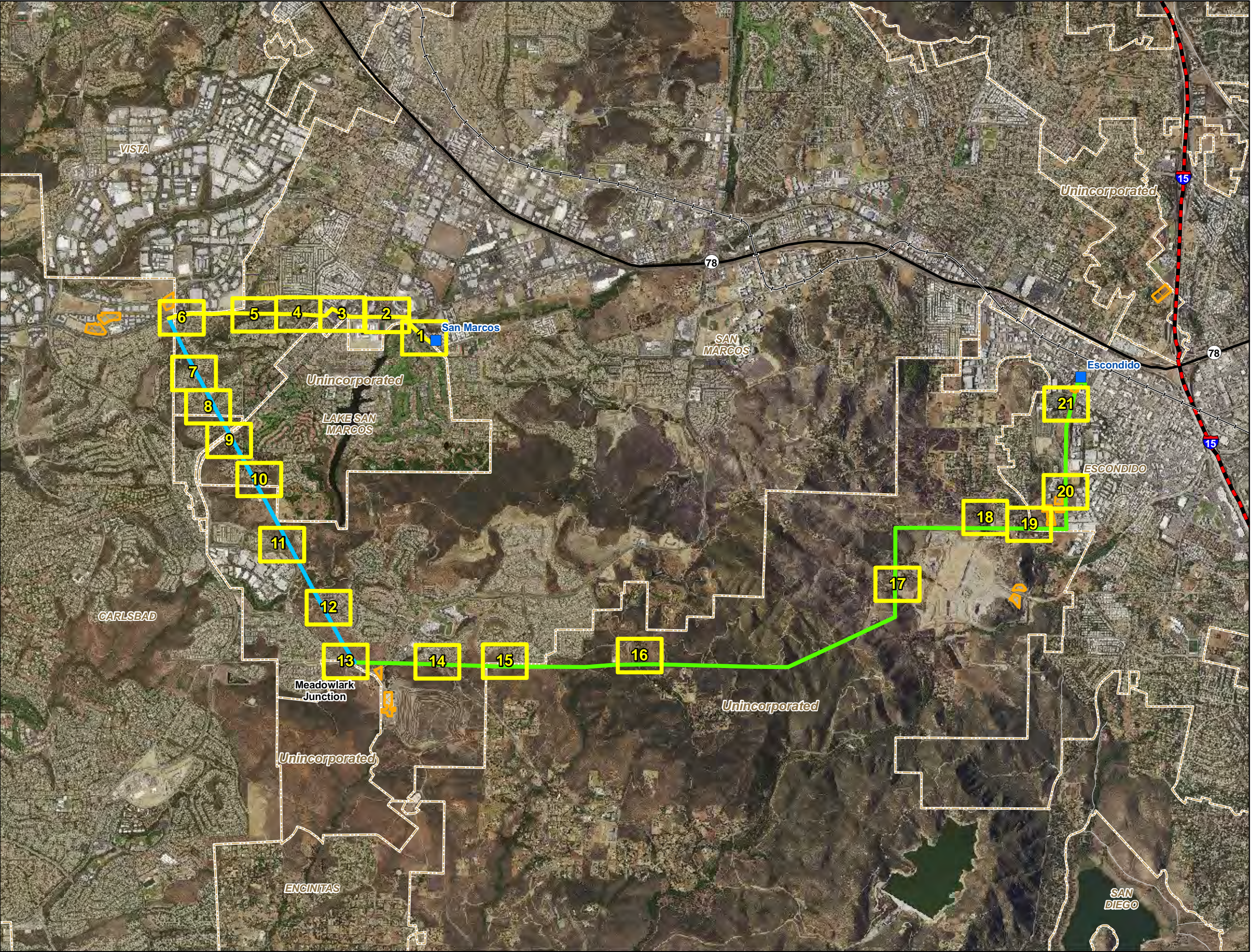
- Legend
- Project Alignment**
- Segment 1 - Rebuild
  - Segment 2 - New Build
  - Segment 3 - Reconstructor
- General Features**
- Existing Substation
  - Interstate
  - State Highway
  - Major Road
  - Railroad
  - Major Waterway
  - City Boundary
  - County Boundary
  - Waterbody











TL6975 San Marcos to Escondido

Figure 4.1-2: Photograph Viewpoint Locations

Legend

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconstructor

Project Features

Stringing Site

General Features

Existing Substation

Interstate

State Highway

Railroad

City Boundary

County Boundary

Mapbook Page

Orange County

Riverside County

San Diego County

Pacific Ocean

MAP LOCATION

0 1,000 2,000 3,000 4,000 5,000

Feet

SDGE

A Sempra Energy utility









TL6975 San Marcos to Escondido

Figure 4.1-2: Photograph Viewpoint Locations

Legend

Project Structures

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Staging Yard

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

County Boundary

050100150200

Feet

SDGE

A Sempra Energy utility

Page 1









TL6975 San Marcos to Escondido

Figure 4.1-2: Photograph Viewpoint Locations

Legend

Project Structures

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Staging Yard

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

County Boundary

050100150200

Feet

SDGE

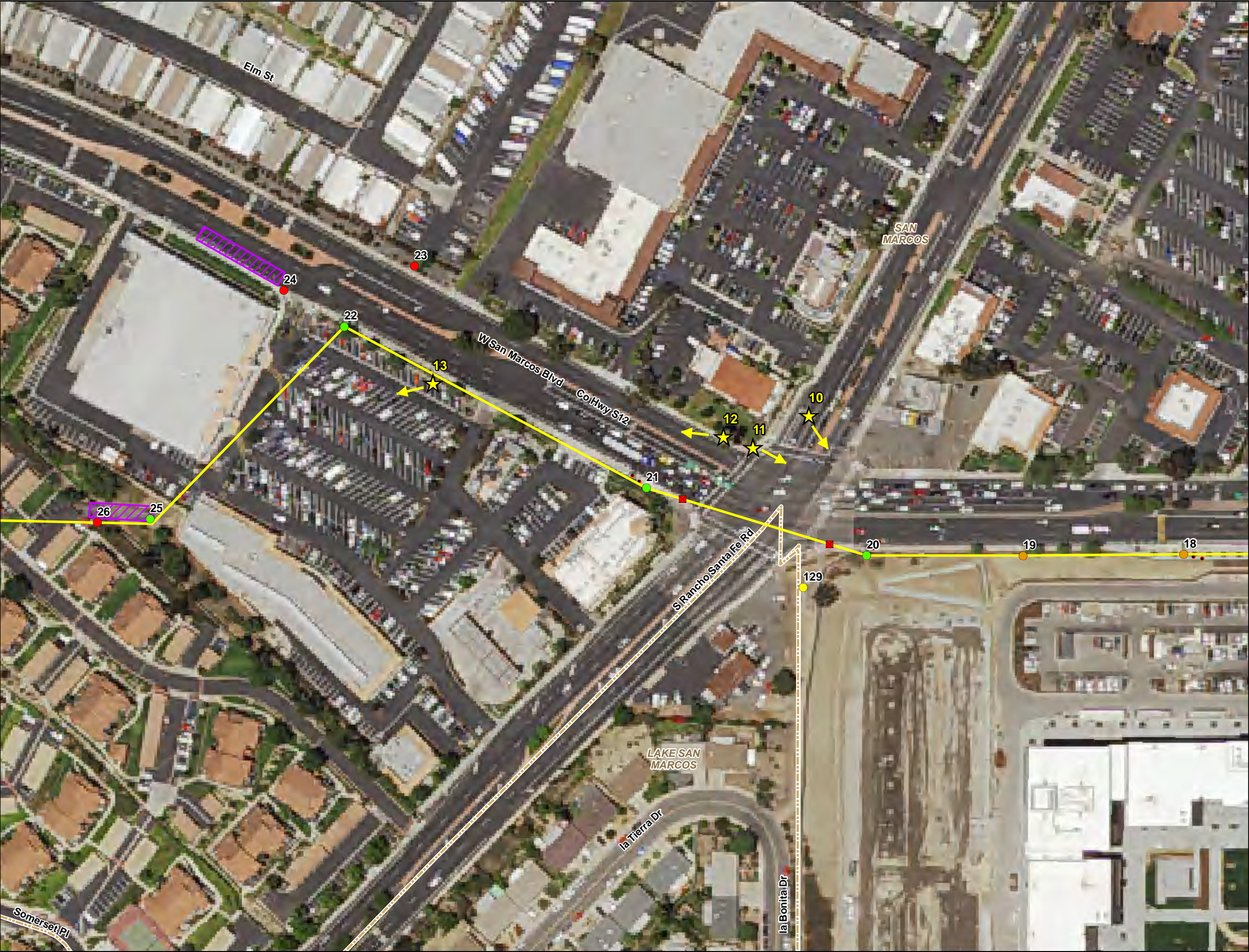
A Sempra Energy utility

Page 2









TL6975 San Marcos to Escondido

Figure 4.1-2: Photograph Viewpoint Locations

Legend

Project Structures

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Staging Yard

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

County Boundary

050100150200

Feet

SDGE

A Sempra Energy utility

Page 3









TL6975 San Marcos to Escondido

Figure 4.1-2: Photograph Viewpoint Locations

Legend

Project Structures

●

 Replace existing with pier foundation

●

 New pier foundation

●

 Replace existing with direct bury

●

 New direct bury

●

 Overhead Work

●

 Overhead work / anchor work

○

 Existing structure re-energize conductors

●

 No work / information only

●

 Remove From Service

■

 Rack

■

 Guard Structures

Project Alignment

—

 Segment 1 - Rebuild

—

 Segment 2 - New Build

—

 Segment 3 - Reconductor

Project Features

.....

 Existing Access Road

.....

 New Access Road

.....

 Distribution Trench

▨

 Stringing Site

▨

 Staging Yard

General Features

—

 Interstate

—

 State Highway

—

 Railroad

▢

 Existing Substation

▢

 City Boundary


▢

 County Boundary

▲

0 50 100 150 200

Feet

  
A Sempra Energy utility

Page 4









TL6975 San Marcos to Escondido

Figure 4.1-2: Photograph Viewpoint Locations

Legend

Project Structures

●

 Replace existing with pier foundation

●

 New pier foundation

●

 Replace existing with direct bury

●

 New direct bury

●

 Overhead Work

●

 Overhead work / anchor work

○

 Existing structure re-energize conductors

●

 No work / information only

●

 Remove From Service

■

 Rack

■

 Guard Structures

Project Alignment

—

 Segment 1 - Rebuild

—

 Segment 2 - New Build

—

 Segment 3 - Reconductor

Project Features

.....

 Existing Access Road

.....

 New Access Road

.....

 Distribution Trench

▨

 Stringing Site

▨

 Staging Yard

General Features

—

 Interstate

—

 State Highway

—

 Railroad

▢

 Existing Substation

▢

 City Boundary

▢

 County Boundary

0 50 100 150 200

Feet

SDGE

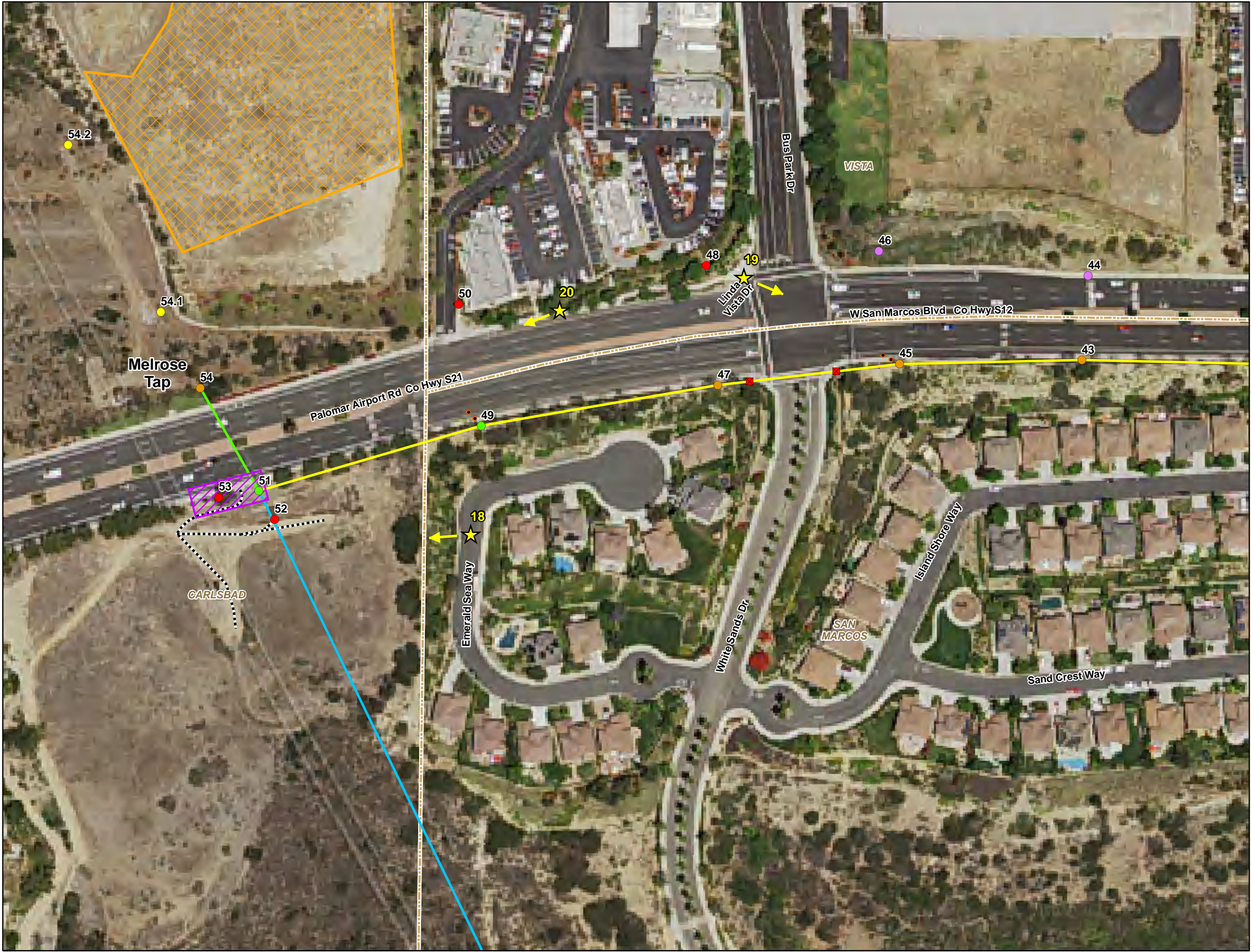
A Sempra Energy utility

Page 5



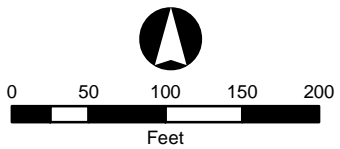






**TL6975 San Marcos  
to Escondido**  
**Figure 4.1-2: Photograph  
Viewpoint Locations**

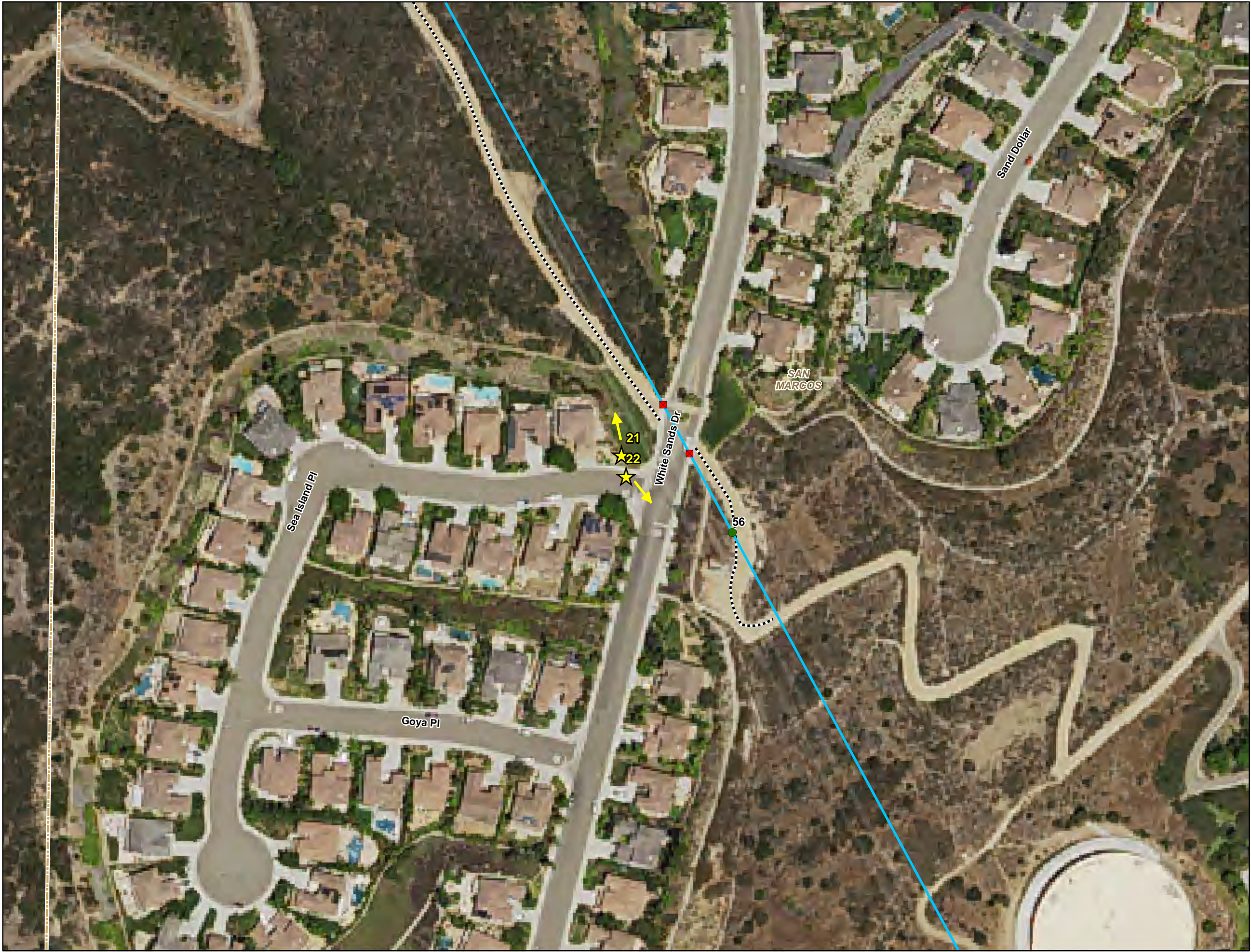
- Legend**
- Project Structures**
- Replace existing with pier foundation
  - New pier foundation
  - Replace existing with direct bury
  - New direct bury
  - Overhead Work
  - Overhead work / anchor work
  - Existing structure re-energize conductors
  - No work / information only
  - Remove From Service
  - Rack
  - Guard Structures
- Project Alignment**
- Segment 1 - Rebuild
  - Segment 2 - New Build
  - Segment 3 - Reconductor
- Project Features**
- Existing Access Road
  - New Access Road
  - Distribution Trench
  - Stringing Site
  - Staging Yard
- General Features**
- Interstate
  - State Highway
  - Railroad
  - Existing Substation
  - City Boundary
  - County Boundary





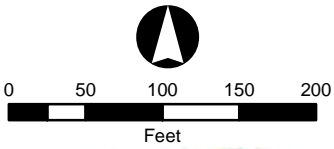






TL6975 San Marcos  
to Escondido  
Figure 4.1-2: Photograph  
Viewpoint Locations

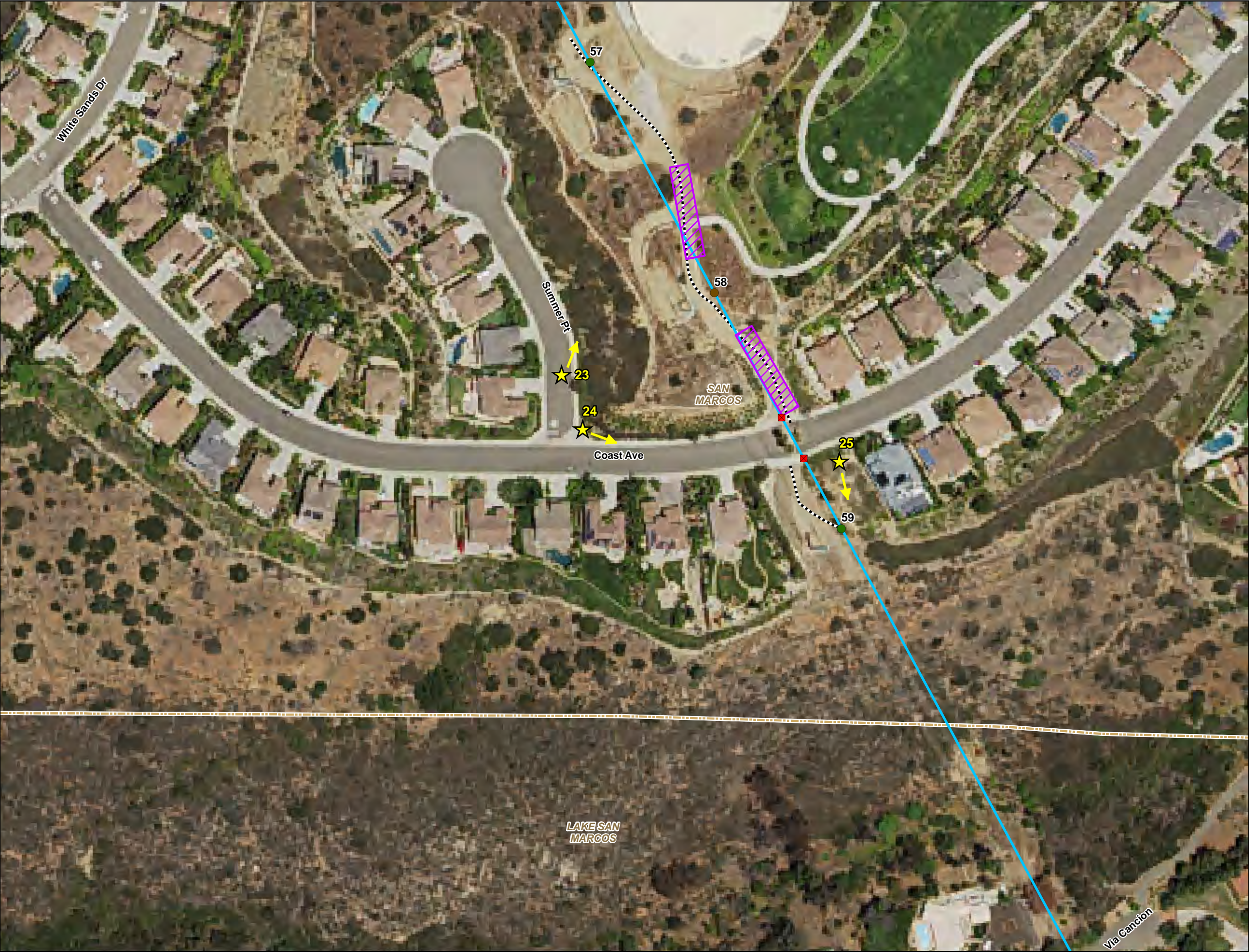
- Legend**
- Project Structures**
- Replace existing with pier foundation
  - New pier foundation
  - Replace existing with direct bury
  - New direct bury
  - Overhead Work
  - Overhead work / anchor work
  - Existing structure re-energize conductors
  - No work / information only
  - Remove From Service
  - Rack
  - Guard Structures
- Project Alignment**
- Segment 1 - Rebuild
  - Segment 2 - New Build
  - Segment 3 - Reconductor
- Project Features**
- Existing Access Road
  - New Access Road
  - Distribution Trench
  - Stringing Site
  - Staging Yard
- General Features**
- Interstate
  - State Highway
  - Railroad
  - Existing Substation
  - City Boundary
  - County Boundary











TL6975 San Marcos to Escondido

Figure 4.1-2: Photograph Viewpoint Locations

Legend

Project Structures

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Staging Yard

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

County Boundary

050100150200

Feet

SDGE

A Sempra Energy utility

Page 8









TL6975 San Marcos to Escondido

Figure 4.1-2: Photograph Viewpoint Locations

Legend

Project Structures

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Staging Yard

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

County Boundary

050100150200

Feet

SDGE

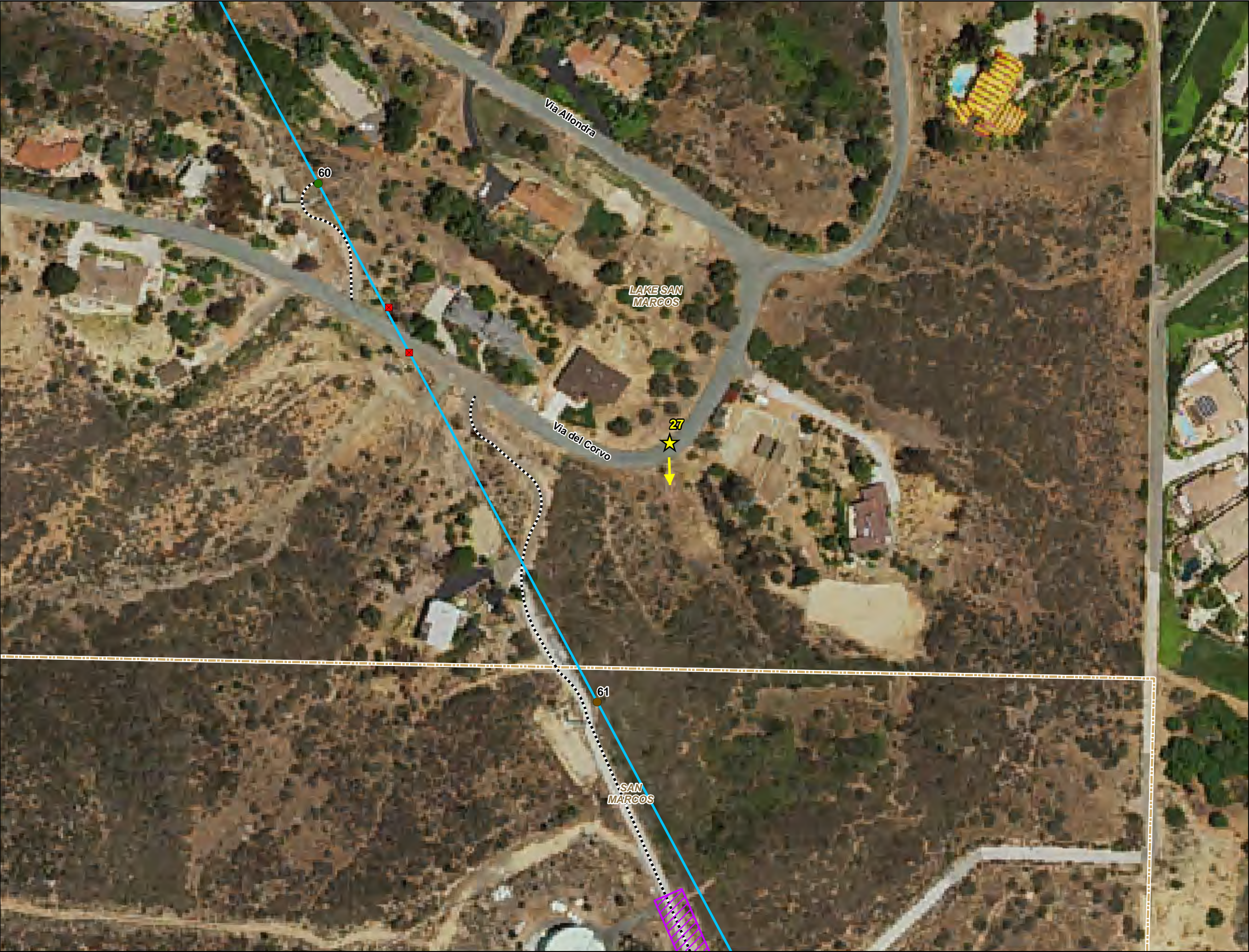
A Sempra Energy utility

Page 9









TL6975 San Marcos to Escondido

Figure 4.1-2: Photograph Viewpoint Locations

Legend

Project Structures

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Staging Yard

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

County Boundary

050100150200

Feet

SDGE

A Sempra Energy utility

Page 10



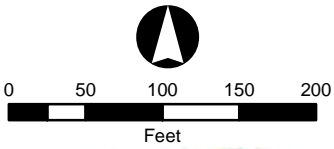






**TL6975 San Marcos  
to Escondido**  
**Figure 4.1-2: Photograph  
Viewpoint Locations**

- Legend**
- Project Structures**
- Replace existing with pier foundation
  - New pier foundation
  - Replace existing with direct bury
  - New direct bury
  - Overhead Work
  - Overhead work / anchor work
  - Existing structure re-energize conductors
  - No work / information only
  - Remove From Service
  - Rack
  - Guard Structures
- Project Alignment**
- Segment 1 - Rebuild
  - Segment 2 - New Build
  - Segment 3 - Reconductor
- Project Features**
- Existing Access Road
  - New Access Road
  - Distribution Trench
  - Stringing Site
  - Staging Yard
- General Features**
- Interstate
  - State Highway
  - Railroad
  - Existing Substation
  - City Boundary
  - County Boundary











TL6975 San Marcos to Escondido

Figure 4.1-2: Photograph Viewpoint Locations

Legend

Project Structures

●

 Replace existing with pier foundation

●

 New pier foundation

●

 Replace existing with direct bury

●

 New direct bury

●

 Overhead Work

●

 Overhead work / anchor work

○

 Existing structure re-energize conductors

●

 No work / information only

●

 Remove From Service

■

 Rack

■

 Guard Structures

Project Alignment

—

 Segment 1 - Rebuild

—

 Segment 2 - New Build

—

 Segment 3 - Reconductor

Project Features

.....

 Existing Access Road

.....

 New Access Road

.....

 Distribution Trench

▨

 Stringing Site

▨

 Staging Yard

General Features

—

 Interstate

—

 State Highway

—

 Railroad

▢

 Existing Substation

▢

 City Boundary

▢

 County Boundary

▲

0 50 100 150 200

Feet

**SDGE**

A Sempra Energy utility

Page 12









TL6975 San Marcos  
to Escondido  
Figure 4.1-2: Photograph  
Viewpoint Locations

Legend

Project Structures

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Staging Yard

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

County Boundary

050100150200

Feet

SDGE

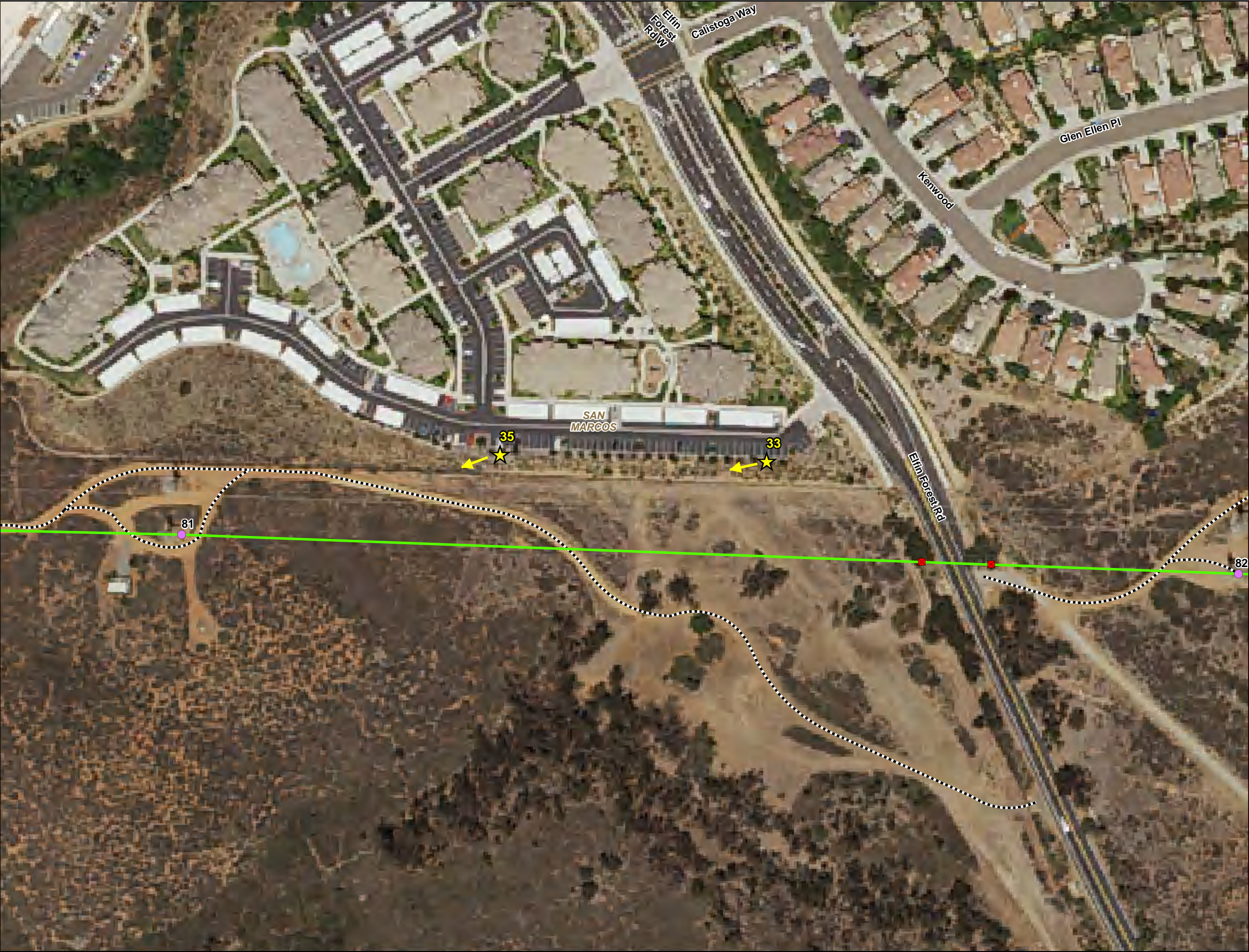
A Sempra Energy utility

Page 13









TL6975 San Marcos to Escondido

Figure 4.1-2: Photograph Viewpoint Locations

Legend

Project Structures

●

 Replace existing with pier foundation

●

 New pier foundation

●

 Replace existing with direct bury

●

 New direct bury

●

 Overhead Work

●

 Overhead work / anchor work

○

 Existing structure re-energize conductors

●

 No work / information only

●

 Remove From Service

■

 Rack

■

 Guard Structures

Project Alignment

—

 Segment 1 - Rebuild

—

 Segment 2 - New Build

—

 Segment 3 - Reconductor

Project Features

----

 Existing Access Road

----

 New Access Road

.....

 Distribution Trench

▨

 Stringing Site

▨

 Staging Yard

General Features

—+—+—

 Interstate

—

 State Highway

—+—+—

 Railroad

▢

 Existing Substation

----

 City Boundary

----

 County Boundary

▲

0 50 100 150 200

Feet

SDGE

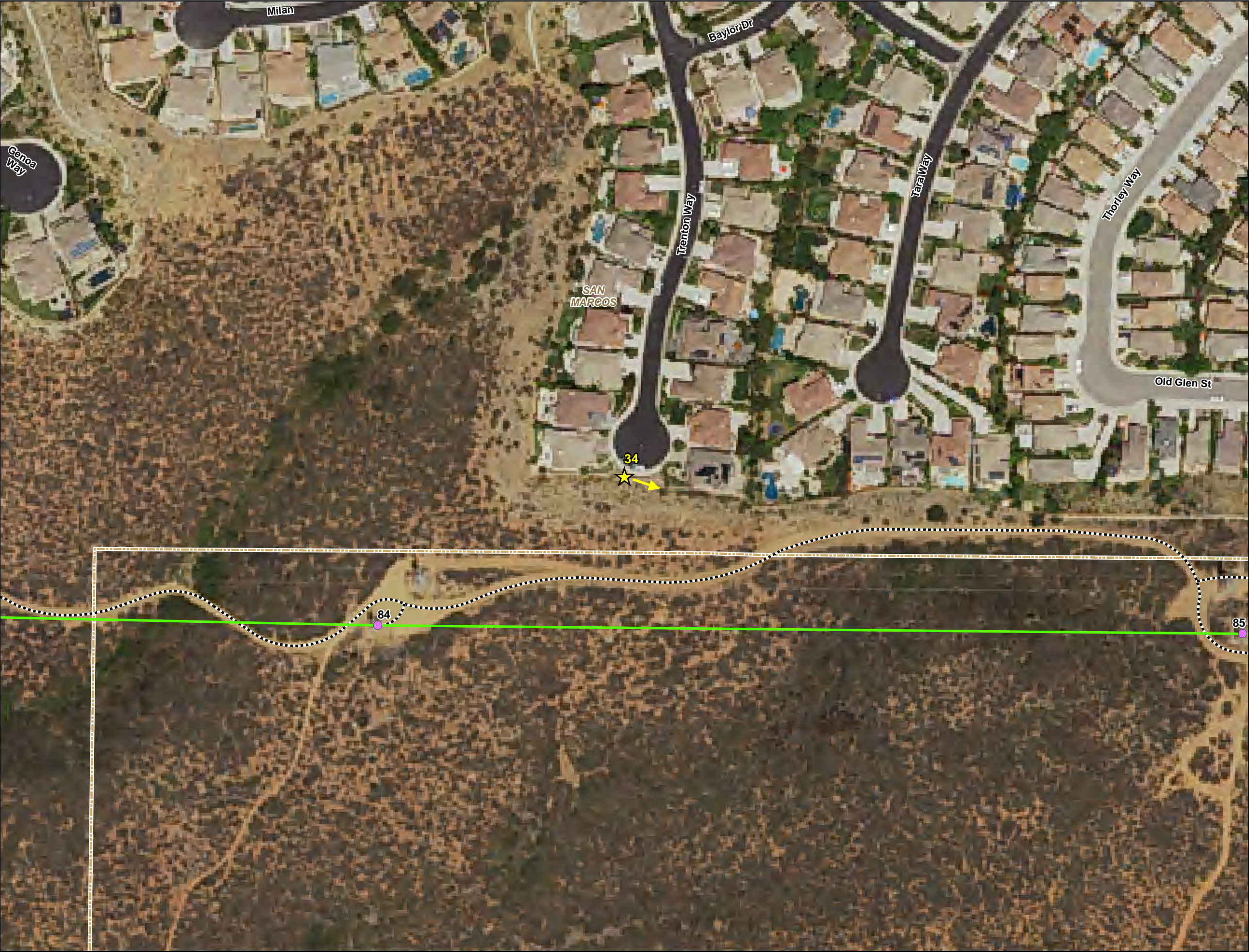
A Sempra Energy utility

Page 14









TL6975 San Marcos  
to Escondido

Figure 4.1-2: Photograph  
Viewpoint Locations

Legend

Project Structures

●

 Replace existing with pier foundation

●

 New pier foundation

●

 Replace existing with direct bury

●

 New direct bury

●

 Overhead Work

●

 Overhead work / anchor work

○

 Existing structure re-energize conductors

●

 No work / information only

●

 Remove From Service

■

 Rack

■

 Guard Structures

Project Alignment

—

 Segment 1 - Rebuild

—

 Segment 2 - New Build

—

 Segment 3 - Reconductor

Project Features

.....

 Existing Access Road

.....

 New Access Road

.....

 Distribution Trench

▨

 Stringing Site

▨

 Staging Yard

General Features

—

 Interstate

—

 State Highway

—

 Railroad

▢

 Existing Substation

▭

 City Boundary

▭

 County Boundary

▲

050100150200

Feet

SDGE

A Sempra Energy utility

Page 15









TL6975 San Marcos to Escondido

Figure 4.1-2: Photograph Viewpoint Locations

Legend

Project Structures

● Replace existing with pier foundation

● New pier foundation

● Replace existing with direct bury

● New direct bury

● Overhead Work

● Overhead work / anchor work

○ Existing structure re-energize conductors

● No work / information only

● Remove From Service

■ Rack

■ Guard Structures

Project Alignment

— Segment 1 - Rebuild

— Segment 2 - New Build

— Segment 3 - Reconductor

Project Features

..... Existing Access Road

..... New Access Road

..... Distribution Trench

▨ Stringing Site

▨ Staging Yard

General Features

— Interstate

— State Highway

— Railroad

▨ Existing Substation

▨ City Boundary

▨ County Boundary

050100150200

Feet

SDGE

A Sempra Energy utility

Page 16



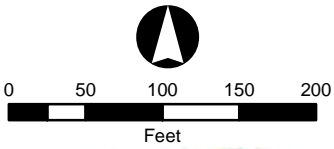






TL6975 San Marcos  
to Escondido  
Figure 4.1-2: Photograph  
Viewpoint Locations

- Legend**
- Project Structures**
- Replace existing with pier foundation
  - New pier foundation
  - Replace existing with direct bury
  - New direct bury
  - Overhead Work
  - Overhead work / anchor work
  - Existing structure re-energize conductors
  - No work / information only
  - Remove From Service
  - Rack
  - Guard Structures
- Project Alignment**
- Segment 1 - Rebuild
  - Segment 2 - New Build
  - Segment 3 - Reconductor
- Project Features**
- Existing Access Road
  - New Access Road
  - Distribution Trench
  - Stringing Site
  - Staging Yard
- General Features**
- Interstate
  - State Highway
  - Railroad
  - Existing Substation
  - City Boundary
  - County Boundary











TL6975 San Marcos to Escondido

Figure 4.1-2: Photograph Viewpoint Locations

Legend

Project Structures

●

 Replace existing with pier foundation

●

 New pier foundation

●

 Replace existing with direct bury

●

 New direct bury

●

 Overhead Work

●

 Overhead work / anchor work

○

 Existing structure re-energize conductors

●

 No work / information only

●

 Remove From Service

■

 Rack

■

 Guard Structures

Project Alignment

—

 Segment 1 - Rebuild

—

 Segment 2 - New Build

—

 Segment 3 - Reconductor

Project Features

.....

 Existing Access Road

.....

 New Access Road

.....

 Distribution Trench

▨

 Stringing Site

▨

 Staging Yard

General Features

—

 Interstate

—

 State Highway

—

 Railroad

▢

 Existing Substation

▢

 City Boundary

▢

 County Boundary

050100150200

Feet

SDGE

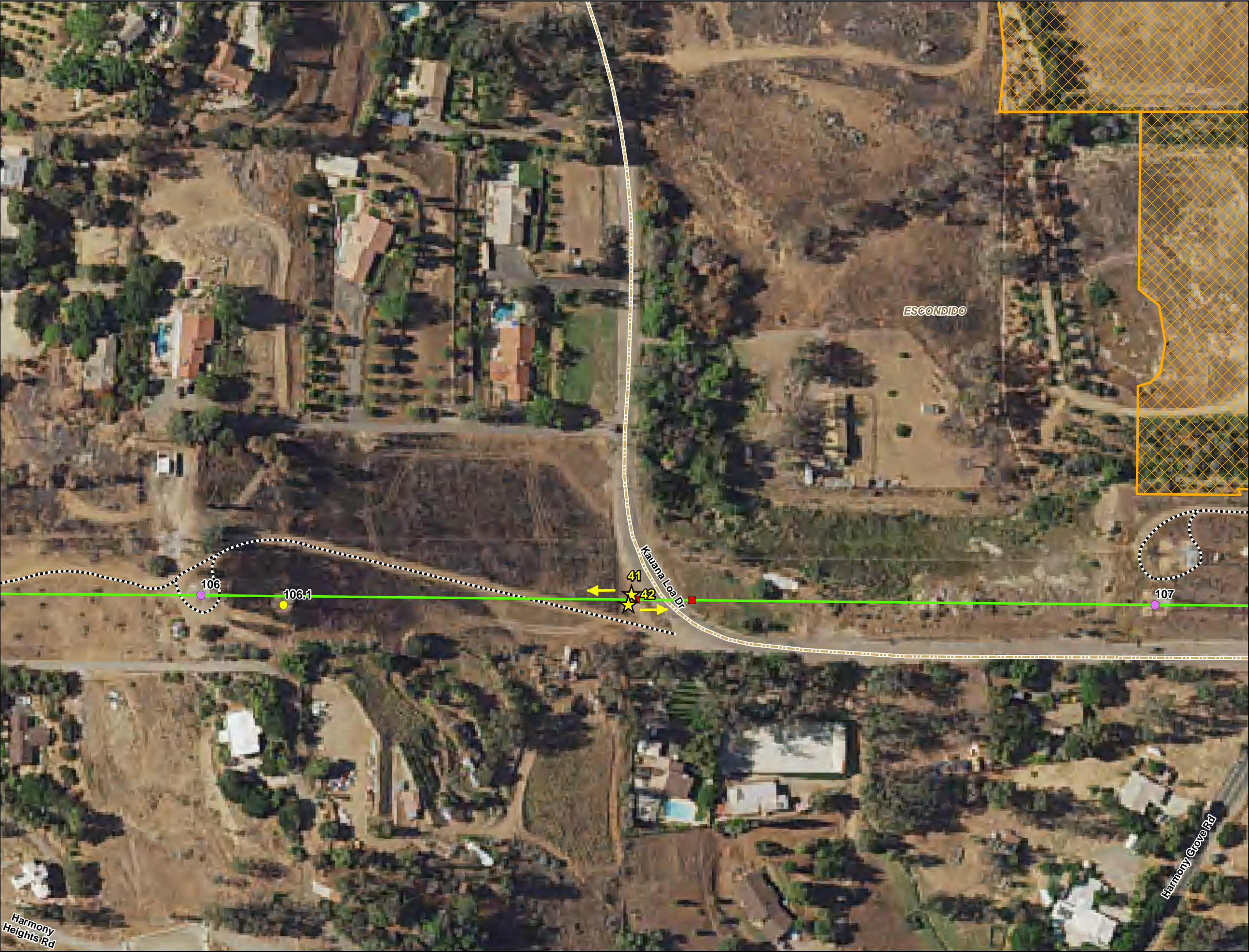
A Sempra Energy utility

Page 18









TL6975 San Marcos  
to Escondido

Figure 4.1-2: Photograph  
Viewpoint Locations

Legend

Project Structures

●

 Replace existing with pier foundation

●

 New pier foundation

●

 Replace existing with direct bury

●

 New direct bury

●

 Overhead Work

●

 Overhead work / anchor work

○

 Existing structure re-energize conductors

●

 No work / information only

●

 Remove From Service

■

 Rack

■

 Guard Structures

Project Alignment

—

 Segment 1 - Rebuild

—

 Segment 2 - New Build

—

 Segment 3 - Reconductor

Project Features

.....

 Existing Access Road

.....

 New Access Road

.....

 Distribution Trench

▨

 Stringing Site

▨

 Staging Yard

General Features

—

 Interstate

—

 State Highway

—

 Railroad

▢

 Existing Substation

---

 City Boundary

---

 County Boundary

▲

0 50 100 150 200

Feet

**SDGE**

A Sempra Energy utility

Page 19









TL6975 San Marcos to Escondido

Figure 4.1-2: Photograph Viewpoint Locations

Legend

Project Structures

●

 Replace existing with pier foundation

●

 New pier foundation

●

 Replace existing with direct bury

●

 New direct bury

●

 Overhead Work

●

 Overhead work / anchor work

○

 Existing structure re-energize conductors

●

 No work / information only

●

 Remove From Service

■

 Rack

■

 Guard Structures

Project Alignment

—

 Segment 1 - Rebuild

—

 Segment 2 - New Build

—

 Segment 3 - Reconductor

Project Features

.....

 Existing Access Road

.....

 New Access Road

.....

 Distribution Trench

▨

 Stringing Site

▨

 Staging Yard

General Features

—

 Interstate

—

 State Highway

—

 Railroad

▢

 Existing Substation

▢

 City Boundary

▢

 County Boundary

▲

0

50

100

150

200

Feet

SDGE

A Sempra Energy utility

Page 20









TL6975 San Marcos to Escondido

Figure 4.1-2: Photograph Viewpoint Locations

Legend

Project Structures

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Staging Yard

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

County Boundary

050100150200

Feet

SDGE

A Sempra Energy utility

Page 21







Photograph 5: St Mark Golf Club looking Northeast towards Discovery St (Segment A)



Photograph 8: San Marcos Blvd from Discovery St looking South (Segment A)





Photograph 12: San Marcos Blvd from S Rancho Santa Fe Dr looking North (Segment A)



Photograph 18: Looking West along White Sands Dr (Segment B)





Photograph 21: Facing Northwest along White Sands Dr (Segment B)



Photograph 26: Facing south from Coast Ave (Segment B)



Photograph 31: Overlooking a private community from Cooper Ct facing Northwest (Segment B)



Photograph 35: Facing west from a private road off Elfin Forest Rd (Segment C)





Photograph 36: Facing East from Questhaven Rd (Segment C)



Photograph 40: Facing West from Country Club Dr (Segment C)



Photograph 41: Looking East from Kuano Loa Dr (Segment C)



Photograph 45: Citricada Pkwy facing North (Segment D)



## 4Table of Contents

<b>4.2</b>	<b>Agriculture and Forestry Resources .....</b>	<b>4.2-1</b>
4.2.1	Introduction.....	4.2-1
4.2.2	Methodology .....	4.2-2
4.2.3	Existing Conditions.....	4.2-2
4.2.4	Potential Impacts.....	4.2-7
4.2.5	Applicant-Proposed Measures .....	4.2-10
4.2.6	References.....	4.2-10

## List of Figures

Figure 4.2-1: Agricultural Resources.....	4.2-13
---	--------

## **Acronyms and Abbreviations**

CAL FIRE	California Department of Forestry and Fire Protection
CEQA	California Environmental Quality Act
DOC	Department of Conservation
FLP	Forest Legacy Program
FMMP	Farmland Mapping and Monitoring Program
GIS	geographic information system
NRCS	Natural Resources Conservation Service
USDA	Department of Agriculture

## 4.2 AGRICULTURE AND FORESTRY RESOURCES

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a.	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e.	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 4.2.1 Introduction

This section of the Proponent's Environmental Assessment describes the existing conditions related to agricultural and forestry resources within the Proposed Project Area and potential impacts that could result from construction, operation, and maintenance of the Proposed Project. The Proposed Project's potential effects on agricultural and forestry resources were evaluated using the significance criteria set forth in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. The analysis concludes that the Proposed Project would have *no impact* on agriculture and forestry resources.



## 4.2.2 Methodology

The agriculture and forestry resources analysis within this section relied upon San Diego County general plans, zoning code and ordinances. This section used maps and farmland designations developed by the Department of Conservation (DOC) Division of Land Resource Protection Farmland Mapping and Monitoring Program (FMMP). Unpublished geographic information system (GIS) data was also analyzed to locate designated farmland and land use.

## 4.2.3 Existing Conditions

### 4.2.3.1 Regulatory Setting

#### Federal

##### *Forest Legacy Program Land Designations*

The Forest Legacy Program (FLP) was created to protect environmentally important forest land threatened with conversion to non-forest uses, such as subdivision of forest lands for residential or commercial development. To help maintain the integrity and traditional uses of private forest lands, the FLP advocates the creation of conservation easements on a voluntary basis. The federal government manages the program in cooperation with state and local agencies, private organizations, and individual landowners. In California, the FLP is administered by the California Department of Forestry and Fire Protection (CAL FIRE).

#### State

##### *Department of Conservation Farmland Mapping and Monitoring Program Important Farmland Designations*

The DOC FMMP generates maps depicting “Important Farmlands.” These farmlands are categorized according to specific criteria, including soil quality and irrigation conditions. Approximately 94 percent of the FMMP study area is based on the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil classification system, which evaluates both physical and chemical conditions, including soil temperature, moisture regime, pH, flooding, groundwater depth, erodibility, permeability, and sodium content. The goal of the FMMP is to provide consistent and impartial data to decision makers for use in assessing present status, reviewing trends, and planning for the future of California’s agricultural land resources. The basis of the FMMP is an agricultural land classification system that combines technical soil ratings based on soil classifications and current land use (California DOC 2015a).

The DOC has established the following eight land use classifications:

- **Prime Farmland:** Prime Farmland has the optimum combination of physical and chemical conditions that are able to sustain long-term agricultural production. The soil quality, growing season, and moisture supply on Prime Farmland provide conditions to produce sustained high yields. Prime Farmland must have been used for irrigated production within 4 years of the mapping date.

- **Farmland of Statewide Importance:** Farmland of Statewide Importance is similar to Prime Farmland; however, these farmlands have minor shortcomings, such as a higher slope or decreased ability to store soil moisture. Similar to Prime Farmland, Farmland of Statewide Importance must have been used for irrigated production within 4 years of the mapping date.
- **Unique Farmland:** Unique Farmland has lower-quality soils and is used for the production of California’s leading agricultural products. Unique Farmland is typically irrigated, but may also include non-irrigated vineyards or orchards found in certain climatic zones. Unique Farmland must have been cropped within 4 years of the mapping date.
- **Farmland of Local Importance:** Farmland of Local Importance is farmland that is vital to the local agricultural economy, as identified by each county’s local advisory committee and board of supervisors.
- **Grazing Land:** Grazing Land is land on which existing vegetation is suitable for livestock grazing.
- **Urban and Built-Up Land:** Urban and Built-Up Land is defined as land that is occupied by buildings or other structures at a minimum density of one unit to 1.5 acres (or approximately six structures to 10 acres). This land is used for development purposes, including residential, commercial, industrial, construction, public administration, institutional, transportation yards, airports, cemeteries, golf courses, sewage treatment, sanitary landfills, and water-control structures.
- **Other Land:** Other Land includes all land that is not in any other map category, such as water bodies smaller than 40 acres; low-density rural developments; confined livestock, poultry, or aquaculture facilities; and brush, timber, wetland, and riparian areas not suitable for livestock grazing.
- **Water:** Water includes all perennial water bodies that are a minimum of 40 acres.

For the purposes of this section, Important Farmlands include Prime Farmland, Unique Farmland, Farmland of Statewide Importance, and Farmland of Local Importance.

The California DOC prepares, updates, and maintains maps and data used for categorizing agricultural potential (as described previously), and assesses the location, quality, and quantity of agricultural lands and conversion of these lands over time. FMMP maps are updated every 2 years based on aerial photograph review, computer mapping analysis, public input, and field reconnaissance. The minimum land use mapping unit is 10 acres; smaller units of land are generally incorporated into surrounding map classifications. Coverage includes 47.9 million acres (96 percent of the state’s private lands) and is based on the extent of the USDA NRCS soil surveys. Most large government land holdings—including national parks, forests, and U.S. Bureau of Land Management land—are not included in the FMMP survey area.

#### *California Land Conservation Act (The Williamson Act)*

The California Land Conservation Act, better known as the Williamson Act, has been the state’s primary agricultural land protection program since its enactment in 1965. More than 16 million of the state’s 30 million acres of farm and ranch land are currently protected under the

Williamson Act. The Williamson Act creates an arrangement whereby private landowners agree with counties and cities to voluntarily restrict land to agricultural and open-space uses. In return, the landowner receives property tax assessments that are lower than normal because the assessments are based on farming and/or open space uses rather than full market value.

Williamson Act contracts automatically renew each year for a new 10-year period, unless either party files a “notice of non-renewal” to terminate the contract before the end of the current 10-year period. During the ensuing 10-year cancellation period following a notice of non-renewal, property taxes are gradually raised to the applicable level for developable land.

The Williamson Act also authorizes cities and counties to establish Agricultural Preserves, parcels of land for which cities or counties are willing to enter into Williamson Act contracts. The boundary is designated by resolution of the board or city council that has jurisdiction in the area, and must include at least 100 acres.

Generally, public improvements are not to be located in an Agricultural Preserve unless certain findings are made (Government Code Section 51292); however, Section 51292 does not apply to the location or construction of public utility improvements that have been approved by the California Public Utilities Commission (Government Code Section 51293(c)). Therefore, the Proposed Project will be exempt from the limitations in Government Code Section 51292.

#### *California Government Code Sections 51112 to 51113*

Timberland is privately owned land or land acquired for state forest purposes that is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, and that is capable of growing an average annual volume of wood fiber of at least 15 cubic feet per acre. A Timberland Production Zone is an area that has been zoned pursuant to Section 51112 or 51113 of the Government Code and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses. In California, a county board of supervisors may designate areas of timberland in the county as timberland preserves, which is the same as the state zoning designation of Timberland Production Zone. Land in a Timberland Production Zone is restricted in use to the production of timber for an initial 10-year term.

#### *California Public Resources Code Section 12220(g) and 4526*

The California Public Resources Code provides definitions of forest land and timberland, which are referenced in the CEQA Guidelines. California Public Resources Code Section 12220(g) defines forest land as “land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.” California Public Resources Code Section 4526 defines timberland as “land, other than land owned by the federal government and land designated by the [State Board of Forestry and Fire Protection] as experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees. Commercial species shall be determined by the [State Board of Forestry and Fire Protection] on a district basis.”

## Local

The Proposed Project is not subject to local discretionary regulations because the California Public Utilities Commission has exclusive jurisdiction over the siting, design, and construction of the Proposed Project. The following summary of local regulations related to agriculture and forestry resources is provided for informational purposes.

### *County of San Diego General Plan*

The *County of San Diego General Plan* (2011) Conservation and Open Space Element intends to minimize land use conflicts, preserve agricultural resources, and support the long-term presence and viability of the agricultural industry as an important component of the region's economy and open space linkage. The following policies address agricultural resources in the County:

**COS-6.2: Protection of Agricultural Operations.** Protect existing agricultural operations from encroachment of incompatible land uses by doing the following:

- Limiting the ability of new development to take actions to limit existing agricultural uses by informing and educating new projects as to the potential impacts from agricultural operations
- Encouraging new or expanded agricultural land uses to provide a buffer of non-intensive agriculture or other appropriate uses (e.g., landscape screening) between intensive uses and adjacent non-agricultural land uses
- Allowing for agricultural uses in agricultural areas and designing development and lots in a manner that facilitates continued agricultural use within the development.
- Requiring development to minimize potential conflicts with adjacent agricultural operations through the incorporation of adequate buffers, setbacks, and project design measures to protect surrounding agriculture
- Supporting local and State right-to-farm regulations
- Retain or facilitate large and contiguous agricultural operations by consolidation of development during the subdivision process

### *City of Carlsbad General Plan*

The *City of Carlsbad General Plan* (2013) Conservation and Open Space Element identifies agricultural uses in the city and establishes goals to maintain and enhance these resources. The following policy addresses the protection of agricultural resources:

**4-G.13:** Recognize the important value of agriculture and horticultural lands in the city, and support their productive use.

### *City of Escondido General Plan*

The *City of Escondido General Plan* (2012) Resource Conservation Element addresses the protection of agricultural resources and the continued need for agricultural production within the



city limits. The following policy is intended to guide the use of agricultural resources in the future:

**Agricultural Resources Policy 4.1:** Maintain large-lot residential land uses with appropriate zoning designations in agricultural areas that are compatible with preserving agricultural productivity.

#### *City of San Marcos General Plan*

The *City of San Marcos General Plan* (2012) Conservation and Open Space Element identifies cultural, historical, biological, and agricultural resources, and provides policies intended to protect these resources. Agricultural land uses represent a small portion of land uses in the city; however, the Conservation and Open Space Element seeks to maintain long-standing agricultural lands. The following policies are relevant to agricultural and forestry resources:

**Policy COS-2.1:** Provide and protect open space areas through-out the City for its recreational, agricultural, safety and environmental value.

**Policy COS-2.2:** Limit, to the extent feasible, the conversion of open space to urban uses and place a high priority on acquiring and preserving open space lands for recreation, habitat protection and enhancement, flood hazard management, water and agricultural resources protection, and overall community benefit.

#### *City of Vista General Plan 2030*

The *City of Vista General Plan 2030* (2012) does not address agricultural resources in the city.

### **4.2.3.2 Agricultural and Forestry Setting**

#### **Agricultural Zoning Designations**

A review of GIS zoning maps and data for San Marcos, Carlsbad, Escondido, Vista, and unincorporated San Diego County identified several properties within the Proposed Project Area that are zoned for agricultural use.

The Proposed Project is adjacent to two properties in San Marcos that are classified as Agricultural (A-1) zone (City of San Marcos 2017). The A-1 zone is a low-intensity Agricultural Zone that is consistent in character with larger residential areas. This zone is suitable for low-density residential hillside development (City of San Marcos 2012). These properties are approximately 350 feet southwest of Segment 2, where it crosses South Rancho Santa Fe Road.

The Proposed Project is located within land classified as zone A70 and A72 in unincorporated San Diego County (SanGIS 2017). The A70 Use Regulations are intended to create and preserve areas intended primarily for agricultural crop production. Additionally, a limited number of small farm animals may be kept, and agricultural products raised on the premises may be processed. Typically, the A70 Use Regulations would be applied to areas throughout the County to protect moderate to high quality agricultural land. A72 Use Regulations are intended to create and preserve areas for the raising of crops and animals. Processing of products produced or

raised on the premises would be permitted as would certain commercial activities associated with crop and animal raising. Typically, the A72 Use Regulations would be applied to areas distant from large urban centers where the dust, odor, and noise of agricultural operations would not interfere with urban uses, and where urban development would not encroach on agricultural uses. One area zoned for agricultural use (designated as A70) is within the Proposed Project Area and is approximately 111 feet from the proposed centerline in Segment 2 of the Proposed Project. The parcel is located just outside of the San Marcos city limit and within the unincorporated community of Lake San Marcos. Segment 3 of the Proposed Project crosses four parcels of land zoned as A70, and is adjacently north of one parcel zoned as A72. There are no properties zoned as agricultural zones in the vicinity of the Proposed Project in Carlsbad, Vista, or Escondido.

### **Designated Farmland**

Review of FMMP GIS data from the California Department of Conservation shows that there are several parcels of land located within the vicinity of the Proposed Project that are classified as Unique Farmland or Farmland of Local Importance (see Figure 4.2-1: Agricultural Resources ). No Williamson Act lands are located within the vicinity of the Proposed Project (DOC 2014).

- Poles 29 and 30 are located within a section of Unique Farmland spanning approximately 1,000 feet in Segment 1.
- A property identified as Farmland of Local Importance is adjacent to the Proposed Project, approximately 1,000 feet to the east of Pole 55 and the existing access road in Segment 2.
- The Proposed Project Segment 2 between Poles 62 and 63 crosses approximately 1,000 feet of Farmland of Local Importance. There is also a parcel of Unique Farmland approximately 600 feet to the east of the Proposed Project.
- Poles 100, 99, and 99.1 in Segment 3, as well as an existing access road, would cross approximately 800 feet of Unique Farmland, and would be approximately 600 feet to the east of a section of Farmland of Local Importance.
- The Proposed Project Segment 3 would cross a parcel of Farmland of Local Importance for approximately 1,230 feet at Pole 112. Approximately 1,500 feet to the west is another parcel of Farmland of Local Importance.
- A large parcel of Unique Farmland is located adjacent to the Proposed Project power line to the north, with approximately 100 feet of overlap with Segment 3 of the Proposed Project, at Pole 103.

### **Designated Forest Land**

The Proposed Project would not cross any lands designated as forest land. No additional precautions would be needed to mitigate any impacts within the Proposed Project limits.

#### **4.2.4 Potential Impacts**

The Proposed Project includes removing existing wood pole structures, installing new steel pole structures, and reconductoring for the existing TL 680C power lines; constructing a new power line segment; and converting a de-energized line to a 69 kV power line. The operation and

maintenance activities required for the power lines would not change from those currently required for the existing system. The new steel poles would require less maintenance and repair than the existing wood poles; however, due to the additional structures and hardware in Segment 2, there would be a slight increase in frequency of maintenance. Because the increase would be slight, effects from the operation and maintenance of the Proposed Project on the environment would be negligible. Therefore, the impact analysis is focused on construction activities that are required to install the new conductor, remove the existing wood pole structures, install the new steel pole structures, and establish temporary work areas, as described in Chapter 3, Project Description.

#### **4.2.4.1 Significance Criteria**

According to Section 15002(g) of the CEQA Guidelines, “a significant effect on the environment is defined as a substantial adverse change in the physical conditions which exist in the area affected by the proposed project.” As stated in Section 15064(b) of the CEQA Guidelines, the significance of an activity may vary with the setting. The potential significance of project-related impacts on agriculture and forestry resources were evaluated for each of the criteria from Appendix G of the CEQA Guidelines, as discussed in the following sections.

##### **a) Would the project convert Farmland, as shown on the maps prepared pursuant to the Farmland Mapping and Resources Agency, to non-agricultural use?**

##### **Construction, Operation and Maintenance– Less-than-Significant Impact**

The Proposed Project crosses several parcels of land designated as Farmland of Local Importance or Unique Farmland (refer to Figure 4.2-1: Agricultural Resources ). Construction of the Proposed Project would be temporary and would not include any permanent impacts to these designated farmlands. Construction taking place over these lands would include rebuilding existing lines, new build structures, and reconductoring of existing lines, and installment of temporary access roads. No farmland would be permanently converted to non-agricultural use. Although the proposed steel poles would require less maintenance and repair than the existing wood poles, the Proposed Project would require slightly more maintenance due to the additional structures and hardware in Segment 2, which would result in slightly more vehicle trips to the Proposed Project Area. Operation and maintenance generally requires SDG&E workers temporarily working on the power line and would not require the conversion of agricultural land to non-agricultural use. Therefore, a less-than-significant impact would result from the Proposed Project.

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

##### **Construction, Operation and Maintenance – Less-than-Significant Impact**

Several parcels of agriculturally zoned land are crossed by the Proposed Project within Segments 2 and 3. The Proposed Project does not conflict with any Preserves or areas under Williamson Act contract. Utilities are permitted uses in all agriculturally zoned lands along the alignment; therefore, construction of the Proposed Project would not conflict with existing zoning for agriculture use. The steel poles would require less repair and maintenance than the existing

wood poles; however, the alignment would require slightly more maintenance due to the additional circuit in Segment 2. Operation and maintenance generally requires SDG&E workers temporarily traveling to the alignment to inspect and repair the power line and would not conflict with existing zoning for agricultural use, or a Williamson Act contract. There would be less-than-significant impacts on existing zoning for agricultural use or a Williamson Act contract from the Proposed Project.

- c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104[g])?**

**Construction, Operation and Maintenance – No Impact**

The Proposed Project occurs within land zoned for residential, commercial, industrial, agricultural, and vacant/undeveloped uses, and does not occur within the vicinity of any lands zoned as forest land or timberland. No portion of the Proposed Project would convert or conflict with the zoning of any existing forest land or timberland zoned Timberland Production; therefore, no impacts would occur as a result of construction or operation and maintenance.

- d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?**

**Construction, Operation and Maintenance– No Impact**

There are no forests or similar areas in the vicinity of the Proposed Project, and therefore no conversion of forest land to other uses would occur as a result of the construction or operation and maintenance of the Proposed Project. No impact on existing forest land or timberland would occur.

- e) Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?**

**Construction, Operation and Maintenance– No Impact**

The Proposed Project crosses several parcels of land designated as Farmland of Local Importance or as Unique Farmland; however, none of the construction activities proposed on segments of the power line that cross these areas would permanently convert any of the land to non-agricultural use or affect continued use for agricultural purposes. These parcels only contain segments that require reconductoring, re-energizing, or placing of a new overhead line; therefore, no land would be converted to a non-agricultural use.

Operation and maintenance would slightly increase due to the new circuit; however, the proposed steel poles would require less maintenance and repair than the existing wood poles. Trips to the Proposed Project to perform inspections and maintenance on Segment 2 would increase in frequency; however, these trips would be temporary and would occur within the SDG&E easement. The Proposed Project would not cross any lands designated as forest land or



timber land. The Proposed Project would not convert any lands designated as agricultural or forestry land, and therefore would have no impact.

#### 4.2.5 Applicant-Proposed Measures

The Proposed Project has no potentially significant impacts related to agricultural or forestry resources; therefore, no Applicant-Proposed Measures are proposed.

#### 4.2.6 References

California Department of Conservation (DOC). 2014. *Farmland Mapping and Monitoring Program. San Diego County FMMP Data. GIS Data Download Site*. Online: <ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP>. Site visited on January 6, 2017.

California State Board of Equalization. 2017. *Government Code Provisions: Agricultural Land*. Online: <http://www.boe.ca.gov/lawguides/property/current/ptlg/gov/51293.html>. Site visited March 12, 2017.

City of Carlsbad. 2013. *City of Carlsbad General Plan*. Online: <http://www.carlsbadca.gov/services/depts/planning/general.asp>. Site visited on August 4, 2017.

City of Carlsbad GIS Department. 2017. *Combination Zoning and General Plan Land Use.pdf. Map Download Site*. Online: <http://www.carlsbadca.gov/civicax/filebank/blobdload.aspx?BlobID=23514>. Map downloaded on March 13, 2017.

City of Escondido. 2012. *City of Escondido General Plan*. May. Online: <https://www.escondido.org/Data/Sites/1/media/PDFs/Planning/GPUpdate/GeneralPlanChapterVII.pdf>. Site visited on August 4, 2017.

City of Escondido. 2017. *Zoning Map*. Online: <https://www.escondido.org/Data/Sites/1/media/pdfs/Planning/FINALZONINGCITYMAP42X62PRINT.pdf>. Site visited on May 1, 2017.

City of Escondido GIS Section. 2017. *Zoning GIS Data. GIS Data Download Site*. Online: <ftp://ftp.escondido.org/150026/>. Data downloaded on March 10, 2017.

City of San Marcos. 2012a. *Zoning Ordinance*. Adopted November 13. Online: <http://www.san-marcos.net/home/showdocument?id=11357>. Site visited on May 4, 2017.

City of San Marcos. 2012b. *City of San Marcos General Plan*. February 14. Online: <http://www.san-marcos.net/work/economic-development/general-plan>. Site visited on August 4, 2017.

City of San Marcos Information Technology Department – Geographic Information Systems (GIS) Program. 2017. *Zoning GIS Data. GIS Data Download Site*. Online: <ftp://public.san-marcos.net/public>. Data downloaded on March 6, 2017.

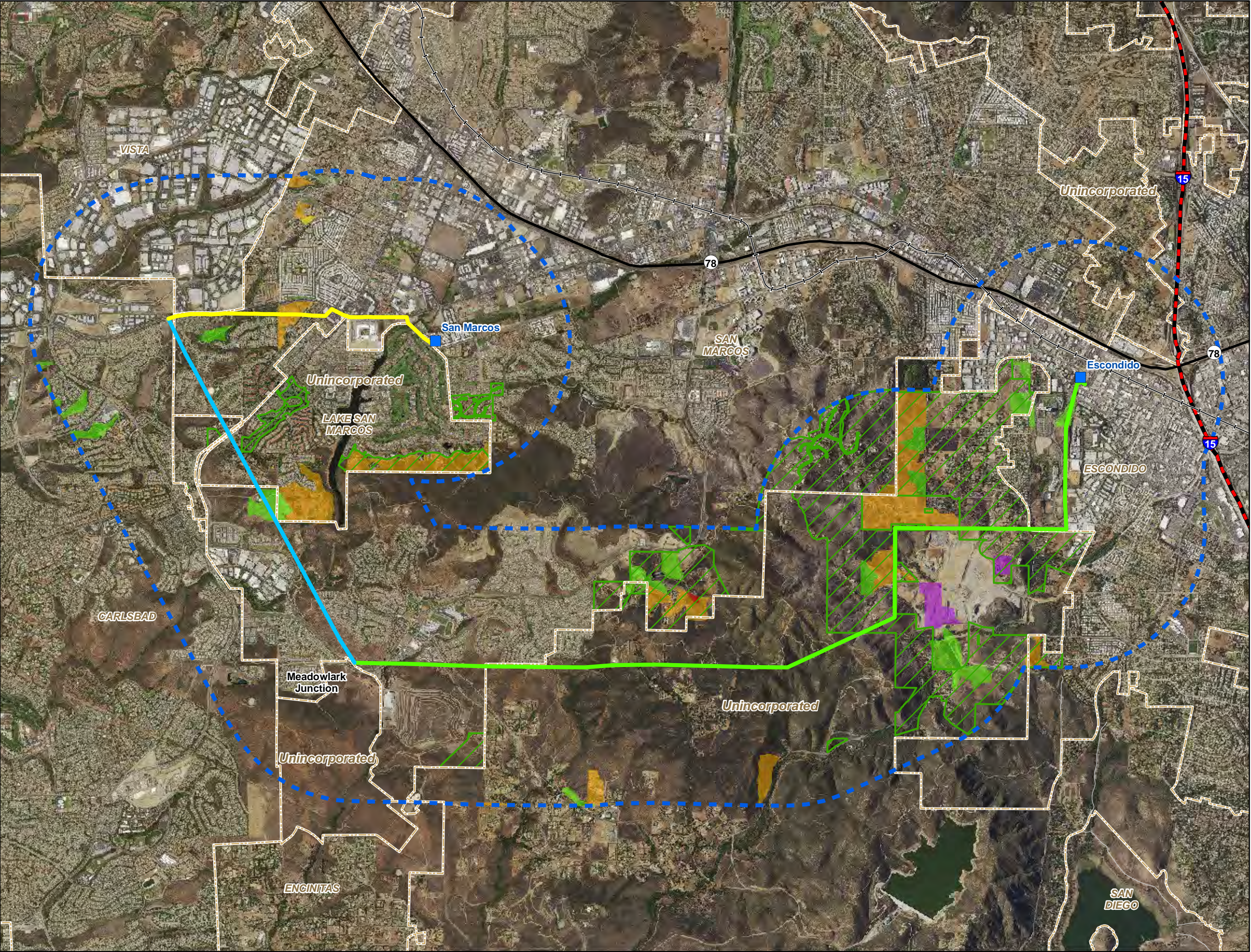
City of Vista. 2012. *City of Vista General Plan 2030*. February 28. Online: <http://www.cityofvista.com/services/city-departments/community-development/building-planning-permits-applications/vista-general-plan-2030>. Site visited on August 4, 2017.

City of Vista. 2017. *Geographic Information Services*. Online: <http://www.cityofvista.com/services/gis#ad-image-6>. Site visited on August 4, 2017.

SanGIS Regional GIS Data Warehouse. 2017. *County of San Diego, Planning and Development Services, LUEG-GIS Service "ZONING\_UNINCORPORATED" GIS Data. GIS Data Download Site*. Online: <http://www.sangis.org/download/index.html>. Data downloaded on February 26, 2017.

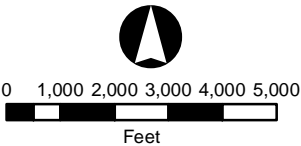
Page Intentionally Left Blank





**TL6975 San Marcos  
to Escondido  
Figure 4.2 1:  
Agricultural Resources**

- Legend**
- Project Alignment**
- Segment 1 - Rebuild
  - Segment 2 - New Build
  - Segment 3 - Reconductor
  - 1 Mile Buffer
- General Features**
- Existing Substation
  - Interstate
  - State Highway
  - Railroad
  - City Boundary
  - County Boundary
- Important Farmland**
- Farmland of Local Importance
  - Prime Farmland
  - Farmland of Statewide Importance
  - Unique Farmland
- Zoning**
- Agriculture
- Other Agricultural Resource**
- Agricultural Preserve







## Table of Contents

<b>4.3</b>	<b>Air Quality.....</b>	<b>4.3-1</b>
4.3.1	Introduction.....	4.3-1
4.3.2	Methodology .....	4.3-1
4.3.3	Existing Conditions.....	4.3-2
4.3.4	Potential Impacts.....	4.3-10
4.3.5	Applicant-Proposed Measures .....	4.3-17
4.3.6	References.....	4.3-17

## List of Tables

Table 4.3-1:	State and Federal Ambient Air Quality Standards .....	4.3-7
Table 4.3-2:	Local Air Quality Levels.....	4.3-9
Table 4.3-3:	Sensitive Receptors within 0.25 Mile of the Proposed Project .....	4.3-10
Table 4.3-4:	SDAPCD Pollutant Thresholds .....	4.3-11
Table 4.3-5:	Peak Daily Unmitigated Construction Emissions .....	4.3-14

## List of Appendices

Appendix 4.3-A: Air Quality and Greenhouse Gas Assessment

## Acronym List

°F	degrees Fahrenheit
AAQS	ambient air quality standards
ATCM	airborne toxic control measure
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CO	carbon monoxide
DPM	diesel particulate matter
EPA	U.S. Environmental Protection Agency
kV	kilovolt
NAAQS	National Ambient Air Quality Standards
NO <sub>2</sub>	nitrogen dioxide
NO <sub>x</sub>	nitrogen oxides
O&M	operations and maintenance
O <sub>3</sub>	ozone
PEA	Proponent's Environmental Assessment
PM	particulate matter
PM <sub>10</sub>	particulate matter 10 microns or less in diameter
PM <sub>2.5</sub>	particulate matter 2.5 microns or less in diameter
ppb	part per billion
ppm	part per million
RAQS	Regional Air Quality Strategy
SCAQMD	South Coast Air Quality Management District
SDAPCD	San Diego County Air Pollution Control District
SDG&E	San Diego Gas & Electric Company
SIP	State Implementation Plan
SO <sub>2</sub>	sulfur dioxide
SO <sub>x</sub>	sulfur oxides
TAC	toxic air contaminant
VOC	volatile organic compound
µg/m <sup>3</sup>	micrograms per cubic meter

### 4.3 AIR QUALITY

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a.	Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b.	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c.	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d.	Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e.	Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### 4.3.1 Introduction

This section of the Proponent's Environmental Assessment (PEA) describes the existing air quality within the Proposed Project Area and evaluates the potential air quality impacts that could result from the construction, operation, and maintenance of the Proposed Project. The Proposed Project's potential effects related to air quality were evaluated using the significance criteria set forth in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. The analysis concludes that the Proposed Project would have *less-than-significant* impacts on air quality.

#### 4.3.2 Methodology

The existing air quality within San Diego County was researched using data obtained from the San Diego County Air Pollution Control District's (SDAPCD's) network of air quality monitoring stations. Federal, state, and regional/local regulations and policies were consulted to determine the Proposed Project's level of compliance with, and potential impacts on, applicable air quality plans and/or standards. Information for this section was obtained from internet searches of federal, state, and regional/local websites. Refer also to Appendix 4.3-A, Air Quality and Greenhouse Gas Assessment, for modeling inputs, outputs, and additional discussion of the methods used to predict air quality impacts resulting from the Proposed Project.



The majority of the analysis of air quality impacts for the Proposed Project used the latest version of the California Emissions Estimator Model (CalEEMod), Version 2016.3.1 (CAPCOA 2016). CalEEMod contains emissions factors from the California Air Resources Board (CARB)'s OFFROAD Model for heavy construction equipment and CARB's EMFAC2014 Model for on-road vehicles. During construction, emissions from helicopter use were quantified separately outside of CalEEMod using emission factors and assumptions derived from the review of recent guidance and environmental documents from the U.S. Environmental Protection Agency (EPA), the Climate Registry, San Diego County, California Public Utilities Commission, and industry handbooks. The short-term emissions from construction of the Proposed Project would occur in San Diego County, where the SDAPCD has primary responsibility for controlling air pollution. As such, these emissions generated by the Proposed Project were reviewed against established SDAPCD significance criteria.

The analysis of greenhouse gas impacts from the Proposed Project is presented in Section 4.7, Greenhouse Gas Emissions. The greenhouse gas emissions from construction associated with the Proposed Project were also estimated using CalEEMod.

### **4.3.3 Existing Conditions**

#### **4.3.3.1 Regulatory Setting**

##### **Federal**

The 1970 federal Clean Air Act (CAA) established national ambient air quality standards (AAQS) for six pollutants, including carbon monoxide (CO), ozone (O<sub>3</sub>), particulate matter (PM) 10 microns or less in diameter (PM<sub>10</sub>), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), and lead. These six criteria pollutants are known to have adverse impacts on human health and the environment. To protect human health and the environment, the EPA set primary and secondary maximum ambient thresholds. The primary thresholds were set to protect human health, particularly that of children and the elderly, as well as individuals in the population that suffer from chronic lung conditions (e.g., asthma and emphysema). The secondary standards were set to protect the natural environment and prevent further deterioration of wildlife, crops, vegetation, and buildings. The combined primary and secondary standards are termed the National AAQS (NAAQS).

The 1977 CAA amendments required each state to develop and maintain a State Implementation Plan (SIP) for each criteria pollutant that exceeds ambient air quality standards. The SIP serves as a tool to reduce pollutants that are known to cause impacts that exceed the ambient thresholds and to achieve compliance with the NAAQS. In 1990, the CAA was amended to strengthen regulation of both stationary and mobile emission sources for the criteria pollutants.

In July 1997, the EPA developed new health-based NAAQS for O<sub>3</sub> and PM<sub>10</sub>; however, these standards were not fully implemented until 2001. The new federal O<sub>3</sub> standard of 0.08 part per million (ppm) was based on a longer averaging period (8-hour versus 1-hour), recognizing that

prolonged exposure to O<sub>3</sub> is more damaging. In March 2008, the EPA further lowered the 8-hour O<sub>3</sub> standard from 0.08 ppm to 0.075 ppm.<sup>1</sup> The new federal PM standard is based on finer particles (2.5 microns and smaller versus 10 microns and smaller), recognizing that finer particles may have a higher residence time in the lungs and contribute to greater respiratory illness.

## State

The California Clean Air Act of 1988 requires air districts to develop and implement strategies to attain California's Ambient Air Quality Standards (CAAQS). For some pollutants, the CAAQS are more stringent than the national AAQS. Regional air quality management districts, such as the SDAPCD, were required to prepare an air quality plan specifying how federal and state standards would be met.

The CARB enforces the CAAQS and works with the state's Office of Environmental Health Hazard Assessment in identifying toxic air contaminants (TACs) and enforcing rules related to TACs, including the Air Toxic Hot Spots Information and Assessment Act of 1987. Enacted to identify TAC hot spots where emissions from specific sources may expose individuals to an elevated risk of adverse health effects, the act requires that a business or other establishment identified as a significant source of toxic emissions provide the affected population with information about health risks posed by the emissions.

The CARB also regulates mobile emission sources in California, such as construction equipment, trucks, and automobiles, and oversees the air districts. Relevant programs related to oversight of mobile source emissions include the Off-Road and On-Road Mobile Sources Reduction programs, the Portable Equipment Registration Program, and the Airborne Toxic Control Measure for diesel particulate matter (DPM) from portable engines. The Mobile Sources Emission Reduction programs are aimed at reductions of nitrogen oxides (NO<sub>x</sub>), volatile organic compounds (VOCs), CO, and PM<sub>10</sub>. The CARB has also adopted specific control measures for the reduction of DPM from off-road (in-use) diesel vehicles (rated at 25 horsepower or higher) such as backhoes, dozers, and earthmovers used in construction projects. Additional DPM control measures are also in place for heavy-duty on-road diesel trucks operated by public utilities and municipalities. The Portable Equipment Registration Program and Airborne Toxic Control Measure for DPM (for portable engines) provide for state-wide registration and control of DPM from portable engines rated 50 horsepower and higher.

## Regional

### *San Diego County Air Pollution Control District*

The air districts are primarily responsible for regulating stationary emission sources at industrial and commercial facilities within their respective geographic areas, and for preparing the air quality plans that are required under the federal and California CAAs. The SDAPCD is the

---

<sup>1</sup> As per the final rule signed October 1, 2015, and effective December 28, 2015, EPA has updated the 8-hour O<sub>3</sub> standard to 0.070 ppm. The previous (2008) O<sub>3</sub> standards still remain in effect in some areas. Revocation of the previous (2008) O<sub>3</sub> standards and transitioning to the current (2015) standards will be addressed in the implementation rule for the current standards, which was proposed in November 2016.

primary agency responsible for planning, implementing, and enforcing federal and state AAQS in San Diego County. The plans, rules, and regulations presented as follows apply to all sources in the jurisdiction of the SDAPCD.

#### *Air Quality Plans*

The SDAPCD's air quality plans collectively provide an overview of the region's air quality and air pollution sources and identify the pollution-control measures needed to expeditiously attain and maintain air quality standards. The SDAPCD's air quality plans include the San Diego Regional Air Quality Strategy (RAQS), addressing state requirements, and the San Diego portion of the California SIP, addressing federal requirements.

#### *Ozone Air Quality Management Plan*

The SDAPCD SIP predicted local and state programs will allow San Diego County to reach attainment status for the previously applicable 1997 federal standard of 0.08 ppm for 8-hour O<sub>3</sub> AAQS by 2009 (per the SIP submitted to the EPA in June 2007). In 2012, the SDAPCD submitted a request to the EPA to be redesignated as attainment; however, the EPA has designated San Diego County as a nonattainment area for the new 2008 standard of 0.075 ppm for 8-hour O<sub>3</sub>. The SDAPCD is currently drafting an attainment plan for the 2008 standard.

The SDAPCD maintains the RAQS, which acts as a plan for how the district will eventually meet the O<sub>3</sub> CAAQS. The RAQS details the measures and regulations that focus on managing and reducing O<sub>3</sub> precursors, such as NO<sub>x</sub> and VOCs. The RAQS control measures focus on stationary sources that are under the SDAPCD's jurisdiction; however, all emission sources and control measures, including any under the jurisdiction of the CARB (e.g., on-road motor vehicles, off-road vehicles and equipment, and consumer products) and EPA (e.g., aircraft, ships, trains, and pre-empted off-road equipment) are included.

#### *Particulate Matter Air Quality Management Plan.*

The California Clean Air Act does not require local districts to establish an air quality management plan for state PM<sub>10</sub> nonattainment, but the SDAPCD has prepared a report titled *Measures to Reduce Particulate Matter in San Diego County*. The SDAPCD is considering rulemaking for source category-specific PM control measures for emissions from residential wood combustion and from fugitive dust generated at construction sites and from unpaved roads.

*Regulation IV – Prohibitions, Rule 50 – Visible Emissions.* This rule prohibits any activity that would create air contaminant emissions darker than 20 percent opacity for more than an aggregate of 3 minutes in any consecutive 60-minute time period.

*Regulation IV – Prohibitions, Rule 51 – Nuisance.* This regulation prohibits any activity that would discharge air contaminants that cause or have a tendency to cause injury, detriment, nuisance, or annoyance to people and the public or damage to any business or property.

*Regulation IV – Prohibitions, Rule 55 – Fugitive Dust Control.* This regulation prohibits any activity that would discharge visible dust emissions into the atmosphere beyond the property line bounding the activity for more than 3 minutes during any 60-minute period. This regulation also prohibits visible roadway dust due to track-out or carry-out.

*Regulation IV – Prohibitions, Rule 67.0.1.* This rule limits VOC content in architectural coatings used in San Diego County.

*Regulation XV – Federal Conformity.* The federal conformity rule prohibits any federal actions that may be inconsistent with SDAPCD efforts to achieve attainment with the NAAQS.

## **Local**

The Proposed Project is not subject to local discretionary regulations because the California Public Utilities Commission has exclusive jurisdiction over the siting, design, and construction of the Proposed Project.

### **4.3.3.2 Existing Air Quality and Climate Conditions**

#### **Basin Characteristics**

One of the main determinants of the San Diego Air Basin's climatology is the Pacific High, a semi-permanent high-pressure center over the Pacific Ocean. In the summer, this pressure center is located well to the north, causing storm tracks to be directed north of California. This high-pressure cell maintains clear skies for much of the year. When the Pacific High moves southward during the winter, this pattern changes, and low-pressure storms are brought into the region, causing widespread precipitation.

#### **Basin Climate**

The climate of the San Diego Air Basin is characterized by warm, dry summers and mild winters. The climate of San Diego, as with all of Southern California, is largely controlled by the strength and position of the Pacific High. This high-pressure ridge over the west coast creates a repetitive pattern of frequent early morning cloudiness, hazy afternoon shine, clean daytime onshore breezes, and little temperature change throughout the year. Rainfall occurs in the winter when the oceanic high-pressure center is weakest and farthest south as the fringes of mid-latitude storms occasionally move through the area. The average temperatures in January in San Diego range from 48.1 degrees Fahrenheit (°F) at night to 64.8°F during the day. The warmest month is August, when the high temperatures average 76.3°F. The annual rainfall is approximately 10.13 inches (Western Regional Climate Center 2016).

#### **Generation of Air Pollutants**

The same atmospheric conditions that create a desirable living climate combine to limit the ability of the atmosphere to disperse the air pollution generated by the large population attracted to the pleasant climate. The onshore winds across the coastline diminish quickly when they reach the foothill communities east of San Diego. The sinking air within the offshore high-pressure system forms a massive temperature inversion that traps all the air pollutants near the



ground. The resulting horizontal and vertical stagnation, in conjunction with ample sunshine, causes a number of reactive pollutants to undergo photochemical reactions and form smog, which degrades visibility and irritates the tear ducts and nasal membranes of humans. While programs to control emission of air pollutants have substantially improved regional air quality within the last several decades, some parts of the basin still do not meet air standards.

### **Local Climate**

Local meteorological conditions in the Proposed Project vicinity conform to the regional pattern of strong onshore winds by day (especially in the summer) and weak offshore winds at night (particularly during the winter). These local wind patterns are driven by the temperature difference between the ocean and the warm interior topography. In the summer, moderate breezes of 8 to 12 miles per hour blow onshore and up through the valley from the southwest by day. Light onshore breezes may continue throughout the night when the land remains warmer than the ocean. In the winter, the onshore flow is weaker and the wind flow reverses to blow from the northeast in the evening as the land becomes cooler than the ocean.

### **Temperature Inversions**

Both the onshore flow of marine air and the nocturnal winds are accompanied by two characteristic temperature inversion conditions that control the rate of air pollution dispersal throughout the basin. The daytime cool onshore flow is capped by a deep layer of warm, sinking air. Along the coastline, the marine air layer beneath the inversion cap is deep enough to accommodate any locally generated emissions. As the layer moves inland, however, pollution sources (especially automobiles) add pollutants from below without any dilution from above through the inversion interface. When this polluted layer approaches foothill communities east of coastal developments, it becomes shallower and exposes residents in those areas to the concentrated byproducts of coastal area sources.

#### **4.3.3.3 Air Quality**

The CARB sets the CAAQS and monitors ambient air quality at approximately 250 air quality monitoring stations across the state. Air quality monitoring stations usually measure pollutant concentrations 10 feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. Ambient air pollutant concentrations in the basin are measured at 12 air quality monitoring stations operated by the SDAPCD.

The Escondido Monitoring Station on East Valley Parkway in Escondido was chosen to gather data for CO, O<sub>3</sub>, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, and particulate matter 2.5 microns or less in diameter (PM<sub>2.5</sub>). The data collected at this monitoring station are representative of the air quality experienced on site from 2013 through 2015. These data are likely conservative, as the monitoring station is located in a developed area with multiple emission sources, where the Proposed Project is located in a less developed area.

#### 4.3.3.4 Air Quality Designations

The following three air quality designations can be given to an area for a criteria pollutant:

- **Nonattainment:** This designation applies when air quality standards have not been consistently achieved.
- **Attainment:** This designation applies when air quality standards have been achieved.
- **Unclassified:** This designation applies when insufficient monitoring data exist to determine a nonattainment or attainment designation.

Current NAAQS and CAAQS are summarized in Table 4.3-1: State and Federal Ambient Air Quality Standards. The San Diego Air Basin is currently designated as a nonattainment area for O<sub>3</sub> and all particulate matter.

**Table 4.3-1: State and Federal Ambient Air Quality Standards**

Pollutant	Averaging Time	California <sup>1</sup>		Federal <sup>2</sup>	
		Standard <sup>3</sup>	Attainment Status	Standard <sup>4</sup>	Attainment Status
O <sub>3</sub>	1 hour	0.09 ppm (180 µg/m <sup>3</sup> )	Nonattainment	N/A	N/A
	8 hour	0.070 ppm (137 µg/m <sup>3</sup> )	Nonattainment	0.070 ppm (137 µg/m <sup>3</sup> )	Marginal Nonattainment
PM <sub>10</sub>	24 hour	50 µg/m <sup>3</sup>	Nonattainment	150 µg/m <sup>3</sup>	Attainment
	Annual arithmetic mean	20 µg/m <sup>3</sup>	Nonattainment	N/A	Attainment
PM <sub>2.5</sub>	24 hour	No Separate State Standard		35 µg/m <sup>3</sup>	Attainment
	Annual arithmetic mean	12 µg/m <sup>3</sup>	Nonattainment	12 µg/m <sup>3</sup>	Unclassified
CO	1 hour	20 ppm (23 mg/m <sup>3</sup> )	Attainment	35 ppm (40 mg/m <sup>3</sup> )	Attainment
	8 hour	9.0 ppm (10 mg/m <sup>3</sup> )	Attainment	9 ppm (10 mg/m <sup>3</sup> )	Attainment
NO <sub>2</sub> <sup>5</sup>	1 hour	0.18 ppm (339 µg/m <sup>3</sup> )	Attainment	100 ppb	Attainment
	Annual arithmetic mean	0.030 ppm (57 µg/m <sup>3</sup> )	N/A	0.053 ppm (100 µg/m <sup>3</sup> )	Attainment
SO <sub>2</sub> <sup>6</sup>	1 hour	0.25 ppm (655 µg/m <sup>3</sup> )	Attainment	75 ppb (196 µg/m <sup>3</sup> )	N/A
	3 hour	N/A	N/A	0.5 ppm (1300 µg/m <sup>3</sup> )	Attainment
	24 hour	0.04 ppm (105 µg/m <sup>3</sup> )	Attainment	0.14 ppm (365 µg/m <sup>3</sup> )	Attainment
Lead <sup>7,8</sup>	30 day	1.5 µg/m <sup>3</sup>	Attainment	N/A	N/A
	Quarterly	N/A	N/A	1.5 µg/m <sup>3</sup>	Attainment

Pollutant	Averaging Time	California <sup>1</sup>		Federal <sup>2</sup>	
		Standard <sup>3</sup>	Attainment Status	Standard <sup>4</sup>	Attainment Status
Visibility-Reducing Particles <sup>9</sup>	8 Hours (10 a.m. to 6 p.m., PST)	Extinction coefficient = 0.23km@<70% RH	Unclassified	No Federal Standards	
Sulfates	24 hour	25 µg/m <sup>3</sup>	Attainment		
Hydrogen Sulfide	1 hour	0.03 ppm (42 µg/m <sup>3</sup> )	Unclassified		
Vinyl Chloride <sup>7</sup>	24 hour	0.01 ppm (26 µg/m <sup>3</sup> )	Unclassified		
Source: CARB 2015; EPA 2016					
Notes:					
km = kilometer(s); mg/m <sup>3</sup> = milligrams per cubic meter; N/A = not applicable; ppb = parts per billion; PST = Pacific Standard Time; RH = relative humidity; µg/m <sup>3</sup> = micrograms per cubic meter					
<sup>1</sup> California standards for O <sub>3</sub> , CO (except 8-hour Lake Tahoe), SO <sub>2</sub> (1- and 24-hour), NO <sub>2</sub> , and PM (PM <sub>10</sub> , PM <sub>2.5</sub> , and visibility-reducing particles) are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.					
<sup>2</sup> National standards (other than O <sub>3</sub> , PM, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O <sub>3</sub> standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM <sub>10</sub> , the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m <sup>3</sup> is equal to or less than one. For PM <sub>2.5</sub> , the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard.					
<sup>3</sup> Concentration is expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25 degrees Celsius (°C) and a reference pressure of 760 millimeter (mm) of mercury. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 mm of mercury; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.					
<sup>4</sup> National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. The table presents primary standards with the exception of the 3-hour SO <sub>2</sub> standard, which is a secondary standard.					
<sup>5</sup> To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.					
<sup>6</sup> On June 2, 2010, a new 1-hour SO <sub>2</sub> standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO <sub>2</sub> national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.					
<sup>7</sup> The CARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.					
<sup>8</sup> The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m <sup>3</sup> as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.					
<sup>9</sup> In 1989, the CARB converted the general statewide 10-mile visibility standard to and instrumental equivalent, which is “extinction of 0.23 per kilometer.”					

### 4.3.3.5 Ambient Air Quality

Violations of the NAAQS and CAAQS for O<sub>3</sub> and PM have occurred historically in the vicinity of the Proposed Project. The frequency of violations and current air quality conditions at the Escondido Monitoring Station are summarized in Table 4.3-2: Local Air Quality Levels. The Escondido Monitoring Station is the site nearest to the Proposed Project Area, although the Escondido Monitoring Station is located in a more developed area with multiple emission sources compared to the Proposed Project Area.

**Table 4.3-2: Local Air Quality Levels**

Pollutant	Standard (Maximum Allowable Amount)		Year <sup>1</sup>	Maximum Concentration <sup>2</sup>	Number of Days State/Federal Standard Exceeded <sup>3</sup>
	California	Federal Primary			
1-hour O <sub>3</sub>	0.09 ppm for 1 hour	N/A	2013 2014 2015	0.084 0.099 0.079	0/0 1/0 0/0
8-hour O <sub>3</sub>	0.070 ppm for 8 hours	0.070 ppm for 8 hours	2013 2014 2015	0.074 0.079 0.071	4/4 8/7 3/2
1-hour CO	20 ppm for 1 hour	35 ppm for 1 hour	2013 2014 2015	3.2 3.8 3.1	0/0 0/0 0/0
8-hour CO	9.0 ppm for 8 hours	9 ppm for 8 hour	2013 2014 2015	2.6 3.1 2.0	0/0 0/0 0/0
NO <sub>2</sub>	0.18 ppm for 1 hour	0.100 ppm For 1 hour	2013 2014 2015	0.061 0.063 0.048	0/0 0/0 0.0
1-hour SO <sub>2</sub>	.25 ppm for 1 hour	75 ppb for 1 hour	2013 2014 2015	NM NM NM	NM/NM NM/NM NM/NM
24-hour SO <sub>2</sub>	0.04 ppm for 24 hours	N/A	2013 2014 2015	NM NM NM	NM/NM NM/NM NM/NM
Fine Particulate Matter (PM <sub>2.5</sub> ) <sup>1, 2</sup>	No Separate Standard	35 µg/m <sup>3</sup> for 24 hours	2013 2014 2015	56.3 30.4 29.4	NM/1 NM/1 NM/0
Particulate Matter (PM <sub>10</sub> )	50 µg/m <sup>3</sup> for 24 hours	150 µg/m <sup>3</sup> for 24 hours	2013 2014 2015	80.0 43.0 30.0	1/0 0/0 0/0
Sources: CARB 2016, SDAPCD 2015 N/A = not applicable; NM = not measured; µg/m <sup>3</sup> = micrograms per cubic meter. Notes: <sup>1</sup> The most recent three-year period where air quality data was collected at the Escondido Monitoring Station is from 2013–2015. Currently 2016 air quality data is not available at this monitoring station. <sup>2</sup> Maximum concentration is measured over the same period as the CAAQS. <sup>3</sup> PM <sub>10</sub> and PM <sub>2.5</sub> exceedances are derived from the number of samples exceeded, not days.					

#### 4.3.3.6 Sensitive Receptors

Sensitive populations are more susceptible to the effects of air pollution than the general population. According to the South Coast Air Quality Management District (SCAQMD), sensitive receptors are defined as “those segments of a population such as children, athletes, elderly, and sick that are more susceptible to the effects of air pollution than the population at large” (SCAQMD 2005).

Sensitive receptors that are in proximity to localized sources of toxics and CO are of particular concern. Land uses that may include sensitive receptors typically include residences, schools,



playgrounds, childcare centers, long-term health care facilities, rehabilitation centers, convalescent centers, hospitals, and retirement homes. Table 4.3-3: Sensitive Receptors within 0.25 Mile of the Proposed Project provides the names and locations of sensitive receptors that would be affected by construction and operation of the Proposed Project, and their distance from the Proposed Project. The closest land uses that may contain sensitive receptors would be the numerous residential land uses, eight schools, eight parks, and two medical facilities along the Proposed Project route.

**Table 4.3-3: Sensitive Receptors within 0.25 Mile of the Proposed Project**

Type	Name	Distance from Proposed Project Site (feet/miles)	Direction from Proposed Project Site
Residential	Lake San Marcos	Varies	Residential communities listed surround the route
	San Elijos Hills	Varies	North
	Hidden Hills	Varies	North
Schools	San Marcos High School	Directly adjacent to Segment 1 route	South
	Carilyn Gilbert Educational Center	Approx. 908 feet	East
	High Tech Elementary School	Approx. 936 feet	North
	High Tech Middle School	Approx. 580 feet	North
	High Tech High North County	Approx. 265 feet	North
	Valley Christian School	Approx. 90 feet	East
	Community Christian School	Approx. 138 feet	Southwest
	San Elijo Middle School	Approx. 1,146 feet	North
Park Facilities	Simmons Family Park	Directly adjacent to Segment 2 route	East
	Questhaven Park	1,120 feet/0.21 mile	North
	Escondido Creek Preserve	Within Segment 3	Surrounding
	The Laurels Park	Approx. 500 feet	South
	San Elijo Hills Mini Park	Approx. 1,600 feet	North
	Sage Hill Preserve	Within Segment 3	surrounding
	Diamond Trail Preserve	Approx. 385 feet	West
	Rancho La Costa Preserve	Within Segment 2	Surrounding
Hospitals	Palomar Medical Center Escondido	Approx. 425 feet	West
	Palomar Health Expresscare San Elijo Hills	Approx. 613 feet	North

Note: The sensitive receptors listed in this table were identified by conducting a review of the Proposed Project Area in Google Earth.

#### 4.3.4 Potential Impacts

The Proposed Project includes removing existing wood pole structures, installing new steel pole structures, and reconductoring for the existing TL 680C power lines; constructing a new power line segment; and converting a de-energized line to a 69 kV power line. The operation and maintenance activities required for the power lines would not change from those currently required for the existing system; however, due to the additional structures and hardware in

Segment 2, there would be a slight increase in frequency of maintenance. Because the increase in the frequency would be slight, effects from the operations and maintenance of the Proposed Project on the environment would be negligible. Therefore, the impact analysis is focused on construction activities that are required to install the new conductor, remove existing wood pole structures, install new steel pole structures, and establish temporary work areas, as described in Chapter 3, Project Description.

#### 4.3.4.1 Significance Criteria

According to Section 15002(g) of the State CEQA Guidelines, “a significant effect on the environment is defined as a substantial adverse change in the physical conditions which exist in the area affected by the proposed project.” As stated in Section 15064(b) of the State CEQA Guidelines, the significance of an activity may vary with the setting. The potential significance of project-related impacts on air quality were evaluated for the applicable criteria from Appendix G of the State CEQA Guidelines, as discussed in the following sections.

#### San Diego Air Pollution Control District

To determine whether a significant impact would occur during construction, the SDAPCD informally recommends quantifying construction emissions and comparing them to significance thresholds (pounds per day) found in the SDAPCD regulations for stationary sources (pursuant to Rule 20.1, et seq.) and shown in Table 4.3-4: SDAPCD Pollutant Thresholds.

**Table 4.3-4: SDAPCD Pollutant Thresholds**

Pollutant	Significance Threshold (pounds per day)
PM <sub>2.5</sub>	55
PM <sub>10</sub>	100
NO <sub>x</sub>	250
SO <sub>x</sub>	250
CO	550
VOCs	75

Source: SDAPCD 1998; County of San Diego 2007.

SO<sub>x</sub> = sulfur oxides

Note: In the absence of pounds per day VOC and PM<sub>2.5</sub> significance thresholds in the SDAPCD’s rules, VOC and PM<sub>2.5</sub> thresholds were derived from the County of San Diego Land Use and Environment Group’s *Draft Guidelines for Determining Significance and Report Format and Content Report Format and Content Guidance Requirements Air Quality*, 2007.

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

##### Construction – Less-than-Significant Impact

A potentially significant impact on air quality would occur if the Proposed Project would conflict with or obstruct the implementation of the applicable air quality plan. Although the Proposed Project would contribute temporary air emissions to the San Diego Air Basin, the primary concern is whether project-related impacts have been properly anticipated in the regional air

quality planning process and reduced whenever feasible. Therefore, it is necessary to assess the Proposed Project's consistency with the RAQS. The Proposed Project's consistency with the RAQS is determined in terms of whether the Proposed Project exceeds the criteria pollutant threshold levels established by the SDAPCD and whether the Proposed Project would result in growth that has been anticipated in a given subregion. As shown in Table 4.3-5: Peak Daily Unmitigated Construction Emissions, and as discussed under Question 4.3b, the short-term and temporary construction emissions would not exceed the applicable significance thresholds. The Proposed Project would not conflict with implementation of the RAQS or SIP. Therefore, impacts would be less than significant.

#### **Operation and Maintenance – No Impact**

The O&M activities required for the power lines would not change from those currently required for the existing system; however, due to the additional structures and hardware in Segment 2, there would be a slight increase in frequency of maintenance. While this slight increase in maintenance would require a slight increase in the use of light-duty trucks for inspections, there would also be a slight reduction in the use of heavy-duty trucks that are mainly used for activities such as insulator washing and intrusive inspections, which would no longer occur after implementation of the Proposed Project. Overall, while the frequency of maintenance activities would slightly increase, the total mileage traveled by the light-duty and heavy-duty trucks performing these activities would remain relatively the same as that under the existing system. Thus, the effects from the O&M activities of the Proposed Project on the environment would be negligible, and the Proposed Project would not conflict with any applicable air quality plans. No impact would occur.

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

#### **Construction – Less-than-Significant Impact**

Constructing the Proposed Project is anticipated to occur over approximately 10 months (preceded by 2 months of preconstruction activity). Table 3-12: Proposed Construction Schedule, in Section 3.7 of Chapter 3, Project Description, presents the anticipated construction schedule and phases of construction for the Proposed Project. Construction of the Proposed Project is anticipated to begin in February 2020 and be completed by November 2020.

Construction equipment would include various types of trucks (including water trucks, boom trucks, haul trucks, and pickup trucks), on-site generators, air compressors, bore/drill rigs, backhoes, mowers, loaders, cabling equipment, and cranes.

Any soil export or import would be transported on or off the site with street-legal haul trucks. Portable cranes and heavy hauling trucks would be employed for the equipment delivery and installation. Crew trucks, boom trucks, and pick-up trucks would arrive and depart from the site daily for construction activities, testing and check-out, final power line tie-ins, and circuit cabling until the power line is tested and energized. Medium-duty helicopters would be used for construction of the power line.

Construction of the Proposed Project may require multiple four- to five-person crews and associated equipment. Environmental monitors, construction inspectors, and San Diego Gas & Electric Company (SDG&E) personnel would also be present throughout construction. These crews may work simultaneously at various points along the Proposed Project route, affected substations, and staging areas with up to approximately 25 to 35 people (including construction crews, monitors, and all other support staff) working at one time.

Daily transportation of construction workers is not expected to cause a significant effect on air quality, because approximately 25 to 35 workers would be working along the Proposed Project at the peak of construction, and the number of trips generated would be minimal and constitute an insignificant percentage of current daily volumes in the area. SDG&E would encourage carpooling to reduce worker trips where feasible.

Construction of the Proposed Project would generate short-term air quality impacts. The short-term air quality impact analysis considers the following temporary impacts from the Proposed Project:

- Clearing, grading, excavating, and using heavy equipment or trucks would create large quantities of fugitive dust, and thus PM<sub>10</sub>;
- Helicopter use required for material transport, structure removal, structure installation, and stringing activities would generate and emit exhaust;
- Heavy equipment required for grading and construction would generate and emit diesel exhaust; and
- Vehicles transporting commuting construction workers and trucks hauling equipment and materials would generate and emit exhaust.

Construction activities for the Proposed Project were modeled based on the construction schedule presented in Table 3-12: Proposed Construction Schedule. The Proposed Project was modeled using CalEEMod with emission factors from the OFFROAD Model for heavy construction equipment and EMFAC2014 for on-road vehicles.

Variables factored into estimating the total construction emissions include the level of activity, length of construction period, number of pieces and types of equipment in use, site characteristics, weather conditions, number of construction personnel, and amount of materials transported on site or off site. Proposed Project construction emissions findings are presented in Table 4.3-5: Peak Daily Unmitigated Construction Emissions, which provides an evaluation of the maximum daily emissions associated with the simultaneous construction activities required for the Proposed Project. Maximum daily activities were identified based on a review of the construction schedule to identify simultaneous construction phases. A list of mobile and stationary construction equipment is included in the air quality modeling; refer to Appendix 4.3-A.



**Table 4.3-5: Peak Daily Unmitigated Construction Emissions**

Year	Maximum Daily Construction Emissions (pounds/day)					
	ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>2019<sup>1</sup></b>						
Construction Emissions	3.2	30.1	18.9	0.0	48.0	6.1
<b>Total</b>	<b>3.2</b>	<b>30.1</b>	<b>18.9</b>	<b>0.0</b>	<b>48.0</b>	<b>6.1</b>
Significance Threshold	75	250	550	250	100	55
Threshold Exceeded?	No	No	No	No	No	No
<b>2020</b>						
Construction Emissions	15.6	142.7	89.9	0.3	86.3	13.6
Helicopter Emissions	4.3	18.1	8.9	2.5	2.9	2.9
<b>Total</b>	<b>20.0</b>	<b>160.8</b>	<b>98.7</b>	<b>2.8</b>	<b>89.2</b>	<b>16.5</b>
Significance Threshold	75	250	550	250	100	55
Threshold Exceeded?	No	No	No	No	No	No
Source: CalEEMod Version 2016.3.1 (CAPCOA 2016). See Appendix 4.3-A. Note: Totals may not add exactly due to rounding. <sup>1</sup> Although construction of the Proposed Project would commence in 2020, preconstruction activities (staging yard setup, deliveries to staging yards, road refreshing, vegetation trimming, etc.) would occur in late 2019.						

Construction activities are a source of fugitive dust (PM<sub>10</sub>, PM<sub>2.5</sub>) and exhaust emissions (reactive organic gas [ROG]/VOCs,<sup>2</sup> CO, NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub> and sulfur oxides [SO<sub>x</sub>]) that may have a substantial, although temporary, impact on local air quality. Fugitive dust emissions are associated with land clearing, excavation, cut and fill, and truck travel on unpaved roadways, while exhaust emissions are associated with the transport of machinery and supplies to and from the Proposed Project site, emissions produced on site as the equipment is used, and emissions from trucks transporting materials to and from the site. Fugitive dust emissions vary substantially from day to day, depending on the level of activity, specific operations, and weather conditions. Fugitive dust from grading and construction is expected to be short term and would cease when these activities are completed. Additionally, most of this fugitive dust material would be inert silicates, rather than the complex organic particulates released from combustion sources, which are more harmful to sensitive receptors.

As presented in Table 4.3-5: Peak Daily Unmitigated Construction Emissions, the short-term construction emissions of the Proposed Project would not cause exceedances of SDAPCD standards for any criteria pollutant in 2019 and 2020. Therefore, the Proposed Project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation and impacts associated with construction would be less than significant.

### **Operation and Maintenance – No Impact**

Pollutant emissions generated during O&M activities associated with the Proposed Project would mainly result from light-duty and heavy-duty truck travel for routine inspections and maintenance. Additionally, emissions would be generated from the occasional use of heavy

<sup>2</sup> The terms VOC and ROG are used interchangeably, although ROG is used in Table 4.3-5 because the CalEEMod produces emissions of ROG.

off-road construction equipment such as a grader and backhoe. Under the Proposed Project, the O&M activities required for the power lines would not change from those currently required for the existing system. While the additional structures and hardware in Segment 2 would require a slight increase in the use of light-duty trucks for inspections when compared to the existing system, there would also be a slight reduction in the use of heavy-duty trucks as activities such as insulator washing and intrusive inspections would no longer be required. Overall, the total mileage traveled by the light-duty and heavy-duty trucks performing the O&M activities under the Proposed Project would remain relatively the same as that under the existing system. Thus, the difference in emissions generated by the Proposed Project's O&M activities to that of the existing system would be negligible, and would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. No impact would occur.

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

#### **Construction – Less-than-Significant Impact**

As shown previously in Table 4.3-5: Peak Daily Unmitigated Construction Emissions, the construction of the Proposed Project would lead to a small, temporary increase in criteria air pollutants. SDG&E standard construction practices include minimizing vehicle idling time and controlling for dust emissions to reduce the impacts of the construction. Emissions, which would be temporary, would not exceed the SDAPCD standard for any criteria pollutant. Therefore, impacts associated with construction would be less than significant.

#### **Operation and Maintenance – No Impact**

The O&M activities required for the power lines under the Proposed Project would not change significantly from those currently required for the existing system. While the additional structures and hardware in Segment 2 would require a slight increase in the use of light-duty trucks for inspections when compared to the existing system, there would also be a slight reduction in the use of heavy-duty trucks as activities such as insulator washing and intrusive inspections would no longer be required. Overall, the total mileage traveled by the light-duty and heavy-duty trucks performing the O&M activities under the Proposed Project would remain relatively the same as that under the existing system. Thus, the Proposed Project would not result in an increase of nonattainment criteria air pollutants for the region. No impact would occur.

- d) Would the project expose sensitive receptors to substantial pollutant concentrations?**

#### **Construction – Less-than-Significant Impact**

Sensitive receptors in the Proposed Project Area primarily include residents adjacent to and in the general vicinity of the route area for Segments 1, 2, and 3. Additionally, eight schools, two hospitals, and eight park facilities are also in vicinity of the Proposed Project segment routes, as identified in Table 4.3-3: Sensitive Receptors within 0.25 Mile of the Proposed Project. These sensitive receptors would be exposed to criteria pollutants during Proposed Project

construction, but their exposure would be reduced with implementation of adopted measures. Specifically, CARB has adopted airborne toxic control measures (ATCM) applicable to off-road diesel equipment and portable diesel engines rated brake 50 horsepower and greater. The purpose of these ATCMs is to reduce emissions of PM from engines subject to the rule. The ATCMs require diesel engines to comply with PM emission limitations on a fleet-averaged basis.

CARB has also adopted an ATCM that limits the time diesel-fueled commercial motor vehicles are allowed to idle. The rule applies to motor vehicles with gross vehicular weight ratings greater than 10,000 pounds that are licensed for on-road use. The rule restricts vehicles from idling for more than 5 minutes at any location with exceptions for idling that may be necessary in the operation of the vehicle.

All off-road diesel equipment, on-road heavy-duty diesel trucks, and portable diesel equipment used for the Proposed Project must meet California's applicable ATCMs for control of DPM or NO<sub>x</sub> in the exhaust (e.g., ATCMs for portable diesel engines, off-road vehicles, and heavy-duty on-road diesel trucks, and 5-minute diesel engine idling limits) that are in effect during the implementation of the Proposed Project. The mobile fleets used for the Proposed Project are expected to comply fully with these ATCMs. This will ensure that pollutant emissions in diesel engine exhaust do not exceed applicable federal or state AAQS.

Sources of DPM during construction activities will be from haul truck activities, heavy construction equipment, and diesel-powered contractor vehicles. Health effects associated with exposure to DPM are long-term effects and are evaluated on the basis of a lifetime of exposure. Construction activities are spread throughout the Proposed Project corridor during the 10-month construction duration and will occur at individual pole locations on a short-term basis. In addition, helicopters would only be used for a total of 8 hours over the construction duration. Therefore, emissions will not affect any sensitive receptors for an extended period of time and the impact would be less than significant.

### **Operation and Maintenance – No Impact**

The O&M activities required for the power lines under the Proposed Project would not significantly change from those currently required for the existing system. While the additional structures and hardware in Segment 2 would require a slight increase in the use of light-duty trucks for inspections when compared to the existing system, there would also be a slight reduction in the use of heavy-duty trucks, as activities such as insulator washing and intrusive inspections would no longer be required. Overall, the total mileage traveled by the light-duty and heavy-duty trucks performing the O&M activities under the Proposed Project would remain relatively the same, although slightly increased, as that under the existing system. Thus, given the occasional occurrence of O&M activities throughout the year, the Proposed Project would not expose sensitive receptors to substantial pollutant concentrations. No impact would occur.

**f) Would the project create objectionable odors affecting a substantial number of people?****Construction – Less-than-Significant Impact**

Due to the nature of the Proposed Project, odor impacts are unlikely. Typical odor nuisances include hydrogen sulfide, ammonia, chlorine, and other sulfide-related emissions. No substantial sources of these pollutants would exist during construction. Construction equipment and construction operations would emit trace pollutants that could be considered to have objectionable odors, such as diesel exhaust. These odors would be temporary in nature. Because of the temporary nature of the construction (e.g., pole removals, pole replacements, reconductoring, underground cabling), odor impacts would be less than significant.

**Operation and Maintenance – No Impact**

The O&M activities required for the power lines under the Proposed Project would not significantly change from those currently required for the existing system; however, due to the additional structures and hardware in Segment 2, there would be a slight increase in frequency of maintenance. While this slight increase in maintenance would require a slight increase in the use of light-duty trucks for inspections, there would also be a slight reduction in the use of heavy-duty trucks that are mainly used for activities such as insulator washing and intrusive inspections, which would no longer occur after implementation of the Proposed Project. Overall, while the frequency of maintenance activities would slightly increase, the total mileage traveled by the light-duty and heavy-duty trucks performing these activities would remain relatively the same, although slightly increased, as that under the existing system. While odors from diesel-truck exhaust may be generated, these odors would not affect a substantial number of people in any area along the Proposed Project segment routes, as truck exhaust would be mainly emitted during roadway travel. Additionally, O&M activities would only occur occasionally throughout the year (approximately once a month). As such, any effects from the O&M activities associated with objectionable odors would be negligible. No impact would occur.

**4.3.5 Applicant-Proposed Measures**

The Proposed Project has no potentially significant impacts related to air quality; therefore, no Applicant-Proposed Measures are proposed.

**4.3.6 References**

California Air Pollution Officers Association (CAPCOA). 2016. California Emissions Estimator Model (CalEEMod). Version 2016.3.1. Online: <http://www.aqmd.gov/calceemod/home>. Site visited on May 24, 2017.

California Air Resources Board (CARB). 2015. *California Ambient Air Quality Standards*. Online: <http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm>. Site visited on May 10, 2017.

California Air Resources Board (CARB). 2016. *iADAM: Air Quality Data Statistics*. Online: <https://www.arb.ca.gov/adam/topfour/topfour1.php>. Site visited on May 10, 2017.



- County of San Diego. 2007. *Guidelines for Determining Significance and Report Format and Content Requirements for Air Quality*. Online: <http://www.sandiegocounty.gov/content/dam/sdc/pds/ProjectPlanning/docs/AQ-Guidelines.pdf>. Site visited on May 10, 2017.
- San Diego Air Pollution Control District (SDAPCD). 1998. *Rule 20.2 New Source Review Non – Major Stationary Sources*. Online: [http://www.sandiegocounty.gov/content/sdc/apcd/en/Rule\\_Development/Rules\\_and\\_Regulations.html](http://www.sandiegocounty.gov/content/sdc/apcd/en/Rule_Development/Rules_and_Regulations.html). Site visited on May 10, 2017.
- San Diego Air Pollution Control District (SDAPCD). 2015. *5-Year Air Quality Annual Summary Report*. Online: [http://www.sdapcd.org/content/dam/sdc/apcd/PDF/Misc/APCD\\_5-Year\\_Air\\_Quality\\_Summary\\_Annual\\_Report.pdf](http://www.sdapcd.org/content/dam/sdc/apcd/PDF/Misc/APCD_5-Year_Air_Quality_Summary_Annual_Report.pdf). Site visited on May 10, 2017.
- South Coast Air Quality Management District (SCAQMD). 2005. *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*. May 6.
- U.S. Environmental Protection Agency (EPA). 2016. *USEPA Green Book Nonattainment Areas for Criteria Pollutants*. Online: <https://www.epa.gov/green-book>. Site visited on May 10, 2017.
- Western Regional Climate Center. 2016. *Climate Summary for San Diego Lindbergh Field. Period of Record: July 1939 to June 2016*.

## Table of Contents

<b>4.4 Biological Resources .....</b>	<b>4.4-1</b>
4.4.1 Introduction .....	4.4-1
4.4.2 Methodology .....	4.4-2
4.4.3 Existing Conditions .....	4.4-7
4.4.4 Potential Impacts .....	4.4-34
4.4.5 Applicant-Proposed Measures.....	4.4-51
4.4.6 References .....	4.4-53

## List of Figures

Figure 4.4-1: CNDDDB Occurrences within the Proposed Project Area.....	4.4-59
Figure 4.4-2: Vegetation Communities Map .....	4.4-61

## List of Tables

Table 4.4-1: Vegetation Communities within the PSA .....	4.4-15
Table 4.4-2: Impacts on Vegetation Communities .....	4.4-36
Table 4.4-3: Impacts on Special-Status Plant Species .....	4.4-38

## List of Appendices

Appendix 4.4-A: Biological Technical Report
Appendix 4.4-B: Special-Status Species with Potential to Occur
Appendix 4.4-C: Jurisdictional Delineation Report
Appendix 4.4-D: SDG&E Natural Community Conservation Plan (NCCP) and Operational Protocols

## Acronyms and Abbreviations

AMSL	above mean sea level
APLIC	Avian Power Line Interaction Committee
APM	Applicant-Proposed Measure
BCC	Birds of Conservation Concern
BGEPA	Bald and Golden Eagle Protection Act
BMPs	best management practices
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGF	California Fish and Game Commission
CFR	Code of Federal Regulations
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
COS	Conservation and Open Space
CRPR	California Rare Plant Rank
CWA	Clean Water Act
FC	Candidates
FCC	Federal Species of Concern
FE	Endangered
FP	Fully Protected Species
FPA	Focused Planning Area
FT	Threatened
GIS	geographic information system
GPS	global positioning system
HCP	habitat conservation plan
HOA	Homeowners Association
MHCP	Multiple Habitat Conservation Program
mph	mile per hour
MSCP	Multiple Species Conservation Program
NOAA	National Oceanic and Atmospheric Administration's
NRCS	Natural Resource Conservation Service
NWI	National Wetland Inventory
OHWM	ordinary high water mark
PAMAs	pre-approved mitigation areas
PFO	potential for occurrence
QCB	Quino Checkerspot Butterfly
RCS	Resource Conservation Strategy

RWQCB	Regional Water Quality Control Board
SDG&E Subregional NCCP	SDG&E's Subregional Natural Community Conservation Plan
SSC	Species of Special Concern
U.S.C.	United States Code
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WL	Watch List



Page Intentionally Left Blank

#### 4.4 BIOLOGICAL RESOURCES

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

##### 4.4.1 Introduction

This section of the Proponent's Environmental Assessment describes the existing conditions related to biological resources within the Proposed Project Area and potential impacts that could

result from the construction, operation, and maintenance of the Proposed Project. The Proposed Project's potential effects on biological resources were evaluated using the significance criteria set forth in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. The analysis concludes that the Proposed Project would have *less-than-significant* impacts on biological resources with Applicant-Proposed Measures (APMs) incorporated.

The Proposed Project is located within areas covered under the San Diego Gas & Electric Company's (SDG&E's) Subregional Natural Community Conservation Plan (SDG&E Subregional NCCP) and 2017 five-year Habitat Conservation Plan (HCP). In 1995, USFWS and CDFW approved the SDG&E Subregional NCCP and the following associated documents: Implementing Agreement/Memorandum of Understanding, incidental take permit under Section 10(a) of the FESA, and management authorization under the CESA and Natural Community Conservation Planning Act. The incidental take permit and management authorization authorize incidental take of 110 species resulting from SDG&E's construction, operation, and maintenance of its facilities, while providing for the conservation and preservation of these species and their habitats.

## **4.4.2 Methodology**

### **4.4.2.1 Definitions**

#### **Special-Status Species**

Species are considered to be special status, and therefore subject to analysis in this section, if they meet one or more of the following criteria:

##### *Federal*

- Plant and wildlife species listed as Endangered (FE), Threatened (FT), or Candidates (FC) for listing under the FESA.

##### *State*

- Plant and wildlife species listed as endangered, threatened, or candidates for listing under the CESA.
- Wildlife designated as Fully Protected Species (FP), as defined in California Fish and Game Code Sections 3511, 4700, 5050, and 5515.
- Plants that are state-listed as Rare.<sup>1</sup>
- Wildlife species designated as Species of Special Concern (SSC) by the CDFW.
- Plant species ranked by the California Native Plant Society (CNPS) as having a California Rare Plant Rank (CRPR) of 1 or 2.<sup>2</sup> Species that fall under the following categories are not

---

<sup>1</sup> Plants that were previously state listed as "Rare" have been re-designated as state threatened.

considered special status, but may also be discussed: Former Federal Species of Concern (FCC), Birds of Conservation Concern (BCC), and California Watch List (WL) species.

### **Sensitive Natural Communities**

Sensitive natural communities are communities that have a limited distribution and are often vulnerable to the environmental effects of projects. These communities may or may not contain special-status species or their habitats. For purposes of this assessment, sensitive natural communities are considered to be any of the following:

- Vegetation communities listed in the California Natural Diversity Database (CNDDB).
- Communities listed in the Natural Communities List with a rarity rank of S1 (Critically Imperiled), S2 (Imperiled), or S3 (Vulnerable).

#### **4.4.2.2 Literature Review**

Preliminary investigations included study of aerial photographs, U.S. Geological Survey (USGS) topographic maps, National Wetland Inventory (NWI) maps, U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Soil Survey maps, CDFW Special Animals List, and USFWS Critical Habitat for Threatened and Endangered Species online mapper. A search of the CNPS Inventory of Rare and Endangered Vascular Plants of California and CDFW's CNDDB (refer to Figure 4.4-1: CNDDB Occurrences within the Proposed Project Area) for the areas within 5 miles of the Project Survey Area (PSA) (see Section 4.4.2.3 below for a definition of what is included in this area) was also conducted. In addition, any existing reports, maps, and data sheets that had been prepared previously for the Proposed Project were also reviewed.

All planning documents that are relevant to the PSA were reviewed, including the SDG&E Subregional NCCP and HCP; the general plans of the Cities of Vista, Carlsbad, San Marcos, and Escondido, and the unincorporated San Diego County; the City of Carlsbad Multiple Habitat Conservation Plan (MHCP) Subarea Plan; the draft City of San Marcos MHCP Subarea Plan; the draft City of Escondido MHCP Subarea Plan; and the draft County of San Diego North County MSCP. Prior to conducting the field survey, lists were prepared of special-status plants and animals with the potential to occur in the PSA.

#### **4.4.2.3 Field Surveys**

Surveys to inventory and evaluate biological resources were conducted within the PSA during 2015 and 2016. The PSA is composed of a 12-mile-long existing electric utility corridor and a 150-foot buffer around the proposed power line centerline, with the exception of a 100-foot buffer around the Proposed Project facilities (substations, staging yards, stringing sites, etc.) and a 20-foot buffer around the access roads that would be used for the Proposed Project.

---

<sup>2</sup> Under the CEQA review process, only CRPR 1 and 2 species are considered, as these are the only CNPS species that meet CEQA's definition of "rare" or "endangered." Impacts on List 3 and 4 species do not meet CEQA's definition of "rare" or "endangered."



## Evaluation of Potential for Occurrence

Using information from the literature review and survey results, specific criteria were developed to evaluate special status plant and wildlife species' potential for occurrence (PFO), and the criteria were applied to evaluate target plant and wildlife species. The specific criteria are described as follows:

- Absent: Species is restricted to habitats or environmental conditions that do not occur within the PSA, or a species was not observed within PSA during focused surveys.<sup>3</sup>
- Low: Historical records for this species do not exist within the immediate vicinity (approximately five miles) of the PSA, and/or habitats or environmental conditions needed to support the species are of poor quality. Herbaceous or perennial bulb species that were not observed during surveys cannot be confirmed absent from the PSA due to 2015 and 2016 drought conditions. These species were determined to be Low Potential.
- Moderate: Either a historical record exists of the species within the immediate vicinity (approximately five miles) of the Proposed Project and marginal habitat exists in the PSA; or the habitat requirements or environmental conditions associated with the species occur within the PSA, but no historical records exist within the immediate vicinity (approximately five miles) of the Proposed Project.
- High: Both a historical record of the species exists within the PSA or in the immediate vicinity (approximately five miles), and the habitat requirements and environmental conditions associated with the species occur within the PSA.
- Present: Species was detected within the PSA at the time of the survey.

## Vegetation Mapping

Vegetation communities were mapped within the PSA in 2015 and within the staging yards in 2017. Vegetation communities were classified and mapped in the field by ICF biologists to provide a baseline of biological resources that occur or have the potential to occur in the Proposed Project Area. Habitats were classified based on the dominant and characteristic plant species in accordance with vegetation community classifications following Holland (1986), as modified by Oberbauer et al. (2008). Vegetation mapping was completed using field maps and a handheld submeter-accuracy global positioning system (GPS) unit at a 1:2400 scale (1 inch = 200 feet). Acreages of each habitat type (delineated as a habitat polygon on the compiled vegetation maps) were calculated using ArcGIS software.

## Special-Status Plant Surveys

Based on information obtained during the literature review, surveys for special-status plants were deemed necessary. All suitable habitat within the PSA was surveyed by ICF biologists and did not include areas mapped as developed, disturbed, intensive agriculture, or orchard vineyard.

---

<sup>3</sup> Perennial plant species that were not observed were considered absent from the PSA due to negative survey results.

Due to non-SDG&E active construction that precluded access, surveys were not conducted between structures 103 and 104. The native habitat between structures 103 and 104 was graded and removed for a large residential development, and any potential occurrences of special-status plant species is now eliminated.

Surveys were conducted in March, April, and May 2016. All plant species observed within the survey area were recorded and identified to species, subspecies, or variety as applicable using *The Jepson Manual Vascular Plants of California, Second Edition* (Baldwin et al. 2012). Plant taxonomy and nomenclature followed the *Checklist of The Vascular Plants of San Diego County, Fifth Edition* (Rebman and Simpson 2014). The location of special-status plants was mapped with a hand-held, submeter-accuracy GPS unit. Subsequent to the field survey, data were downloaded from the GPS unit, post-processed, and brought into a geographic information system (GIS) for analysis.

### Special-Status Wildlife Surveys

Based on the results from the literature review, protocol surveys were deemed necessary to determine the presence/absence of the following special-status species within the PSA: coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo (*Vireo bellii pusillus*), and southwestern willow flycatcher (*Empidonax traillii extimus*). The methodology for these protocol surveys is summarized below.

A habitat assessment for arroyo toad (*Anaxyrus californicus*) was conducted by ICF in the spring of 2016 to determine if suitable habitat for this species was present within the PSA. No suitable habitat was found and no protocol surveys for arroyo toad were recommended. The results of the habitat assessment are provided in Appendix 4.4-A: Biological Technical Report.

#### *Coastal California Gnatcatcher Surveys*

Due to the presence of suitable habitat for coastal California gnatcatcher, including coastal sage scrub habitat, presence/absence surveys were conducted in accordance with the USFWS protocol (USFWS 1997). Six protocol surveys were conducted by ICF biologists at least 1 week apart between March 15 and June 12, 2016. During the first survey, all potentially suitable gnatcatcher habitat, including coastal sage scrub, chaparral, and grassland vegetation communities, was surveyed throughout the entire PSA. After the initial survey, six survey areas were determined to contain suitable habitat and were surveyed during the remaining five surveys. Habitat determined to be unsuitable was excluded from further surveys. A pre-recorded audiotape playback was used to locate gnatcatchers. Once a gnatcatcher was detected either visually or aurally, playback was ceased. Surveys were performed during morning hours prior to 12:00 p.m., when gnatcatchers are most active. Some surveys finished between 12:00 p.m. and 1:30 p.m. when weather conditions were acceptable (<70°F) and avian species were observed to be active.

#### *Least Bell's Vireo Surveys*

Due to the presence of suitable habitat within the PSA, focused surveys for least Bell's vireo were determined to be necessary. Methods for the least Bell's vireo surveys adhered to the recommended guidelines provided by the USFWS for presence/absence surveys (USFWS 2001).

After the initial survey of all riparian habitat within the PSA, one area was identified and determined to contain suitable vireo habitat. All other riparian areas were excluded because they were either not suitable or too small to support a vireo territory (<0.1 acre). ICF biologists conducted eight presence/absence surveys for least Bell's vireo between May 9 and July 30, 2016. All visits were performed during morning hours prior to 11:30 a.m. when vireos are most active, and included frequent stops to look for individuals and listen for vocalizations (songs and/or scolds).

#### *Southwestern Willow Flycatcher Surveys*

Due to the presence of suitable habitat within the PSA, focused surveys for southwestern willow flycatcher were determined to be necessary. Five protocol southwestern willow flycatcher surveys covering the same survey area as the least Bell's vireo were conducted by ICF biologists following the amended survey methodology between May 21 and July 5, 2015 (Sogge et al. 2010, USFWS 2000) (see Figure 4: Vegetation and Special-Status Species, in Appendix 4.4-A: Biological Technical Report). One survey occurred within the first survey period (May 15–31), three within the second survey period (June 1–24), and one within the third survey period (June 25–July 17). Each survey was conducted at least 5 days apart and was concluded by 11:30 a.m. Surveys included thorough coverage of all potentially suitable habitats, which consisted of slowly walking with frequent stops to look, listen, and play recordings of flycatcher vocalizations. Recordings were played at distance intervals of approximately 75–100 feet, and only while stationary and after first looking and listening for any potential flycatchers.

#### **Delineation of Jurisdictional Waters**

Prior to field surveys, a pre-survey investigation was conducted to obtain contextual information relevant to the site to be surveyed; this information may not be evident from the ground during field surveys. The following sources were consulted to gain a better understanding of the physical and hydrologic setting of the site:

- Historical maps of wetlands, riparian habitat, and other linear watercourses in the Proposed Project vicinity were assessed in the National Wetlands Inventory (NWI) map and reviewed in ArcGIS Version 10 software.
- Blue line data and watershed details were obtained through the National Hydrography Dataset (NHD) and viewed in ArcGIS Version 10 software.
- Topographical features that may promote the development of jurisdictional waters or contain potential jurisdictional waters were identified by reviewing the United States Geological Survey (USGS) San Marcos, Rancho Santa Fe, and Escondido 7.5-minute quadrangles.

A formal jurisdictional delineation was completed in the PSA by ICF biologists in 2017. Aquatic features were evaluated for potential state and federal jurisdiction under Section 401 and 404 of the Clean Water Act (CWA), the California Porter-Cologne Water Quality Control Act and/or California Fish and Game Code Sections 1600 et seq. Wetlands were identified by observing the presence of wetland parameters—hydrophytic vegetation, wetland hydrology, and hydric soils. As applicable, a “three-parameter” approach was used to identify areas of potential

USACE jurisdiction. These three parameters and other relevant factors, including connectivity with navigable waters, were utilized, as applicable, to determine the agencies that have jurisdiction over each wetland area. Non-wetland waters were delineated by identifying the ordinary high water mark (OHWM) for the waterbody. The following information was recorded for each feature: feature type (e.g., ephemeral stream, swale, erosional feature, wetland, etc.), jurisdictional status, jurisdictional extent, OHWM indicators observed, and proximity to proposed project infrastructure. Potential waters of the U.S. and wetlands were delineated using methods established in the *Wetland Delineation Manual* (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a), *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008b), and *Draft Guidance on Identifying Waters Protected by the Clean Water Act* (USACE/EPA 2011). Common plant species observed were identified by visual characteristics and morphology in the field. Taxonomic nomenclature for plants follows the *Jepson Manual: Vascular Plants of California* (Baldwin et al. 2012).

Jurisdictional limits were recorded using high-resolution aerial photographs (1 inch=100 feet) and sub-meter accuracy Trimble GPS unit. Existing conditions were documented as field notes and site photographs.

#### **4.4.3 Existing Conditions**

##### **4.4.3.1 Regulatory Setting**

###### **Federal**

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

The FESA protects plants and wildlife that are listed as endangered or threatened by the USFWS and the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service. The FESA prohibits take of endangered wildlife, where "take" is defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (16 United States Code [U.S.C.] Section 1532[19]; see also, 16 U.S.C. Section 1538). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant on federal land and removing, cutting, digging up, damaging, or destroying any listed plant on non-federal land in knowing violation of any law (16 U.S.C. Section 1538(a)(2)(B)).

Under Section 7 of the FESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect a listed species (including plants) or its critical habitat. Through consultation and the issuance of a Biological Opinion, the USFWS may issue an incidental take statement, allowing take of the species that is incidental to another authorized activity, provided that the action would not jeopardize the continued existence of the species. Section 10 of the FESA provides for issuance of incidental take permits to private parties with the development of an HCP, such as the SDG&E Subregional NCCP and Low-Effect HCP for Quino Checkerspot Butterfly (QCB).



### *Migratory Bird Treaty Act*

The federal Migratory Bird Treaty Act (16 U.S.C. Section 703(a)) first enacted in 1916, prohibits any person, unless permitted by regulation, to:

*...pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to barter, barter, offer to purchase, purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport, cause to be transported, carry, or cause to be carried or receive for shipment, transportation, carriage, or export any migratory bird, any part, nest, or egg of any such bird, or any product...composed in whole or part, of any such bird or any part, nest, or egg thereof...*

The list of migratory birds includes nearly all migratory bird species native to the U.S. The Migratory Bird Treaty Reform Act of 2004 further defined species protected under the act and excluded all non-native species. The statute was extended in 1974 to include parts of birds, as well as eggs and nests.

### *Clean Water Act*

The purpose of the CWA is to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” (33 U.S.C. Section 1251(a)). Section 404 of the CWA prohibits the discharge of dredge or fill material into “Waters of the U.S.” without a permit from the U.S. Army Corps of Engineers (USACE). The definition of “Waters of the U.S.” includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. (33 Code of Federal Regulations (CFR) Section 328.3[a].) Wetlands are defined as those areas “that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR Section 328.3[b]). The U.S. Environmental Protection Agency (USEPA) has veto authority over the USACE’s administration of the Section 404 program and may override a USACE decision with respect to permitting.

When a project may create impacts on Waters of the U.S., the project requires a permit or a waiver. Substantial impacts on Waters of the U.S. may require an Individual Permit. Projects that only minimally affect Waters of the U.S. may meet the conditions of one of the existing Nationwide Permits, provided the permit’s other respective conditions are satisfied. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions, and any federal action affecting waters. For the Proposed Project, this certification or waiver would need to be issued by the San Diego Regional Water Quality Control Board.

### *Bald and Golden Eagle Protection Act*

The Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. Section 668) provides protection for both the bald eagle (*Haliaeetus leucocephalus*) and the golden eagle (*Aquila chrysaetos*) by prohibiting the “take” of either of these species, including their parts, nests or eggs. The BGEPA defines take as to “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb” any bald or golden eagle. The BGEPA is administered by the

USFWS, and limited take authorizations are granted for qualifying activities. Persons who “take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner any bald eagle... [or golden eagle], alive or dead, or any part, nest, or egg thereof” without prior approval are subject to criminal penalties.

### *Birds of Conservation Concern*

The 1988 amendment to the Fish and Wildlife Conservation Act mandates the U.S. Fish and Wildlife Service (USFWS) to “identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act (ESA) of 1973.” Birds of Conservation Concern 2008 is the most recent effort to carry out this mandate. The overall goal is to accurately identify the migratory and non-migratory bird species (beyond those already designated as Federally threatened or endangered) that represent the USFWS’ highest conservation priorities. Bird species considered for inclusion include nongame birds, gamebirds without hunting seasons, subsistence-hunted non-game birds in Alaska; and Endangered Species Act candidate, proposed endangered or threatened, and recently delisted species.

## **State**

### *California Environmental Quality Act*

CEQA was enacted in 1970 to provide for full disclosure of environmental impacts to the public before issuance of a discretionary permit by a public agency. The CEQA analysis includes review of species that are listed under the FESA or CESA or are designated as sensitive. Sensitive species include, but are not limited to, wildlife SSC listed by CDFW and plant species in the CNPS’s CRPR List 1A (presumed extinct), List 1B (rare, threatened, or endangered in California and elsewhere; eligible for state listing) or List 2 (rare, threatened or endangered in California but more common elsewhere; eligible for state listing).

### *California Endangered Species Act*

The CESA prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in Section 86 of the Fish and Game Code as to “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” CESA allows for take incidental to otherwise lawful projects. CDFW administers CESA and authorizes take through permits issued under Section 2081 of the Fish and Game Code, or through a consistency determination issued under Section 2080.1 for projects with federal take authorizations.

### *State Fully Protected Species*

The State of California designated species as FP prior to the creation of CESA and FESA. Lists of FP species were initially developed to provide protection to species that were rare or faced possible extinction/extirpation. Most FP species have since been state listed as threatened or endangered species. Under Fish and Game Code Section 4700, fully protected mammals may not be taken or possessed at any time.

In September 2011, the Natural Community Conservation Planning Act was amended to permit the incidental take of 36 fully protected species pursuant to an NCCP approved by CDFW (Fish and Game Code Section 2835). The amendment gives FP species the same level of protection as endangered and threatened species under the Natural Community Conservation Planning Act. (Fish and Game Code Section 2835). The Natural Community Conservation Planning Act, enacted in the 1990s, authorizes the incidental take of species “whose conservation and management” is provided for in a conservation plan approved by CDFW.

#### *California Species of Special Concern*

In addition to formal listing under FESA and CESA, certain species receive additional consideration by CDFW and lead agencies during the CEQA process. Species that may be considered for review are included on a list of SSC developed by CDFW. The list tracks species in California whose numbers, reproductive success, or habitat may be in decline.

#### *Sections 1600 – 1616 of the California Fish and Game Code*

Pursuant to Fish and Game Code Sections 1600 – 1616, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife. The California Fish and Game Commission (CFGC) 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.” (14 C.C.R. Section 1.72). CFGC’s definition of “lake” includes “natural lakes or man-made reservoirs.” (14 C.C.R. Section 1.56). CDFW limits of jurisdiction include the maximum extents of the uppermost bank-to-bank distance or riparian vegetation dripline. CDFW jurisdiction within altered or artificial waterways is based upon the value of those waterways to fish and wildlife.

#### *Sections 3503, 3503.5, 3513 and 3800 of the California Fish and Game Code*

The State of California has incorporated the protection of birds in Sections 3503, 3503.5, 3513, and 3800 of the California Fish and Game Code.

#### *California Native Plant Protection Act*

The Native Plant Protection Act of 1977 (Fish and Game Code Sections 1900 – 1913) includes provisions that prohibit the taking of endangered or rare native plants. CDFW administers the law and generally regards as rare many plant species included on CRPR 1A, 1B, 2A, and 2B of the CNPS Inventory of Rare and Endangered Vascular Plants of California. In addition, sometimes CRPR 3 and 4 plants are considered rare if the population has local significance in the area and is impacted by the project.

Section 1913(b) allows for the incidental removal of endangered or rare plant species within a right-of-way to allow a public utility to fulfill its obligation to provide service to the public. CDFW must be given 10 days prior notice to salvage the plants.

*Porter-Cologne Water Quality Control Act of 1966*

The Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et seq.) mandates that activities that may affect Waters of the State shall be regulated to attain the highest water quality. The State Water Resources Control Board and the local Regional Water Quality Control Board (RWQCB) are the relevant permitting agencies. The RWQCB provides regulations for a “non-degradation policy” that are especially protective of waters with high quality. Porter-Cologne reserves the right for the State of California to regulate activities that could affect the quantity and/or quality of surface and/or ground waters, including isolated wetlands, within the state. Waters of the State include isolated waters that are no longer regulated by the USACE. If the project is proposed to discharge into Waters of the State, a Waste Discharge Report must be filed.

*California Natural Community Conservation Planning Program*

The California NCCP program was initiated in 1991 and is administered by CDFW. It is a cooperative effort by CDFW and numerous public and private partners that takes a broad-scale, ecosystem approach to planning for the protection and perpetuation of the biological diversity throughout California by protecting both habitats and the species within these habitats, while also accommodating compatible land use.

An NCCP identifies and provides for the regional protection of plants, wildlife, and their habitats, while allowing compatible and appropriate economic activities in the region. By including key interests in the process and by working with landowners, environmental organizations, and other interested parties, a NCCP plan provides the framework for a local agency to oversee the numerous activities that compose the development of a conservation plan. CDFW and USFWS provide the necessary support, direction, and guidance to NCCP participants during the NCCP development and implementation. Within California, there are currently 23 active NCCPs covering more than 11 million acres, and several draft NCCP plans are pending approval.

SDG&E has a current, agency-approved NCCP plan called the SDG&E Subregional NCCP. This plan is discussed in detail in the following section.

**Local**

The Proposed Project is not subject to local discretionary regulations related to biological resources because the California Public Utilities Commission (CPUC) has exclusive jurisdiction over the siting, design, and construction of the Proposed Project. The following analysis of local regulations relating to biological resources is provided for informational purposes.

*County of San Diego General Plan*

The *County of San Diego General Plan* (2011) contains the following Conservation and Open Space (COS) policies regarding minimization of impacts and management of the regional preserve system:



**COS-1.2: Minimize Impacts.** Prohibit private development within established preserves. Minimize impacts within established preserves when the construction of public infrastructure is unavoidable.

**COS-1.3: Management.** Monitor, manage, and maintain the regional preserve system facilitating the survival of native species and the preservation of healthy populations of rare, threatened, or endangered species.

#### *City of Carlsbad General Plan*

The *City of Carlsbad General Plan* (2013) contains the following Element to direct protection and conservation of resources within the City:

**Open Space and Conservation Element:** The Open Space and Conservation Element of the General Plan establishes policies for the development of a comprehensive, connected open space system and for the protection and conservation of the City's natural and historic resources.

#### *City of San Marcos General Plan*

The *City of San Marcos General Plan* (2012) contains the following Element to direct protection and conservation of resources within the City:

**Conservation and Open Space Element:** The Conservation and Open Space Element of the General Plan is to identify natural, cultural, historic, and open space resources. This Element provides goals, policies, and programs related to open space and conservation.

#### *City of Vista General Plan*

The *City of Vista General Plan* (2012) contains the following Resource Conservation Strategy (RCS) goals regarding protection and conservation of resources within the City:

**RCS Goal 5:** Preserve and protect, to the extent practicable, the range of natural biological communities and species native to the City and region; and conserve viable populations of endangered, threatened, and key sensitive species and their habitats.

**RCS Goal 6:** Implement the provisions of the regional Multiple Habitat Conservation Plan (MHCP).

#### *San Diego County Multiple Habitat Conservation Program*

The MHCP (2003) is a comprehensive conservation planning process that addresses the needs of multiple plant and animal species in northwestern San Diego County. The MHCP encompasses the cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista. Its goal is to conserve approximately 19,000 acres of habitat for the protection of more than 80 rare, threatened, or endangered species. A specific policy of the MHCP is to direct land

development to areas outside the Focused Planning Area (FPA)<sup>4</sup> in exchange for conservation inside, resulting in the creation of a preserve system. The MHCP preserve system is intended to protect viable populations of native plant and animal species and their habitats in perpetuity, while accommodating continued economic development and quality of life for residents of North County.

Portions of the Proposed Project are anticipated to occur within limits of the following subarea plans:

- *City of Carlsbad Subarea Plan*, approved in 2004
- *City of San Marcos Subarea Plan*, which is still currently in draft form
- *City of Escondido Subarea Plan*, approved in 2001

#### *Draft North County Multiple Species Conservation Program*

The draft North County Multiple Species Conservation Plan (MSCP) plan area encompasses land in and around the unincorporated communities of Bonsall, De Luz, Fallbrook, Harmony Grove, Rancho Santa Fe, Lilac, Pala, Pauma Valley, Rainbow, Ramona, Rincon Springs, Twin Oaks Valley, and Valley Center. The draft North County MSCP (2009) has designated pre-approved mitigation areas (PAMAs), which are areas with high biological value in which conservation will be encouraged by providing mitigation ratios that favor developing outside of the PAMA and mitigating inside the PAMA. The unincorporated areas of the Proposed Project, primarily within the middle of the Proposed Project alignment, occur within areas included in the draft North County MSCP. Some portions of the alignment occur within areas currently designated as PAMA in the draft North County MSCP. However, the Proposed Project would be located primarily within SDG&E's ROW. The new ROW required in Segment 1 does not contain any PAMA designated by the draft North County MSCP.

#### *County of San Diego Tree Ordinance*

The San Diego Regulatory Code of Ordinances, Title 7, Division 1, Chapter 5 regulates the planting, trimming and removal of trees on County-owned property and County highways. However, the Proposed Project is anticipated to occur primarily within SDG&E's ROW, and no conflicts should occur with any other conservation plans or County tree ordinances.

---

<sup>4</sup> The FPAs and percent conservation estimates provided in the MHCP were used to analyze the levels of biological conservation expected throughout the MHCP area. Some lands within FPAs have been or will be dedicated for open space and habitat preservation. The FPAs are represented by a combination of "hardline" preserves, indicating lands that will be conserved and managed for biological resources, and "softline" planning areas, within which preserve areas will ultimately be delineated based on further data and planning.

*City of Carlsbad Tree and Shrub Ordinance*

The Carlsbad Municipal Code, Title 11, Chapter 11.12 regulates the planting, trimming, and removal of trees on County-owned property and County highways. However, the Proposed Project is anticipated to occur primarily within SDG&E's ROW, and no conflicts should occur with any other conservation plans or County tree ordinances.

*City of Escondido Tree Ordinance*

The Escondido Municipal Code, Article 62, regulates the planting, trimming, and removal of trees on County-owned property and County highways. However, the Proposed Project is anticipated to occur primarily within SDG&E's ROW, and no conflicts should occur with any other conservation plans or County tree ordinances.

*City of San Marcos Tree Ordinance*

The San Marcos Municipal Code, 14.20.050, regulates the planting, trimming, and removal of trees on County-owned property and County highways. However, the Proposed Project is anticipated to occur primarily within SDG&E's ROW, and no conflicts should occur with any other conservation plans or County tree ordinances.

*San Diego Gas & Electric Company Subregional Natural Community Conservation Plan and 2017 Habitat Conservation Plan Incidental Take Permit*

In December 1995, the USFWS and CDFW approved the SDG&E Subregional NCCP, developed in coordination with such agencies that address potential impacts on species and habitat associated with SDG&E's ongoing installation, use, maintenance, and repair of its gas and electric systems, and typical expansion to those systems throughout much of SDG&E's existing service territory. As a part of the SDG&E Subregional NCCP, SDG&E has been issued incidental take permits (Permit PRT-809637) by USFWS and CDFW for 110 Covered Species. The SDG&E Subregional NCCP was developed by following the multiple species and habitat conservation planning approach. The SDG&E Subregional NCCP includes operational protocols that apply to construction and operation and maintenance activities. In approving the NCCP, USFWS and CDFW determined that compliance with the NCCP avoids potential impacts, provides appropriate mitigation where such impacts are unavoidable, and ensures the protection and conservation of Covered Species.

SDG&E developed a Low-effect HCP and applied for a 5-year incidental take permit for 15 animal species and 22 plant species through the USFWS pursuant to Section 10(1)(1)(B) of the FESA in late 2016. The HCP is designed to support the continuation of activities covered by FESA Permit No. PRT-809637, which is the incidental take permit issued by the USFWS to SDG&E in December 1995. The 1995 permit is subject to SDG&E's compliance with its Subregional NCCP and a 400-acre cap on habitat impacts. Under this new HCP, SDG&E would continue to apply all of the conservation efforts, mitigation measures, and operational protocols implemented under the Subregional NCCP. The HCP, as approved under Permit No. TE26660C-0, authorized in March, 2017, would allow a maximum of 60 acres of impact over a

5-year permit term. SDG&E intends to utilize mitigation credits authorized under the HCP incidental take permit to mitigate for impacts on sensitive habitats.

The Proposed Project falls within the area governed by the SDG&E Subregional NCCP and the revised HCP. The NCCP fully addresses all of the potential construction and operation and maintenance impacts of the Proposed Project on Covered Species, and the new HCP incidental take permit authorizes the use of mitigation credits within the additional 60-acre mitigation area to address impacts on species covered under the FESA. No impacts on species covered under the CESA are anticipated from the Proposed Project, as described further in Section 4.4.4, Potential Impacts. The NCCP mitigation measures and operational protocols have been incorporated as part of the Proposed Project description.

#### 4.4.3.2 Biological Resources Setting

San Diego County is a biologically diverse region that supports rare and declining native habitats, numerous federally and state-listed plant and animal species, and an increasing amount of federally designated critical habitat for listed species. The Proposed Project is in the coastal hills of San Diego County's northern valley. Surrounding land use primarily consists of residential neighborhoods, industrial and commercial facilities, open space and preserves, and vacant lands. The Proposed Project alignment ranges in elevation from approximately 500 feet to 1,150 feet above mean sea level (AMSL).

#### Vegetation Communities

The approximately 680.3-acre PSA traverses diverse terrain and supports a variety of vegetation communities and land cover types, which were classified to the extent possible according to both the *SDG&E Subregional NCCP* and Holland as modified by Oberbauer (et al. 2008). The approximate acreages of each of the vegetation communities and land cover types that were mapped within the PSA are summarized in Table 4.4-1: Vegetation Communities within the PSA. The distribution of vegetation communities within the PSA is shown on Figure 4.4-2: Vegetation Communities Map.

**Table 4.4-1: Vegetation Communities within the PSA**

NCCP Vegetation Community	Oberbauer Vegetation Community <sup>1</sup> /Land Cover Type	Approximate Acreage in PSA
Disturbed Habitat	Disturbed Habitat	124.0
	Urban/Developed	247.9
	Orchard/Vineyard	10.7
Agricultural	Intensive Agriculture	0.8
Coastal Sage Scrub	Diegan Coastal Sage Scrub*	103.5
	Diegan Coastal Sage Scrub-Burned*	0.6
	Diegan Coastal Sage Scrub-Disturbed*	18.7
Coastal Sage/Chaparral Mix	Coastal Sage-Chaparral Transition*	125.6



NCCP Vegetation Community	Oberbauer Vegetation Community <sup>1</sup> /Land Cover Type	Approximate Acreage in PSA
Southern Maritime Chaparral	Southern Maritime Chaparral*	20.8
	Southern Maritime Chaparral-Burned*	1.0
Grassland	Non-Native Grassland*	9.9
Freshwater Marsh	Emergent Wetlands*	0.6
	Coastal and Valley Freshwater Marsh*	0.2
Riparian Forest	Southern Riparian Forest*	3.9
Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest*	0.7
Riparian Scrub	Mule Fat Scrub*	0.1
	Southern Willow Scrub*	0.4
	Southern Willow Scrub-Disturbed*	0.0
Inland Water	Fresh Water	0.2
Open Oak Woodland	Coast Live Oak Woodland*	5.9
	Coast Live Oak Woodland-Disturbed*	0.3
Eucalyptus Forest	Non-Native Woodland	1.0
	Eucalyptus Woodlands	3.6
<b>Total</b>		<b>680.3</b>
*Indicates a sensitive natural community		

### *Disturbed Habitat*

Disturbed habitat consists of areas supporting densely to sparsely-distributed weedy, non-native vegetation, compacted dirt roads, and other areas that do not support vegetation due to human interference. In the PSA, disturbed habitat describes dirt roads and areas supporting non-native herbaceous species such as fennel (*Foeniculum vulgare*), redstem filaree (*Erodium cicutarium*), longbeak filaree (*Erodium botrys*), wild oat (*Avena fatua*), tocalote (*Centaurea melitensis*), and African fountain grass (*Pennisetum setaceum*). Some of the disturbed habitat in the PSA occurred in areas that appeared to have been used for agricultural purposes in the past.

### *Urban/Developed*

Urban/developed areas consist of pavement, asphalt, permanent or semi-permanent structures, hardscape, and associated landscaping. These areas are typically devoid of vegetation with the exception of landscaped areas. Within the PSA, urban/developed areas consisted of navigational roads, gravel roads, private residences, buildings, and associated landscaping.

### *Orchard/Vineyard*

Orchard/vineyard describes areas supporting the cultivation of non-native plants, such as fruit trees. These trees are typically artificially irrigated, and the understory is kept clear of vegetation

or support scattered non-native herbaceous plant species. Within the PSA orchards supported cultivated ornamental bushes including book-leaf mallee (*Eucalyptus kruseana*), citrus (*Citrus* sp.), and waxflower (*Chamelaucium* sp.).

### *Intensive Agriculture*

This land cover type includes dairies, nurseries, chicken ranches, and open spaces used to keep livestock, such as corrals. Agricultural areas on site included corrals and associated unvegetated areas. Some of these areas support weedy plant species similar to those listed under Disturbed Habitat.

### *Diegan Coastal Sage Scrub*

Diegan coastal sage scrub is composed of low-growing, aromatic, drought-deciduous, soft-woody shrubs that have an average height of 3 to 4 feet. This habitat is typically found on sites with steep, dry slopes or on clay-rich soils that are slow to release stored water. These sites often include drier south- and west-facing slopes and occasionally north-facing slopes, where the community can act as a successional phase of chaparral development.

In the PSA, Diegan coastal sage scrub supported California sagebrush (*Artemisia californica*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), deerweed (*Acmispon glaber* var. *brevialatus*), spreading goldenbush (*Isocoma menziesii*), California encelia (*Encelia californica*), blue-eyed-grass (*Sisyrinchium bellum*), fascicled tarplant (*Deinandra fasciculata*), windmill catchfly (*Silene gallica*), and dotseed plantain (*Plantago erecta*).

The abundance of non-native plant species, as well as the sparse distribution of typically dominant shrub species, are the characteristics that distinguish Diegan coastal sage scrub-disturbed from undisturbed Diegan coastal sage scrub. In the PSA, Diegan coastal sage scrub-disturbed was dominated by black sage, California buckwheat, or spreading goldenbush. Other plants commonly found in Diegan coastal sage scrub-disturbed included shortpod mustard (*Hirschfeldia incana*), California sagebrush, prickly Russian thistle, wild oat, fascicled tarplant, and coyote bush.

Portions of Diegan coastal sage scrub occurring in the southwestern portion of the PSA burned during the Poinsettia Fire in 2014. In the vegetation maps these areas are labeled Diegan coastal sage scrub-burned. Shrubs in Diegan coastal sage scrub-burned were resprouting and included laurel sumac, spreading goldenbush, California sagebrush, and wild cucumber (*Marah macrocarpa*).

### *Coastal Sage-Chaparral Transition*

Coastal sage-chaparral transition consists of a mixture of herbaceous, suffrutescent, and shrubby species that forms a community with features of both coastal sage scrub and chaparral. It appears to be a post-fire successional community.

In the PSA, coastal sage-chaparral scrub is dominated by chamise and California sagebrush and occurs adjacent to Diegan coastal sage scrub. This vegetation community also supports coyote bush (*Baccharis pilularis*), black sage, sawtooth goldenbush, and laurel sumac.

#### *Southern Maritime Chaparral*

Southern maritime chaparral is typically a low-growing chaparral with open vegetation and occurs in areas within the fog belt. This habitat type is dominated by wart-stem-lilac (*Ceanothus verrucosus*) with Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*) often occurring as a co-dominant species.

In the PSA, southern maritime chaparral was dominated by wart-stem-lilac and for the most part consisted of a tall, impenetrable stand of woody shrubs. Other plants detected in this vegetation community included chamise (*Adenostoma fasciculatum*), black sage, sawtooth goldenbush (*Hazardia squarrosa*), mission manzanita (*Xylococcus bicolor*), bushrue (*Cneoridium dumosum*), white flowering currant (*Ribes indecorum*), Nuttall's snapdragon (*Antirrhinum nuttallianum*), heartleaf bush penstemon (*Keckiella cordifolia*), California brickellbush (*Brickellia californica*), slender sunflower (*Helianthus gracilentus*), and blue dicks (*Dichelostemma capitatum*).

Portions of southern maritime chaparral occurring in the southwestern portion of the PSA burned during the Poinsettia Fire in 2014. In the vegetation maps these areas are labeled southern maritime chaparral-burned. Shrubs in southern maritime chaparral-burned were resprouting and these areas supported additional species including large flower phacelia (*Phacelia grandiflora*), Fendler's meadow-rue (*Thalictrum fendleri*), and pineapple weed (*Matricaria discoidea*).

#### *Non-Native Grassland*

Non-native grassland consists of a dense to sparse cover of annual grasses with flowering culms measuring approximately 3 feet high, which may include numerous native wildflowers, particularly in years of high rainfall (Holland 1986). These annuals germinate with the onset of the rainy season and set seeds in the late spring or summer.

In the PSA, non-native grassland supports wild oat, ripgut brome (*Bromus diandrus*), shortpod mustard, fascicled tarplant, Crete weed (*Hedynois cretica*), prickly Russian thistle, and spreading goldenbush. Some of the non-native grasslands in the PSA occurred in areas that appeared to have been used for agricultural purposes in the past.

#### *Emergent Wetlands*

Emergent wetlands occur in areas with relatively persistent wetlands hydrology and shallow water conditions, often in previously disturbed areas where wetlands are emerging. Although the vegetation community is directly affected by flooding, the presence of emergent wetlands is typically controlled by the presence of groundwater.

Emergent wetland in the PSA supports spikerush (*Eleocharis* sp.), annual saltmarsh aster (*Symphyotrichum subulatum*), rabbit foot beard grass (*Polypogon monspeliensis*), ditch beard

grass (*Polypogon interruptus*), and great marsh evening primrose. This vegetation community occurred within a detention basin.

#### *Coastal and Valley Freshwater Marsh*

Coastal and valley freshwater marsh occurs in areas flooded by freshwater that lack a significant current. It is typically dominated by perennial, emergent monocots typically measuring 13 to 16 feet in height.

In the PSA, coastal and freshwater marsh supported southern cattail (*Typha domingensis*), California bulrush (*Schoenoplectus californicus*), great marsh evening primrose (*Oenothera elata*), and curly dock (*Rumex crispus*). This vegetation community occurred within a detention basin.

#### *Southern Riparian Forest*

Southern riparian forest is a winter-deciduous forest dominated by moderately tall broadleaved trees with a closed or moderately closed canopy. This vegetation community is typically found along streams and rivers.

Southern riparian forest in the PSA is predominated by red willow (*Salix laevigata*), mule fat (*Baccharis salicifolia*), Goodding's black willow (*Salix gooddingii*), San Diego marsh-elder (*Iva hayesiana*), great marsh evening primrose, western ragweed (*Ambrosia psilostachya*), and yerba mansa (*Anemopsis californica*). This vegetation community occurred along streams and canyon bottoms.

#### *Southern Coast Live Oak Riparian Forest*

Southern coast live oak riparian forest is a dense forest dominated by coast live oak. It has a closed or almost closed canopy and has an understory that is typically richer in herbs and poorer in shrubs compared to other riparian communities. This vegetation community occurs in association with bottomlands and the outer floodplains along larger streams.

In the PSA this area had burned recently. The coast live oaks were still alive and present, but the understory consisted mostly of non-native species such as ripgut brome, blessed milkthistle (*Silybum marianum*), soft brome (*Bromus hordeaceus*), scarlet pimpernel (*Anagallis arvensis*), tocalote, and tumble mustard (*Sisymbrium altissimum*).

#### *Mule Fat Scrub*

Mule fat scrub is a depauperate, tall, herbaceous riparian scrub strongly dominated by mule fat. This early seral community is maintained by frequent flooding. It is usually found in intermittent stream channels with fairly coarse substrate and moderate depth to the water table.

In the PSA, mule fat consisted of one small narrow stand of mule fat shrubs adjacent to a detention basin supporting coastal freshwater marsh.



### *Southern Willow Scrub*

Southern willow scrub is described as dense, broad-leafed, winter-deciduous riparian thickets dominated by several willow species. Most stands are too dense to allow much understory development. This early seral community requires repeated flooding to prevent succession to southern cottonwood-sycamore riparian forest. It is usually found in loose, sandy or fine, gravelly alluvium deposited near stream channels during flood flows. In the PSA, southern willow scrub supported young red willow within a detention basin.

The abundance of non-native plant species, as well as the sparse distribution of typically dominant shrub species, are the characteristics that distinguish southern willow scrub-disturbed from undisturbed southern willow scrub. In the PSA, disturbed southern willow scrub supported arroyo willow and Peruvian pepper tree. This vegetation community occurred adjacent to non-native woodland along the margins of a pond.

### *Fresh Water*

Fresh water refers to a body of water that is present year-round, such as a lake or a pond. Within the PSA, fresh water consists of a pond located along a drainage. This pond contained water at the time of the survey.

### *Coast Live Oak Woodland*

Coast live oak is the dominant tree occurring in coast live oak woodland, reaching 30 to 80 feet in height. The shrub layer is usually poorly developed, and the herb layer is continuous and dominated by non-native grasses. This community typically occurs on north-facing slopes and shaded ravines.

In the PSA, coast live oak woodland was dominated by dense coast live oaks. The understory supported blessed milkthistle, tumble mustard, toyon (*Heteromeles arbutifolia*), coastal woodfern (*Dryopteris arguta*), ripgut brome, soft brome, shepherd's purse (*Capsella bursa-pastoris*), and sticky mouse-ear chickweed (*Cerastium glomeratum*).

The abundance of non-native tree species is the characteristic that distinguishes disturbed coast live oak woodland from undisturbed coast live oak woodland. In the survey areas, disturbed coast live oak woodland supported coast live oak, red gum (*Eucalyptus camaldulensis*), and European olive (*Olea europaea*). The understory consisted of ripgut brome, soft brome, tumble mustard, and shortpod mustard.

### *Non-Native Woodland*

Non-native woodland describes a woodland composed of non-native trees that were planted, typically for landscaping purposes, but are not maintained or irrigated. In the PSA, non-native woodland supported Peruvian pepper tree (*Schinus molle*), European olive, and to a lesser degree, red gum and coast live oak.

### *Eucalyptus Woodland*

Eucalyptus woodland is similar to non-native woodland but consists of a monotypic stand of eucalyptus trees (*Eucalyptus* spp.). Eucalyptus woodlands with a dense canopy typically do not support vegetation in the understory, while woodlands in which trees are scattered may support a shrubby or herbaceous understory.

### **Preserve Areas**

The PSA traverses a number of preserve areas identified by the Cities of Carlsbad, San Marcos, and Escondido, and the County of San Diego. This includes lands permanently protected as part of regional habitat conservation planning and includes the County-owned Sage Hill Preserve, the Center for Natural Lands Management-managed University Commons, the Rancho Dorado Homeowners Association (HOA) Preserve, Carlsbad Raceway Open Space Preserve, San Elijo Hills Open Space, and the Carrillo Ranch Reserve. The Proposed Project would be located within SDG&E's ROW within these conserved lands.

### **Critical Habitat**

The USFWS designates Critical Habitat for endangered and threatened species under the FESA (16 U.S.C. 1533 (a)(3)). Critical Habitat is designated for the survival and recovery of federally listed endangered and/or threatened species. Protected habitat includes areas for foraging, breeding, roosting, shelter, and movement or migration. The USFWS has designated Critical Habitat for the coastal California gnatcatcher, San Diego fairy shrimp (*Branchinecta sandiegonensis*), spreading navarretia, and thread-leaved brodiaea in areas within 1 mile of the Proposed Project. The Proposed Project is located within Critical Habitat designated for coastal California gnatcatcher (Appendix 4.4-A: Biological Technical Report). Approximately 151 acres of the PSA is within Critical Habitat for coastal California gnatcatcher.

### **Special-Status Plants**

Special-status plant species include those species listed by the USFWS and CDFG as endangered, threatened, proposed, or candidate species, and those listed as sensitive or rare. In addition, sensitive plant species include those occurring on the CNPS Inventory of Rare and Endangered Vascular Plants of California (2001). Based on the literature review and field surveys conducted for the Proposed Project, 35 special-status plant species were determined to have potential to occur within 5 miles and are presented in Appendix 4.4-B: Special-Status Species with Potential to Occur. These species include the following:

- Thirteen special-status plant species that are present.
- No special-status plant species with high potential to occur.
- One special-status plant species with a moderate potential to occur.
- Nine special-status species with a low potential to occur.

Of these, 12 special-status plant species are not expected to occur within or adjacent to the PSA because of lack of suitable habitat or suitable microhabitat conditions within the PSA and/or lack of

observations during surveys conducted in appropriate survey windows. The 13 special-status plant species detected within the PSA during spring 2016 special-status plant species surveys are ashy spike-moss (*Selaginella cinerascens*), California adolphia (*Adolphia californica*), golden-rayed pentachaeta (*Pentachaeta aurea* ssp. *aurea*), Nuttall's scrub oak (*Quercus dumosa*), Orcutt's brodiaea (*Brodiaea orcuttii*), Palmer's grapplinghook (*Harpagonella palmeri*), San Diego marsh-elder (*Iva hayesiana*), San Diego sagewort (*Artemisia palmeri*), San Diego sunflower (*Bahiopsis laciniata*), small-flowered microseris (*Microseris douglasii* ssp. *platycarpha*), summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*), wart-stemmed ceanothus (*Ceanothus verrucosus*), and western dichondra (*Dichondra occidentalis*). Special-status plant species locations are presented in Appendix 4.4-A: Biological Technical Report.

Other species addressed in Appendix 4.4-B: Special-Status Species with Potential to Occur were determined to have either a low potential for occurrence or are not expected to occur within the PSA based on lack of observations during surveys and/or lack of suitable microhabitat conditions within the PSA. Descriptions of the special-status plant species that were observed or have moderate potential to occur within the PSA follow.

#### *Thread-leaved Brodiaea*

Thread-leaved brodiaea, a federally threatened, state endangered, and CRPR 1B1 species, is a bulbiferous perennial herb found in heavy clay soils below 2,000 feet in coastal sage scrub, cismontane woodlands, valley and foothill grassland, vernal pools, and chaparral. It flowers from March to June. USFWS Critical Habitat for thread-leaved brodiaea was designated on December 13, 2005, and is within 1 mile off the PSA. It is threatened by development, agriculture, biocides, vehicles, and mechanical equipment. Threats also include potential hybridization with *Brodiaea orcuttii* and *Brodiaea terrestris*. Appropriate suitable habitat for this species occurs within the PSA. Plant surveys within the PSA during an appropriate time of year for this species were negative; however, the surveys were conducted during a drought year at the end of a succession of drought years. The thread-leaved brodiaea germinates from an underground corm, or type of bulb, and can only be detected aboveground during its short flowering season in May and June, and the corms are known to not flower every year. Therefore, this species is determined to have a moderate potential to occur despite negative survey results.

#### *Ashy Spike-Moss*

Ashy spike-moss, a CRPR 4.1 species, is a creeping spike simple herb typically found in undisturbed chaparral and Diegan coastal sage scrub (Reiser 2001). This species is found in several small patches on exposed rock outcrops and open soils in the western portion of the PSA.

#### *California Adolphia*

California adolphia, a CNPR 2B.2 species, is a perennial deciduous shrub in the buckthorn family (*Rhamnaceae*) that flowers December through May. This species occurs primarily within Diegan coastal sage scrub and is threatened by urbanization, road construction, non-native plants, and grazing. Approximately 87 individuals were detected in the northwestern portion of the PSA. Potential habitat for California adolphia previously occurred between structures 103 and 104, where surveys could not be conducted due to non-SDG&E-active construction

precluding access at the time of the surveys. The native habitat between structures 103 and 104 was graded and removed for a large residential development, and any potential occurrences of California adolphia between structures 103 and 104 is now eliminated.

#### *Golden-Rayed Pentachaeta*

Golden-rayed pentachaeta, a CRPR 4.2 species, is an annual herb with yellow ray flowers and orange disk flowers that typically grows around grasslands and coastal sage scrub (Reiser 2001). Approximately 271 individuals were detected within the western portion of the PSA.

#### *Nuttall's Scrub Oak*

Nuttall's scrub oak, a CRPR 1B.1 species, is a perennial evergreen shrub in the oak family (Fagaceae) that grows within coastal chaparral. Several large stands of this species were detected within the western portion of the PSA. Potential habitat for Nuttall's scrub oak previously occurred between structures 103 and 104, where surveys could not be conducted due to non-SDG&E-active construction that precluded access at the time of the surveys. The native habitat between structures 103 and 104 was graded and removed for a large residential development, and any potential occurrences of Nuttall's scrub oak between structures 103 and 104 is now eliminated.

#### *Orcutt's Brodiaea*

Orcutt's brodiaea, a CRPR 1B.1 and NCCP-covered species, is a corm-based lily/onion relative with lavender flowers, generally occurring in vernal moist grasslands and the margins of vernal pools (Reiser 2001). This species is extremely threatened by development, foot traffic, grazing, non-native plants, military activities, vehicles, road construction, road maintenance, and dumping. Most historical occurrences of this species within the San Marcos area have been extirpated due to development. Approximately 147 individuals were observed within the southwestern portion of the PSA. Potential habitat for Orcutt's brodiaea previously occurred between structures 103 and 104, where surveys could not be conducted due to non-SDG&E-active construction that precluded access at the time of the surveys. The native habitat between structures 103 and 104 was graded and removed for a large residential development, and any potential occurrences of Orcutt's brodiaea between structures 103 and 104 is now eliminated.

#### *Palmer's Grapplinghook*

Palmer's grapplinghook, a CRPR 4.2 and NCCP-covered species, is a small herbaceous annual in the borage family (Boraginaceae) that flowers from March through May. This species occurs on clay soils within openings of chaparral and coastal scrub and is threatened by development, trampling, non-native plants, and agriculture. Approximately 300 individuals were detected in the northwestern portion of the PSA.

#### *San Diego Marsh-Elder*

San Diego marsh-elder, a CRPR 2B.2 species, is a perennial subshrub in the sunflower family (Asteraceae) that flowers from April through October. This species occurs in marshes, swamps, and playas and is threatened by waterway channelization, coastal development, vehicles, and



non-native plants. Several dozen individuals were detected in a riparian area in the western portion of the PSA.

#### *San Diego Sagewort*

San Diego sagewort, a CRPR 4.2 species, is a perennial, deciduous shrub in the sunflower family (Asteraceae) that flowers from February through September. This species favors sandy, mesic areas within chaparral, riparian scrub, and riparian woodland. San Diego sagewort is threatened by development and flood control projects. Approximately 56 individuals were detected in the eastern portion of the PSA. Potential habitat for San Diego sagewort previously occurred between structures 103 and 104, where surveys could not be conducted due to non-SDG&E active construction that precluded access at the time of the surveys. The native habitat between structures 103 and 104 was graded and removed for a large residential development, and any potential occurrences of San Diego sagewort between structures 103 and 104 is now eliminated.

#### *San Diego Sunflower*

San Diego sunflower, a CRPR 4.2 species, is a perennial shrub in the sunflower family (Asteraceae) that flowers from February through August. This species typically occurs in chaparral and coastal scrub and is threatened by urbanization. One individual was detected in the northwestern portion of the PSA.

#### *Small-Flowered Microseris*

Small-flowered microseris, a CRPR 4.2 species, is a diminutive herbaceous annual in the sunflower family (Asteraceae) that flowers from March through May. This species occurs in openings within coastal scrub, valley and foothill grasslands, and vernal pools. This species is declining due to development and non-native plants. Approximately 15 individuals were detected in the western portion of the PSA.

#### *Summer Holly*

Summer holly, CRPR 1B.2 species, is a perennial evergreen shrub in the heath family (Ericaceae) that flowers from April through June. This species typically occurs in southern mixed chaparral and southern maritime chaparral and is threatened by development, urbanization, and gravel mining. Approximately 57 individuals were observed in the western portion of the PSA. Potential habitat for summer holly previously occurred between structures 103 and 104, where surveys could not be conducted due to non-SDG&E active construction that precluded access at the time of the surveys. The native habitat between structures 103 and 104 was graded and removed for a large residential development, and any potential occurrences of summer holly is now eliminated.

#### *Wart-Stemmed Ceanothus*

Wart-stemmed ceanothus, a CRPR 2B.2 and NCCP-covered species, is a perennial evergreen shrub in the buckthorn family (Rhamnaceae) that flowers from December through May. This species occurs in coastal chaparral and is threatened by development. Thousands of these individuals were observed in extensive stands throughout the western half of the PSA. Due to the large number of individuals, direct counts of plants were not made for all occurrences.

Potential habitat for wart-stemmed ceanothus previously occurred between structures 103 and 104, where surveys could not be conducted due to non-SDG&E active construction that precluded access at the time of the surveys. The native habitat between structures 103 and 104 was graded and removed for a large residential development, and any potential occurrences of wart-stemmed ceanothus is now eliminated.

#### *Western Dichondra*

Western dichondra, a CRPR 4.2 species, is a prostrate, perennial, rhizomatous herb in the night shade family (Convolvulaceae) that flowers from January through July. This species typically grows at the base of shrubs in southern mixed chaparral and Diegan coastal sage scrub and is threatened by urbanization. Approximately 200 individuals were detected within the western portion of the PSA.

### **Special-Status Wildlife**

Special-status wildlife species include those species listed by the USFWS or CDFG as endangered, threatened, proposed, or candidate species; those listed by CDFG as fully protected or species of special concern. Based on the literature review and field surveys conducted for the Proposed Project, 36 special-status wildlife species within 5-miles of the PSA were evaluated for their potential to occur. The probability of occurrence, presence, or absence of each of these species within the PSA is detailed in Appendix 4.4-B: Special-Status Species with Potential to Occur. These species include the following:

- One special-status invertebrate species that is not expected to occur.
- Two special-status amphibian species: one with low potential to occur and one that is not expected to occur.
- Eight special-status reptile species: five with high potential to occur, one with a moderate potential to occur, one with low potential to occur, and one that is not expected to occur.
- Seventeen special-status avian species: none with high potential to occur, four with a moderate potential to occur, three with low potential to occur and five that are not expected to occur, and five that are present.
- Eight special-status mammal species: four with high potential to occur, one with a moderate potential to occur, one with low potential to occur, and two that are not expected to occur.

Species that were observed within the PSA or found to have a moderate or high potential to occur are described below.

#### *Coastal California Gnatcatcher (observed)*

The coastal California gnatcatcher is listed as federally threatened and State of California Species of Special Concern and is SDG&E Subregional NCCP-covered; it is a small resident insectivorous species whose occurrence is strongly associated with sage scrub habitats found throughout southern California into northern Baja California, Mexico. Although coastal California gnatcatchers have a close association with sage scrub, this species has also been

documented using coastal sage-chaparral scrub, chamise chaparral, and other habitat types (Campbell et al. 1998, Bontrager 1991). The USFWS listed this species as threatened in 1993. Critical habitat was designated for this species in 2000 and revised in 2007 (USFWS 2000b, USFWS 2007).

Historically, coastal California gnatcatchers' range extended from southern Ventura County southward through Los Angeles, Orange, Riverside, San Bernardino, and San Diego counties, and into Baja California, Mexico, to approximately 30 degrees north latitude near El Rosario (Atwood 1990). Habitat destruction, fragmentation, and modification have led to this species' decline. Loss to agriculture and urban development were leading causes until 2003 when the Cedar Fire destroyed almost 28 percent of the remaining habitat that the USFWS believed to be suitable for the coastal California gnatcatcher (Bond and Bradley 2003). In October 2007, several fires burned approximately 369,000 acres in San Diego County.

A total of 33 coastal California gnatcatcher territories were identified during the 2016 focused surveys within the PSA. A territory is an area occupied by a bird which it defends against intrusions. Of the 33 coastal California gnatcatcher territories detected, 22 were confirmed as occupied by paired gnatcatchers; 3 were detected with nests, 1 was detected with nestlings, and 3 were detected with fledglings. Gnatcatcher territory status and observations are described in detail in Appendix 4.4-A: Biological Technical Report.

#### *Least Bell's Vireo (observed)*

The least Bell's vireo is listed as federally and state endangered and is SDG&E Subregional NCCP-covered; breeds in southern California and northwestern Baja California, with the majority of the population located in San Diego County. The least Bell's vireo is a small, migratory insectivore that prefers dense riparian vegetation for foraging and nesting. The CDFW listed the least Bell's vireo as endangered in 1980 and the USFWS followed suit in 1986. Critical habitat was designated for this subspecies in 1994 along the southwestern coastline of California below Santa Barbara (USFWS 1994).

Historically, least Bell's vireo was a common to locally abundant species found in lowland riparian habitats between northern California and coastal southern California. However, loss of riparian habitats and brown-headed cowbird (*Molothrus ater*) parasitism led to a large population decline. When USFWS first listed the bird in 1986, the population was estimated to be just 300 pairs. The latest *Five Year Review*, dated September 2006, reported a 10-fold increase in population size since the time of its listing to an estimated 2,968 territories (USFWS 2006). The vireo population increase is largely attributed to cowbird control and habitat restoration and preservation (Kus 1999, Kus and Whitfield 2005).

Two least Bell's vireo migrants were detected on June 13 and July 5, 2016. For more information see Appendix 4.4-A: Biological Technical Report.

#### *Southwestern Willow Flycatcher*

The southwestern willow flycatcher is listed as federally and state endangered and is SDG&E Subregional NCCP-covered; it is one of four subspecies of willow flycatcher in the United States

that breeds in southern California and was listed as an endangered species by CDFW in 1991 (CDFW 2017) and by the USFWS in 1995 (USFWS 1995). Critical habitat for this species was revised by the USFWS in 2013 (USFWS 2013).

This small, insectivorous, migratory bird is usually found in dense riparian vegetation occurring along streams or other wetlands (Sogge et al. 2010). The structure of these habitats typically consists of a dense mid-story and understory and can also include a dense canopy (USFWS 1995). However, suitable vegetation is not uniformly dense and typically includes interspersed patches of open habitat. Typical plant species associated with their habitat include willow, mule fat, box-elder (*Acer negundo*), stinging nettle (*Urtica* spp.), Fremont cottonwood, tamarisk, and Russian olive (*Elaeagnus angustifolia*). Plant species composition does not seem as important as a dense twig structure and an abundance of live, green foliage (Sogge et al. 2010). Within the habitat structure parameters discussed above, southwestern willow flycatcher does demonstrate adaptability in that it can occupy riparian habitats composed of native broadleaf species, a mix of native and exotic species, or monotypic stands of exotics (Sogge et al. 2010).

No southwestern willow flycatchers were detected during the 2016 focused surveys. Suitable southwestern willow flycatcher habitat typically consists of a dense mid-story and understory and can also include a dense canopy (USFWS 1995). The PSA supports foraging and nesting habitat for southwestern willow flycatchers. Specifically, the survey area has a moderate potential to support breeding southwestern willow flycatcher.

#### *American Badger*

The American badger is a California Species of Special Concern and is a SDG&E Subregional NCCP-covered species. It prefers open areas of grassland, shrub, forest, and herbaceous habitats and needs uncultivated ground with friable soils; when it is inactive, it occupies underground burrows. The badger has declined substantially in areas converted from grassland to intensive agriculture and where colonial rodents such as ground squirrels are reduced or eliminated. It is also potentially threatened by collisions with vehicles and by direct persecution. The PSA supports foraging and breeding habitat for American badger and has moderate potential to support breeding American badger.

#### *Bell's Sage Sparrow*

The Bell's sage sparrow is a CDFW Watch List species and is a resident species that is usually found in chaparral and coastal sage scrub in southern California and Baja California. This mostly ground-dwelling species prefers open chaparral and sage scrub and is one of the first species to inhabit recently burned habitat. The subspecies Bell's sage sparrow, *A. b. belli*, occurs along the coastal lowlands, inland valleys, and in the lower foothills of the local mountains in southern California and south into Baja California. The decline of this species can be attributed to fire suppression, invasion by exotic plant species, loss of habitat to agriculture and urban development, and population isolation due to habitat fragmentation. Bell's sage sparrows were not observed during the 2016 surveys. The PSA supports foraging and nesting habitat for Bell's sage sparrow and has moderate potential to support breeding Bell's sage sparrow.



### *Coast Horned Lizard*

Coast horned lizard is a CDFW SSC and SDG&E Subregional NCCP-covered species. It occurs from the Transverse Ranges in Kern, Los Angeles, Santa Barbara, and Ventura counties southward throughout the Peninsular Ranges of southern California to Baja California, Mexico, as far south as San Vicente. It is found in a wide variety of habitats, including coastal sage scrub, annual grasslands, chaparral, oak woodlands, riparian woodlands, and coniferous forests. It is perhaps most abundant in riparian and coastal sage scrub habitats on old alluvial fans of the southern California coastal plain. The primary threat to the continued existence of this species is habitat loss. Other threats include non-native ants, especially Argentine ants (*Linepithema humile*), and disturbances related to off-road vehicles.

Coast horned lizard has a high potential to occur within the PSA. The CNDDDB lists four records of occurrence within 1 mile of the PSA. In addition, the PSA contains habitat suitable to support this species in the form of coastal sage scrub, chaparral, oak, and riparian woodland communities.

### *Coast Patch-Nosed Snake*

The coast patch-nosed snake is a CDFW SSC and SDG&E Subregional NCCP-covered species. The species occurs from the northern Carrizo Plain (San Luis Obispo County) south along the southern California coast to coastal northern Baja California. Elevation range is from sea level to 2,700 feet. Coast patch-nosed snakes occur in habitats with shrubby or bushy vegetation, including grasslands, coastal sagebrush, chaparral, and pinyon-juniper woodlands (Stebbins 2003).

Coast patch-nosed snake has a moderate potential to occur within the PSA. The CNDDDB lists one record of occurrence within 1 mile of the PSA. In addition, the PSA contains habitat to support this species in the form of coastal sage scrub, chaparral, and non-native grassland communities.

### *Coastal Whiptail*

The coastal whiptail, also known as the San Diegan tiger whiptail, is a CDFW SSC. The coastal whiptail is found in coastal southern California, mostly west of the Peninsular Ranges and south of the Transverse Ranges, and north into Ventura County. It has been nearly extirpated from the Los Angeles basin and in the San Diego region. The elevation range extends from near sea level to around 7,000 feet (California Herps 2017). Coastal whiptails are found in a variety of habitats, primarily hot and dry open areas with sparse foliage, such as chaparral, woodland, and riparian areas (California Herps 2017).

Coast whiptail has a high potential to occur within the PSA. The CNDDDB lists five records of occurrence within 1 mile of the proposed work areas. In addition, the PSA contains habitat to support this species in the form of coastal sage scrub, chaparral, oak, and riparian woodland communities.

*Cooper's Hawk*

Cooper's hawk is a SDG&E Subregional NCCP covered species. Cooper's hawks are common year-round residents throughout North America. They are found throughout San Diego County wherever there are abundant trees and are most abundant in foothills and canyons as well as in urban areas (Unitt 2004). They are a medium-sized hawk, blue-gray in color with reddish bars on its underparts. Cooper's hawk was incidentally observed within 1 mile of the PSA during site visits.

*Horned Lark*

The California horned lark is a CDFW Watch List species and is a resident of a variety of open habitats, usually where trees and large shrubs are absent. This species primarily breeds in open fields and grasslands and is found along the coastal slope of San Diego County east to Jacumba. Continuing threats to this species include habitat destruction and fragmentation. This species is widespread in appropriate habitat throughout the County. The PSA supports foraging and nesting habitat for horned lark and has moderate potential to support breeding horned lark.

*Northwestern San Diego Pocket Mouse*

Northwestern San Diego pocket mouse is a CDFW SSC. It ranges through sandy, herbaceous areas throughout southwestern California. It occurs in a variety of habitat including coastal scrub, chaparral, desert scrub, pinyon-juniper woodland, and grasslands from sea level to 4,500 feet. Northwestern San Diego pocket mouse is a small, nocturnal mammal and has an average home range of 0.9 acre for males and 0.62 acre for females.

Northwestern San Diego pocket mouse has a high potential to occur within the PSA. The CNDDDB lists one occurrence of northwestern San Diego pocket mouse within 1 mile of the proposed work area. In addition, the PSA contains habitat suitable to support this species in the form of coastal sage scrub, chaparral, and non-native grasslands.

*Orange-Throated Whiptail*

Orange-throated whiptail is an SDG&E Subregional NCCP-covered species. Orange-throated whiptail occurs in semi-arid, brushy areas typically with loose soil and rocks, including washes, stream sides, rocky hillsides, coastal sage scrub, and chaparral. This species can also occur in weedy, disturbed areas adjacent to these habitats.

Orange-throated whiptail has a high potential to occur within the PSA. The CNDDDB lists two occurrences of orange-throated whiptail within 1 mile of the proposed work area. In addition, the PSA contains high quality habitat suitable to support this species in the form of coastal sage scrub and chaparral.

*San Diego Black-Tailed Jackrabbit*

The San Diego black-tailed jackrabbit is a CDFW SSC and SDG&E Subregional NCCP-covered species. The San Diego black-tailed jackrabbit ranges from the southern slopes of the Transverse Ranges into Baja California, Mexico. It has been nearly extirpated from the Los Angeles basin and in the San Diego region. The elevation range extends from near sea level to

around 5,000 feet (Thompson et al. 2016). San Diego black-tailed jackrabbit are found in a variety of habitats, including coastal sage scrub, chaparral, riparian, oak woodlands, and rocky areas; primarily in areas with habitats with sandy or gravel soils, and often associated with washes. They are not found in areas where the habitat has been fragmented by roads and development (Thompson et al. 2016).

San Diego black-tailed jackrabbit has a high potential to occur within the PSA. The CNDDDB lists one occurrence of San Diego black-tailed jackrabbit within 1 mile of the proposed work areas. In addition, the PSA contains habitat suitable to support this species in the form of coastal sage scrub, chaparral, oak, and riparian woodland communities.

#### *San Diego Woodrat*

The San Diego desert woodrat is a CDFW SSC. The desert woodrat as a whole is distributed from central California southward well into Baja California, Mexico, and across much of the Great Basin as far north as eastern Oregon and southwestern Idaho. The San Diego subspecies is found along the coast of California from San Luis Obispo (San Luis Obispo County) southward and inland to San Fernando (Los Angeles County), the western foothills of the San Bernardino Mountains (San Bernardino County), and Julian (San Diego County). Its distribution continues southward in Baja California, Mexico, at least to a point 20 miles east of Ensenada.

It is a medium-sized native rat locally common in a variety of sunny shrub habitats, frequently in rocky and/or steep terrain and upper drainages. This mainly nocturnal vegetarian often builds its dens low in cactus or rock crevices, but will use other sites as needed. Habitats for this subspecies are dry and/or sunny shrublands, especially (but not necessarily) areas with cactus and abundant rocks and crevices. Sage scrub communities are frequently occupied, but other communities are also used as suitable microhabitats when available.

San Diego woodrat has a high potential to occur within the PSA. The CNDDDB lists two occurrences of San Diego woodrat within 1 mile of the proposed work areas. In addition, the PSA contains habitat suitable to support this species in the form of coastal sage scrub, chaparral, oak, and riparian woodland communities.

#### *Southern California Rufous-Crowned Sparrow*

Southern California rufous-crowned sparrow is an SDG&E Subregional NCCP-covered species. Southern California rufous-crowned sparrow inhabits mixed chaparral and coastal sage scrub. In California, its range extends southward from Mendocino and Tehama counties; this species is most numerous in the western part of this range (Zeiner et al. 1990). Southern California rufous-crowned sparrows breed and forage on dry grass and/or forbs on hillsides with scattered shrubs and rock outcrops. Nests are usually made on the ground, at the base of grass tussock or shrubs. It is a year-round resident and diurnally active, eating mostly insects and spiders during the breeding season and seeds, grass, and forb shoots throughout the year. It breeds from mid-March to mid-June with a peak in May. In Southern California coastal sage scrub, the average sized territory is about 2 acres (Zeiner et al. 1990).

Southern California rufous-crowned sparrow was observed within the PSA during the 2016 surveys (Appendix 4.4-A: Biological Technical Report).

#### *Southern Mule Deer*

Southern mule deer are an SDG&E Subregional NCCP-covered species and are common across the western U.S. in a variety of habitats from forest edges to mountains and foothills. Southern mule deer prefer edge habitats, rarely travel or forage far from water, and are most active around dawn and dusk. Habitat fragmentation, loss of large areas of undeveloped land, vehicle kills, and illegal shootings are leading to the decline of this species. The PSA has a high potential to support breeding mule deer.

#### *Two-Striped Garter Snake*

The two striped garter snake is a CDFW SSC. Two-striped garter snakes occur throughout the South Coast and Peninsular Ranges west of the San Joaquin Valley from near Salinas south to La Presa, Baja California, Mexico. The species' elevation range extends from sea level to around 8,000 feet. The two-striped garter snake is a highly aquatic snake that is rarely found far from water, though terrestrial habitat and rodent burrows can be an important habitat component for the species. Two-striped garter snakes inhabit perennial and intermittent streams with rocky beds bordered by willow thickets and other dense vegetation. They may also inhabit stock ponds or other artificially created aquatic habitats. Two-striped garter snakes forage primarily on fish, fish eggs, and tadpoles (Thompson et al. 2016).

Two-striped garter snake has a moderate potential to occur within the PSA. Also, the CNDDDB lists two records of occurrence within 1 mile of the proposed work areas. The PSA contains habitat suitable to support this species in the form of fresh water from San Marcos Creek.

#### *White-tailed Kite*

The white-tailed (formerly black-shouldered) kite is a California Fully Protected Animal and is found in lower elevations in open grasslands, agricultural areas, wetlands, and oak woodlands. Their primary source of food is the California vole (*Microtus californicus sanctidiegi*). They typically forage in open, undisturbed habitats and nest in the top of dense oaks, willows, or other large trees). The white-tailed kite population is on the decline mostly due to urban sprawl; however, this species is still considered fairly widespread throughout the foothills of San Diego County (Unitt 2004). The PSA supports foraging and nesting habitat for white-tailed kite and has moderate potential to support breeding white-tailed kite.

#### *Yellow-breasted Chat*

Yellow-breasted chat is a CDFW Species of Special Concern. This species is typically found in second growth, shrubby old pastures, thickets, brushy areas, scrub, woodland undergrowth, and fencerows. Yellow-breasted chat is often found in low, wet places near streams, pond edges, or swamps. Nesting yellow-breasted chats occupy early successional riparian habitats with a well-developed shrub layer and an open canopy. Suitable foraging and nesting habitat for yellow-breasted chat occurs within riparian habitats. The PSA supports foraging and nesting habitat for yellow-breasted chat and has moderate potential to support breeding yellow-breasted chat.



*Yellow Warbler (observed)*

Yellow warbler is a CDFW SSC. They are associated with mature riparian woodland that includes cottonwood, willows, alders, and ash trees. Yellow warblers are a common breeding summer resident throughout San Diego County. They are small, yellow songbirds with medium-length tails and rounded heads with a thin, straight bill. Males have vertical reddish streaks on their breast.

Yellow warbler was observed within the PSA during the 2016 surveys (Appendix 4.4-A: Biological Technical Report).

**Wildlife Migration Corridors**

Wildlife migration corridors are areas that connect suitable habitat in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features (e.g., canyon drainages, ridgelines, or areas with vegetation cover) provide corridors for wildlife travel. Wildlife corridors are important because they provide access to mates, food, and water; allow the dispersal of individuals away from high-population-density areas; and facilitate genetic diversity. The CEQA Guidelines require that project proponents disclose impacts on wildlife corridors and mitigate for significant impacts on wildlife corridors.

Disturbance to wildlife corridors such as human activities and development can cause harm to migrating species, cause species to exceed the population thresholds, and/or prevent healthy gene flow between populations.

*Terrestrial and Avian Species*

Terrestrial wildlife species travel and migrate through both upland and riparian areas. Species that need protective cover from predators (e.g., mammals, reptiles, and smaller avian species) tend to migrate along natural drainages and riparian corridors. There are numerous riparian corridors in the PSA, including multiple unnamed tributaries to San Marcos Creek and/or Escondido Creek. Riparian areas supply food, cover, and water for a large diversity of animals, and serve as migration routes and connectors between habitats for a variety of wildlife (Manci 1989). The linear nature of riparian ecosystems provides distinct corridors that are important as migration and dispersal routes and as forested connectors between other types of habitats for wildlife. Woody vegetation must be present for many terrestrial species to find needed cover while traveling across otherwise open areas. Animals undergoing population dispersal use food and water from riparian areas during their movements. The value of waterway corridors for migratory movements are more accentuated in arid regions than in humid, more heavily vegetated areas (Montgomery 1996). These areas may be used as migration corridors by a variety of species. Predator species such as bobcat (*Lynx rufus*) and mountain lion (*Puma concolor*) require larger portions of intact habitat, including interconnected upland and riparian systems such as these for viable home ranges and dispersal. The Proposed Project is located in the Pacific Flyway, which is a major north-south avian migratory corridor that extends along the West Coast from Alaska to Patagonia and links breeding grounds in the north to more southerly wintering areas. Over 60 percent of the species which are identified as neotropical migratory

birds use riparian areas in the west as stopover areas during migration or for breeding habitat (Krueper 1993).

The riparian corridors in the PSA, including multiple unnamed tributaries to San Marcos Creek and/or Escondido Creek, function as important wildlife corridors for a variety of terrestrial and avian species.

#### *Aquatic Species*

Aquatic species spend most or all of their life cycle within aquatic environments and migrate and disperse within wetlands, streams and drainages. Riparian vegetation regulates the energy base by shading and by supplying plant detritus to the stream which helps drive primary production; the detritus becomes the basis of a food chain that results in unique and diverse communities (Cummins 1974). Within the PSA, numerous natural intermittent and perennial drainages serve as potential linkages for aquatic species. Tributaries to San Marcos Creek and/or Escondido Creek could provide connectivity for aquatic wildlife species while water is flowing within those drainages.

#### **Wetland and Jurisdictional Waters**

A total of 157 features within the PSA were identified and evaluated for potential state and federal jurisdiction. These features generally fell into one of seven categories:

- Four categories that are considered potentially jurisdictional: wetlands and riparian habitats, ephemeral streams, intermittent streams, perennial streams.
- Three categories that are considered non-jurisdictional: swales, erosional features, and concrete v-ditches constructed in uplands as best management practices (BMPs).

Of the 157 features evaluated, 79 were considered to be potentially state and federally jurisdictional. A brief description of the jurisdictional aquatic features are provided below. A full detailed description of each aquatic resource can be found in Appendix 4.4-C: Jurisdictional Delineation Report.

#### *Wetlands/Riparian Vegetation*

Wetlands and/or riparian vegetation were identified within 26 of the 157 features in the PSA. (Appendix 4.4-C: Jurisdictional Delineation Report, Figure 6b) Wetlands and/or riparian vegetation were predominantly associated with intermittent and perennial streams and were dominated by black, red, and arroyo willows (*Salix* sp.), mulefat (*Baccharis salicifolia*), cattail (*Typha* sp.), and bulrush (*Schoenoplectus* sp.). Some wetlands were inundated at the time of the site visit.

CDFW riparian areas included the wetland features above as well as Feature ID Nos. 067 and 091 (Appendix 4.4-C, Figure 6b-30 and 6b-47), which occurred within ephemeral streams and supported patches of mulefat, tamarisk (*Tamarix* sp.), and/or coast live oaks (*Quercus agrifolia*).

### *Streams*

A total of 59 ephemeral streams, four intermittent streams, and 12 perennial streams were identified within the PSA. These features had clear bed and bank, as well as multiple OHWM indicators. OHWM indicators commonly included shelving, changes in particle size, water staining, changes in vegetation cover/species, and changes in slope from the active floodplain to the low terrace. The ephemeral streams in the PSA were variable in size and ranged from 1 to 15 feet wide measured from bank to bank. The majority of the intermittent streams identified throughout the Proposed Project alignment were associated with tributaries to San Marcos Creek and/or Escondido Creek. These features often supported riparian vegetation and wetlands. Intermittent streams were typically identified in conjunction with perennial streams and were variable in size, ranging from 9 to 92 feet, measured from bank to bank. Perennial streams were associated with San Marcos Creek and associated unnamed tributaries. Each perennial stream contained flowing waters and evidence of inundation, and always supported wetlands and riparian vegetation. Also identified during the surveys were several non-jurisdictional features including: erosional features, swales, and concrete v-ditches.

#### **4.4.4 Potential Impacts**

Potential impacts were considered for all sensitive biological resources that are known to occur or have a potential to occur within the PSA. The Proposed Project includes reconductoring, removal of existing wood pole structures, and installation of new steel pole structures for the existing TL 680C power lines; construction of a new power line segment; and converting a de-energized line to a 69 kV power line. The operation and maintenance activities required for the power lines would not change from those currently required for the existing system; however, due to the additional structures and hardware in Segment 2, there would be a slight increase in frequency of maintenance. Because the increase in the frequency would be slight, effects from the operation and maintenance of the Proposed Project on the environment would be negligible. Therefore, the impact analysis is focused on construction activities that are required to install the new conductor, remove existing wood pole structures, install new steel pole structures, and establish temporary work areas, as described in Chapter 3, Project Description.

The following discussion describes the Proposed Project's potential to impact special-status species and habitat that may occur as a result of construction and operation of the Proposed Project. SDG&E would be operating under its own NCCP, which was established according to the FESA and CESA and the state's Natural Community Conservation Planning Act, as well as the revised HCP and associated 5-year incidental take permit issued in 2017. SDG&E will implement the SDG&E Subregional NCCP Operational Protocols, habitat enhancement, and mitigation requirements to avoid, minimize, and mitigate potential impacts to ensure the protection and conservation of listed and covered species and their habitats. SDG&E operational protocols are provided in Appendix 4.4-D: SDG&E Natural Community Conservation Plan (NCCP) and Operational Protocols. In addition, SDG&E would implement the project-specific APMs found in Section 4.4.5, Applicant-Proposed Measures, to further minimize potential impacts to ensure the protection and conservation of listed and covered species and their habitats.

#### 4.4.4.1 Significance Criteria

Potential impacts on biological resources are separated into those likely to occur from construction (both short- and long-term impacts) and those that could occur as a result of operation and maintenance. According to Section 15002(g) of the CEQA Guidelines, “a significant effect on the environment is defined as a substantial adverse change in the physical conditions which exist in the area affected by the proposed project.” As stated in Section 15064(b) of the CEQA Guidelines, the significance of an activity may vary with the setting. The potential significance of Proposed Project-related impacts on biological resources were evaluated for the applicable criteria from Appendix G of the CEQA Guidelines, as discussed in the following sections.

- a) Would the proposed project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS?**

##### **Construction – Less than Significant with Mitigation Incorporated**

SDG&E would operate in compliance with all state and federal laws, regulations, and permit conditions. This includes compliance with the federal, state, and local regulations, as described in Section 4.4.3.1, Regulatory Setting. SDG&E would operate under the SDG&E Subregional NCCP, which was developed consistent with the FESA, CESA, and the NCCP Act. This would include compliance with SDG&E Subregional NCCP Section 7.1, Operational Protocols, and Section 7.2, Habitat Enhancement Measures. Section 7.1 was designed to avoid and/or minimize impacts on all sensitive resources, whether or not the resource is covered by the SDG&E Subregional NCCP. In addition, SDG&E has included APM BIO-1, pursuant to which, all impacts on special-status species will be adequately assessed and avoided, minimized, or appropriately mitigated. With implementation of the SDG&E Subregional NCCP, SDG&E QCB HCP, and APM BIO-1, all impacts on biological resources associated with the Proposed Project would be less than significant.

Impacts on sensitive vegetation communities, special-status plant species, special-status wildlife species (including NCCP-covered species), and their habitats could result from the Proposed Project. Construction of the Proposed Project could result in permanent loss of and/or temporary disturbance to sensitive vegetation communities as a result of construction activities. Permanent impacts would include installation poles and their associated maintenance work pads and the creation of new/extended access roads or spur roads. Temporary impacts would include material storage and staging yards, stringing sites, structure work areas, guard structures, and underground construction. All temporary work areas would be accessed by construction equipment using existing access roads, with the exception of an extension of an existing access road along Meadowlark Junction, and the addition of four new spur roads.

SDG&E would avoid and minimize any impacts according to SDG&E Subregional NCCP Section 7.1, Operational Protocols, as well as any other conditions outlined in the Proposed Project permits. With implementation of the 2017 five-year HCP and the measures outlined in



the SDG&E Subregional NCCP, all permanent and temporary impacts are expected to be less than significant.

#### *Impacts on Vegetation Communities*

The SDG&E Subregional NCCP and HCP allows for impacts on sensitive vegetation communities when incidental to otherwise lawful activities and when conducted in full compliance with the SDG&E Subregional NCCP measures. Compliance with the SDG&E Subregional NCCP measures is intended to avoid or minimize impacts on sensitive natural resources.

Anticipated permanent and temporary impacts that may result from construction of the Proposed Project were calculated and analyzed by using the vegetation map produced during the 2016 field surveys as well as additional information in SDG&E Subregional NCCP Section 3.1, Data Base References. Total impacts on vegetation communities are summarized in Table 4.4-2: Impacts on Vegetation Communities.

**Table 4.4-2: Impacts on Vegetation Communities**

<b>NCCP Vegetation Community</b>	<b>Holland/Oberbauer Vegetation Community<sup>1</sup>/Land Cover Type</b>	<b>Permanent Impact (Acres)</b>	<b>Temporary Impact (Acres)</b>
Disturbed Habitat	Disturbed Habitat	0.7	22.0
	Urban/Developed	0.3	56.1
	Orchard/Vineyard	<0.1	0.2
Agricultural	Intensive Agriculture	--	--
Coastal Sage Scrub	Diegan Coastal Sage Scrub*	0.8	0.7
	Diegan Coastal Sage Scrub-Burned*	--	<0.1
	Diegan Coastal Sage Scrub-Disturbed*		<0.1
Coastal Sage/Chaparral Mix	Coastal Sage-Chaparral Transition*	--	--
Southern Maritime Chaparral	Southern Maritime Chaparral*	0.3	0.3
	Southern Maritime Chaparral-Burned*	--	<0.1
Grassland	Non-Native Grassland*	--	<0.1
Freshwater Marsh	Emergent Wetlands*	--	--
	Coastal and Valley Freshwater Marsh*	--	--
Riparian Forest	Southern Riparian Forest*	--	--
Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest*	--	--
Riparian Scrub	Mule Fat Scrub*	--	--
	Southern Willow Scrub*	--	--
	Southern Willow Scrub-Disturbed*	--	--

NCCP Vegetation Community	Holland/Oberbauer Vegetation Community <sup>1</sup> /Land Cover Type	Permanent Impact (Acres)	Temporary Impact (Acres)
Inland Water	Fresh Water	--	--
Open Oak Woodland	Coast Live Oak Woodland*	--	--
	Coast Live Oak Woodland-Disturbed*	--	--
Eucalyptus Forest	Non-Native Woodland	--	--
	Eucalyptus Woodlands	--	<0.1
<b>Total</b>		<b>2.0</b>	<b>79.4</b>
<sup>1</sup> Vegetation community codes correspond to Oberbauer et al. (2008), which also mirror Holland's (1986) element code. These codes help define the vegetation hierarchy inherent in a classification system. Similarly coded vegetation communities exhibit similar assemblages of plant and animal species, and typically exist in similar macro-habitat types. * Indicates a sensitive natural community.			

Implementation of the measures in SDG&E Subregional NCCP Section 7.1, Operational Protocols, Section 7.2, Habitat Enhancement Measures, and/or Section 7.4, Mitigation Credits will reduce unavoidable impacts to sensitive vegetation communities to less than significant. The operational protocols described in Section 7.1 of the NCCP are slight adjustments to construction techniques to provide an environmentally sensitive approach to the project. Section 7.2, Habitat Enhancement Measures, includes mitigation measures for the protection of sensitive habitats. Section 7.4, Mitigation Credits, describes the procedure to implement mitigation credits and provides the mitigation ratios to be used. SDG&E would further minimize the impact by implementing APMs BIO-1 through BIO-5 and BIO-8 and BIO-9. These measures would require a biological monitor to be present during all ground-disturbing and vegetation removal activities and to survey the site immediately prior to initial ground-disturbing activities and/or vegetation removal to ensure that no sensitive vegetation communities would be impacted and that, wherever possible, vegetation would be left in place or mowed, instead of grubbed, to avoid impacts on sensitive vegetation communities and associated dependent wildlife species.

### *Special-Status Plant Species*

Based on the results of the special-status plant species surveys, 13 special-status plant species are known to occur within the PSA (refer to Appendix 4.4-C: Special-Status Species with Potential to Occur), including ashy spike-moss, California adolphia, golden-rayed pentachaeta, Nuttall's scrub oak, Orcutt's brodiaea, Palmer's grapplinghook, San Diego marsh-elder, San Diego sagewort, San Diego sunflower, small-flowered microseris, summer holly, wart-stemmed ceanothus, and western dichondra. Of these, 11 species—ashy spike-moss, California adolphia, golden-rayed pentachaeta, Orcutt's brodiaea, Palmer's grapplinghook, San Diego marsh-elder, San Diego sagewort, San Diego sunflower, small-flowered microseris, summer holly, and western dichondra—occur outside of all proposed permanent and temporary impact areas. Impacts on these species are not anticipated. The Proposed Project would result in direct permanent impacts on the remaining two species: Nuttall's scrub oak and wart-stemmed ceanothus, in accordance with Table 4.4-3: Impacts on Special-Status Plant Species.

**Table 4.4-3: Impacts on Special-Status Plant Species**

Species	CRPR Listing Status	Occupied Area Mapped in the PSA (acres)	Area of Temporary Impact (acre) (percent of total)	Area of Permanent Impact (acre) (percent of total)	Area of Total Impacts (acre) (percent of total)
Nuttall's scrub oak	1B.1	26.0	0.06 (0.2 %)	0.11 (0.4 %)	0.17 (0.7%)
Wart-stemmed ceanothus	2B.2	514.7	0.68 (<0.1%)	0.27 (0.1 %)	0.95 (0.1%)

Under the *County of San Diego's Guidelines for Determining Significance for Biological Resources* (County of San Diego 2010), any impacts on County List A or B plant species—which include all CRPR List 1B and 2B species observed within the PSA—are considered to be potentially significant. According to the County's guidelines, if it is determined that a given project would not have a substantial adverse effect on the local long-term survival of a special-status plant species, and if less than 5 percent of that species and its habitat would be impacted, impacts on these CRPR List 1B and 2B special-status plant species may be considered to be less than significant. Using this metric, impacts on Nuttall's scrub oak and wart-stemmed ceanothus, both CRPR List 1B or 2B species, would not be significant because the area of impacts on these species would not exceed 5 percent of the total area mapped within the PSA.

Indirect temporary impacts on these plant species within and near construction areas could result from construction-related runoff, dust, sedimentation, and erosion, which have the potential to alter site conditions and degrade the quality of the habitat through the introduction of noxious weeds.

To minimize impacts on special-status plants from construction of the Proposed Project, SDG&E would use a project biologist in accordance with Operational Protocol #13, who would flag occurrences of special-status plants outside of impact areas for avoidance in accordance with Operational Protocol #14. The Environmental Surveyor would also check that flagged areas of these special-status plants have been avoided and would document that compliance. In addition, SDG&E would implement Operational Protocol #39, which would result in regular watering of construction areas to minimize fugitive dust. Fugitive dust would also be controlled by limiting onsite vehicle speeds to 15 miles per hour (mph) in accordance with Operational Protocol #39. Temporary impacts potentially resulting from erosion and sedimentation would be minimized through implementation of Operational Protocols #16, #19, and #20. Operational Protocol #16 requires that maintenance, repair and construction activities be designed and implemented to minimize new disturbance, erosion on manufactured and other slopes, and off-site degradation from accelerated sedimentation, and to reduce maintenance and repair costs. Operational Protocol #19 requires erosion to be minimized on access roads and other locations with water bars made from mounds of soil, or berms, shaped to direct flow and prevent erosion.

SDG&E would further avoid or reduce impacts on special-status plants by reducing impacts associated with the spread of noxious weeds in the construction areas by conforming to the

habitat reclamation procedures outlined in Section 7.2 of the NCCP per APM BIO-1 and by implementing APMs BIO-2, BIO-3, and BIO-4. These APMs require that all earth-moving equipment be free of mud and vegetative material before being mobilized to the Proposed Project site to reduce the impacts of the spread of non-native invasive species on special-status plants; that all Proposed Project construction vehicle movement be restricted to the Proposed Project work area and existing roads and be marked by SDG&E in advance of construction; and that brush clearing for footpaths, line-of-sight cutting, and land surveying panel point placement in sensitive habitat obtain prior approval from the Proposed Project's biological monitor. To further minimize impacts on special-status plant species, APMs BIO-5, BIO-8, and BIO-9 would be implemented, which would require a biological monitor to be present during all ground-disturbing and vegetation removal activities and to survey the site immediately prior to initial ground-disturbing activities and/or vegetation removal to ensure that no special-status species would be impacted and that, wherever possible, vegetation would be left in place or mowed, instead of grubbed, to avoid excessive root damage and to allow for regrowth and to minimize soil erosion.

With implementation of the Standard Operating Procedures, Section 7.1 (including the NCCP Operational Protocols) and Section 7.2 of the NCCP, and APMs BIO-1 through BIO-5 and BIO-8 and BIO-9, potential impacts on special-status plant species are anticipated to be less than significant.

#### *Special-Status Invertebrate Species*

No special-status invertebrate species were identified through the literature review as having high potential to occur within the PSA. In addition, no suitable habitat for special-status invertebrate species is present in the PSA. Therefore, no impacts on special-status invertebrate species are anticipated during construction of the Proposed Project.

#### *Special-Status Amphibian Species*

No special-status amphibian species were identified through the literature review as having high potential to occur within the PSA. In addition, no suitable habitat for special-status amphibian species is present in the PSA. Therefore, no impacts on special-status amphibian species are anticipated during construction of the Proposed Project.

#### *Special-Status Reptile Species*

Six special-status reptile species have a moderate or high potential to occur in the PSA: coastal whiptail, coast horned lizard, Coronado skink, coast patch-nosed snake, orangethroat whiptail, and two-striped garter snake. Construction activities are anticipated to directly and permanently impact these six special-status reptile species through the permanent removal of suitable foraging and breeding habitat, such as Diegan coastal sage scrub and nonnative grassland. Permanent impacts on habitat could be caused by the grading, trenching, and installation of the permanent placement of steel poles and structure foundations. Other permanent direct impacts could potentially occur on special-status reptiles as a result of vehicular strikes or excavation equipment strikes. Temporary direct impacts may result from the removal of upland habitat, such as Diegan coastal sage scrub and nonnative grassland, due to grading and trenching for the



installation of the poles and short-term disturbances to their foraging and breeding behaviors that result from implementation of the Proposed Project.

Temporary indirect impacts could occur due to construction noise and ground vibration, as animals may be deterred from inhabiting or foraging in areas near such activities. Additional indirect impacts could occur from construction-related dust, sedimentation, and erosion, which have the potential to alter site conditions and the use of the site by reptile species. In addition, temporary impacts associated with nighttime construction activities may result in temporary avoidance of construction areas due to lighting. Furthermore, the Proposed Project may result in impacts on these species if noxious weed seeds are spread within occupied habitats during construction; if allowed to establish and spread, these weeds could alter the habitat for these species.

Impacts on special-status reptile habitat would be small compared to the habitat that is available regionally, and the permanent impacts would not result in the long-term decline or threaten the long-term survival of any of these species. Therefore, permanent and temporary direct and indirect impacts on these species from the Proposed Project would be less than significant.

SDG&E will implement all applicable measures outlined in SDG&E Subregional NCCP, Section 7.1, Operational Protocols, to prevent potential impacts on special-status reptile species. In addition, implementation of the measures outlined in Section 7.2, Habitat Enhancement Measures, will further reduce impacts on habitat for special-status reptile species. SDG&E would implement Operational Protocol #1, which requires construction vehicles to maintain a 15 mph speed limit, reducing the potential for collisions, as well as Operational Protocol #11, in which all employees receive environmental training on special-status species potentially occurring within the Proposed Project footprint. Operational Protocol #38 requires that all steep-walled trenches be inspected twice daily to protect against wildlife entrapment. If wildlife are located in the excavation, the Project Biologist would remove the animal if they cannot escape unimpeded. SDG&E also would implement Operational Protocols #2, #4, #5, #7, and #10, which prohibit construction personnel from conducting activities that may harm or harass special-status wildlife species (i.e., hunting, feeding, harassing, relocating, and collecting wildlife). In addition, temporary lighting at staging and storage areas would be directed on site and away from any sensitive receptors as part of SDG&E's Standard Operating Procedures for linear projects.

SDG&E would reduce impacts associated with the spread of noxious weeds in the construction areas by conforming to the habitat reclamation procedures outlined in Section 7.2 of the NCCP. Implementation of the Standard Operating Procedures, and Section 7.1 (including the NCCP Operational Protocols) and Section 7.2 of the NCCP would ensure potential impacts on special-status reptiles would be less than significant. SDG&E would further minimize the impact by implementing APMs BIO-1 through BIO-5 and BIO-8 and BIO-9, as discussed in Impacts on Vegetation Communities above, which would require a biological monitor to be present during all ground-disturbing and vegetation removal activities and to survey the site immediately prior to initial ground-disturbing activities and/or vegetation removal to ensure that no special-status reptile species would be impacted and that, wherever possible, vegetation would be left in place or mowed, instead of grubbed, to avoid impacts on special status reptile species.

With implementation of the Standard Operating Procedures, Section 7.1 (including the NCCP Operational Protocols) and Section 7.2 of the NCCP, and APMs BIO-1 through BIO-5 and BIO-8 and BIO-9, potential impacts on special-status reptiles would be less than significant.

#### *Special-Status Avian Species and Other Nesting Avian Species*

Nine special-status avian species are known to occur or have a potential to occur within the PSA: Bell's sage sparrow, California horned lark, coastal California gnatcatcher, Cooper's hawk, least Bell's vireo, southern California rufous-crowned sparrow, white-tailed kite, yellow-breasted chat, and yellow warbler. These special-status species and other nesting birds protected by the Migratory Bird Treaty Act and the California Fish and Game Code could be directly permanently impacted by the removal of habitat used for foraging and nesting by avian species, as well as by other activities related to Proposed Project construction. Permanent direct impacts may also occur on individuals from vehicular strikes or excavation equipment strikes. Vehicular collisions occur most frequently during the vegetation clearing stage of construction, and involve nestlings and recently fledged young that cannot safely avoid equipment. In addition, electrocution of avian species can occur from wing contact with two conductors, as avian species perching, landing, or taking off from a utility pole can complete the electrical circuit. Avian electrocutions can also occur through simultaneous contact with energized phase conductors and other equipment or simultaneous contact with an energized wire and a grounded wire. Electrocution of avian species poses a greater potential hazard to larger birds, such as raptors, because their body sizes and wing spans are large enough to bridge the distance between the conductor wires and, thus, complete the electrical circuit. Proposed Project activities that could temporarily directly affect special-status avian species habitat include general construction-related activities, including vegetation trimming and vegetation removal. Vegetation trimming and vegetation removal could result in temporary removal of nesting or foraging habitat and/or the removal of some food sources during construction.

Potential indirect impacts on avian species include those resulting from decreased suitability of habitat in the Proposed Project vicinity due to various factors such as increased noise from construction activities and vehicles, vehicle emissions, dust, and other human activity. Noise from construction activities can affect avian species in multiple ways, such as depressing breeding success by acoustical masking, interfering with intra-specific communication, and interfering with detection of predators. Construction activities could disrupt breeding and foraging activities, and could prevent birds from attending to nests or could cause birds to flush from their nests, endangering eggs and chicks. Dust could have an adverse effect on the health of chicks and adults as well as on the viability and presence of prey insects and on the overall health of vegetation. Temporary indirect impacts on all avian species include the disruption of nesting behavior due to a temporary increase in the presence of humans, as well as noise from construction equipment and vehicles. Temporary impacts may also result from unauthorized actions from construction personnel, such as hunting or feeding of avian species. Night lighting associated with construction activities may also temporarily affect avian species roosting and foraging behavior, especially for avian species that are active after dark. Indirect impacts may also occur on avian species if oak trees are killed as a result of construction personnel parking under oak driplines.

### Coastal California Gnatcatcher

Potential permanent and temporary impacts on the coastal California gnatcatcher may result from implementation of the Proposed Project. The coastal California gnatcatcher is known to occur within the PSA based on results of the focused, protocol-level, breeding season surveys conducted in spring 2016. The Proposed Project was designed to avoid impacts, to the extent feasible, on the coastal California gnatcatcher and vegetation communities that may support the species; however, the Proposed Project would result in the permanent loss of 0.8 acre of coastal sage scrub habitat, 0.13 acre of which is Preserve land, which would be mitigated for in accordance with acreage requirements stipulated in Table 7.4 of the NCCP for new Facilities, as authorized through the revised 5-year HCP incidental take permit. With implementation of the SDG&E Subregional NCCP Operational Protocols (see below), unavoidable impacts on the coastal California gnatcatcher are anticipated to be less than significant.

### Least Bell's Vireo

Potential temporary impacts on least Bell's vireo may result from implementation of the Proposed Project. Least Bell's vireos are known to occur within the PSA based on results of the focused, protocol-level, breeding season surveys conducted in spring 2016. The Proposed Project was designed to avoid impacts on the riparian vegetation communities that may support the species. With implementation of the SDG&E Subregional NCCP Operational Protocols (see below), unavoidable impacts on least Bell's vireo are anticipated to be less than significant.

### All Other Special-Status Avian Species

Impacts on suitable habitat for the remaining special-status avian species—Cooper's hawk, Southern California rufous-crowned sparrow, California horned lark, white-tailed kite, yellow-breasted chat and yellow warbler—are anticipated from the Proposed Project. Three of these species—the white-tailed kite, yellow-breasted chat, and yellow warbler—are typically associated with riparian areas. All other sensitive upland vegetation that may be used by the remaining special-status avian species also would be mitigated in the same manner.

For all avian species, SDG&E will implement all applicable measures outlined in SDG&E Subregional NCCP, Section 7.1, Operational Protocols, to avoid and/or minimize potential impacts on special-status avian species. As part of Operational Protocol #35, SDG&E would conduct biological monitoring during construction if such is recommended in the pre-activity survey report. The risk of damaging oak trees would be reduced through implementation of Operational Protocol #6, which prohibits construction personnel from parking or driving under oak trees.

SDG&E would further avoid or reduce impacts on avian species by implementing the APMs discussed in the previous sections, in addition to the following: APMs BIO-6 and BIO-7 would require avoidance of construction during the nesting or breeding season and would require a nesting survey in the area where the work is to occur when such avoidance is not feasible to determine the presence or absence of nesting birds protected under the MBTA. Upon discovery of nesting federal or state-listed species, SDG&E would consult with the USFWS and CDFW as necessary. If a raptor nest is observed during preconstruction surveys, a qualified biologist

would determine if it is active. If the qualified biologist determines that Proposed Project activities are disturbing or disrupting nesting and/or breeding activities, the qualified biologist would make recommendations to reduce the noise and/or disturbance in the vicinity of the nest.

Impacts associated with the spread of noxious weeds in the construction areas would be addressed by conforming to the habitat reclamation procedures outlined in Section 7.2 of the NCCP. In addition, temporary lighting at staging and storage areas would be directed on site and away from any sensitive receptors as part of the NCCP/HCP's Standard Operating Procedures for linear projects. The power line structures would be constructed in compliance with the Avian Power Line Interaction Committee (APLIC) Suggested Practices for Avian Protection on Power Lines. The APLIC standards are in addition to SDG&E's current construction standard, which includes increased phase spacing and cover-ups to reduce avian mortality from electrocution. Therefore, the potential for avian electrocution would be reduced to a less-than-significant level.

Through implementation of the Standard Operating Procedures, Section 7.1 (including the NCCP Operational Protocols) and Section 7.2 of the NCCP, and APMs BIO-1 through BIO-9, potential impacts on special-status avian species are anticipated to be less than significant.

#### *Special-Status Mammal Species*

Five special-status mammal species have a moderate or high potential to occur within the PSA based on the presence of CNDDB occurrences nearby and suitable habitat within the PSA: American badger, northwestern San Diego pocket mouse, San Diego black-tailed jackrabbit, San Diego desert woodrat and southern mule deer.

The Proposed Project could result in both permanent and temporary impacts on these special-status mammal species. Direct permanent impacts on special-status mammal species are anticipated as a result of removal of vegetation for the permanent placement of steel poles within their habitat, specifically within the sensitive natural communities identified in Table 4.4-2: Impacts on Vegetation Communities. Permanent impacts on these special-status mammal species may include the loss of suitable foraging habitat resulting from removal of vegetation communities that have the potential to support these species. Temporary impacts on these special-status mammal species may result from construction noise, lighting, ground vibration, and other short-term disturbances associated with construction-related activities that could result in temporary disruptions to their typical daily foraging activities.

Temporary indirect impacts on special-status mammal species include the temporary loss of habitat from vegetation trimming resulting from Proposed Project construction activities. The Proposed Project may also result in impacts on special-status mammal species if non-native noxious weed seeds are spread within occupied habitats during construction. If allowed to establish and spread, these weeds could alter the habitat for these species. Temporary impacts also may result from construction noise and ground vibration, as animals may be deterred from inhabiting or foraging in areas near such activities. Power lines and other Proposed Project-related structures provide potential perching opportunities for raptor species, which can increase the potential for predation of wildlife, including special-status mammal species, by raptors. Because the Proposed Project involves installing an additional powerline in Segment 2, the



extent of predation on special-status mammals is anticipated to increase slightly, but is not expected to result in a long-term decline of any special-status mammal species. Because these species are most active at night, temporary impacts associated with nighttime construction activities may result in temporary avoidance of construction areas due to lighting, temporarily reducing the animal's ability to forage at night. These temporary impacts would be short-term and located in only a few work areas at a time during construction of the Proposed Project. The Proposed Project may also result in indirect impacts on special-status mammal species if non-native weed seeds are spread within occupied habitats during construction. If allowed to establish and spread, these weeds could permanently alter the habitat for these species.

SDG&E will implement all applicable measures outlined in SDG&E Subregional NCCP, Section 7.1, Operational Protocols, to prevent potential impacts on special-status mammal species. These measures include, but are not limited to, restricting vehicle access to existing roads to the extent feasible, avoiding vehicle collisions with wildlife species to the extent practicable, conducting preconstruction surveys in suitable habitat, restricting the handling of all wildlife to expert handlers, and having a biological monitor on site to avoid and minimize impacts on biological resources, such as vegetation communities that have the potential to support these species. SDG&E would further minimize or reduce impacts on special-status mammal species by implementing APMs BIO-1 through BIO-9, in addition to implementing additional operational protocols in order to reduce impacts on mammal species due to disruptions in their daily foraging activities or due to direct mortality. Furthermore, implementation of the measures outlined in SDG&E Subregional NCCP, Section 7.2, Habitat Enhancement Measures, as discussed under Impacts on Vegetation Communities, would further reduce impacts on habitat for special-status mammal species.

Through implementation of the Standard Operating Procedures, Section 7.1 (including the NCCP Operational Protocols) and Section 7.2 of the NCCP, and APMs BIO-1 through BIO-5 and BIO-8 and BIO-9, potential impacts on special-status mammal species would be less than significant.

#### *USFWS Critical Habitat*

Portions of temporary and permanent impact areas associated with the Proposed Project are within areas designated as USFWS Critical Habitat for coastal California gnatcatcher (refer to Appendix 4.4-A: Biological Technical Report, Figure 3: Preserves and Critical Habitat). The Proposed Project would result in 0.7 acre of direct permanent impacts and 3.4 acres of direct temporary impacts within Critical Habitat for coastal California gnatcatcher at multiple locations throughout the alignment due to vegetation clearing and ground disturbance. This area is small compared to the habitat that is available regionally for the species, and much of the habitat mapped as Critical Habitat that would be permanently impacted is disturbed.

The Proposed Project may result in additional indirect impacts on critical habitat if non-native invasive weeds are spread during construction; if allowed to establish and spread, non-native invasive weeds may change the species composition of Critical Habitat. Additionally, construction vehicles and equipment may cause temporary indirect impacts such as an increase in sedimentation, erosion, and trampling, and an increase in the amount of fugitive dust.

Consistent with the SDG&E Subregional NCCP, the Proposed Project has been designed to avoid sensitive habitat areas. SDG&E would further minimize impacts on Critical Habitat with the implementation of the APMs BIO-1 through BIO-5, and BIO-8 and BIO-9, as discussed in previous sections. In addition, SDG&E would implement BIO-6, which would require surveys for coastal California gnatcatcher by a qualified biologist during the nesting season and appropriate work buffers around nests and appropriate agency consultation.

With implementation of Section 7.1 (including the NCCP Operational Protocols) and Section 7.2 of the NCCP, and APMs BIO-1 through BIO-6 and BIO-8 and BIO-9, potential impacts on USFWS critical habitat for coastal California gnatcatcher are anticipated to be less than significant.

### *Preserve Areas*

The Proposed Project would intersect with various designated preserves and open space easements. The Proposed Project would traverse San Elijo Hills Open Space in the City of San Marcos, and permanent impacts would occur on two small areas. The Proposed Project would traverse University Commons Preserve managed by the Center for Natural Lands Management and includes several temporary and permanent impacts adjacent to existing access roads. The Proposed Project would temporarily and permanently impact several areas within the Rancho Dorado HOA Preserve in the City of San Marcos and Carrillo Ranch Reserve and Carlsbad Raceway Open Space Preserve in the City of Carlsbad. Temporary impacts would occur within the County of San Diego Sage Hill Preserve, primarily within existing disturbed areas of an existing SDG&E access road. Direct and indirect permanent and temporary impacts on preserves and HCP lands would be minimal, and the overall function, viability, and purpose of the preserves would not be adversely affected. The Proposed Project would use existing roads within the preserves, and permanent installations would occur on disjoint features that would not permanently adversely interfere with drainages, topography, jurisdictional features, wildlife corridors, wildlife movement, or preserve assembly. Moreover, all temporary impacts would be revegetated in accordance with the standards in Section 7.2 of the NCCP. Therefore, impacts on preserve lands would be less than significant.

SDG&E would avoid potential impacts and ensure the protection and conservation of these lands in accordance with the SDG&E Subregional NCCP and implement operational protocols that apply to construction and operation and maintenance activities. Furthermore, as described in previous sections, SDG&E would implement APMs BIO-1 through BIO-9 to further avoid or reduce impacts on biological resources.

Implementation of these Standard Operating Procedures, Section 7.1 (including the NCCP Operational Protocols) and Section 7.2 of the NCCP, and APMs BIO-1 through BIO-9 would ensure potential impacts on preserve lands would be less than significant.

### **Operation and Maintenance – Less-than-Significant Impact**

SDG&E currently maintains and operates extensive existing electric utility, transmission, distribution, and substation facilities throughout the Proposed Project site. SDG&E's existing

operation and maintenance activities are included in the baseline against which the impacts of the Proposed Project are evaluated.

The frequency of operation and maintenance activities for the Proposed Project would increase slightly. Although the proposed steel poles would require less maintenance and repair than the existing wood poles, the added structures in Segment 2 would require an increase in frequency of maintenance trips. However, this increase would be so slight the potential impact on the environment would be negligible. As such, impacts are anticipated to be less than significant.

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

**Construction – Less than Significant with Mitigation Incorporated**

Impacts on sensitive vegetation communities could result from the Proposed Project, as summarized in Table 4.4-2: Impacts on Vegetation Communities. Construction of the Proposed Project could result in permanent loss of and/or temporary disturbance to sensitive vegetation communities. Direct permanent impacts on sensitive natural vegetation communities could result from the permanent placement of steel poles within Southern maritime chaparral and Diegan coastal sage scrub. Segments 1 and 3 are existing power lines with existing facilities (i.e., poles); all existing facilities would be completely removed where feasible when they are replaced. Temporary, direct impacts would result from grading, brush removal, and vegetation trimming required during construction for pole removal, installation, staging yards, stringing sites, laydown areas, footpaths, and guard structures. No temporary or permanent impacts would occur to riparian habitat.

Indirect impacts on sensitive vegetation communities may include the increased exposure to exotic plant seed. Non-native exotic plant species are opportunistic and often occupy disturbed soils such as those within electric utility line corridors and areas of exposed bare ground that may occur within the disturbance area. Wildfires caused by downed electric lines are rare but may occur. Exotic species often frequent areas adjacent to and within burn areas following a wildfire. Once introduced, these exotic plant species often outcompete natives for resources, resulting in a reduction in growth, future dispersal, and recruitment of native species, and the eventual degradation of the vegetation community. Erosion and stormwater contaminant runoff also may degrade adjacent vegetation communities. Finally, dust deposition on leaf surfaces may result from construction traffic on dirt roads or lots.

The SDG&E Subregional NCCP allows for impacts on sensitive habitats when incidental to otherwise lawful activities and when conducted in full compliance with the SDG&E Subregional NCCP. Compliance with the SDG&E Subregional NCCP is designed to avoid impacts whenever possible and to implement protection measures to avoid and minimize take to the maximum extent possible. Consistent with the SDG&E Subregional NCCP, the Proposed Project has been designed to avoid sensitive habitat areas when possible, and includes such directives as not placing new poles in drainage areas; using existing access roads where feasible; and placing any new facilities, staging areas, stringing sites, guard structures, and helicopter landing zones outside sensitive habitats when feasible. Where avoidance of sensitive habitat areas is not

possible, or where sensitive habitat areas exist adjacent to the Proposed Project work areas, implementation of the measures in Sections 7.1 and 7.2 of the SDG&E Subregional NCCP would further minimize impacts in sensitive natural communities. Specifically, SDG&E would demarcate the boundaries of work limits and sensitive habitats and resources that would be avoided in accordance with Operational Protocol #14. Operational Protocols #1 and #39 would reduce fugitive dust resulting from construction vehicles by requiring that vehicles drive at speeds of 15 mph or less, and that regular watering occurs, respectively. Operational Protocol #20 (as well as state and federal regulations) require SDG&E to use BMPs to minimize erosion and sedimentation effects of stormwater. Section 7.2 of the NCCP would be implemented to enhance habitat and minimize invasive species establishment and spread. SDG&E would further reduce impacts by implementing APMs BIO-1 through BIO-9 as discussed in previous sections.

SDG&E proposes to withdraw credit from the SDG&E mitigation bank<sup>5</sup> for approximately 46,443 square feet (1.1 acres) of permanent impacts on sensitive vegetation communities, which would be mitigated at a 2:1 ratio for impacts within a preserve and a 1:1 mitigation ratio for impacts outside of a preserve. Total mitigation credit withdrawal requirements would be further refined during the pre-activity survey report (PSR) phase of the Proposed Project, prior to the beginning of construction.

Temporary impacts of approximately 47,324 square feet (1.1 acres) are anticipated on sensitive vegetation communities from the Proposed Project. Temporary impacts are mitigated through basic site remediation, which includes native hydroseed for erosion control. If roots are not grubbed during temporary impacts, the hydroseeding may not be necessary. This applies to areas greater than 500 square feet, and only where grubbing occurred. For all temporary impacts greater than 500 square feet that are located outside of a preserve, acreage not meeting success criteria shall be deducted from SDG&E mitigation credits at a 1:1 ratio. Within a preserve, any areas not meeting success criteria shall be deducted from SDG&E mitigation credits at a 1:1 ratio.

Habitat that is expected to recover on its own consists of non-native grassland, in which the majority of species are non-native in origin. Because SDG&E does not actively enhance non-native vegetation, and because this habitat type is generally considered resilient enough to completely regenerate to pre-activity levels without active enhancement measures, these areas would be monitored in order to determine whether or not they meet success criteria.

With implementation of the required mitigation for permanent impacts, operational protocols, revegetation and habitat rehabilitation in accordance with Section 7.2 of the NCCP, impacts on sensitive habitats are anticipated to be less than significant.

### **Operation and Maintenance – Less-than-Significant Impact**

SDG&E currently maintains and operates extensive existing electric utility, transmission, distribution, and substation facilities throughout the Proposed Project Area. SDG&E's existing

---

<sup>5</sup> Mitigation credits for the Proposed Project would be withdrawn from the additional 60 acres of mitigation credits permitted under the 2017 HCP.



operation and maintenance activities are included in the baseline against which the impacts of the Proposed Project are evaluated.

The frequency of operation and maintenance activities for the Proposed Project would increase slightly. Although the proposed steel poles would require less maintenance and repair than the existing wood poles, the added structures in Segment 2 would require an increase in frequency of maintenance trips. However, this increase would be so slight the potential impact on the environment would be negligible. As such, impacts are anticipated to be less than significant.

- c) **Would the proposed project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

#### **Construction – Less-than-Significant Impact**

The Proposed Project has been designed to avoid impacts to wetlands and non-wetland waters that are regulated by USACE, CDFW, RWQCB, and/or pursuant to the applicable federal and state regulations. No existing or proposed poles are located within an aquatic feature. Six existing poles are within 25 feet of a jurisdictional feature: 7, 35, 71, 72, 97, and 99. All work areas associated with these poles have been adjusted to ensure no impacts on these features occur. In addition, there are a number of existing access road crossings through jurisdictional aquatic features; no grading or road improvements are proposed. Proposed staging yards also support aquatic features; therefore, impact areas associated with these yards have been designed to avoid all aquatic features. Therefore, no direct impacts on jurisdictional aquatic features are anticipated as part of the Proposed Project. A full summary of each aquatic resource adjacent to a proposed impact area is presented in Appendix F of the Jurisdictional Delineation Report (Appendix 4.4-C). The impact would be less than significant.

If a design change included unavoidable impacts to these jurisdictional resources during future planning efforts for the Proposed Project, SDG&E would obtain the requisite permit(s) from the applicable regulatory agency and fully comply with all conditions outlined in the permit(s).

#### **Operation and Maintenance – Less-than-Significant Impact**

SDG&E currently maintains and operates extensive existing electric utility, transmission, distribution, and substation facilities throughout the Proposed Project Area. SDG&E's existing operation and maintenance activities are included in the baseline against which the impacts of the Proposed Project are evaluated.

The frequency of operation and maintenance activities for the Proposed Project would increase slightly. Although the proposed steel poles would require less maintenance and repair than the existing wood poles, the added structures in Segment 2 would require an increase in frequency of maintenance trips. However, this increase would be so slight the potential impact on the environment would be negligible. Work could occur adjacent to jurisdictional features; however, this work would be limited in duration and in area, and SDG&E would comply with standard BMPs. If necessary, SDG&E would obtain any permits required to conduct maintenance

activities that would impact wetlands. As such, impacts are anticipated to be less than significant.

- d) Would the proposed project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**

**Construction – Less-than-Significant Impact**

The Proposed Project would not result in significant permanent or temporary impacts on local or regional wildlife movement corridors, including migratory bird routes. Construction activities within areas that serve as wildlife corridors may temporarily disrupt normal animal movement due to construction equipment and materials, excavations associated with the pole removals and new pole locations, increased human presence, increased noise levels, and increased vehicular traffic along access roads. Construction vehicles have the potential to result in accidental injury to or mortality of onsite species during construction; however, species would be mobile and would likely temporarily leave an onsite area where construction activity is occurring. Construction activities for the Proposed Project would, however, not occur in all areas simultaneously, thus resulting in only minor impacts on wildlife movement at any point in time and at any given location. Temporary restrictions on wildlife movement would also be localized to only a portion of the potential wildlife movement area that animals can use at any one time because wildlife are able to use areas outside of the proposed construction areas. In addition, permanent impact areas have small footprints that are discontinuous, with breaks of natural habitat between them that would therefore not restrict or impede wildlife movement. Therefore, impacts on migratory wildlife corridors or the use of native wildlife nursery sites, including nesting bird sites as discussed in response (a) above, would be less than significant.

SDG&E would conduct activities in accordance with NCCP Operational Protocols to avoid and minimize impacts on biological resources and would furthermore implement the previously described APMs BIO-1 through BIO-9, which would further minimize and avoid impacts on species and their habitats.

Through implementation of the Standard Operating Procedures, Section 7.1 (including the NCCP *Operational Protocols*) and Section 7.2 of the NCCP, and APMs BIO-1 through BIO-5, BIO-6, BIO-8, and BIO-9 would reduce the disruption of normal animal movement due to construction equipment and materials; reduce excavations associated with the pole removals and new pole locations; minimize the impacts of increased human presence, increased noise levels, and increased vehicular traffic along access roads; and minimize the potential of accidental injury to or mortality of onsite species. Because the Proposed Project is located within an existing electric utility corridor and would not result in an impact substantially more than existing conditions, potential impacts on the movement of any native resident or migratory fish or wildlife species or on established native resident or migratory wildlife corridors or the use of nursery sites would be less than significant.

**Operation and Maintenance – No Impact**

SDG&E currently maintains and operates extensive existing electric utility, transmission, distribution, and substation facilities throughout the Proposed Project site. SDG&E's existing operation and maintenance activities are included in the baseline against which the impacts of the Proposed Project are evaluated.

Once construction is completed, no effects are expected that would preclude wildlife from returning. Therefore, no impacts on wildlife movement corridors are anticipated.

**e) Would the proposed project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?****Construction – No Impact**

Construction of the Proposed Project would not conflict with any local environmental policies or ordinances to protect biological resources. The Proposed Project is located within the cities of Carlsbad, Escondido, San Marcos, and Vista, and in unincorporated San Diego County, California. Based on a review of applicable local policies, the Proposed Project would not conflict with local policies and plans, which include the County of San Diego and Cities of Carlsbad, Vista, San Marcos, and Escondido Tree Ordinance. The Proposed Project is also consistent with relevant policies in the general plans of the cities of Carlsbad, San Marcos, Escondido, and Vista and the unincorporated San Diego County. Therefore, the Proposed Project would not conflict with any local policies or plans protecting biological resources. While SDG&E is a public utility regulated by the CPUC, and local governments are precluded from regulating public utilities through their zoning laws, land use laws, ordinances, and other police powers (including other NCCPs or HCPs), SDG&E would coordinate with other local entities to describe potential impacts associated with the Proposed Project and explain the proposed avoidance, minimization, and mitigation measures that would be used to reduce impacts to less than significant. The intent of the SDG&E Subregional NCCP and these local policies or ordinances is to protect sensitive biological resources; therefore, there would be no conflict with any local policies or ordinances associated with the Proposed Project.

**Operation and Maintenance – No Impact**

SDG&E currently maintains and operates extensive existing electric utility, transmission, distribution, and substation facilities throughout the Proposed Project site. SDG&E's existing operation and maintenance activities are included in the baseline against which the impacts of the Proposed Project are evaluated.

The frequency of operations and maintenance activities for the Proposed Project would increase slightly. Although the proposed steel poles would require less maintenance and repair than the existing wood poles, the added structures in Segment 2 would require an increase in frequency of maintenance trips. However, this increase would be so slight the potential impact on the environment would be negligible. The continuation of typical SDG&E maintenance activities on the Proposed Project would not conflict with any local policies or plans protecting biological resources. As such, no impacts are anticipated.

**f) Would the proposed project conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan?**

**Construction – Less-than-Significant Impact**

The Proposed Project is not subject to local discretionary regulations related to biological resources because the CPUC has exclusive jurisdiction over the siting, design, and construction of the Proposed Project; however, the Proposed Project would also occur within the area covered by, and would follow the requirements of, the SDG&E Subregional NCCP and HCP. The Proposed Project traverses through areas within the City of Carlsbad MHCP Subarea Plan, City of San Marcos MHCP Subarea Plan, City of Escondido MHCP Subarea Plan, and the planning area of the draft County of San Diego North County MSCP. The SDG&E Subregional NCCP and HCP contain measures to coordinate with HCP implementing entities and to provide additional mitigation in the event of permanent impacts on HCP/NCCP preserve areas. Therefore, no conflicts are expected with the City of Carlsbad MHCP Subarea Plan, City of San Marcos MHCP Subarea Plan, City of Escondido MHCP Subarea Plan, or the planning of the draft County of San Diego North County MSCP. The SDG&E Subregional NCCP is independent of other NCCP/HCPs and, therefore, is not dependent upon the implementation of such plans and is not superseded by other plans. There would be a less-than-significant impact on provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan.

**Operation and Maintenance – No Impact**

SDG&E currently maintains and operates extensive existing electric utility, transmission, distribution, and substation facilities throughout the Proposed Project Area. SDG&E's existing operation and maintenance activities constitute the baseline against which the impacts of the Proposed Project are evaluated.

The frequency of operation and maintenance activities for the Proposed Project would increase slightly. Although the proposed steel poles would require less maintenance and repair than the existing wood poles, the added structures in Segment 2 would require an increase in frequency of maintenance trips. However, this increase would be so slight the potential impact on the environment would be negligible.

Standard operational and maintenance activities, such as road grading, tree trimming, structure installation, and replacement and repairs, would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan. Therefore, there would be no impact from operation and maintenance of the Proposed Project.

**4.4.5 Applicant-Proposed Measures**

The following biological resource-specific APMs would be implemented for the Proposed Project to further ensure avoidance of impacts on biological resources:

**APM BIO-1:** SDG&E will conduct all construction and operation and maintenance activities in accordance with NCCP Operational Protocols to avoid and minimize impacts on biological resources.



**APM BIO-2:** All earth-moving equipment will be free of mud and vegetative material before being mobilized work areas associated with the Proposed project.

**APM BIO-3:** Except when not feasible due to physical or safety constraints, all Proposed Project construction vehicle movement will be restricted to the Proposed Project work areas, existing roads, and access roads constructed as a part of the Proposed Project and determined and marked by SDG&E in advance of construction. Approval from a biological monitor will be obtained prior to vehicle travel off of existing access roads.

**APM BIO-4:** Civil and land survey personnel will keep survey vehicles on existing roads. During Proposed Project surveying activities, brush clearing for footpaths, line-of-sight cutting, and land surveying panel point placement in sensitive habitat prior approval will be required from the Proposed Project's biological monitor. Hiking off roads or paths for survey data collection will be allowed year-round as long as all of the other applicable APMs are met.

**APM BIO-5:** Prior to the start of construction, the boundaries of sensitive plant populations that require protection will be delineated with clearly visible flagging or fencing by a qualified biologist. The flagging and/or fencing will be maintained in place for the duration of construction. Flagged and fenced areas will be avoided to the extent practicable during construction activities in that area. If impacts on sensitive plant species are unavoidable, SDG&E will coordinate with the appropriate jurisdictional agency to develop a plant salvage plan.

**APM BIO-6:**

*Coastal California Gnatcatcher*

Prior to construction, SDG&E shall retain a qualified biologist to conduct surveys for the coastal California gnatcatcher in suitable habitat, to determine if any active nests are within or in the immediate vicinity of proposed construction activities. If feasible, SDG&E will avoid construction during the peak breeding season (February 15 – August 31) for coastal California gnatcatcher and migratory birds. When it is not feasible to avoid trimming or removal of vegetation or during the peak breeding season, SDG&E will perform a site survey in the area where the work is to occur. Trimming or removal of vegetation during the peak-breeding season will require a preconstruction survey by a qualified biologist to confirm that active nests will not be affected. This survey will be performed to determine the presence or absence of nesting birds. If an active nest (i.e., containing eggs or young) is identified within the construction area during the survey, work will be halted and redirected away from the site. The qualified biologist in the field will determine a no-work buffer zone around the nest of sufficient size and dimensions that construction activities will not result in disturbance or direct removal of the active nest, or will not cause a breeding bird to abandon its nest. If the nesting and/or breeding activities are being conducted by a federal or state-listed species, SDG&E will consult with the USFWS and CDFW as necessary. Monitoring of the nest will continue until the birds have fledged or construction is no longer occurring on site.

### *Migratory Birds*

Trimming or removal of vegetation during the peak breeding season (February 15 to August 31) will require a pre-construction survey by a qualified biologist to confirm that active nests will not be affected. If an active nest is detected within the construction area during the survey, work will be halted and redirected away from the site. The qualified biologist in the field will determine a no-work buffer zone around the nest of sufficient size and dimensions that construction activities will not result in disturbance or direct removal of the active nest, or will not cause a breeding bird to abandon its nest.

**APM BIO-7:** If a raptor nest is observed during preconstruction surveys, a qualified biologist would determine if it is active. If the nest is determined to be active, the biological monitor would monitor the nest to ensure nesting activities and/or breeding activities are not substantially adversely affected. If the biological monitor determines that Proposed Project activities are disturbing or disrupting nesting and/or breeding activities, the monitor will make recommendations to reduce the noise and/or disturbance in the vicinity of the nest.

**APM BIO-8:** A biological monitor will be present during all ground-disturbing and vegetation removal activities. Immediately prior to initial ground-disturbing activities and/or vegetation removal, the biological monitor will survey the site to ensure that no special-status species will be impacted.

**APM BIO-9:** Wherever possible, vegetation will be left in place or mowed, instead of grubbed, to avoid excessive root damage and to allow for regrowth and to minimize soil erosion.

#### **4.4.6 References**

- Atwood, J. L. 1990. *Status Review of the California Gnatcatcher* (*Polioptila californica*). Unpublished technical report, Manomet Bird Observatory, Manomet, MA. 79 pp.
- Baldwin, B. G., D. H. Goldman, D. J. Keil, R. Patterson, and T. J. Rosatti. 2012. *The Jepson Manual: Vascular Plants of California*. Second Edition. University of California Press, CA.
- Bond, M., and C. Bradley. 2003. *Impacts of the 2003 Southern California Wildfires on Four Species Listed as Threatened or Endangered Under the Federal Endangered Species Act: Quino Checkerspot Butterfly, Mountain Yellow-Legged Frog, Coastal California Gnatcatcher, Least Bell's Vireo*. Unpublished report prepared by the Center for Biological Diversity.
- Bontrager, D. R. 1991. *Habitat Requirements, Home Range Requirements, and Breeding Biology of the California Gnatcatcher* (*Polioptila californica*) in South Orange County, California. Prepared for Santa Margarita Company, Ranch Santa Margarita, CA. April.
- California Department of Fish and Wildlife (CDFW). 2017. *RareFind 5*, Records search covering the United States Geological Survey 7.5-minute series topographic maps,

- Boucher Hill, Rodriguez Mountain, and Valley Center, California* quadrangles. Resource Management and Planning Division. Biogeographic Data Branch, Natural Diversity Database. Sacramento, California.
- . 2017. *Special Animals List: April 2007*. Online: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406>. Site visited on April 12, 2017.
- California Herps. 2017. *San Diego Tiger Whiptail* – *Aspidoscelis tigris stejnegeri*. Online: <http://www.californiaherps.com/lizards/pages/a.t.stejnegeri.html#moreinfo>. Site visited on May 21, 2017.
- City of Carlsbad. 2015. *General Plan*. September.
- City of Escondido. City of Escondido Trees Ordinance. Online: <http://www.escondido.org/ccagendas>. Site visited on July 19, 2017.
- . 2012. *General Plan*. Adopted by City Council Resolution. Resolution 2012-52. Adopted December 12, 2012.
- City of San Marcos. *City of San Marcos Tree Ordinance*. Online: <http://www.san-marcos.net/home/showdocument?id=16229>. Site visited on July 19, 2017.
- . 2012. *General Plan*. February 14. Adopted by City Council Resolution.
- City of Vista. 2012. *City of Vista General Plan*. Online: <http://records.cityofvista.com/WebLink/DocView.aspx?dbid=0&id=712583>. Site visited on July 19, 2017.
- . 2017. *City of Vista Trees/Urban Forest Management*. Online: <http://records.cityofvista.com/weblink/Browse.aspx?startid=4&dbid=0>. Site visited on July 19, 2017.
- County of San Diego. 2011. *San Diego County General Plan: A Plan for Growth, Conservation, and Sustainability*. August.
- Cummins, K. W. 1974. Structure and Function of Stream Ecosystems. *BioScience* 24:631–641.
- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1. U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi. 100 pp. with appendices.
- Holland, R. F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. State of California, The Resources Agency, Department of Fish and Wildlife, Natural Heritage Division, Sacramento, California.

- Krueper, D. J. 1993. Effects of Land Use Practices on Western Riparian Ecosystems. Pages 321–330 in D. M. Finch and P. W. Stangel (eds.), *Status and Management of Neotropical Migratory Birds*. Estes Park, Colorado. U.S. Forest Service Gen. Tech. Rep. RM-229
- Kus, B. E. 1999. Impacts of Brown-headed Cowbird Parasitism on the Productivity of the Endangered Least Bell's Vireo. *Studies in Avian Biology* 18:160–166.
- Kus, B. E., and M.J. Whitfield. 2005. Parasitism, Productivity, and Population Growth: Response of Least Bell Vireos (*Vireo bellii pusillus*) and Southwestern Willow Flycatchers (*Empidonax traillii extimus*) to Cowbird (*Molothrus* spp.) Control. *Ornithological Monographs* 57:16–27.
- Manci, K.M. 1989. Riparian Ecosystem Creation and Restoration: A Literature Summary. *Bio. Report* 89(20). U.S. Fish and Wildlife Service, Washington, D.C. 59 pp.
- Montgomery, G. L. 1996. *Riparian Areas: Reservoirs of Diversity*. Working Paper No. 13. NRCS, USDA Northern Plains Regional Office. Lincoln, Nebraska.
- Oberbauer, T, M. Kelly, and J. Buegge. 2008. *Draft Vegetation Communities of San Diego County*. Based on *Preliminary Descriptions of the Terrestrial Natural Communities of California*, Robert F. Holland, Ph.D., October 1986. Online: [http://www.sdcanyonlands.org/pdfs/veg\\_comm\\_sdcounty\\_2008\\_doc.pdf](http://www.sdcanyonlands.org/pdfs/veg_comm_sdcounty_2008_doc.pdf). Site visited on March 12, 2017.
- Rebman, J. P., and M. G. Simpson. 2014. *Checklist of the Vascular Plants of San Diego County*, 5th Edition. San Diego, CA: San Diego Natural History Museum and San Diego State University.
- Reiser, C. H. 2001. *Rare Plants of San Diego County*. Aquafir Press. 2001 Edition.
- San Diego Gas & Electric Company (SDG&E). 1995. *Subregional Natural Community Conservation Plan*.
- Sogge, M. K., D. Ahlers, and S. J. Sferra. 2010. *A Natural History Summary and Survey Protocol for the Southwestern Willow Flycatcher*. U.S. Geological Survey Techniques and Methods 2A-10, 38 pp.
- Stebbins, Robert C. 2003. *A Field Guide to Western Reptiles and Amphibians*. 3rd Edition. Houghton Mifflin Company.
- Unitt, P. 2004. *San Diego County Bird Atlas*. Online: <http://sdplantatlas.org/BirdAtlas/BirdPages.aspx>. Site visited on March 12, 2017.
- U.S. Army Corps of Engineers (USACE). 2008a. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0). Vicksburg, MS: U.S. Army Engineer Research and Development Center. Report dated September 2008.

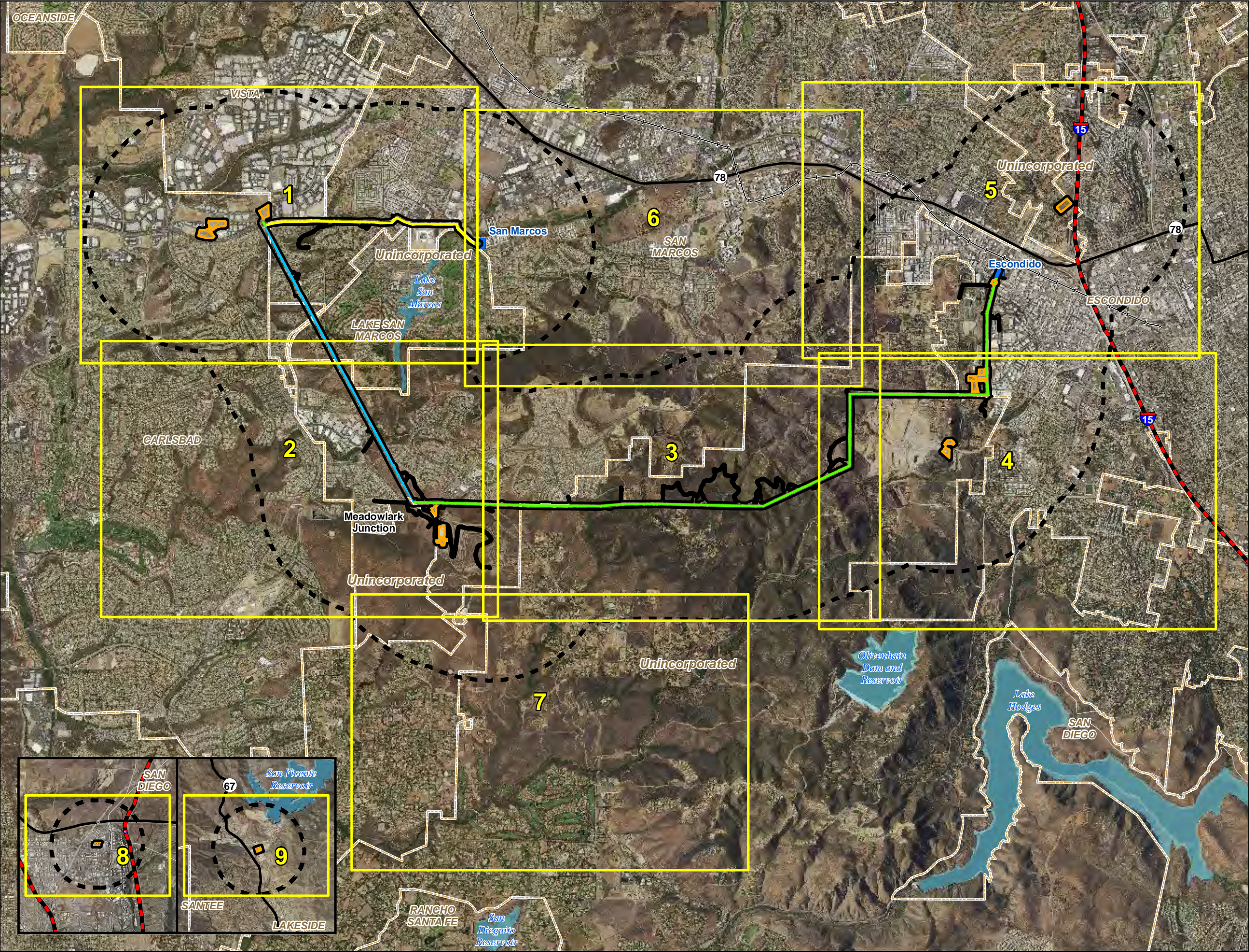


- . 2008b. *A Field Guide to the Identification of the OHHM in the Arid West Region of the Western United States: A Determination Manual*. Online: <http://www.crrel.usace.army.mil/library/technicalreports/ERDC-CRREL-TR-08-12.pdf>.
- U.S. Army Corps of Engineers (USACE) and U.S. Environmental Protection Agency (EPA). 2011. *Draft Guidance on Identifying Waters Protected by the Clean Water Act*.
- United States Fish and Wildlife Service (USFWS). 1994. Designation of Critical Habitat for Least Bell's Vireo. U.S. Fish and Wildlife Service, February 2, 1994. *Federal Register* 59:4845.
- . 1995. Endangered and Threatened Wildlife and Plants; Final Rule Determining Endangered Status for the Southwestern Willow Flycatcher. *Federal Register* 60:10694–10715.
- . 1997. *Coastal California Gnatcatcher* (*Poliophtila californica californica*) *Presence/Absence Survey Guidelines*. February 28.
- . 2000a. *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants*. Online: <https://www.fws.gov/ventura/docs/species/protocols/botanicalinventories.pdf>. Site visited on February 12, 2017.
- . 2000b. Endangered and Threatened Wildlife and Plants; Final Determination of Critical Habitat for the Coastal California Gnatcatcher; Final Rule. *Federal Register* 65:63679–63743.
- . 2001. *Least Bell's Vireo Survey Guidelines*. Carlsbad Field Office. January 19.
- . 2006. *Least Bell's Vireo Five Year Review Summary and Evaluation*. Report from Carlsbad, California Field Office. September.
- . 2007. Revised Designation of Critical Habitat for the Coastal California Gnatcatcher (*Poliophtila californica californica*); Final Rule. *Federal Register* 72: 72010–72213.
- . 2013. *Southwestern Willow Flycatcher Critical Habitat Revision Questions and Answers*. Arizona Ecological Services Office. January 2.
- . 2017. *Environmental Conservation Online System, Threatened & Endangered Species Active Critical Habitat Report*. Online: <https://ecos.fws.gov/ecp/report/table/critical-habitat.html>. Site visited on April 12, 2017.
- United States Geological Survey (USGS). 2016. *7.5-minute Topographic Quadrangle Maps for San Marcos, Rancho Santa Fe, and Escondido, California*.
- Zeiner, D. C., W. F. Laudenslayer, Jr, K. E. Mayer, and M. White. 1990. *California' Wildlife, Volume II Birds*. Online:

[http://www.co.monterey.ca.us/planning/gpu/2007\\_GPU\\_DEIR\\_Sept\\_2008/Text/References/Zeiner1990a.pdf](http://www.co.monterey.ca.us/planning/gpu/2007_GPU_DEIR_Sept_2008/Text/References/Zeiner1990a.pdf). Site visited on March 21, 2017.

This Page Intentionally Left Blank





TL6975 San Marcos to Escondido  
Figure 4.4-1  
CNDDDB  
Occurrences

Legend

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconstructor

Project Features

Survey Area

1-Mile Buffer

Staging Yard

General Features

Existing Substation

Interstate

State Highway

Railroad

City Boundary

County Boundary

Waterbody

Mapbook Page

Orange County

Riverside County

San Diego County

Pacific Ocean

MAP LOCATION

0

2,000

4,000

6,000

Feet

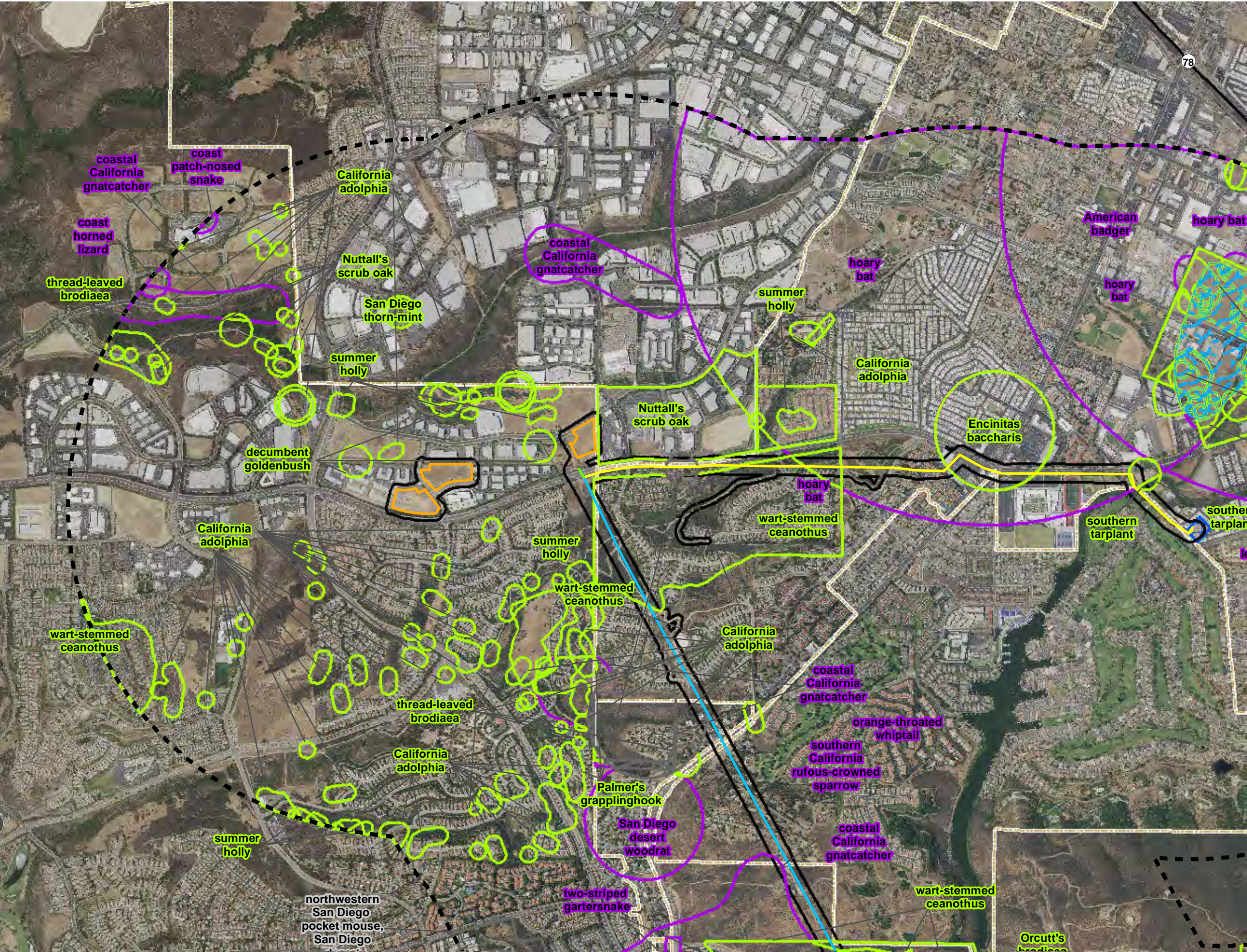
SDGE

Sempra Energy utility









TL6975 San Marcos to Escondido  
Figure 4.4-1  
CNDDB  
Occurrences

Legend

CNDDB Occurrences

Plant

Animal

Terrestrial Community

Multiple Sensitive EO's (Commercial only)

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconstructor

Project Features

Survey Area

1-Mile Buffer

Staging Yard

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

01,0002,000

Feet

SDGE

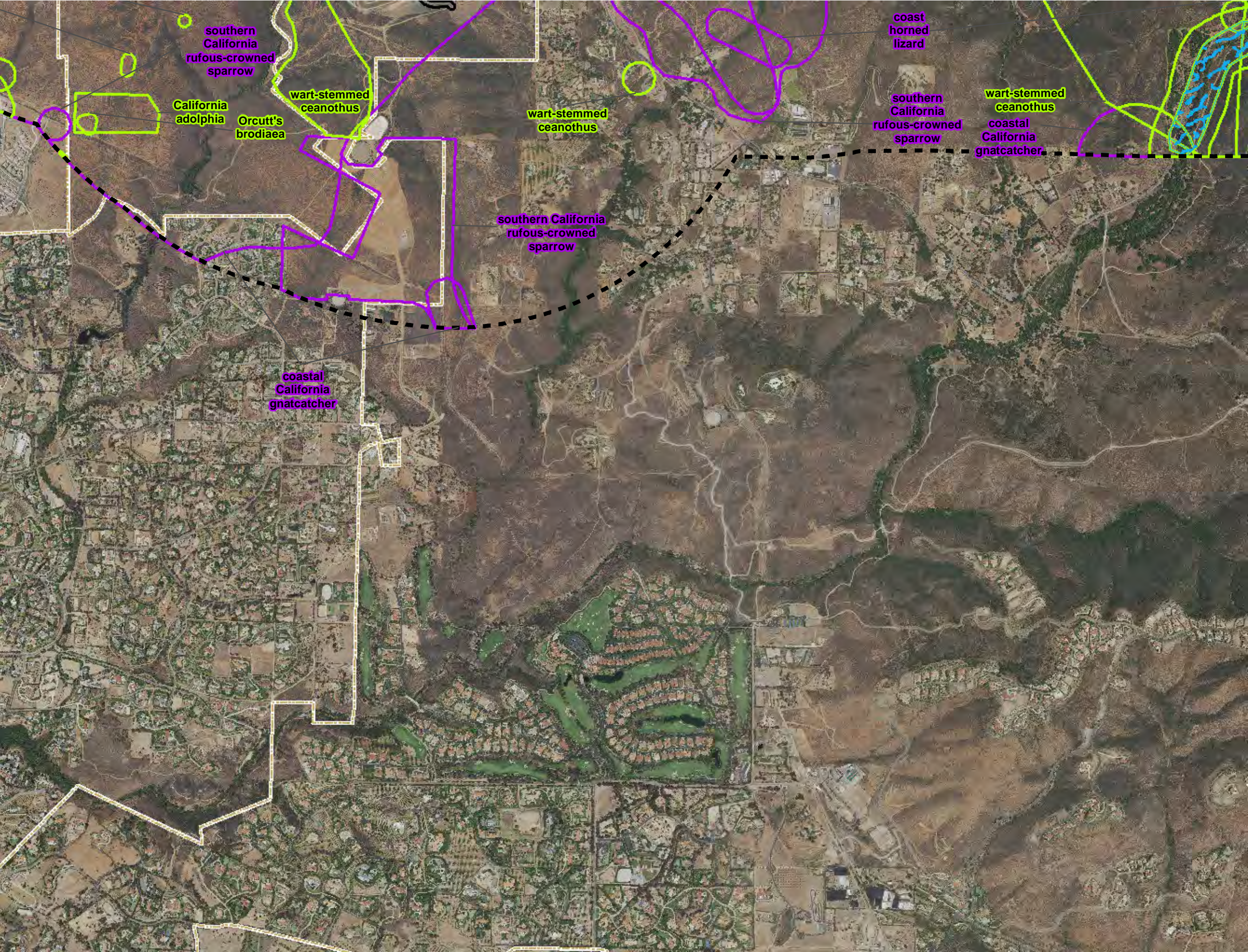
A Sempra Energy utility

Page 1









TL6975 San Marcos to Escondido

Figure 4.4-1

CNDDDB

Occurences

Legend

CNDDDB Occurences

Plant

Animal

Terrestrial Community

Multiple Sensitive EO's (Commercial only)

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Survey Area

1-Mile Buffer

Staging Yard

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

0

1,000

2,000

Feet

SDGE

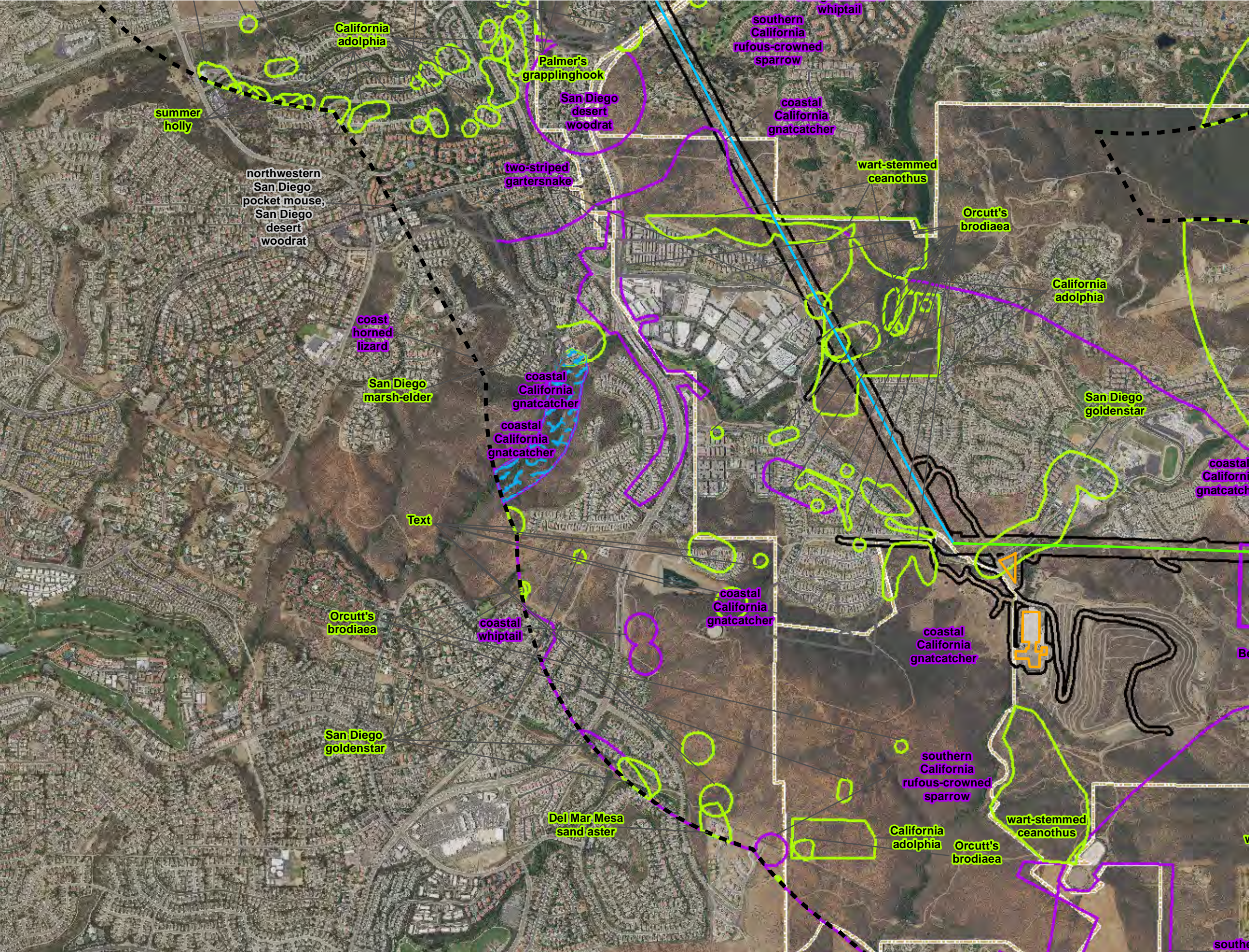
A Sempra Energy utility

Page 7









TL6975 San Marcos to Escondido  
Figure 4.4-1  
CNDDDB  
Occurrences

Legend

CNDDDB Occurrences

Plant

Animal

Terrestrial Community

Multiple Sensitive EO's (Commercial only)

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconstructor

Project Features

Survey Area

1-Mile Buffer

Staging Yard

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

0

1,000

2,000

Feet

SDGE

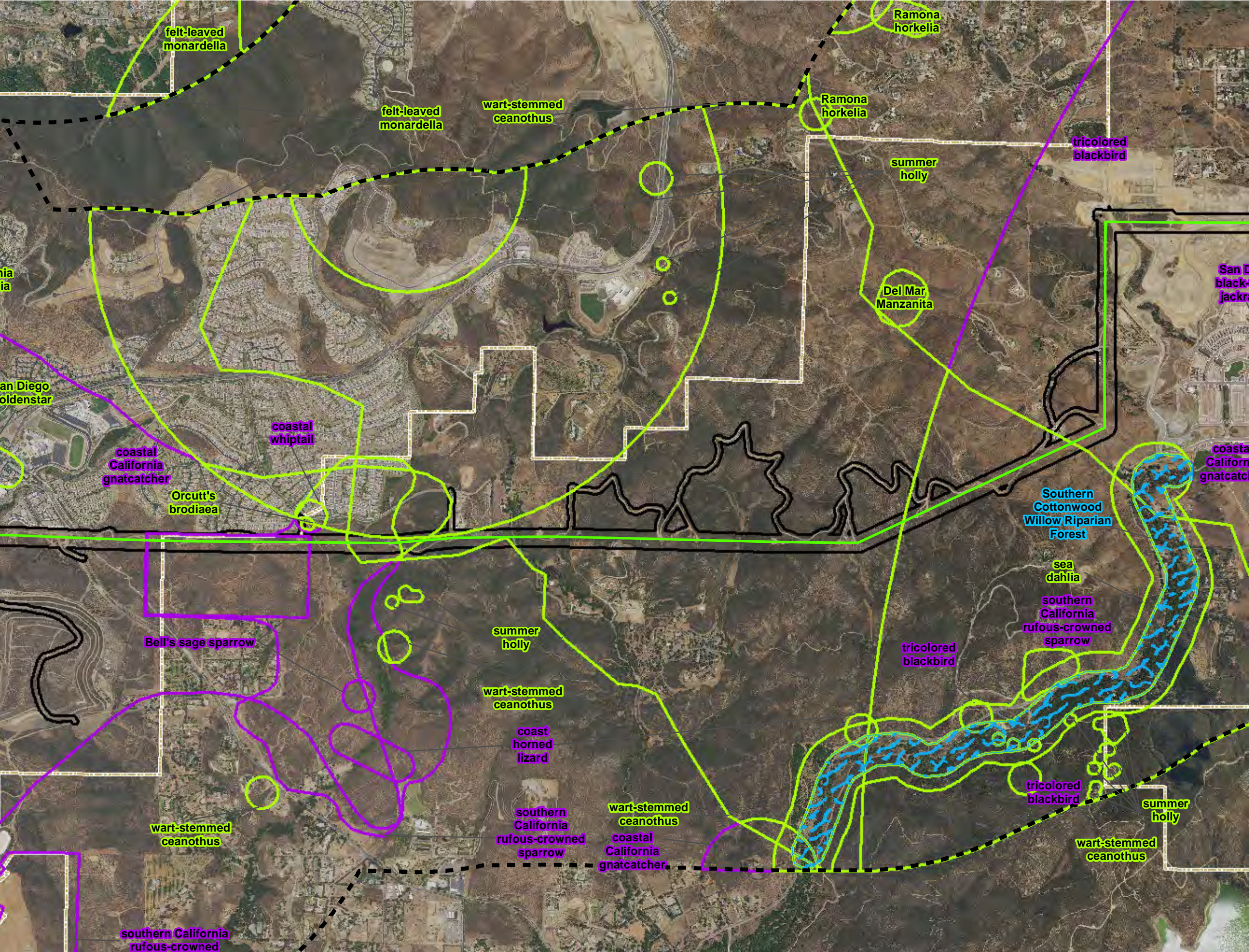
A Sempra Energy utility

Page 2









TL6975 San Marcos to Escondido  
Figure 4.4-1  
CNDDDB  
Occurrences

Legend

CNDDDB Occurrences

Plant

Animal

Terrestrial Community

Multiple Sensitive EO's (Commercial only)

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Survey Area

1-Mile Buffer

Staging Yard

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

01,0002,000

Feet

SDGE

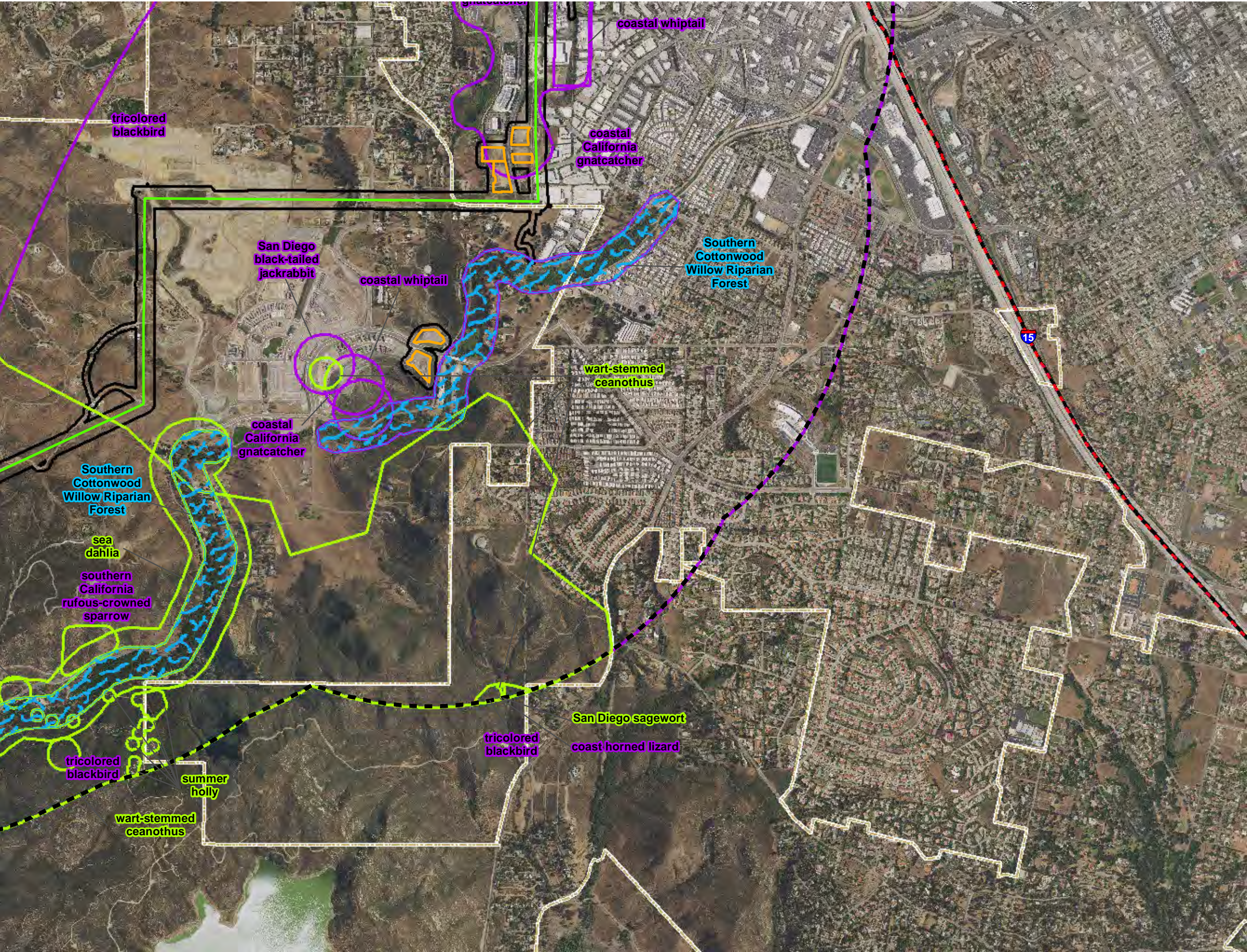
A Sempra Energy utility

Page 3









TL6975 San Marcos to Escondido

Figure 4.4-1

CNDDDB

Occurrences

Legend

CNDDDB Occurrences

Plant

Animal

Terrestrial Community

Multiple Sensitive EO's (Commercial only)

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconstructor

Project Features

Survey Area

1-Mile Buffer

Staging Yard

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

0

1,000

2,000

Feet

SDGE

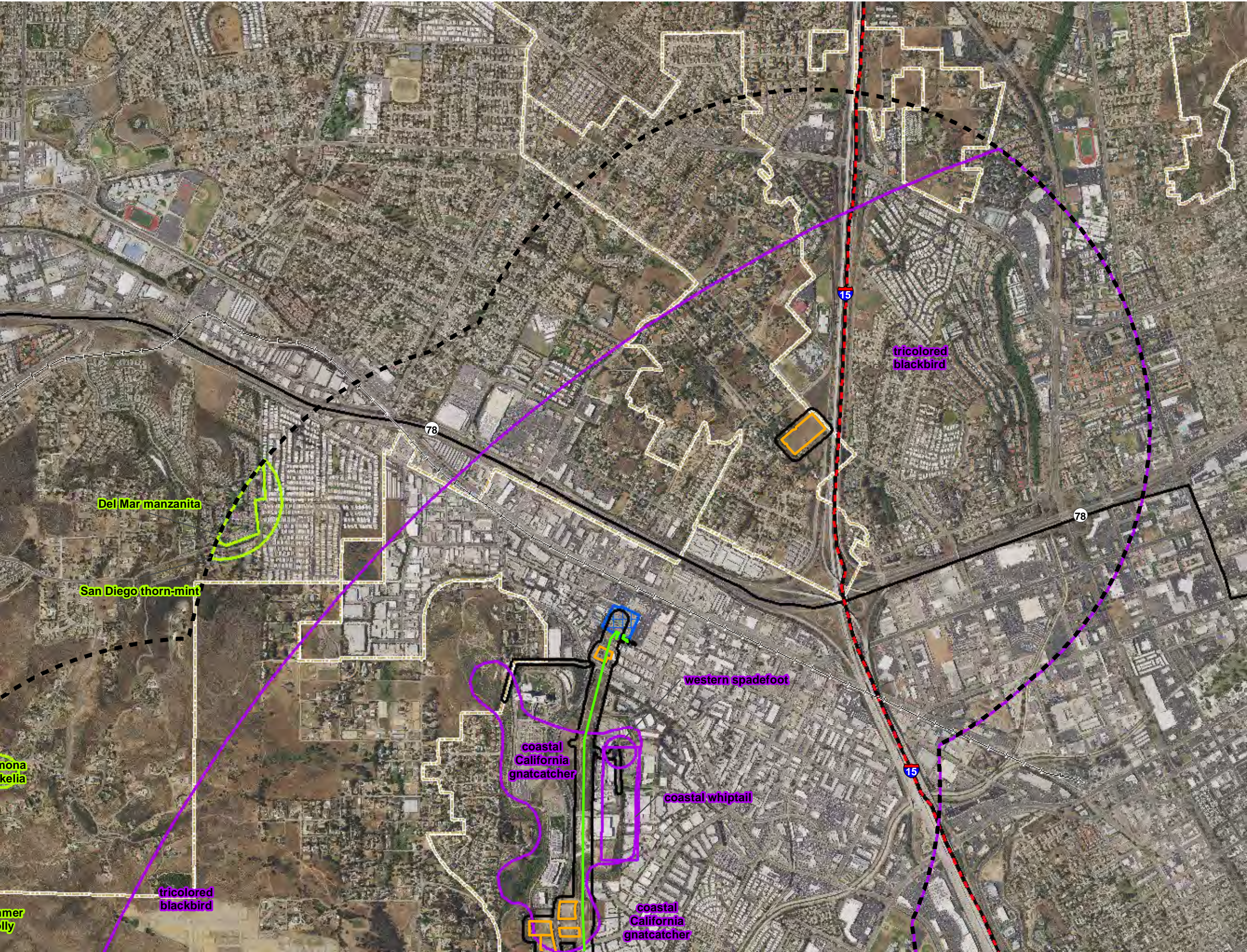
A Sempra Energy utility

Page 4









TL6975 San Marcos to Escondido

Figure 4.4-1

CNDDDB

Occurrences

Legend

CNDDDB Occurrences

Plant

Animal

Terrestrial Community

Multiple Sensitive EO's (Commercial only)

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconstructor

Project Features

Survey Area

1-Mile Buffer

Staging Yard

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

0

1,000

2,000

Feet

SDGE

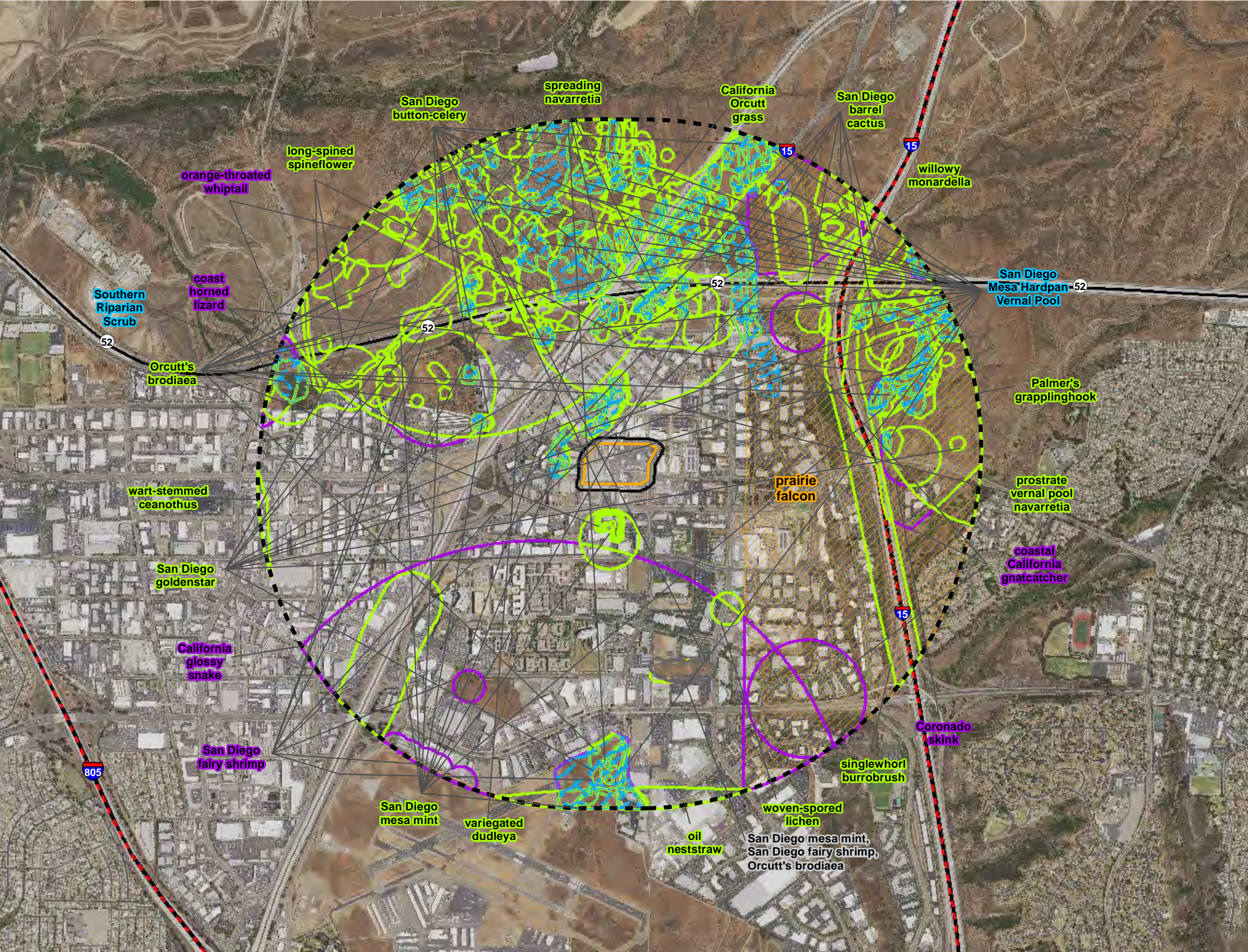
A Sempra Energy utility

Page 5









TL6975 San Marcos to Escondido  
Figure 4.4-1  
CNDDDB  
Occurrences

Legend

CNDDDB Occurrences

Plant

Animal

Terrestrial Community

Multiple Sensitive EO's (Commercial only)

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconstructor

Project Features

Survey Area

1-Mile Buffer

Staging Yard

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

010002000

Feet

SDGE

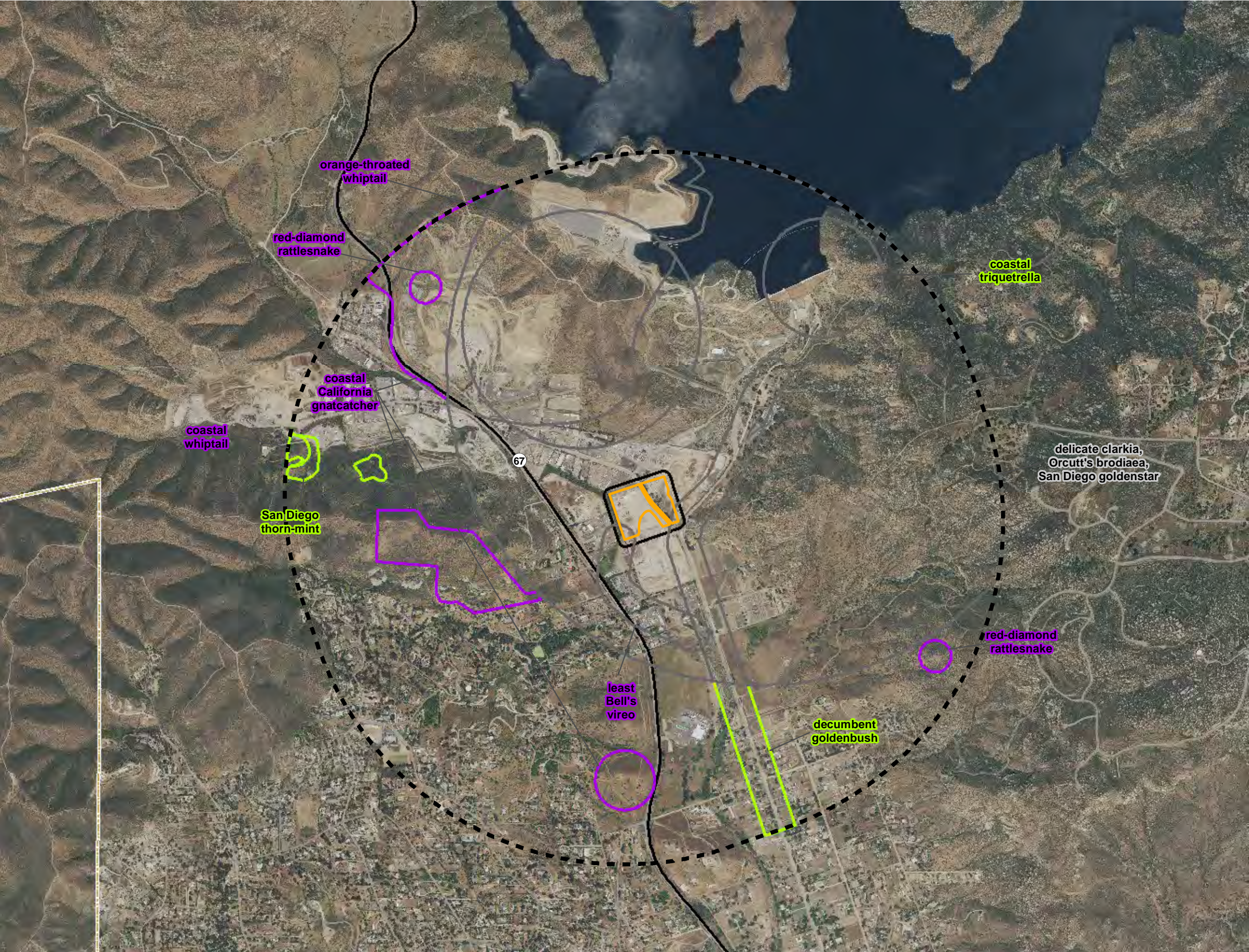
A Sempra Energy utility

Page 8









TL6975 San Marcos to Escondido  
Figure 4.4-1  
CNDDDB  
Occurrences

Legend

CNDDDB Occurences

Plant

Animal

Terrestrial Community

Multiple Sensitive EO's (Commercial only)

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconnector

Project Features

Survey Area

1-Mile Buffer

Staging Yard

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

01,0002,000

Feet

SDGE

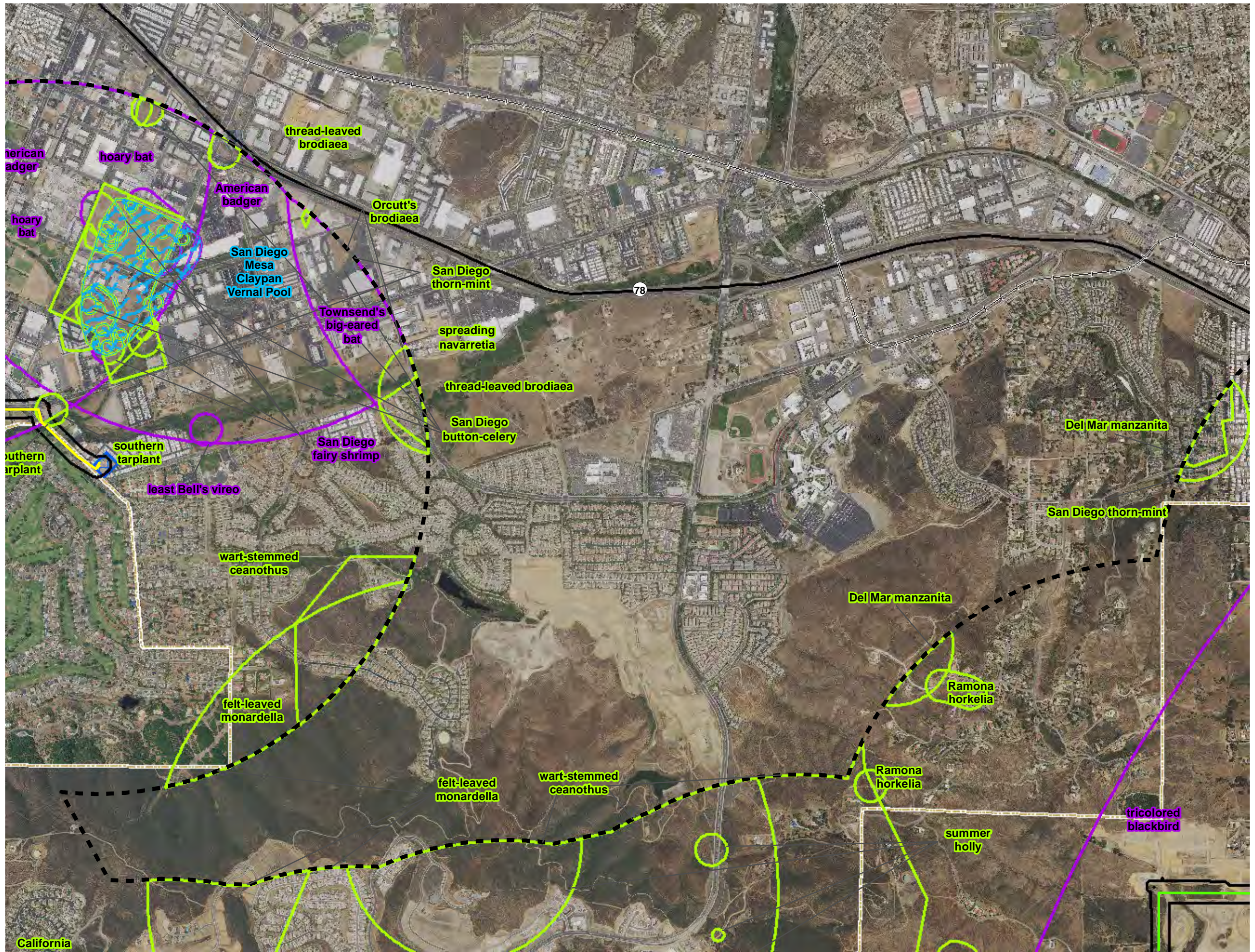
A Sempra Energy utility

Page 9









TL6975 San Marcos to Escondido  
Figure 4.4-1  
CNDDDB  
Occurrences

Legend

CNDDDB Occurrences

Plant

Animal

Terrestrial Community

Multiple Sensitive EO's (Commercial only)

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Survey Area

1-Mile Buffer

Staging Yard

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

01,0002,000

Feet

SDGE

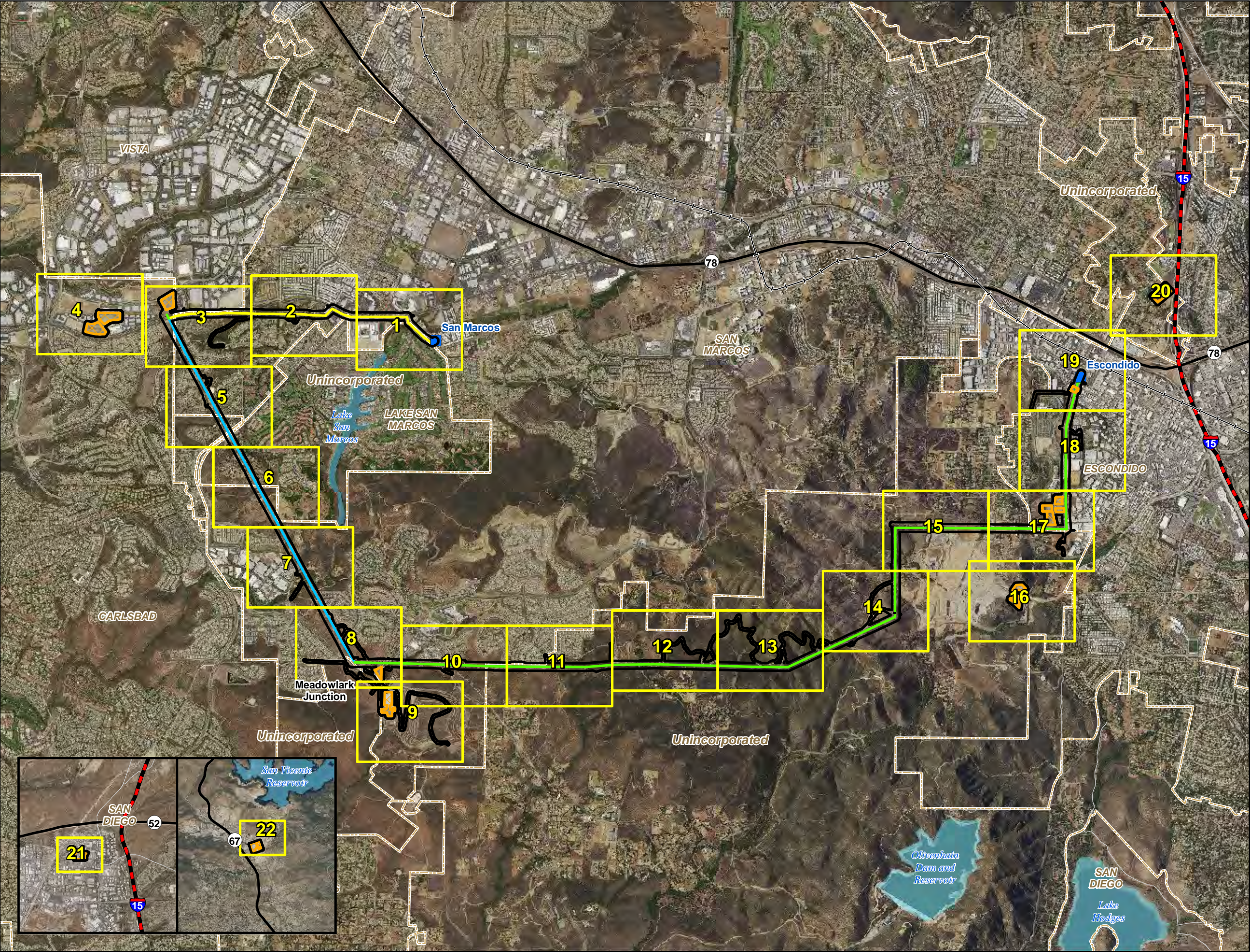
A Sempra Energy utility

Page 6









TL6975 San Marcos to Escondido  
Figure 4.4-2  
Vegetation Communities  
and Special-Status Species

Legend

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconnector

Project Features

Staging Yard

Survey Area

General Features

Existing Substation

Interstate

State Highway

Railroad

City Boundary

County Boundary

Waterbody

Mapbook Page

Orange County

Riverside County

San Diego County

Pacific Ocean

MAP LOCATION

0

1,000

2,000

3,000

4,000

5,000

Feet

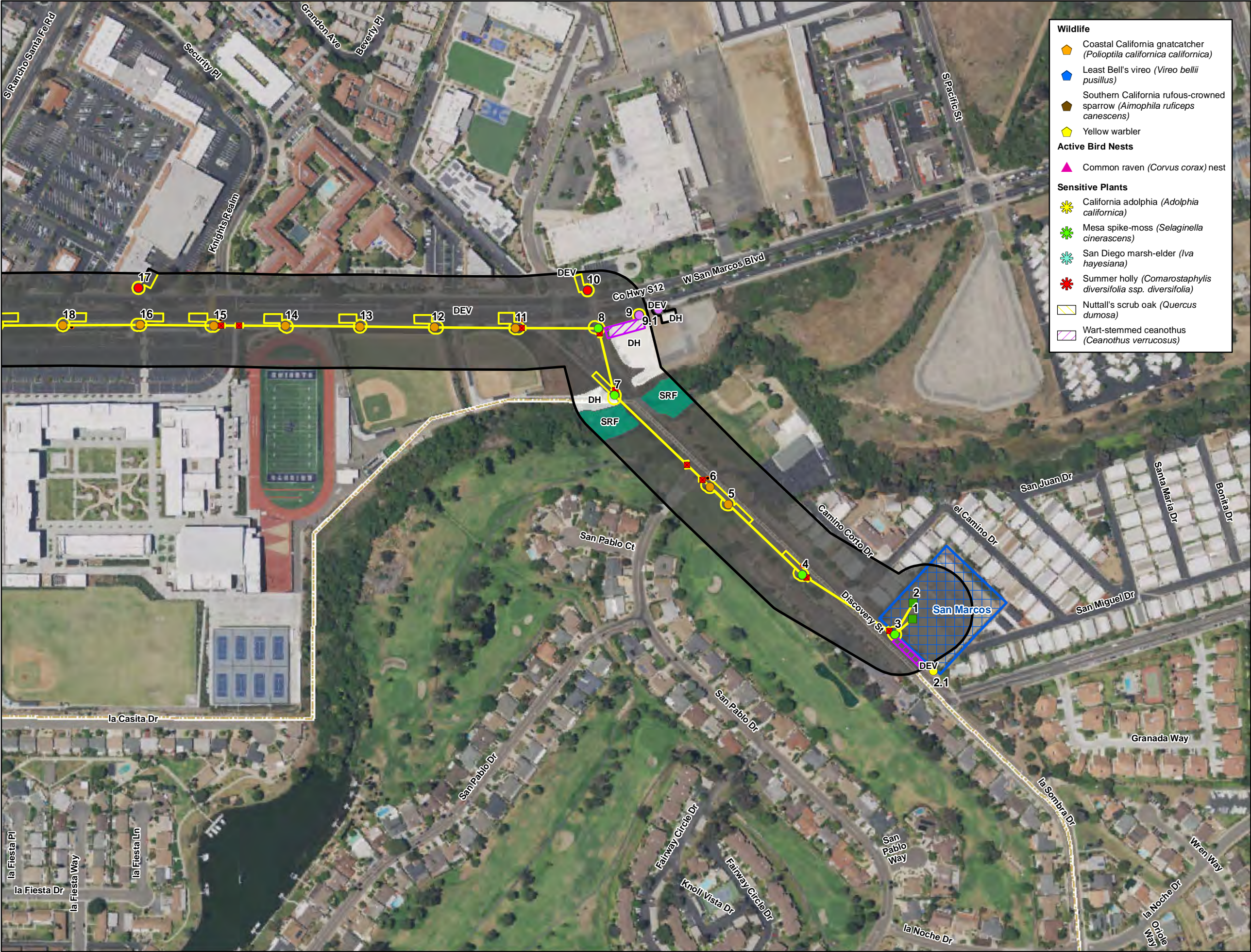
SDGE

A Semptra Energy utility









- Wildlife**
- Coastal California gnatcatcher (*Polioptila californica californica*)
  - Least Bell's vireo (*Vireo bellii pusillus*)
  - Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)
  - Yellow warbler
- Active Bird Nests**
- Common raven (*Corvus corax*) nest
- Sensitive Plants**
- California adolphia (*Adolphia californica*)
  - Mesa spike-moss (*Selaginella cinerascens*)
  - San Diego marsh-elder (*Iva hayesiana*)
  - Summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*)
  - Nuttall's scrub oak (*Quercus dumosa*)
  - Wart-stemmed ceanothus (*Ceanothus verrucosus*)

TL6975 San Marcos to Escondido  
Figure 4.4-2  
Vegetation Communities  
and Special-Status Species

- Legend**
- Project Structures**
- Replace existing with pier foundation
  - New pier foundation
  - Replace existing with direct bury
  - New direct bury
  - Overhead Work
  - Overhead work / anchor work
  - Existing structure re-energize conductors
  - No work / information only
  - Remove From Service
  - Rack
  - Guard Structures
- Project Alignment**
- Segment 1 - Rebuild
  - Segment 2 - New Build
  - Segment 3 - Reconductor
- Project Features**
- Existing Access Road
  - New Access Road
  - Distribution Trench
  - Stringing Site
  - Permanent Work Area or Grading Impacts
  - Temporary Work Area or Grading Impacts
  - Staging Yard
  - Survey Area
- General Features**
- Interstate
  - State Highway
  - Railroad
  - Existing Substation
  - City Boundary
- Vegetation Communities**
- CSS - Diegan Coastal Sage
  - DCSS - Diegan Coastal Sage Scrub -Disturbed
  - BCSS - Diegan Coastal Sage Scrub-Burned
  - SMC - Southern Maritime Chaparral
  - BSMC - Southern Maritime Chaparral -Burned
  - CS-CS - Coastal Sage-Chaparral Transition
  - NNG - Non-Native Grassland
  - CLOW - Coast Live Oak Woodland
  - DCLOW - Coast Live Oak Woodland -Disturbed
  - FWM - Coastal and Valley Freshwater Marsh
  - EMW - Emergent Wetlands
  - SRF - Southern Riparian Forest
  - SCLOWF - Southern Coast Live Oak Riparian Forest
  - MFS - Mule-Fat Scrub
  - SWS - Southern Willow Scrub
  - DSWS - Southern Willow Scrub-Disturbed
  - OW - Fresh Water
  - DH - Disturbed Habitat
  - DEV - Urban/Developed
  - ORCH - Orchard/Vineyard
  - AG - Intensive Agriculture
  - NNW - Non-Native Woodland
  - EUC - Eucalyptus Woodland









TL6975 San Marcos to Escondido

Figure 4.4-2

Vegetation Communities and Special-Status Species

Legend

Project Structures

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Permanent Work Area or Grading Impacts

Temporary Work Area or Grading Impacts

Staging Yard

Survey Area

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

Vegetation Communities

CSS - Diegan Coastal Sage

DCSS - Diegan Coastal Sage Scrub -Disturbed

BCSS - Diegan Coastal Sage Scrub-Burned

SMC - Southern Maritime Chaparral

BSMC - Southern Maritime Chaparral -Burned

CS-CS - Coastal Sage-Chaparral Transition

NNG - Non-Native Grassland

CLOW - Coast Live Oak Woodland

DCLOW - Coast Live Oak Woodland -Disturbed

FWM - Coastal and Valley Freshwater Marsh

EMW - Emergent Wetlands

SRF - Southern Riparian Forest

SCLOWF - Southern Coast Live Oak Riparian Forest

MFS - Mule-Fat Scrub

SWS - Southern Willow Scrub

DSWS - Southern Willow Scrub-Disturbed

OW - Fresh Water

DH - Disturbed Habitat

DEV - Urban/Developed

ORCH - Orchard/Vineyard

AG - Intensive Agriculture

NNW - Non-Native Woodland

EUC - Eucalyptus Woodland

0100200300400

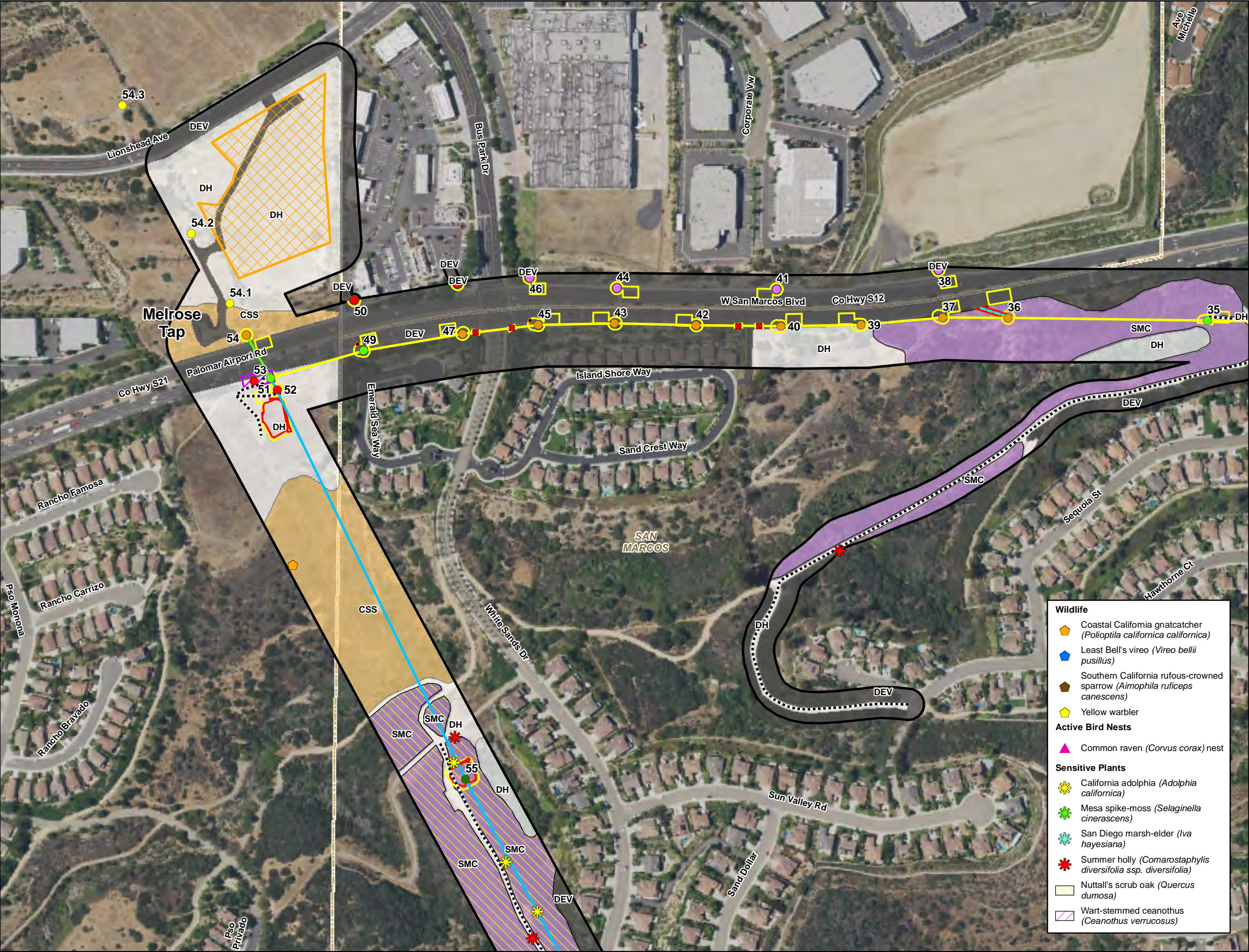
Feet

Page 2









TL6975 San Marcos to Escondido  
Figure 4.4-2  
Vegetation Communities  
and Special-Status Species

Legend

Project Structures

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Permanent Work Area or Grading Impacts

Temporary Work Area or Grading Impacts

Staging Yard

Survey Area

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

Vegetation Communities

CSS - Diegan Coastal Sage

DCSS - Diegan Coastal Sage Scrub -Disturbed

BCSS - Diegan Coastal Sage Scrub-Burned

SMC - Southern Maritime Chaparral

BSMC - Southern Maritime Chaparral -Burned

CS-CS - Coastal Sage-Chaparral Transition

NNG - Non-Native Grassland

CLOW - Coast Live Oak Woodland

DCLOW - Coast Live Oak Woodland -Disturbed

FWM - Coastal and Valley Freshwater Marsh

EMW - Emergent Wetlands

SRF - Southern Riparian Forest

SCLOWF - Southern Coast Live Oak Riparian Forest

MFS - Mule-Fat Scrub

SWS - Southern Willow Scrub

DSWS - Southern Willow Scrub-Disturbed

OW - Fresh Water

DH - Disturbed Habitat

DEV - Urban/Developed

ORCH - Orchard/Vineyard

AG - Intensive Agriculture

NNW - Non-Native Woodland

EUC - Eucalyptus Woodland

Wildlife

Coastal California gnatcatcher (*Polioptila californica californica*)

Least Bell's vireo (*Vireo bellii pusillus*)

Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)

Yellow warbler

Active Bird Nests

Common raven (*Corvus corax*) nest

Sensitive Plants

California adolphia (*Adolphia californica*)

Mesa spike-moss (*Selaginella cinerascens*)

San Diego marsh-elder (*Iva hayesiana*)

Summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*)

Nuttall's scrub oak (*Quercus dumosa*)

Wart-stemmed ceanothus (*Ceanothus verrucosus*)

0100200300400

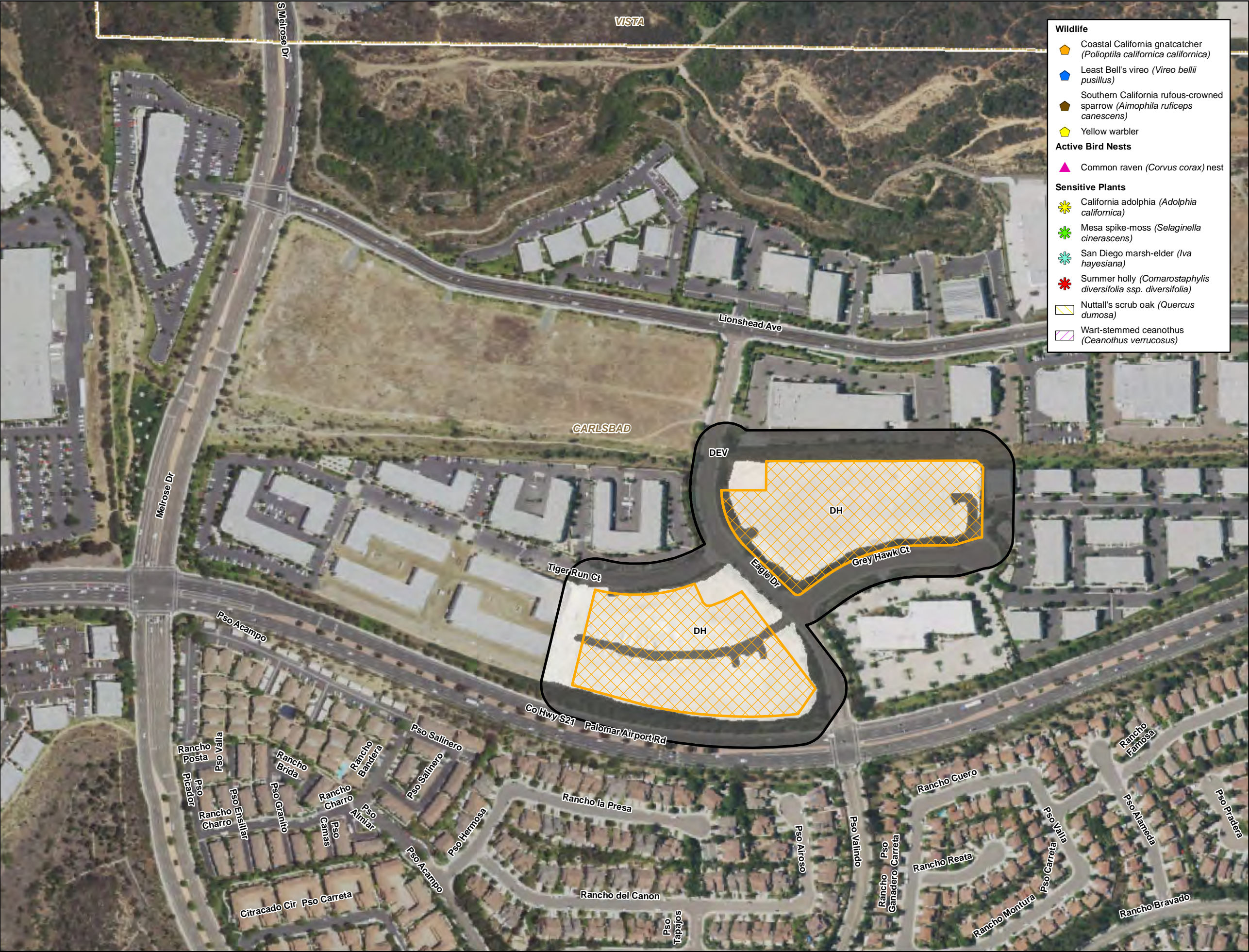
Feet

Page 3









- Wildlife**
- Coastal California gnatcatcher (*Polioptila californica californica*)
  - Least Bell's vireo (*Vireo bellii pusillus*)
  - Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)
  - Yellow warbler
- Active Bird Nests**
- Common raven (*Corvus corax*) nest
- Sensitive Plants**
- California adolphia (*Adolphia californica*)
  - Mesa spike-moss (*Selaginella cinerascens*)
  - San Diego marsh-elder (*Iva hayesiana*)
  - Summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*)
  - Nuttall's scrub oak (*Quercus dumosa*)
  - Wart-stemmed ceanothus (*Ceanothus verrucosus*)

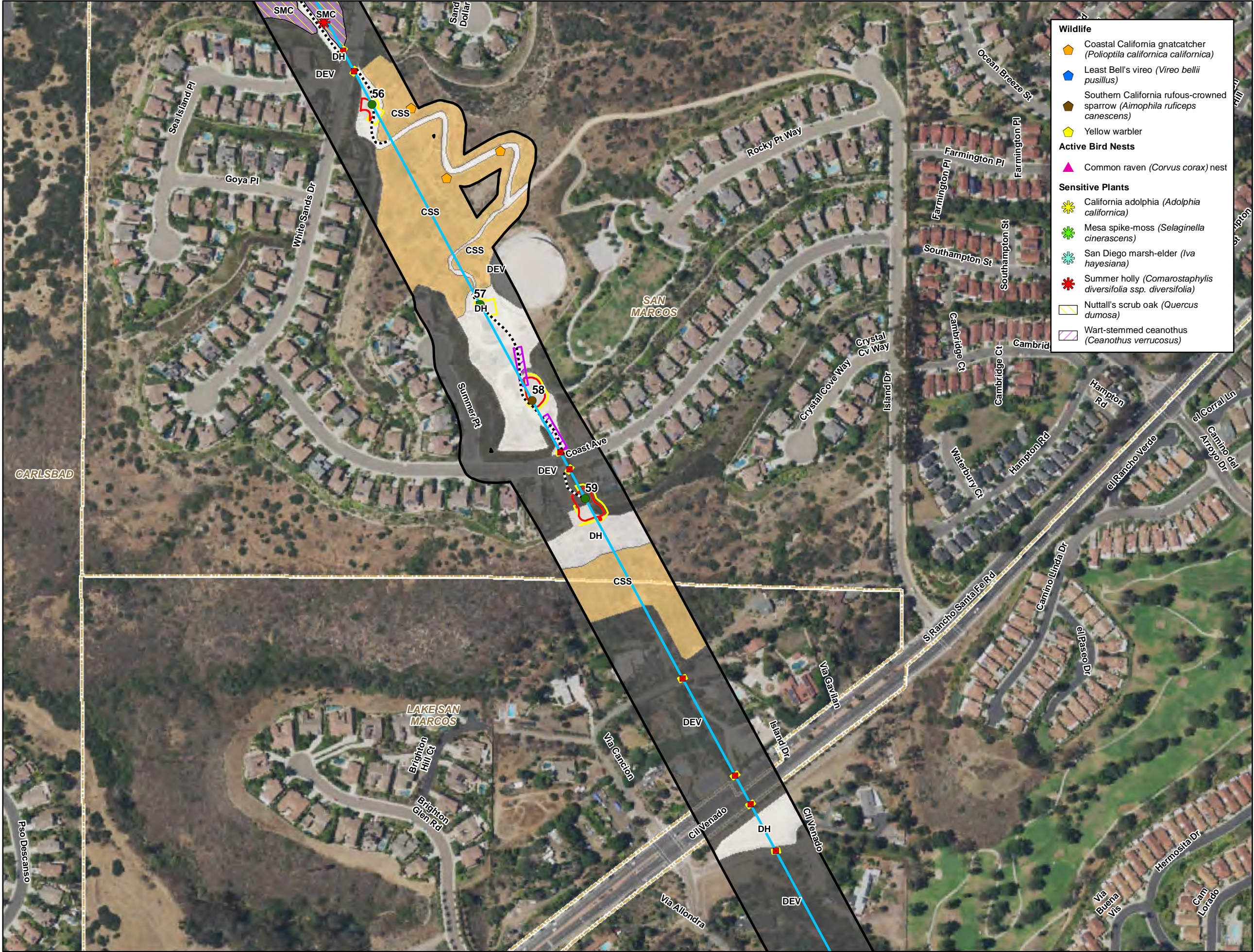
**TL6975 San Marcos to Escondido**  
**Figure 4.4-2**  
**Vegetation Communities**  
**and Special-Status Species**

- Legend**
- Project Structures**
- Replace existing with pier foundation
  - New pier foundation
  - Replace existing with direct bury
  - New direct bury
  - Overhead Work
  - Overhead work / anchor work
  - Existing structure re-energize conductors
  - No work / information only
  - Remove From Service
  - Rack
  - Guard Structures
- Project Alignment**
- Segment 1 - Rebuild
  - Segment 2 - New Build
  - Segment 3 - Reconductor
- Project Features**
- Existing Access Road
  - New Access Road
  - Distribution Trench
  - Stringing Site
  - Permanent Work Area or Grading Impacts
  - Temporary Work Area or Grading Impacts
  - Staging Yard
  - Survey Area
- General Features**
- Interstate
  - State Highway
  - Railroad
  - Existing Substation
  - City Boundary
- Vegetation Communities**
- CSS - Diegan Coastal Sage
  - DCSS - Diegan Coastal Sage Scrub - Disturbed
  - BCSS - Diegan Coastal Sage Scrub-Burned
  - SMC - Southern Maritime Chaparral
  - BSMC - Southern Maritime Chaparral - Burned
  - CS-CS - Coastal Sage-Chaparral Transition
  - NNG - Non-Native Grassland
  - CLOW - Coast Live Oak Woodland
  - DCLOW - Coast Live Oak Woodland - Disturbed
  - FWM - Coastal and Valley Freshwater Marsh
  - EMW - Emergent Wetlands
  - SRF - Southern Riparian Forest
  - SCLOWF - Southern Coast Live Oak Riparian Forest
  - MFS - Mule-Fat Scrub
  - SWS - Southern Willow Scrub
  - DSWS - Southern Willow Scrub-Disturbed
  - OW - Fresh Water
  - DH - Disturbed Habitat
  - DEV - Urban/Developed
  - ORCH - Orchard/Vineyard
  - AG - Intensive Agriculture
  - NNW - Non-Native Woodland
  - EUC - Eucalyptus Woodland
- 0 100 200 300 400 Feet
- Page 4**









TL6975 San Marcos to Escondido

Figure 4.4-2

Vegetation Communities and Special-Status Species

Legend

Project Structures

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Permanent Work Area or Grading Impacts

Temporary Work Area or Grading Impacts

Staging Yard

Survey Area

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

Vegetation Communities

CSS - Diegan Coastal Sage

DCSS - Diegan Coastal Sage Scrub -Disturbed

BCSS - Diegan Coastal Sage Scrub-Burned

SMC - Southern Maritime Chaparral

BSMC - Southern Maritime Chaparral -Burned

CS-CS - Coastal Sage-Chaparral Transition

NNG - Non-Native Grassland

CLOW - Coast Live Oak Woodland

DCLOW - Coast Live Oak Woodland -Disturbed

FWM - Coastal and Valley Freshwater Marsh

EMW - Emergent Wetlands

SRF - Southern Riparian Forest

SCLOWF - Southern Coast Live Oak Riparian Forest

MFS - Mule-Fat Scrub

SWS - Southern Willow Scrub

DSWS - Southern Willow Scrub-Disturbed

OW - Fresh Water

DH - Disturbed Habitat

DEV - Urban/Developed

ORCH - Orchard/Vineyard

AG - Intensive Agriculture

NNW - Non-Native Woodland

EUC - Eucalyptus Woodland

0100200300400

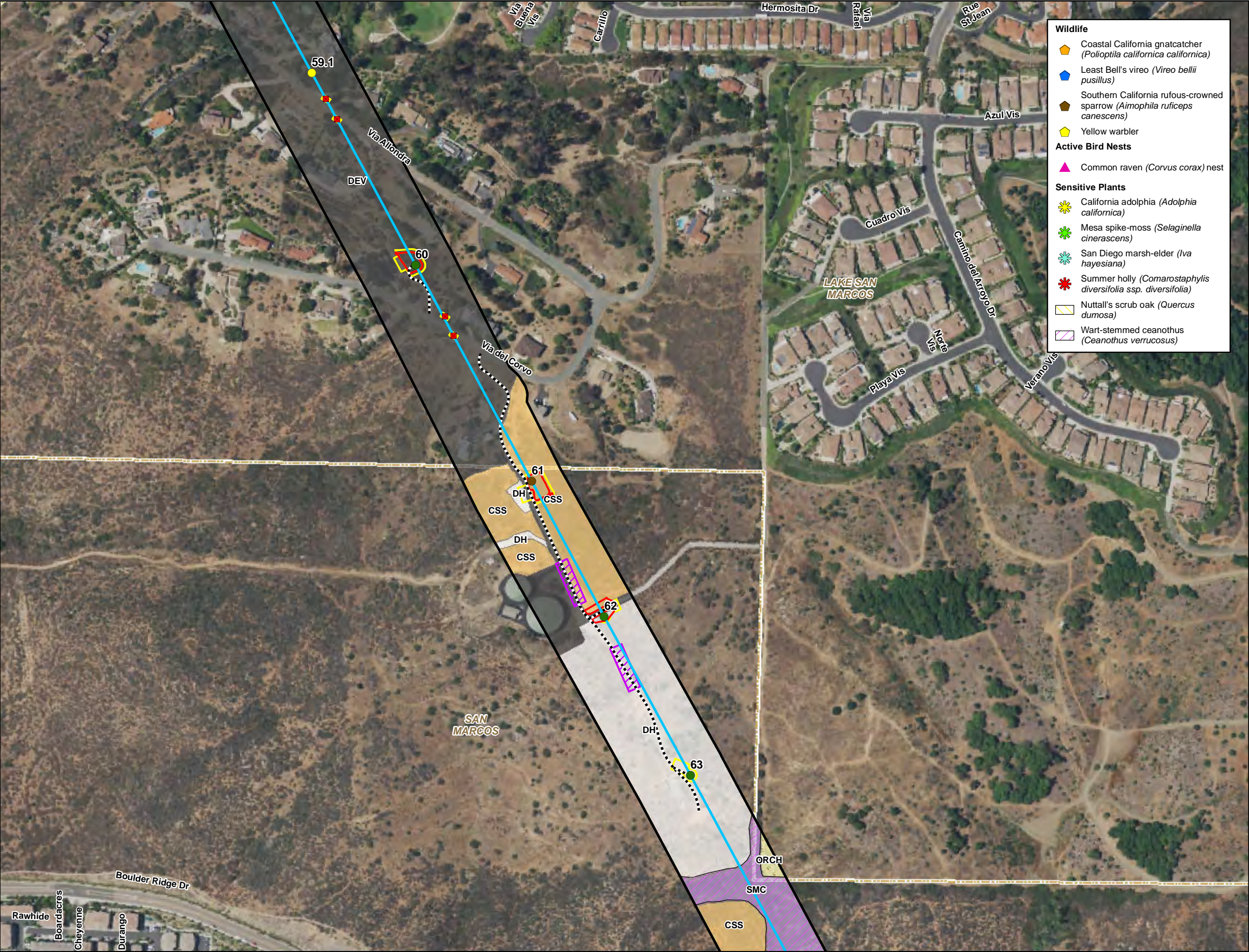
Feet

Page 5









TL6975 San Marcos to Escondido  
Figure 4.4-2  
Vegetation Communities  
and Special-Status Species

Legend

Project Structures

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Permanent Work Area or Grading Impacts

Temporary Work Area or Grading Impacts

Staging Yard

Survey Area

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

Vegetation Communities

CSS - Diegan Coastal Sage

DCSS - Diegan Coastal Sage Scrub -Disturbed

BCSS - Diegan Coastal Sage Scrub-Burned

SMC - Southern Maritime Chaparral

BSMC - Southern Maritime Chaparral -Burned

CS-CS - Coastal Sage-Chaparral Transition

NNG - Non-Native Grassland

CLOW - Coast Live Oak Woodland

DCLOW - Coast Live Oak Woodland -Disturbed

FWM - Coastal and Valley Freshwater Marsh

EMW - Emergent Wetlands

SRF - Southern Riparian Forest

SCLOWF - Southern Coast Live Oak Riparian Forest

MFS - Mule-Fat Scrub

SWS - Southern Willow Scrub

DSWS - Southern Willow Scrub-Disturbed

OW - Fresh Water

DH - Disturbed Habitat

DEV - Urban/Developed

ORCH - Orchard/Vineyard

AG - Intensive Agriculture

NNW - Non-Native Woodland

EUC - Eucalyptus Woodland

0100200300400

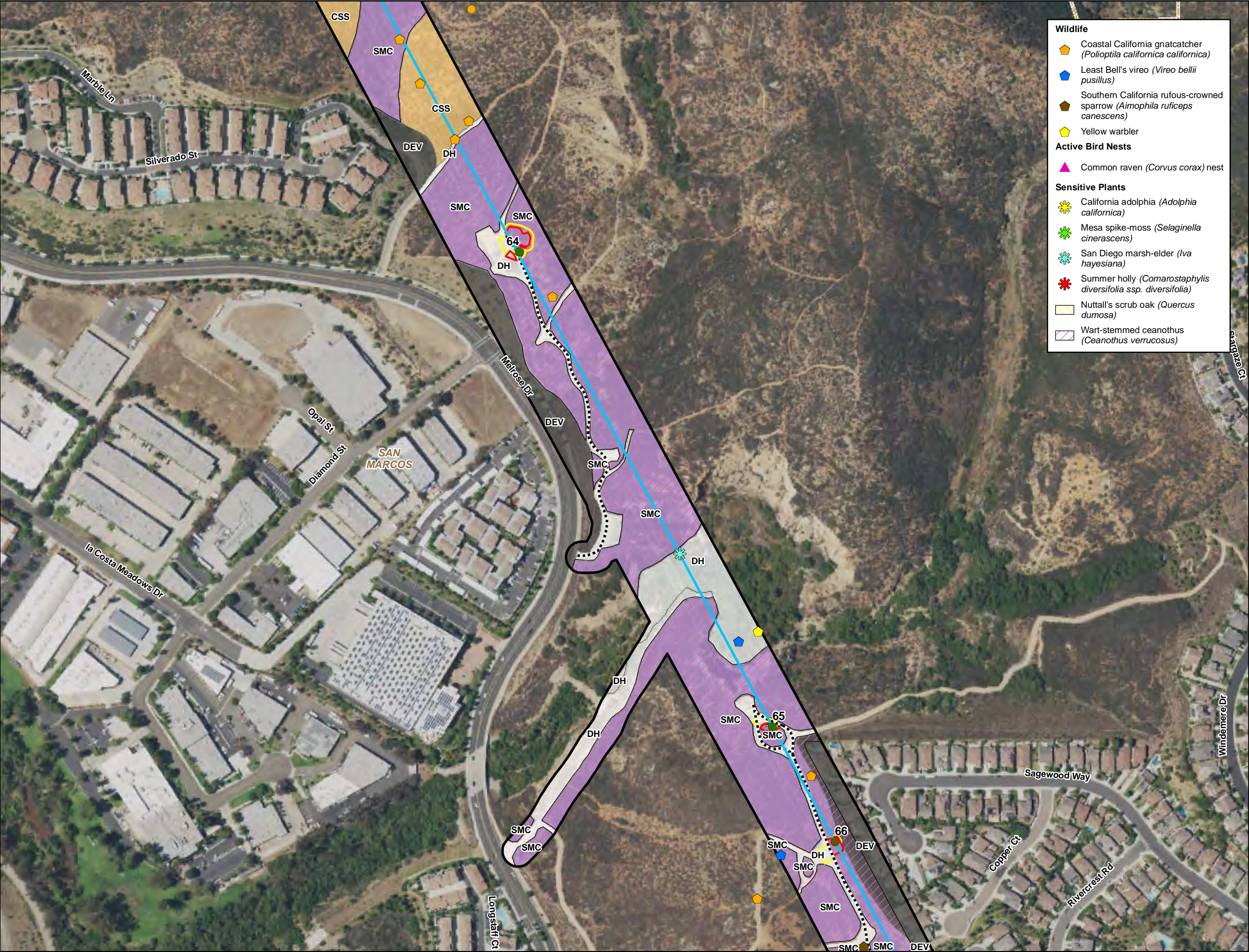
Feet

Page 6









TL6975 San Marcos to Escondido

Figure 4.4-2

Vegetation Communities and Special-Status Species

Legend

Project Structures

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Permanent Work Area or Grading Impacts

Temporary Work Area or Grading Impacts

Staging Yard

Survey Area

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

Vegetation Communities

CSS - Diegan Coastal Sage

DCSS - Diegan Coastal Sage Scrub -Disturbed

BCSS - Diegan Coastal Sage Scrub-Burned

SMC - Southern Maritime Chaparral

BSMC - Southern Maritime Chaparral -Burned

CS-CS - Coastal Sage-Chaparral Transition

NNG - Non-Native Grassland

CLOW - Coast Live Oak Woodland

DCLOW - Coast Live Oak Woodland -Disturbed

FWM - Coastal and Valley Freshwater Marsh

EMW - Emergent Wetlands

SRF - Southern Riparian Forest

SCLOWF - Southern Coast Live Oak Riparian Forest

MFS - Mule-Fat Scrub

SWS - Southern Willow Scrub

DSWS - Southern Willow Scrub-Disturbed

OW - Fresh Water

DH - Disturbed Habitat

DEV - Urban/Developed

ORCH - Orchard/Vineyard

AG - Intensive Agriculture

NNW - Non-Native Woodland

EUC - Eucalyptus Woodland

0100200300400

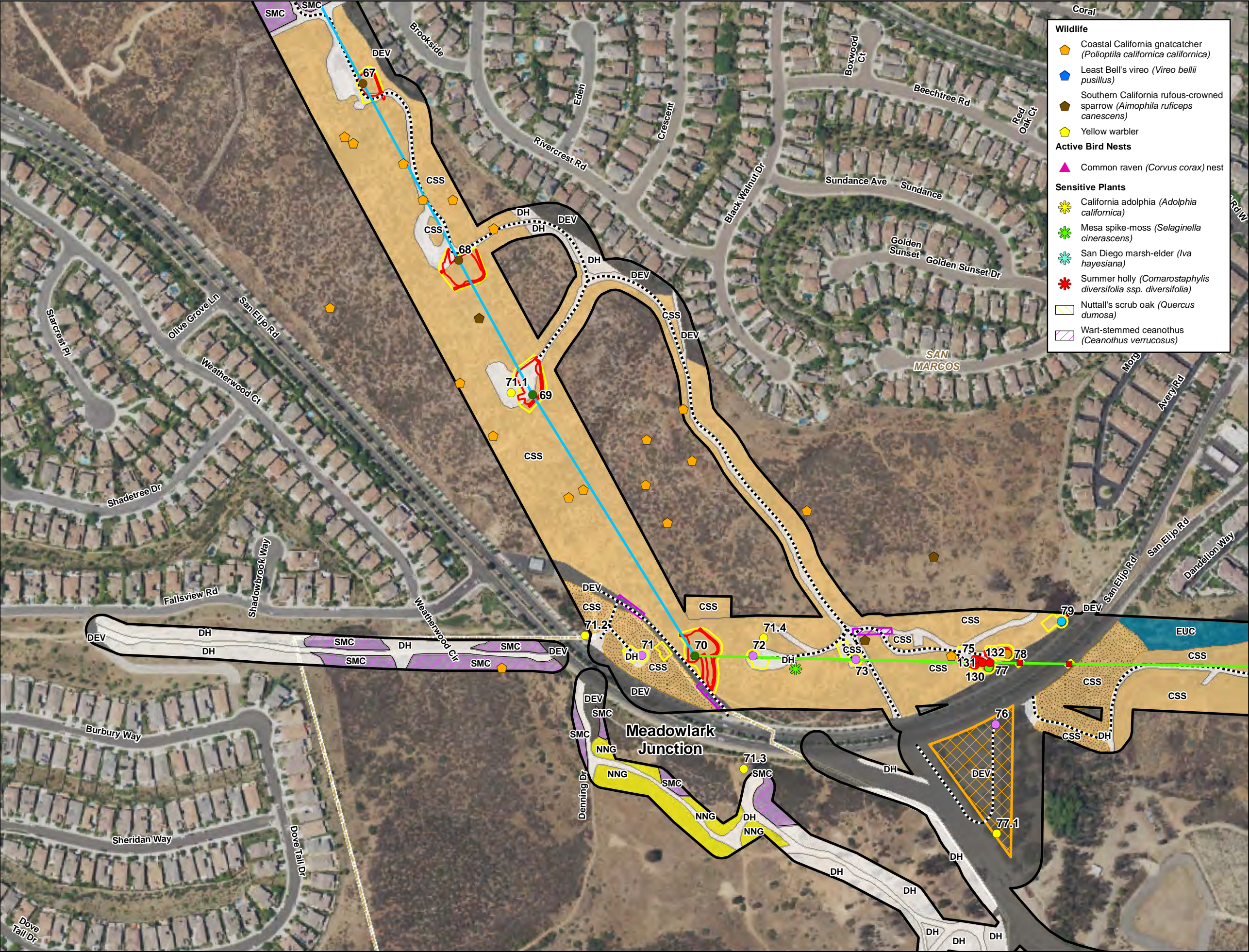
Feet

Page 7









TL6975 San Marcos to Escondido

Figure 4.4-2

Vegetation Communities and Special-Status Species

Legend

Project Structures

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Permanent Work Area or Grading Impacts

Temporary Work Area or Grading Impacts

Staging Yard

Survey Area

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

Vegetation Communities

CSS - Diegan Coastal Sage

DCSS - Diegan Coastal Sage Scrub -Disturbed

BCSS - Diegan Coastal Sage Scrub-Burned

SMC - Southern Maritime Chaparral

BSMC - Southern Maritime Chaparral -Burned

CS-CS - Coastal Sage-Chaparral Transition

NNG - Non-Native Grassland

CLOW - Coast Live Oak Woodland

DCLOW - Coast Live Oak Woodland -Disturbed

FWM - Coastal and Valley Freshwater Marsh

EMW - Emergent Wetlands

SRF - Southern Riparian Forest

SCLOWF - Southern Coast Live Oak Riparian Forest

MFS - Mule-Fat Scrub

SWS - Southern Willow Scrub

DSWS - Southern Willow Scrub-Disturbed

OW - Fresh Water

DH - Disturbed Habitat

DEV - Urban/Developed

ORCH - Orchard/Vineyard

AG - Intensive Agriculture

NNW - Non-Native Woodland

EUC - Eucalyptus Woodland

0100200300400

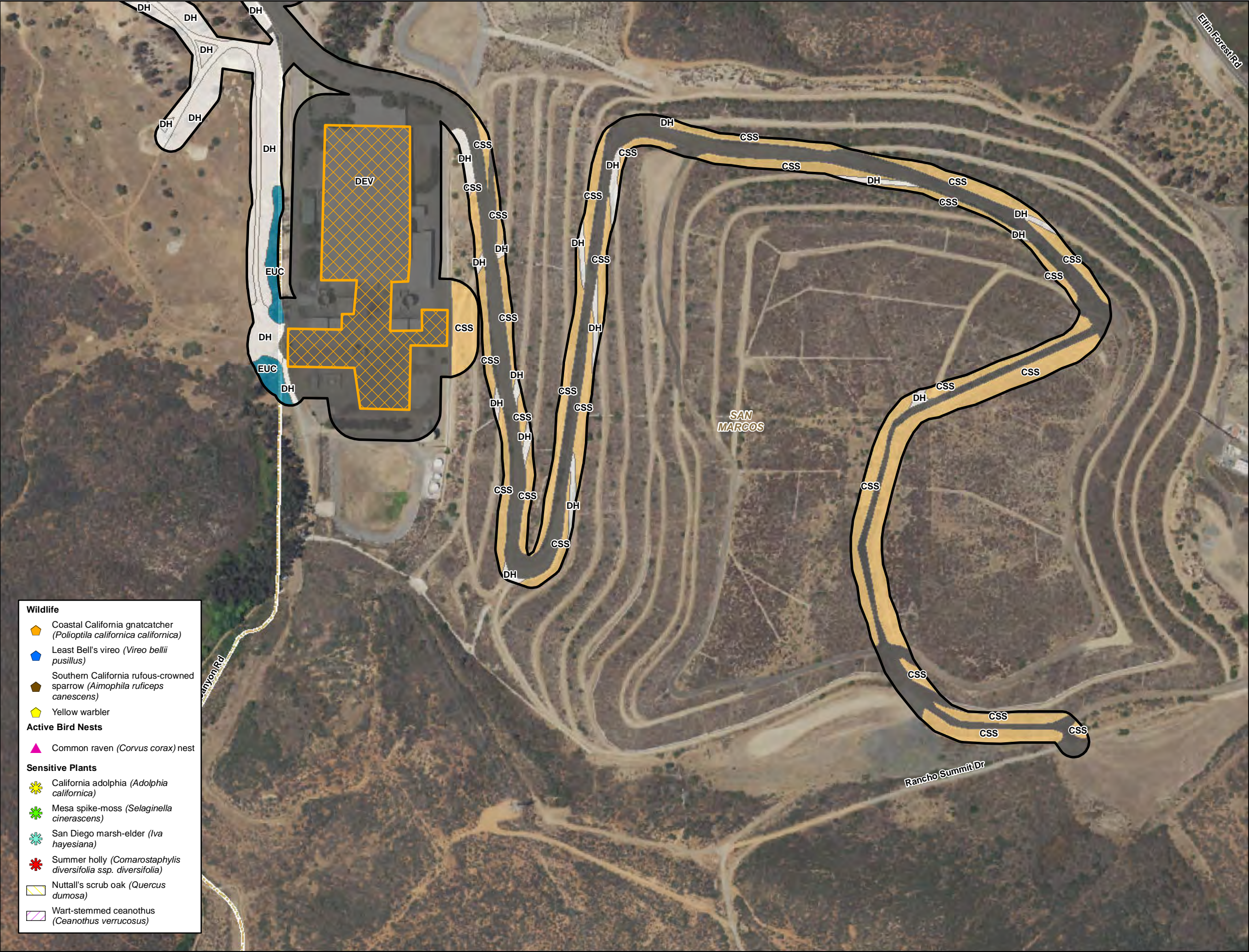
Feet

Page 8









**Wildlife**

- Coastal California gnatcatcher (*Polioptila californica californica*)
- Least Bell's vireo (*Vireo bellii pusillus*)
- Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)
- Yellow warbler

**Active Bird Nests**

- Common raven (*Corvus corax*) nest

**Sensitive Plants**

- California adolphia (*Adolphia californica*)
- Mesa spike-moss (*Selaginella cinerascens*)
- San Diego marsh-elder (*Iva hayesiana*)
- Summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*)
- Nuttall's scrub oak (*Quercus dumosa*)
- Wart-stemmed ceanothus (*Ceanothus verrucosus*)

**TL6975 San Marcos to Escondido**  
**Figure 4.4-2**  
**Vegetation Communities and Special-Status Species**

**Legend**

**Project Structures**

- Replace existing with pier foundation
- New pier foundation
- Replace existing with direct bury
- New direct bury
- Overhead Work
- Overhead work / anchor work
- Existing structure re-energize conductors
- No work / information only
- Remove From Service
- Rack
- Guard Structures

**Project Alignment**

- Segment 1 - Rebuild
- Segment 2 - New Build
- Segment 3 - Reconductor

**Project Features**

- Existing Access Road
- New Access Road
- Distribution Trench
- Stringing Site
- Permanent Work Area or Grading Impacts
- Temporary Work Area or Grading Impacts
- Staging Yard
- Survey Area

**General Features**

- Interstate
- State Highway
- Railroad
- Existing Substation
- City Boundary

**Vegetation Communities**

- CSS - Diegan Coastal Sage
- DCSS - Diegan Coastal Sage Scrub -Disturbed
- BCSS - Diegan Coastal Sage Scrub-Burned
- SMC - Southern Maritime Chaparral
- BSMC - Southern Maritime Chaparral -Burned
- CS-CS - Coastal Sage-Chaparral Transition
- NNG - Non-Native Grassland
- CLOW - Coast Live Oak Woodland
- DCLOW - Coast Live Oak Woodland -Disturbed
- FWM - Coastal and Valley Freshwater Marsh
- EMW - Emergent Wetlands
- SRF - Southern Riparian Forest
- SCLOWF - Southern Coast Live Oak Riparian Forest
- MFS - Mule-Fat Scrub
- SWS - Southern Willow Scrub
- DSWS - Southern Willow Scrub-Disturbed
- OW - Fresh Water
- DH - Disturbed Habitat
- DEV - Urban/Developed
- ORCH - Orchard/Vineyard
- AG - Intensive Agriculture
- NNW - Non-Native Woodland
- EUC - Eucalyptus Woodland

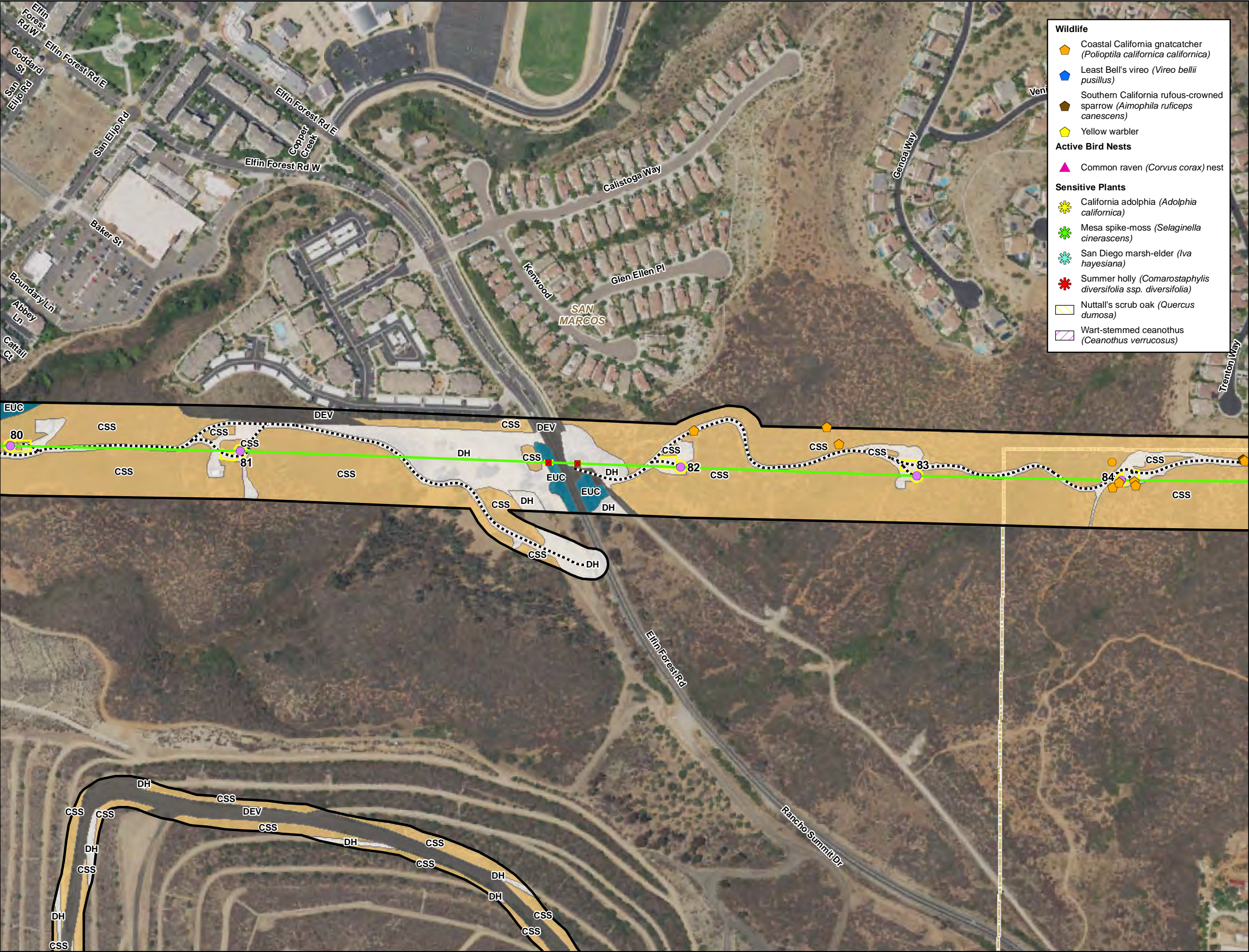
0 100 200 300 400 Feet

**Page 9**









TL6975 San Marcos to Escondido

Figure 4.4-2

Vegetation Communities and Special-Status Species

Legend

Project Structures

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Permanent Work Area or Grading Impacts

Temporary Work Area or Grading Impacts

Staging Yard

Survey Area

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

Vegetation Communities

CSS - Diegan Coastal Sage

DCSS - Diegan Coastal Sage Scrub -Disturbed

BCSS - Diegan Coastal Sage Scrub-Burned

SMC - Southern Maritime Chaparral

BSMC - Southern Maritime Chaparral -Burned

CS-CS - Coastal Sage-Chaparral Transition

NNG - Non-Native Grassland

CLOW - Coast Live Oak Woodland

DCLOW - Coast Live Oak Woodland -Disturbed

FWM - Coastal and Valley Freshwater Marsh

EMW - Emergent Wetlands

SRF - Southern Riparian Forest

SCLOWF - Southern Coast Live Oak Riparian Forest

MFS - Mule-Fat Scrub

SWS - Southern Willow Scrub

DSWS - Southern Willow Scrub-Disturbed

OW - Fresh Water

DH - Disturbed Habitat

DEV - Urban/Developed

ORCH - Orchard/Vineyard

AG - Intensive Agriculture

NNW - Non-Native Woodland

EUC - Eucalyptus Woodland

0100200300400

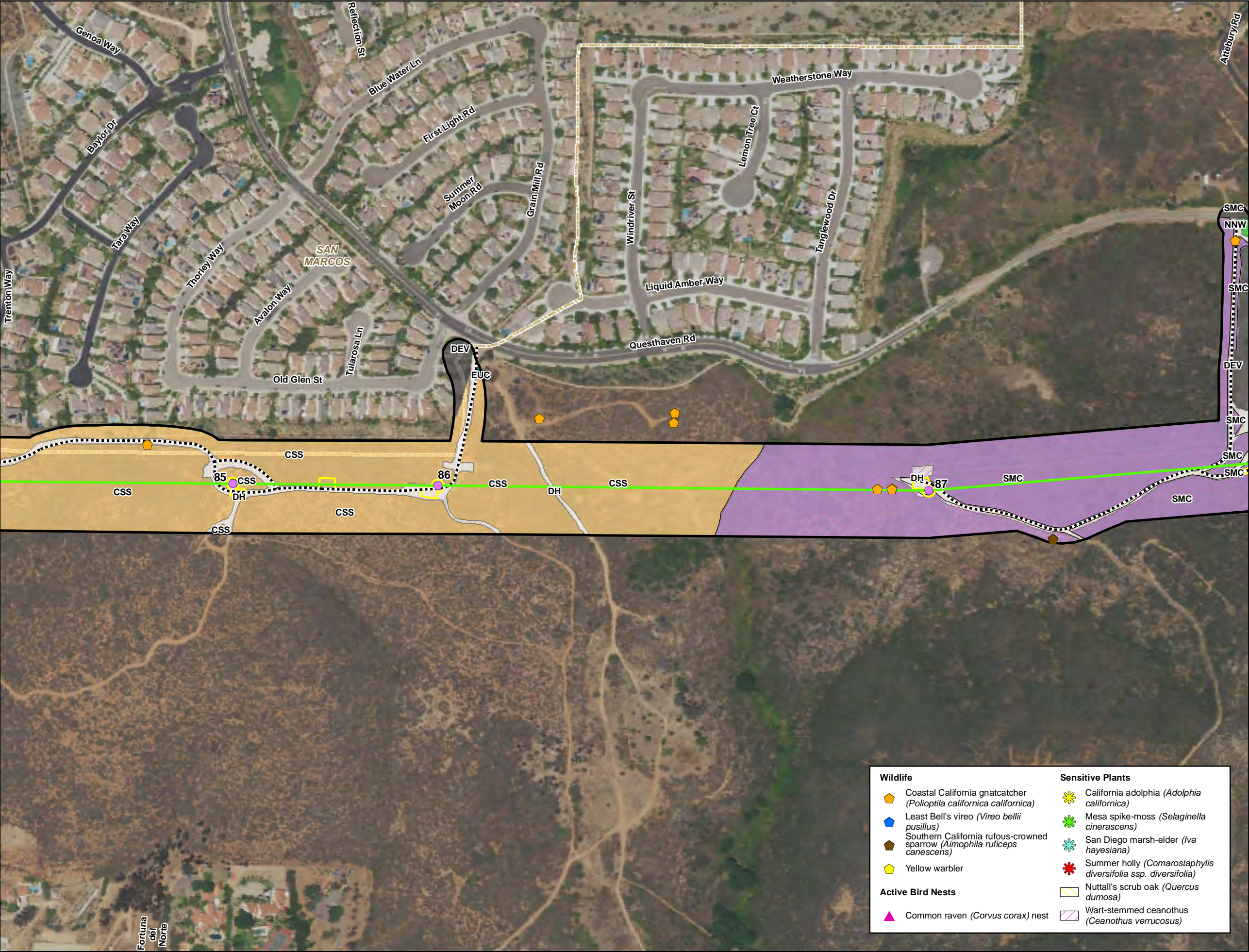
Feet

Page 10









TL6975 San Marcos to Escondido

Figure 4.4-2

Vegetation Communities and Special-Status Species

Legend

Project Structures

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Permanent Work Area or Grading Impacts

Temporary Work Area or Grading Impacts

Staging Yard

Survey Area

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

Vegetation Communities

CSS - Diegan Coastal Sage

DCSS - Diegan Coastal Sage Scrub -Disturbed

BCSS - Diegan Coastal Sage Scrub-Burned

SMC - Southern Maritime Chaparral

BSMC - Southern Maritime Chaparral -Burned

CS-CS - Coastal Sage-Chaparral Transition

NNG - Non-Native Grassland

CLOW - Coast Live Oak Woodland

DCLOW - Coast Live Oak Woodland -Disturbed

FWM - Coastal and Valley Freshwater Marsh

EMW - Emergent Wetlands

SRF - Southern Riparian Forest

SCLOWF - Southern Coast Live Oak Riparian Forest

MFS - Mule-Fat Scrub

SWS - Southern Willow Scrub

DSWS - Southern Willow Scrub-Disturbed

OW - Fresh Water

DH - Disturbed Habitat

DEV - Urban/Developed

ORCH - Orchard/Vineyard

AG - Intensive Agriculture

NNW - Non-Native Woodland

EUC - Eucalyptus Woodland

0

100

200

300

400

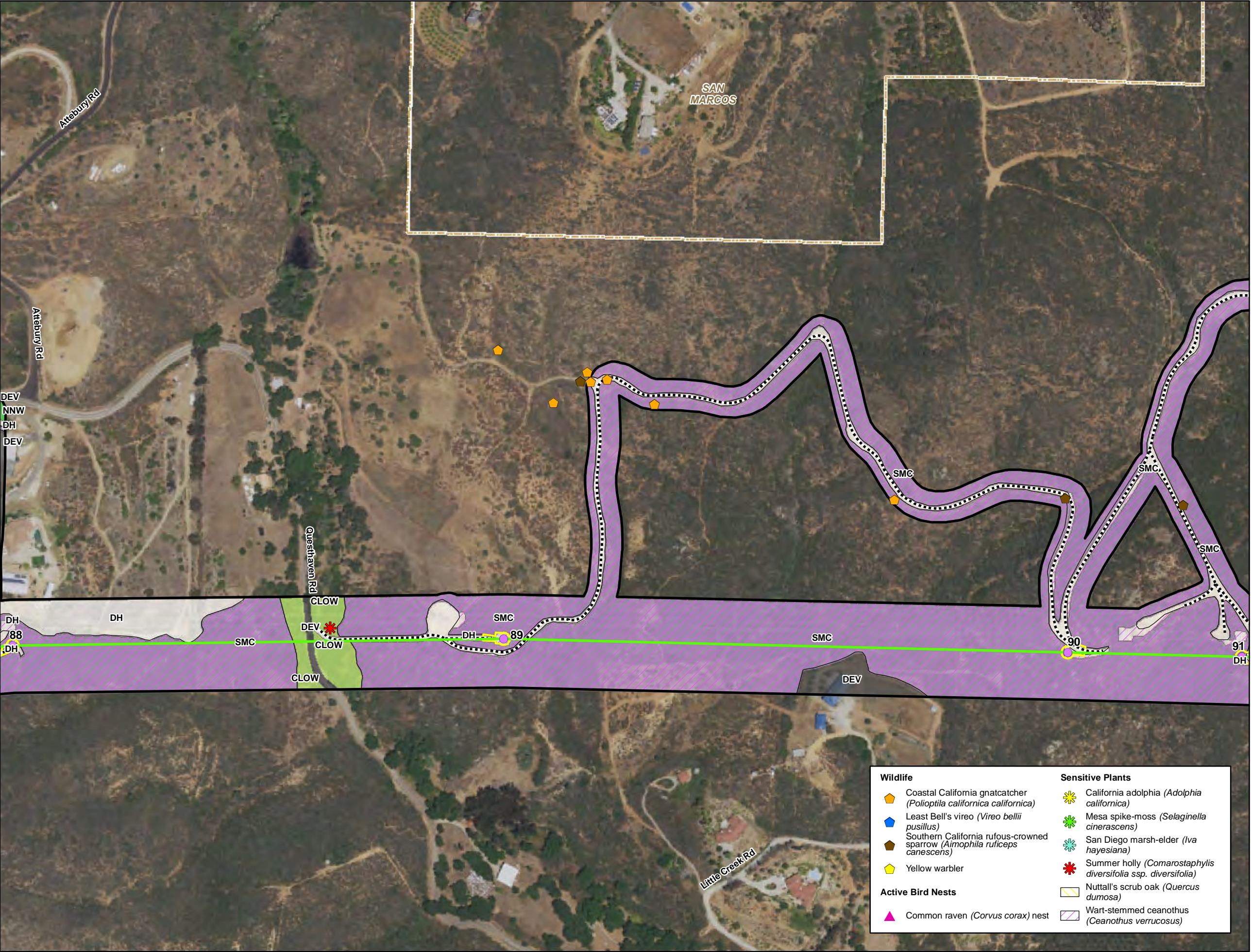
Feet

Page 11









TL6975 San Marcos to Escondido  
Figure 4.4-2  
Vegetation Communities  
and Special-Status Species

Legend

Project Structures

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Permanent Work Area or Grading Impacts

Temporary Work Area or Grading Impacts

Staging Yard

Survey Area

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

Vegetation Communities

CSS - Diegan Coastal Sage

DCSS - Diegan Coastal Sage Scrub -Disturbed

BCSS - Diegan Coastal Sage Scrub-Burned

SMC - Southern Maritime Chaparral

BSMC - Southern Maritime Chaparral -Burned

CS-CS - Coastal Sage-Chaparral Transition

NNG - Non-Native Grassland

CLOW - Coast Live Oak Woodland

DCLOW - Coast Live Oak Woodland -Disturbed

FWM - Coastal and Valley Freshwater Marsh

EMW - Emergent Wetlands

SRF - Southern Riparian Forest

SCLOWF - Southern Coast Live Oak Riparian Forest

MFS - Mule-Fat Scrub

SWS - Southern Willow Scrub

DSWS - Southern Willow Scrub-Disturbed

OW - Fresh Water

DH - Disturbed Habitat

DEV - Urban/Developed

ORCH - Orchard/Vineyard

AG - Intensive Agriculture

NNW - Non-Native Woodland

EUC - Eucalyptus Woodland

Wildlife

Coastal California gnatcatcher (*Polioptila californica californica*)

Least Bell's vireo (*Vireo bellii pusillus*)

Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)

Yellow warbler

Common raven (*Corvus corax*) nest

Sensitive Plants

California adolphia (*Adolphia californica*)

Mesa spike-moss (*Selaginella cinerascens*)

San Diego marsh-elder (*Iva hayesiana*)

Summer holly (*Comarostaphylis diversifolia ssp. diversifolia*)

Nuttall's scrub oak (*Quercus dumosa*)

Wart-stemmed ceanothus (*Ceanothus verrucosus*)

0 100 200 300 400

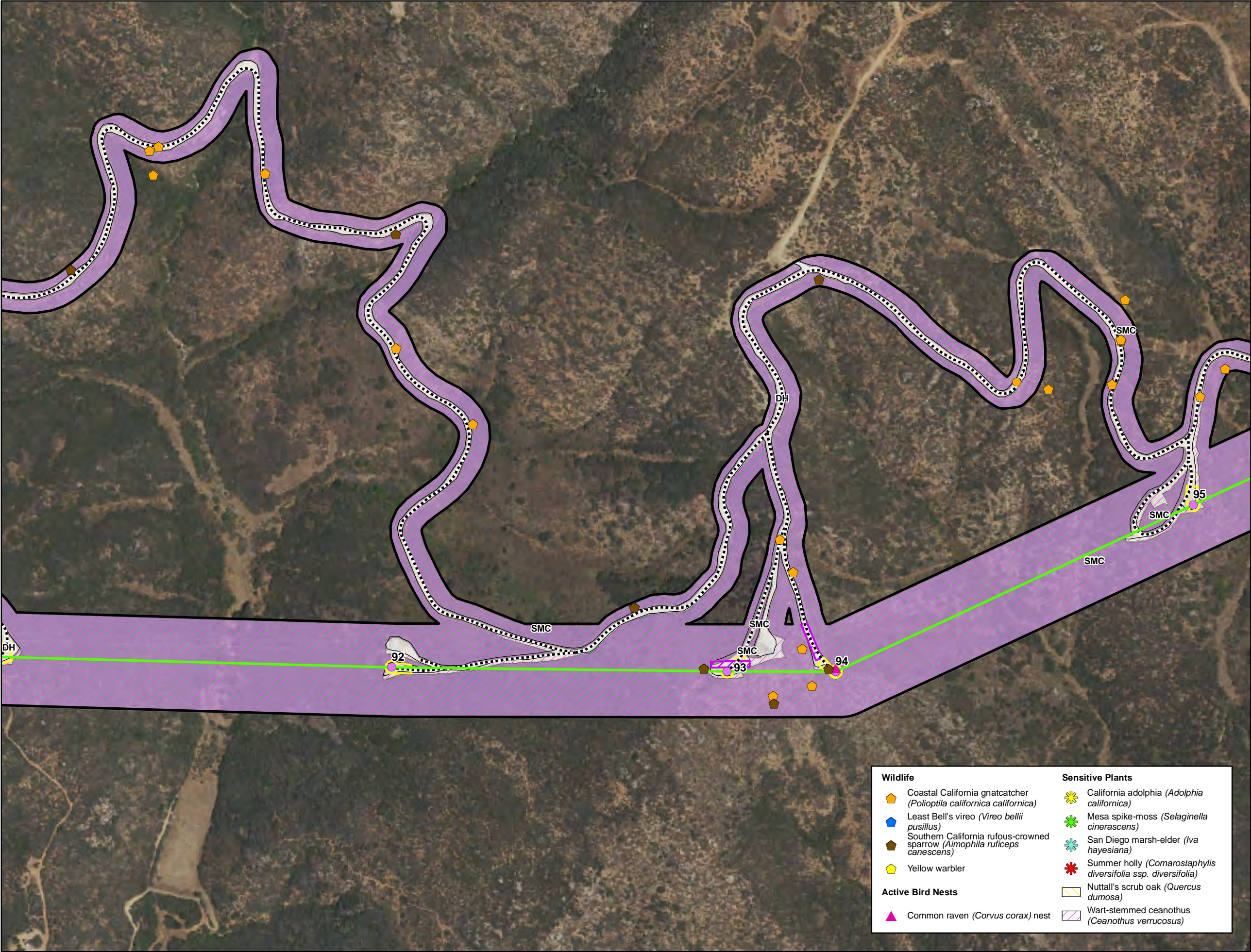
Feet

Page 12









TL6975 San Marcos to Escondido

Figure 4.4-2

Vegetation Communities and Special-Status Species

Legend

Project Structures

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Permanent Work Area or Grading Impacts

Temporary Work Area or Grading Impacts

Staging Yard

Survey Area

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

Vegetation Communities

CSS - Diegan Coastal Sage

DCSS - Diegan Coastal Sage Scrub -Disturbed

BCSS - Diegan Coastal Sage Scrub-Burned

SMC - Southern Maritime Chaparral

BSMC - Southern Maritime Chaparral -Burned

CS-CS - Coastal Sage-Chaparral Transition

NNG - Non-Native Grassland

CLOW - Coast Live Oak Woodland

DCLOW - Coast Live Oak Woodland -Disturbed

FWM - Coastal and Valley Freshwater Marsh

EMW - Emergent Wetlands

SRF - Southern Riparian Forest

SCLOWF - Southern Coast Live Oak Riparian Forest

MFS - Mule-Fat Scrub

SWS - Southern Willow Scrub

DSWS - Southern Willow Scrub-Disturbed

OW - Fresh Water

DH - Disturbed Habitat

DEV - Urban/Developed

ORCH - Orchard/Vineyard

AG - Intensive Agriculture

NNW - Non-Native Woodland

EUC - Eucalyptus Woodland

0

100

200

300

400

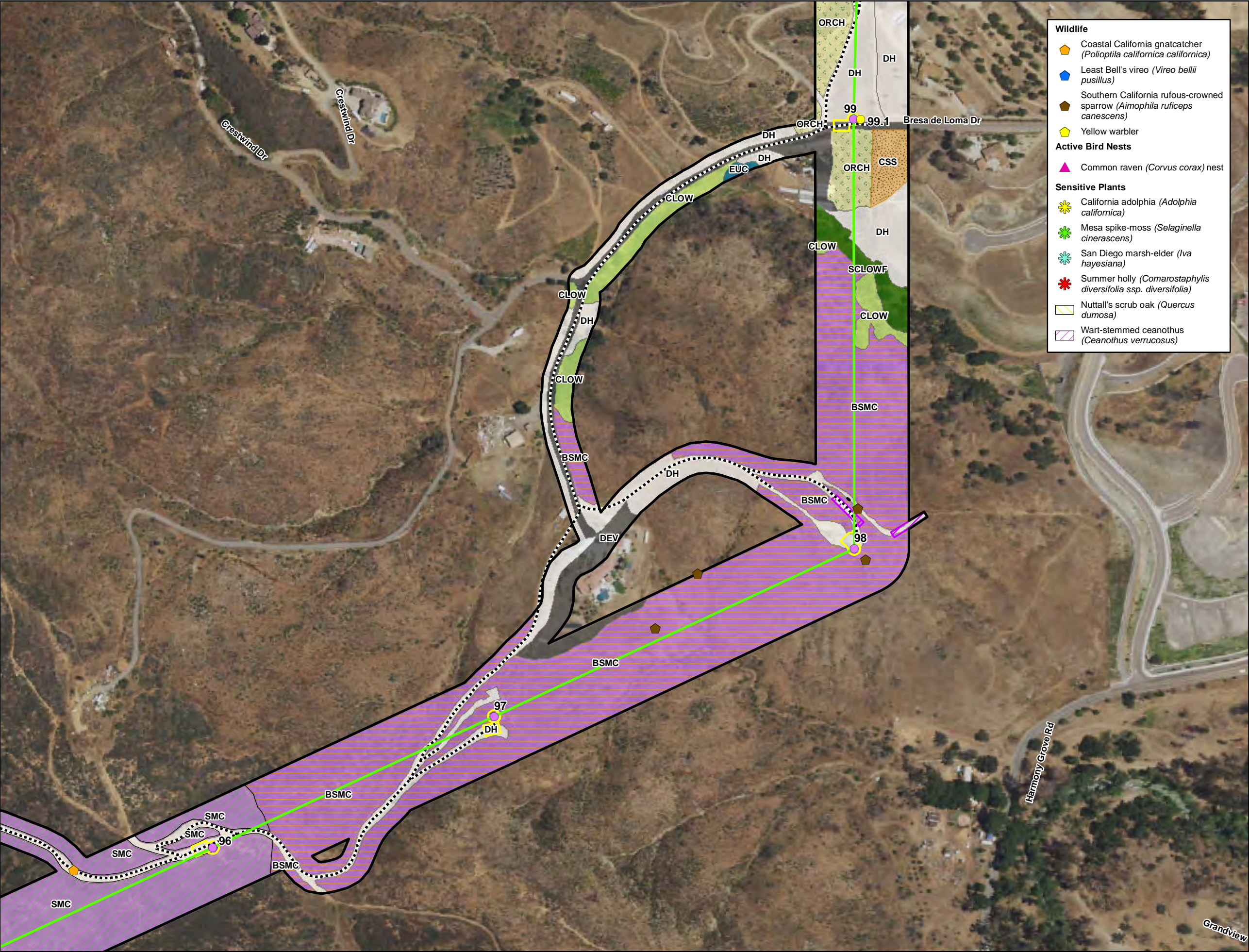
Feet

Page 13









TL6975 San Marcos to Escondido

Figure 4.4-2

Vegetation Communities and Special-Status Species

Legend

Project Structures

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Permanent Work Area or Grading Impacts

Temporary Work Area or Grading Impacts

Staging Yard

Survey Area

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

Vegetation Communities

CSS - Diegan Coastal Sage

DCSS - Diegan Coastal Sage Scrub -Disturbed

BCSS - Diegan Coastal Sage Scrub-Burned

SMC - Southern Maritime Chaparral

BSMC - Southern Maritime Chaparral -Burned

CS-CS - Coastal Sage-Chaparral Transition

NNG - Non-Native Grassland

CLOW - Coast Live Oak Woodland

DCLOW - Coast Live Oak Woodland -Disturbed

FWM - Coastal and Valley Freshwater Marsh

EMW - Emergent Wetlands

SRF - Southern Riparian Forest

SCLOWF - Southern Coast Live Oak Riparian Forest

MFS - Mule-Fat Scrub

SWS - Southern Willow Scrub

DSWS - Southern Willow Scrub-Disturbed

OW - Fresh Water

DH - Disturbed Habitat

DEV - Urban/Developed

ORCH - Orchard/Vineyard

AG - Intensive Agriculture

NNW - Non-Native Woodland

EUC - Eucalyptus Woodland

0

100

200

300

400

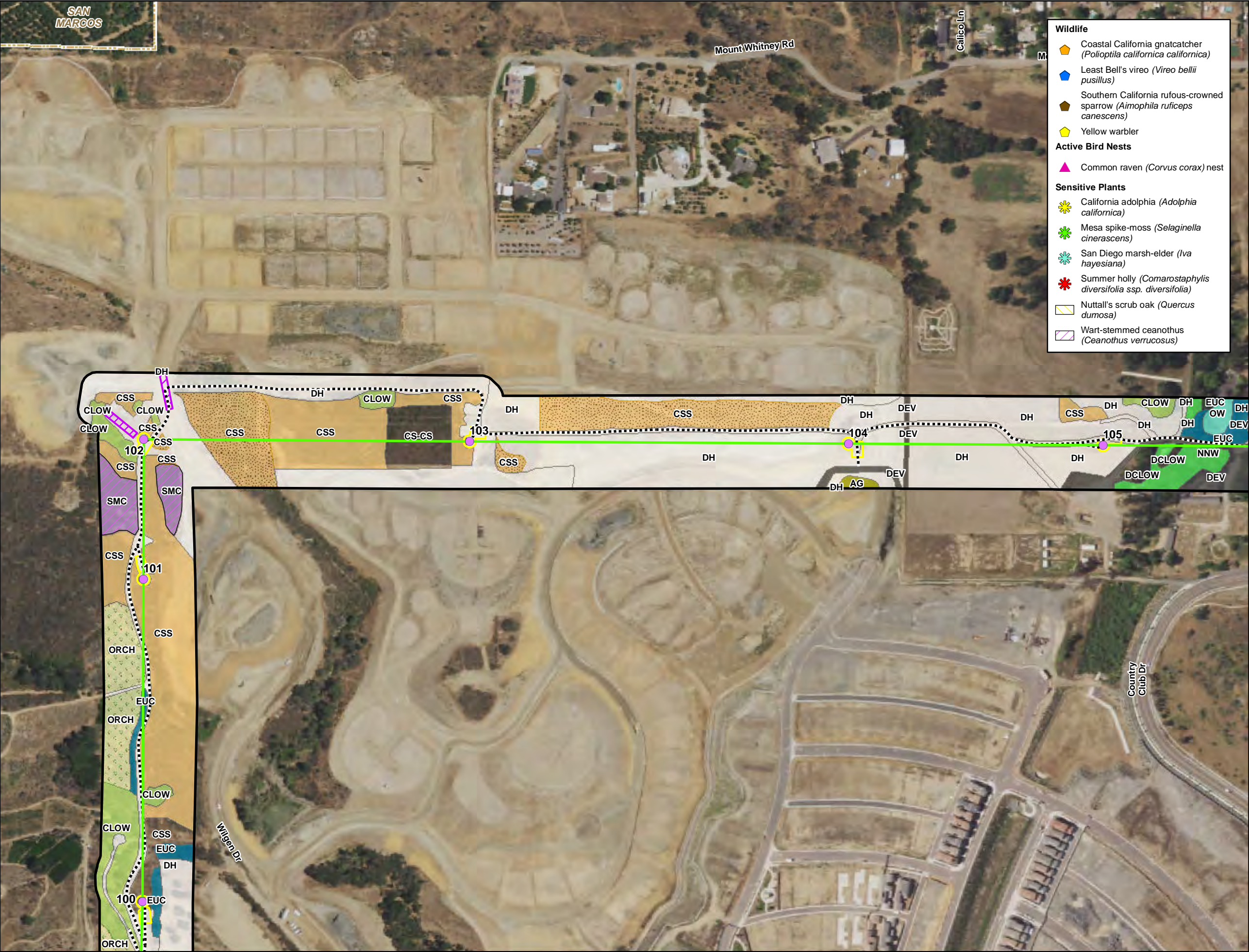
Feet

Page 14









- Wildlife**
- Coastal California gnatcatcher (*Polioptila californica californica*)
  - Least Bell's vireo (*Vireo bellii pusillus*)
  - Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)
  - Yellow warbler
- Active Bird Nests**
- Common raven (*Corvus corax*) nest
- Sensitive Plants**
- California adolphia (*Adolphia californica*)
  - Mesa spike-moss (*Selaginella cinerascens*)
  - San Diego marsh-elder (*Iva hayesiana*)
  - Summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*)
  - Nuttall's scrub oak (*Quercus dumosa*)
  - Wart-stemmed ceanothus (*Ceanothus verrucosus*)

TL6975 San Marcos to Escondido

Figure 4.4-2

Vegetation Communities and Special-Status Species

Legend

Project Structures

●

 Replace existing with pier foundation

●

 New pier foundation

●

 Replace existing with direct bury

●

 New direct bury

●

 Overhead Work

●

 Overhead work / anchor work

○

 Existing structure re-energize conductors

●

 No work / information only

●

 Remove From Service

■

 Rack

■

 Guard Structures

Project Alignment

—

 Segment 1 - Rebuild

—

 Segment 2 - New Build

—

 Segment 3 - Reconductor

Project Features

-----

 Existing Access Road

-----

 New Access Road

-----

 Distribution Trench

▨

 Stringing Site

▨

 Permanent Work Area or Grading Impacts

▨

 Temporary Work Area or Grading Impacts

▨

 Staging Yard

▨

 Survey Area

General Features

—

 Interstate

—

 State Highway

—

 Railroad

▨

 Existing Substation

▨

 City Boundary

Vegetation Communities

▨

 CSS - Diegan Coastal Sage

▨

 DCSS - Diegan Coastal Sage Scrub -Disturbed

▨

 BCSS - Diegan Coastal Sage Scrub-Burned

▨

 SMC - Southern Maritime Chaparral

▨

 BSMC - Southern Maritime Chaparral -Burned

▨

 CS-CS - Coastal Sage-Chaparral Transition

▨

 NNG - Non-Native Grassland

▨

 CLOW - Coast Live Oak Woodland

▨

 DCLOW - Coast Live Oak Woodland -Disturbed

▨

 FWM - Coastal and Valley Freshwater Marsh

▨

 EMW - Emergent Wetlands

▨

 SRF - Southern Riparian Forest

▨

 SCLOWF - Southern Coast Live Oak Riparian Forest

▨

 MFS - Mule-Fat Scrub

▨

 SWS - Southern Willow Scrub

▨

 DSWS - Southern Willow Scrub-Disturbed

▨

 OW - Fresh Water

▨

 DH - Disturbed Habitat

▨

 DEV - Urban/Developed

▨

 ORCH - Orchard/Vineyard

▨

 AG - Intensive Agriculture

▨

 NNW - Non-Native Woodland

▨

 EUC - Eucalyptus Woodland

0 100 200 300 400

Feet

Page 15









- Wildlife**
- Coastal California gnatcatcher (*Polioptila californica californica*)
  - Least Bell's vireo (*Vireo bellii pusillus*)
  - Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)
  - Yellow warbler
- Active Bird Nests**
- Common raven (*Corvus corax*) nest
- Sensitive Plants**
- California adolphia (*Adolphia californica*)
  - Mesa spike-moss (*Selaginella cinerascens*)
  - San Diego marsh-elder (*Iva hayesiana*)
  - Summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*)
  - Nuttall's scrub oak (*Quercus dumosa*)
  - Wart-stemmed ceanothus (*Ceanothus verrucosus*)

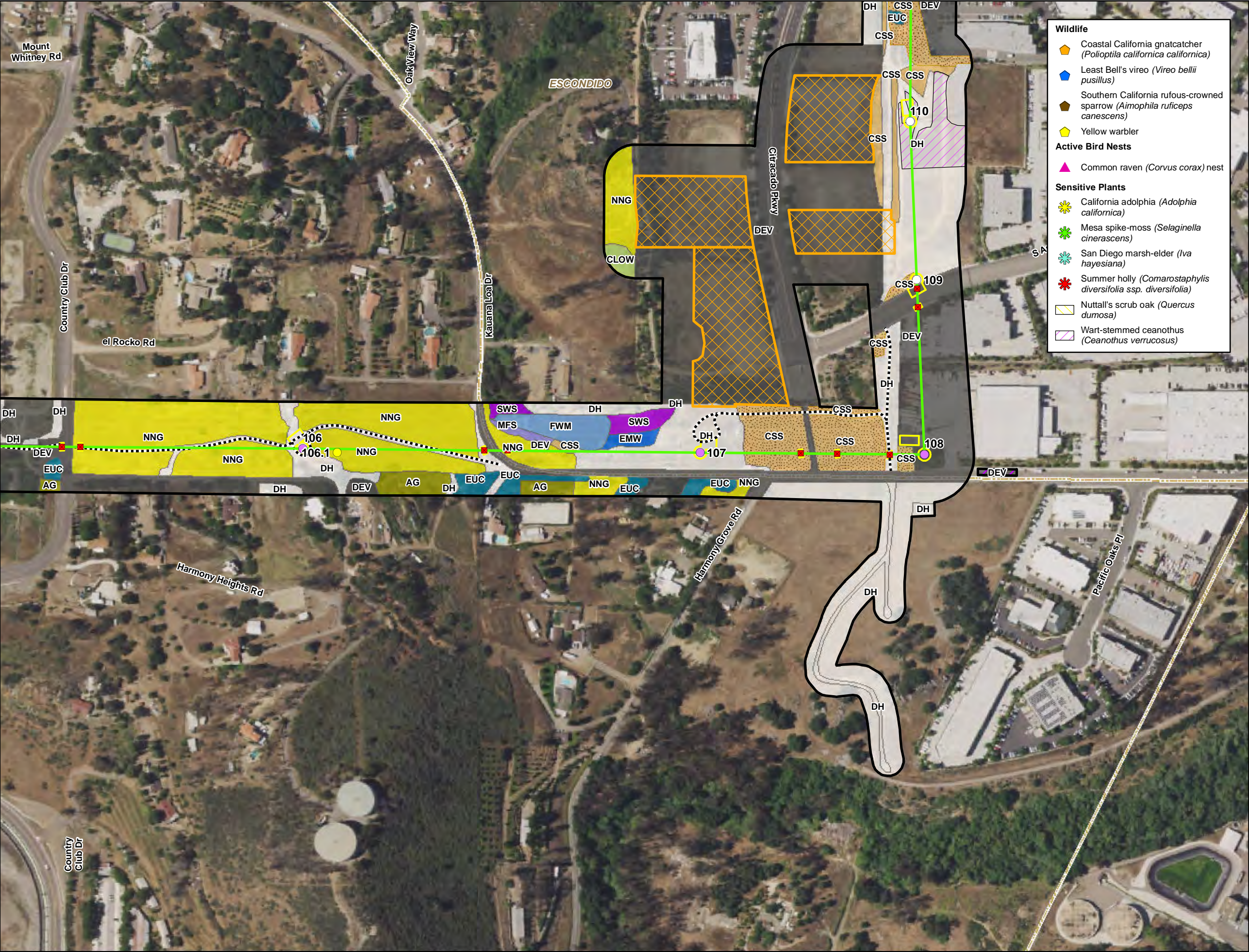
**TL6975 San Marcos to Escondido**  
**Figure 4.4-2**  
**Vegetation Communities**  
**and Special-Status Species**

- Legend**
- Project Structures**
- Replace existing with pier foundation
  - New pier foundation
  - Replace existing with direct bury
  - New direct bury
  - Overhead Work
  - Overhead work / anchor work
  - Existing structure re-energize conductors
  - No work / information only
  - Remove From Service
  - Rack
  - Guard Structures
- Project Alignment**
- Segment 1 - Rebuild
  - Segment 2 - New Build
  - Segment 3 - Reconductor
- Project Features**
- Existing Access Road
  - New Access Road
  - Distribution Trench
  - Stringing Site
  - Permanent Work Area or Grading Impacts
  - Temporary Work Area or Grading Impacts
  - Staging Yard
  - Survey Area
- General Features**
- Interstate
  - State Highway
  - Railroad
  - Existing Substation
  - City Boundary
- Vegetation Communities**
- CSS - Diegan Coastal Sage
  - DCSS - Diegan Coastal Sage Scrub -Disturbed
  - BCSS - Diegan Coastal Sage Scrub-Burned
  - SMC - Southern Maritime Chaparral
  - BSMC - Southern Maritime Chaparral -Burned
  - CS-CS - Coastal Sage-Chaparral Transition
  - NNG - Non-Native Grassland
  - CLOW - Coast Live Oak Woodland
  - DCLOW - Coast Live Oak Woodland -Disturbed
  - FWM - Coastal and Valley Freshwater Marsh
  - EMW - Emergent Wetlands
  - SRF - Southern Riparian Forest
  - SCLOWF - Southern Coast Live Oak Riparian Forest
  - MFS - Mule-Fat Scrub
  - SWS - Southern Willow Scrub
  - DSWS - Southern Willow Scrub-Disturbed
  - OW - Fresh Water
  - DH - Disturbed Habitat
  - DEV - Urban/Developed
  - ORCH - Orchard/Vineyard
  - AG - Intensive Agriculture
  - NNW - Non-Native Woodland
  - EUC - Eucalyptus Woodland









TL6975 San Marcos to Escondido

Figure 4.4-2

Vegetation Communities and Special-Status Species

Legend

Project Structures

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Permanent Work Area or Grading Impacts

Temporary Work Area or Grading Impacts

Staging Yard

Survey Area

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

Vegetation Communities

CSS - Diegan Coastal Sage

DCSS - Diegan Coastal Sage Scrub -Disturbed

BCSS - Diegan Coastal Sage Scrub-Burned

SMC - Southern Maritime Chaparral

BSMC - Southern Maritime Chaparral -Burned

CS-CS - Coastal Sage-Chaparral Transition

NNG - Non-Native Grassland

CLOW - Coast Live Oak Woodland

DCLOW - Coast Live Oak Woodland -Disturbed

FWM - Coastal and Valley Freshwater Marsh

EMW - Emergent Wetlands

SRF - Southern Riparian Forest

SCLOWF - Southern Coast Live Oak Riparian Forest

MFS - Mule-Fat Scrub

SWS - Southern Willow Scrub

DSWS - Southern Willow Scrub-Disturbed

OW - Fresh Water

DH - Disturbed Habitat

DEV - Urban/Developed

ORCH - Orchard/Vineyard

AG - Intensive Agriculture

NNW - Non-Native Woodland

EUC - Eucalyptus Woodland

Wildlife

Coastal California gnatcatcher (*Polioptila californica californica*)

Least Bell's vireo (*Vireo bellii pusillus*)

Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)

Yellow warbler

Active Bird Nests

Common raven (*Corvus corax*) nest

Sensitive Plants

California adolphia (*Adolphia californica*)

Mesa spike-moss (*Selaginella cinerascens*)

San Diego marsh-elder (*Iva hayesiana*)

Summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*)

Nuttall's scrub oak (*Quercus dumosa*)

Wart-stemmed ceanothus (*Ceanothus verrucosus*)

0 100 200 300 400

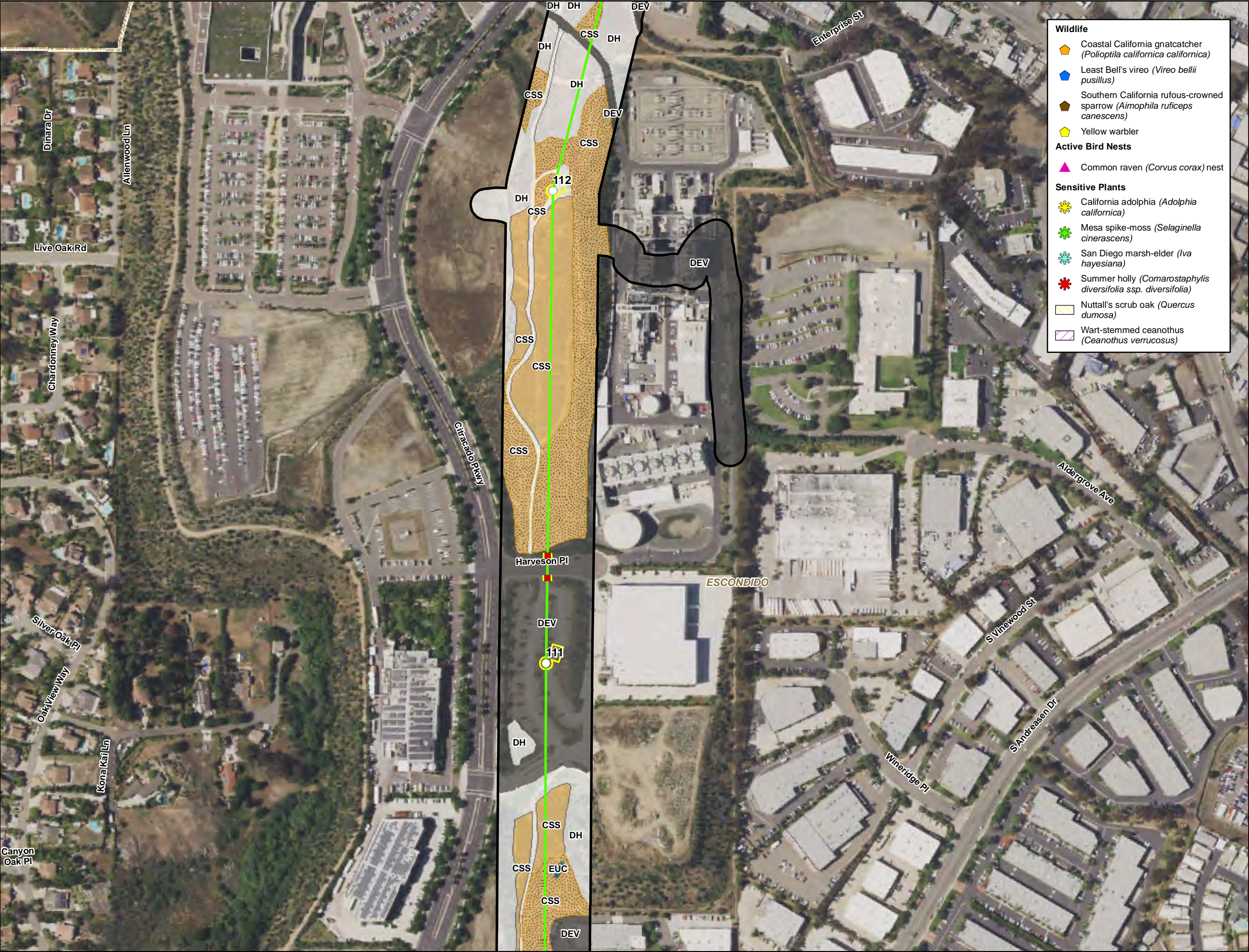
Feet

Page 17









TL6975 San Marcos to Escondido

Figure 4.4-2

Vegetation Communities and Special-Status Species

Legend

Project Structures

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Permanent Work Area or Grading Impacts

Temporary Work Area or Grading Impacts

Staging Yard

Survey Area

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

Vegetation Communities

CSS - Diegan Coastal Sage

DCSS - Diegan Coastal Sage Scrub -Disturbed

BCSS - Diegan Coastal Sage Scrub-Burned

SMC - Southern Maritime Chaparral

BSMC - Southern Maritime Chaparral -Burned

CS-CS - Coastal Sage-Chaparral Transition

NNG - Non-Native Grassland

CLOW - Coast Live Oak Woodland

DCLOW - Coast Live Oak Woodland -Disturbed

FWM - Coastal and Valley Freshwater Marsh

EMW - Emergent Wetlands

SRF - Southern Riparian Forest

SCLOWF - Southern Coast Live Oak Riparian Forest

MFS - Mule-Fat Scrub

SWS - Southern Willow Scrub

DSWS - Southern Willow Scrub-Disturbed

OW - Fresh Water

DH - Disturbed Habitat

DEV - Urban/Developed

ORCH - Orchard/Vineyard

AG - Intensive Agriculture

NNW - Non-Native Woodland

EUC - Eucalyptus Woodland

0100200300400

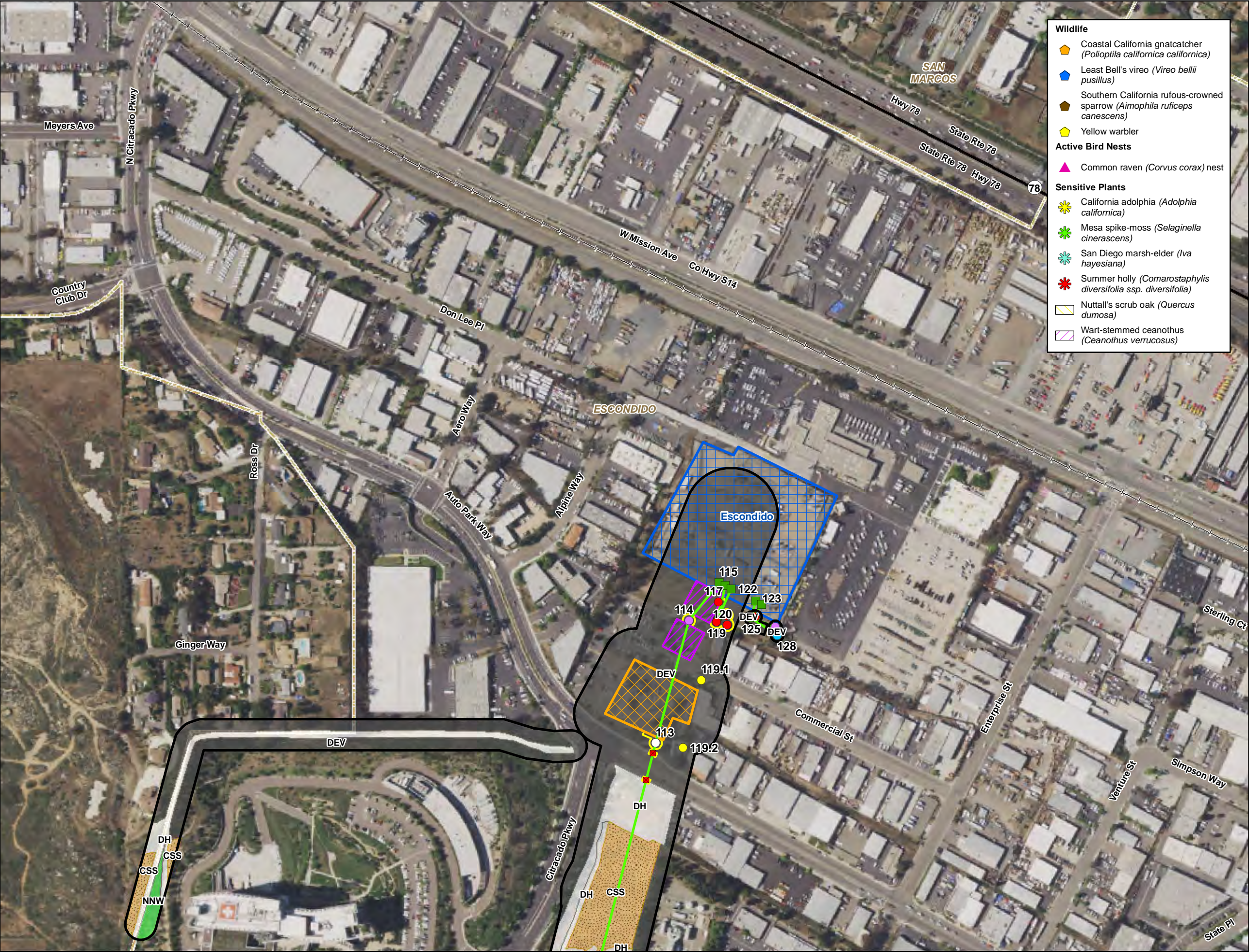
Feet

Page 18









- Wildlife**
- Coastal California gnatcatcher (*Polioptila californica californica*)
  - Least Bell's vireo (*Vireo bellii pusillus*)
  - Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)
  - Yellow warbler
- Active Bird Nests**
- Common raven (*Corvus corax*) nest
- Sensitive Plants**
- California adolphia (*Adolphia californica*)
  - Mesa spike-moss (*Selaginella cinerascens*)
  - San Diego marsh-elder (*Iva hayesiana*)
  - Summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*)
  - Nuttall's scrub oak (*Quercus dumosa*)
  - Wart-stemmed ceanothus (*Ceanothus verrucosus*)

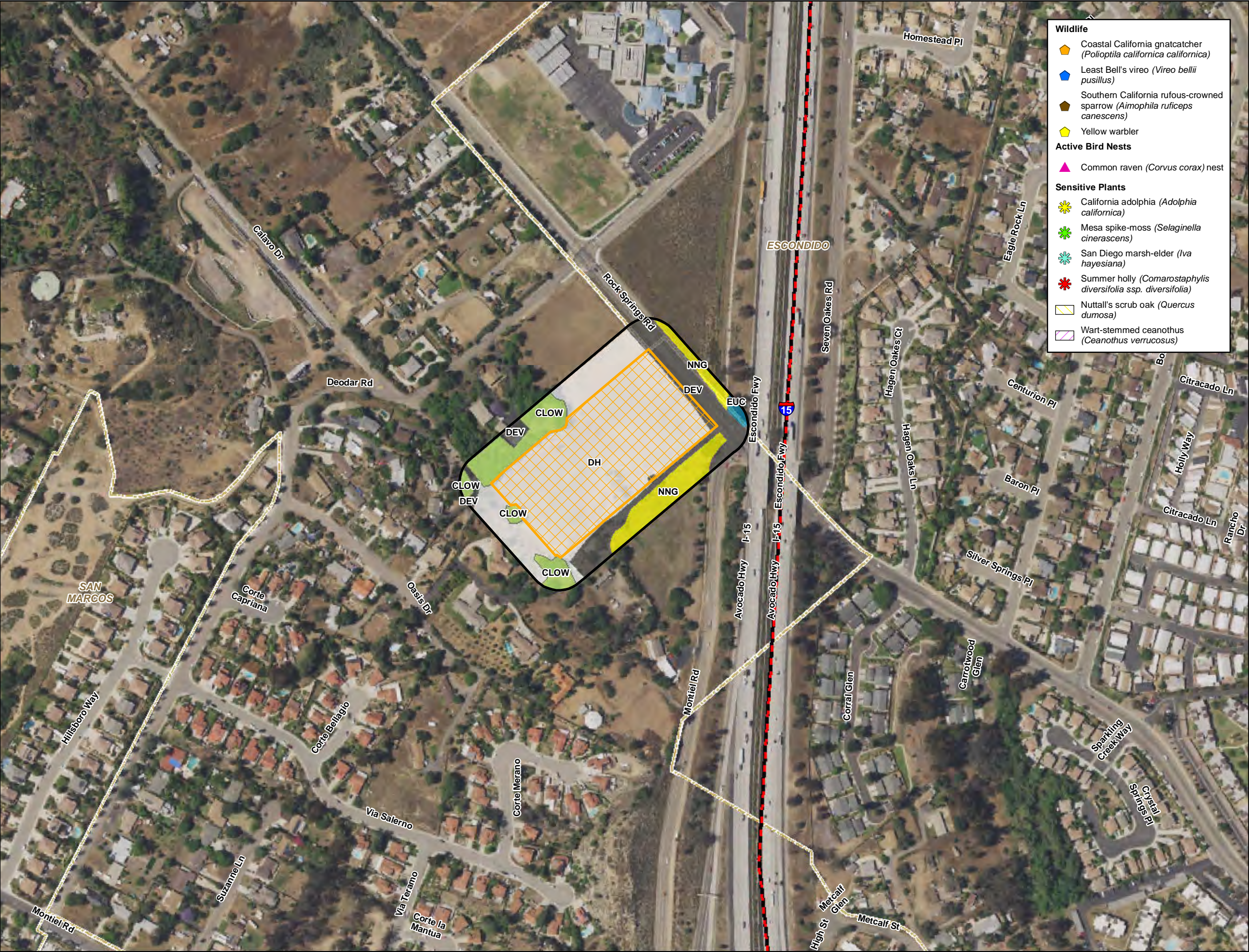
TL6975 San Marcos to Escondido  
Figure 4.4-2  
Vegetation Communities  
and Special-Status Species

- Legend**
- Project Structures**
- Replace existing with pier foundation
  - New pier foundation
  - Replace existing with direct bury
  - New direct bury
  - Overhead Work
  - Overhead work / anchor work
  - Existing structure re-energize conductors
  - No work / information only
  - Remove From Service
  - Rack
  - Guard Structures
- Project Alignment**
- Segment 1 - Rebuild
  - Segment 2 - New Build
  - Segment 3 - Reconductor
- Project Features**
- Existing Access Road
  - New Access Road
  - Distribution Trench
  - Stringing Site
  - Permanent Work Area or Grading Impacts
  - Temporary Work Area or Grading Impacts
  - Staging Yard
  - Survey Area
- General Features**
- Interstate
  - State Highway
  - Railroad
  - Existing Substation
  - City Boundary
- Vegetation Communities**
- CSS - Diegan Coastal Sage
  - DCSS - Diegan Coastal Sage Scrub -Disturbed
  - BCSS - Diegan Coastal Sage Scrub-Burned
  - SMC - Southern Maritime Chaparral
  - BSMC - Southern Maritime Chaparral -Burned
  - CS-CS - Coastal Sage-Chaparral Transition
  - NNG - Non-Native Grassland
  - CLOW - Coast Live Oak Woodland
  - DCLOW - Coast Live Oak Woodland -Disturbed
  - FWM - Coastal and Valley Freshwater Marsh
  - EMW - Emergent Wetlands
  - SRF - Southern Riparian Forest
  - SCLOWF - Southern Coast Live Oak Riparian Forest
  - MFS - Mule-Fat Scrub
  - SWS - Southern Willow Scrub
  - DSWS - Southern Willow Scrub-Disturbed
  - OW - Fresh Water
  - DH - Disturbed Habitat
  - DEV - Urban/Developed
  - ORCH - Orchard/Vineyard
  - AG - Intensive Agriculture
  - NNW - Non-Native Woodland
  - EUC - Eucalyptus Woodland









- Wildlife**
- Coastal California gnatcatcher (*Poliopitila californica californica*)
  - Least Bell's vireo (*Vireo bellii pusillus*)
  - Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)
  - Yellow warbler
- Active Bird Nests**
- Common raven (*Corvus corax*) nest
- Sensitive Plants**
- California adolphia (*Adolphia californica*)
  - Mesa spike-moss (*Selaginella cinerascens*)
  - San Diego marsh-elder (*Iva hayesiana*)
  - Summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*)
  - Nuttall's scrub oak (*Quercus dumosa*)
  - Wart-stemmed ceanothus (*Ceanothus verrucosus*)

TL6975 San Marcos to Escondido  
Figure 4.4-2  
Vegetation Communities  
and Special-Status Species

**Legend**

**Project Structures**

- Replace existing with pier foundation
- New pier foundation
- Replace existing with direct bury
- New direct bury
- Overhead Work
- Overhead work / anchor work
- Existing structure re-energize conductors
- No work / information only
- Remove From Service
- Rack
- Guard Structures

**Project Alignment**

- Segment 1 - Rebuild
- Segment 2 - New Build
- Segment 3 - Reconductor

**Project Features**

- Existing Access Road
- New Access Road
- Distribution Trench
- Stringing Site
- Permanent Work Area or Grading Impacts
- Temporary Work Area or Grading Impacts
- Staging Yard
- Survey Area

**General Features**

- Interstate
- State Highway
- Railroad
- Existing Substation
- City Boundary

**Vegetation Communities**

- CSS - Diegan Coastal Sage
- DCSS - Diegan Coastal Sage Scrub -Disturbed
- BCSS - Diegan Coastal Sage Scrub-Burned
- SMC - Southern Maritime Chaparral
- BSMC - Southern Maritime Chaparral -Burned
- CS-CS - Coastal Sage-Chaparral Transition
- NNG - Non-Native Grassland
- CLOW - Coast Live Oak Woodland
- DCLOW - Coast Live Oak Woodland -Disturbed
- FWM - Coastal and Valley Freshwater Marsh
- EMW - Emergent Wetlands
- SRF - Southern Riparian Forest
- SCLOWF - Southern Coast Live Oak Riparian Forest
- MFS - Mule-Fat Scrub
- SWS - Southern Willow Scrub
- DSWS - Southern Willow Scrub-Disturbed
- OW - Fresh Water
- DH - Disturbed Habitat
- DEV - Urban/Developed
- ORCH - Orchard/Vineyard
- AG - Intensive Agriculture
- NNW - Non-Native Woodland
- EUC - Eucalyptus Woodland

0 100 200 300 400  
Feet

**Page 20**









**Wildlife**

- Coastal California gnatcatcher (*Polioptila californica californica*)
- Least Bell's vireo (*Vireo bellii pusillus*)
- Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)
- Yellow warbler

**Active Bird Nests**

- Common raven (*Corvus corax*) nest

**Sensitive Plants**

- California adolphia (*Adolphia californica*)
- Mesa spike-moss (*Selaginella cinerascens*)
- San Diego marsh-elder (*Iva hayesiana*)
- Summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*)
- Nuttall's scrub oak (*Quercus dumosa*)
- Wart-stemmed ceanothus (*Ceanothus verrucosus*)

**TL6975 San Marcos to Escondido**  
**Figure 4.4-2**  
**Vegetation Communities**  
**and Special-Status Species**

**Legend**

**Project Structures**

- Replace existing with pier foundation
- New pier foundation
- Replace existing with direct bury
- New direct bury
- Overhead Work
- Overhead work / anchor work
- Existing structure re-energize conductors
- No work / information only
- Remove From Service
- Rack
- Guard Structures

**Project Alignment**

- Segment 1 - Rebuild
- Segment 2 - New Build
- Segment 3 - Reconductor

**Project Features**

- Existing Access Road
- New Access Road
- Distribution Trench
- Stringing Site
- Permanent Work Area or Grading Impacts
- Temporary Work Area or Grading Impacts
- Staging Yard
- Survey Area

**General Features**

- Interstate
- State Highway
- Railroad
- Existing Substation
- City Boundary

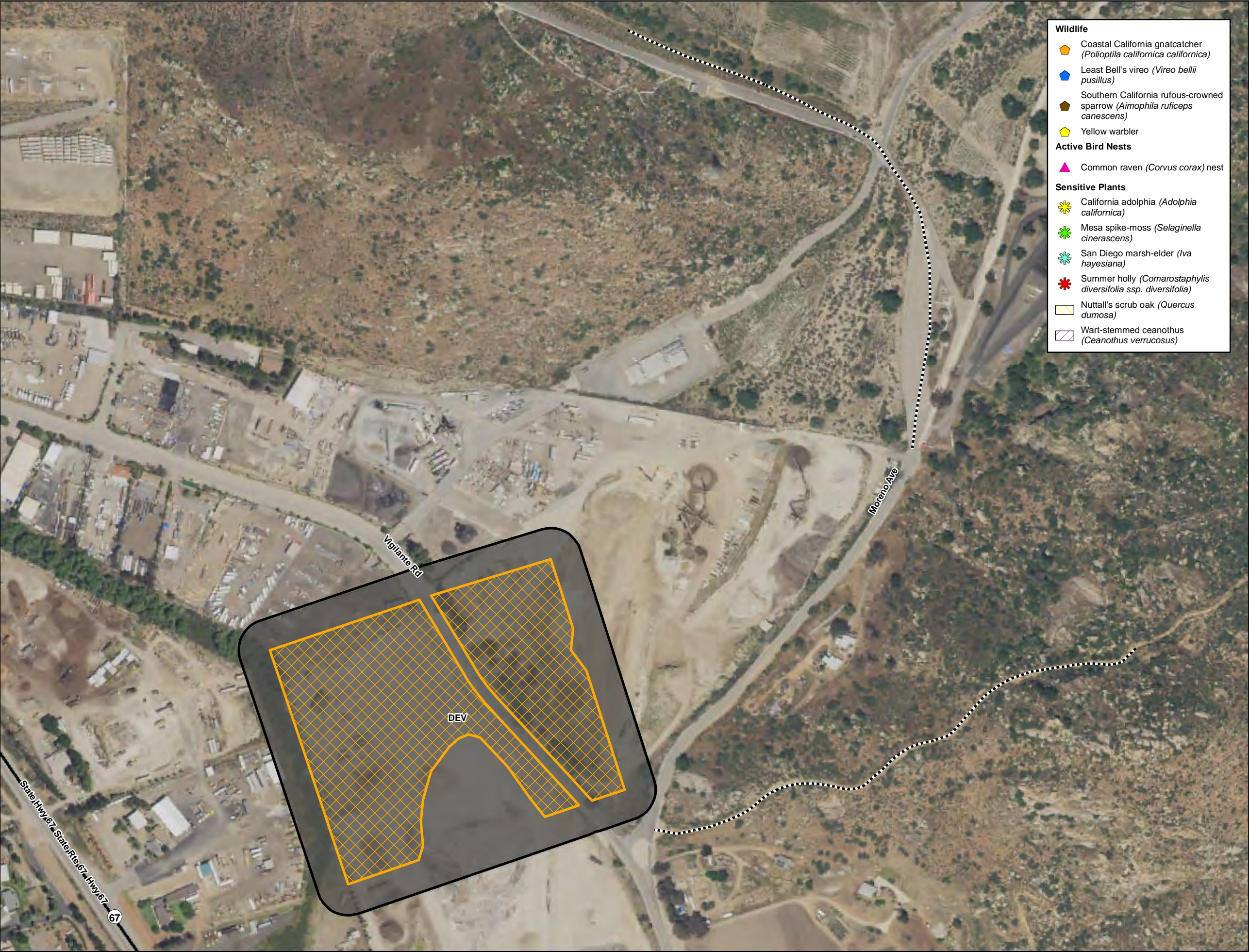
**Vegetation Communities**

- CSS - Diegan Coastal Sage
- DCSS - Diegan Coastal Sage Scrub -Disturbed
- BCSS - Diegan Coastal Sage Scrub-Burned
- SMC - Southern Maritime Chaparral
- BSMC - Southern Maritime Chaparral -Burned
- CS-CS - Coastal Sage-Chaparral Transition
- NNG - Non-Native Grassland
- CLOW - Coast Live Oak Woodland
- DCLOW - Coast Live Oak Woodland -Disturbed
- FWM - Coastal and Valley Freshwater Marsh
- EMW - Emergent Wetlands
- SRF - Southern Riparian Forest
- SCLOWF - Southern Coast Live Oak Riparian Forest
- MFS - Mule-Fat Scrub
- SWS - Southern Willow Scrub
- DSWS - Southern Willow Scrub-Disturbed
- OW - Fresh Water
- DH - Disturbed Habitat
- DEV - Urban/Developed
- ORCH - Orchard/Vineyard
- AG - Intensive Agriculture
- NNW - Non-Native Woodland
- EUC - Eucalyptus Woodland









**Wildlife**

Coastal California gnatcatcher  
(*Polioptila californica californica*)

Least Bell's vireo (*Vireo bellii pusillus*)

Southern California rufous-crowned  
sparrow (*Aimophila ruficeps canescens*)

Yellow warbler

**Active Bird Nests**

Common raven (*Corvus corax*) nest

**Sensitive Plants**

California adolphia (*Adolphia californica*)

Mesa spike-moss (*Selaginella cinerascens*)

San Diego marsh-elder (*Iva hayesiana*)

Summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*)

Nuttall's scrub oak (*Quercus dumosa*)

Wart-stemmed ceanothus (*Ceanothus verrucosus*)

TL6975 San Marcos to Escondido  
Figure 4.4-2  
Vegetation Communities  
and Special-Status Species

**Legend**

**Project Structures**

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

**Project Alignment**

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

**Project Features**

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Permanent Work Area or Grading Impacts

Temporary Work Area or Grading Impacts

Staging Yard

Survey Area

**General Features**

Interstate

State Highway

Railroad

Existing Substation

City Boundary

**Vegetation Communities**

CSS - Diegan Coastal Sage

DCSS - Diegan Coastal Sage Scrub  
-Disturbed

BCSS - Diegan Coastal Sage Scrub-Burned

SMC - Southern Maritime Chaparral

BSMC - Southern Maritime Chaparral  
-Burned

CS-CS - Coastal Sage-Chaparral Transition

NNG - Non-Native Grassland

CLOW - Coast Live Oak Woodland

DCLOW - Coast Live Oak Woodland  
-Disturbed

FWM - Coastal and Valley Freshwater Marsh

EMW - Emergent Wetlands

SRF - Southern Riparian Forest

SCLOWF - Southern Coast Live Oak  
Riparian Forest

MFS - Mule-Fat Scrub

SWS - Southern Willow Scrub

DSWS - Southern Willow Scrub-Disturbed

OW - Fresh Water

DH - Disturbed Habitat

DEV - Urban/Developed

ORCH - Orchard/Vineyard

AG - Intensive Agriculture

NNW - Non-Native Woodland

EUC - Eucalyptus Woodland

0100200300400

Feet

Page 22





## Table of Contents

<b>4.5</b>	<b>Cultural Resources.....</b>	<b>4.5-1</b>
4.5.1	Introduction.....	4.5-2
4.5.2	Methodology .....	4.5-2
4.5.3	Existing Conditions.....	4.5-4
4.5.4	Potential Impacts.....	4.5-23
4.5.5	Applicant-Proposed Measures .....	4.5-28
4.5.6	References.....	4.5-30

## List of Tables

Table 4.5-1: Field Survey Results within the Survey Area .....	4.5-18
--	--------

## List of Appendices

Appendix 4.5-A: Inventory of Cultural Resources along San Diego Gas & Electric Company's TL 6975 Project (Confidential)
Appendix 4.5-B: Archaeological Survey Report



## Acronyms and Abbreviations

AB	Assembly Bill
Cal NAGPRA	California Native American Graves Protection and Repatriation Act
CEQA	California Environmental Quality Act
CHRIS	California Historic Resources Information System
CRHR	California Register of Historical Resources
ESAs	Environmentally Sensitive Areas
GIS	geographic information system
MLD	Most Likely Descendent
NAHC	Native American Heritage Commission
NRHP	National Register of Historic Places
OPR	Office of Planning and Research
PEA	Proponent's Environmental Assessment
PRC	Public Resources Code
SCIC	South Coastal Information Center
SDG&E	San Diego Gas & Electric Company
SDSURF	San Diego State University Research Foundation
SR	State Route
TCRs	tribal cultural resources

## 4.5 CULTURAL RESOURCES

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a.	Cause a substantial adverse change in the significance of a historical resource, as defined in Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c.	Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d.	Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
	i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### 4.5.1 Introduction

This section of the Proponent's Environmental Assessment (PEA) describes the existing conditions related to cultural resources within the Proposed Project and potential impacts on these resources that could result from the construction, operation, and maintenance of the Proposed Project. Cultural resources, as defined in the California Environmental Quality Act (CEQA), include prehistoric and historic-period archaeological sites, districts, and objects; historic buildings, structures, and traditional/cultural sites; the locations of important historic events; and Tribal Cultural Resources. The Proposed Project's potential effects on cultural resources were evaluated using the significance criteria set forth in Appendix G of the CEQA Guidelines. This PEA deviates slightly from the updated Appendix G because it includes Tribal Cultural Resources in this section and not as a separate section. The analysis concludes that the Proposed Project will ensure that any potential impacts on cultural resources would be reduced to *less than significant with mitigation incorporated*.

### 4.5.2 Methodology

In 2015, a records search of recorded resources and a pedestrian survey were conducted by NWB Environmental. As part of this effort, monitoring of a known site (CA-SDI-20363) was then subsequently conducted for potholing activities within the intersection of San Marcos Boulevard and Discovery Street by NWB in 2016. In 2017, ICF was contracted to summarize all previous cultural resources review efforts, provide input with respect to engineering plans for the Proposed Project from a cultural resources perspective, and complete the analysis contained in this section of the PEA regarding cultural resources. ICF also conducted additional background research and a literature review to characterize the physical environment, prehistory, ethnography, and history of the Proposed Project Area and vicinity.

#### 4.5.2.1 Cultural Resources Records Search

As part of the cultural resources study prepared for the Proposed Project, a cultural resources records search was completed with the California Historic Resources Information System (CHRIS) through the South Coastal Information Center (SCIC) housed at the San Diego State University Research Foundation (SDSURF). San Diego Gas & Electric Company (SDG&E) conducted the record search under contract to SCIC (SDSURF) and provided the data to NWB Environmental in 2015. Updated record searches for proposed staging yards were conducted in January and March 2017. These records searches included all previously recorded archaeological and historic site records and cultural resource reports within a 0.5-mile radius of the Proposed Project Area. Additional resources that were consulted for relevant information included the National Register of Historic Places (NRHP), the Historic Property Data File, the California Register of Historical Resources (CRHR), California Historical Landmarks, the California Inventory of Historic Resources, the California Points of Historical Interest, and historic maps. A cultural resources survey report was prepared for the Proposed Project by NWB Environmental and has been included as Appendix 4.5-A: Inventory of Cultural Resources along San Diego Gas & Electric Company's TL 6975 Project (Confidential). The results of the records search, a copy of the survey report, and subsequent monitoring report were provided to ICF in 2017. The cultural resources survey report and associated records search are confidential and not available to the public.



#### **4.5.2.2 Informal Native American Consultation**

An informal request for information in the Sacred Lands File database was submitted to the Native American Heritage Commission (NAHC) by ICF on March 7, 2017, in order to acquire more information about potential cultural resources within the Proposed Project Area and vicinity. The response from the NAHC was received on March 22, 2017. The NAHC indicated that traditional cultural places are located within the Proposed Project Area that may be affected by the Proposed Project and suggested contacting the San Pasqual Band of Diegueno Mission Indians and the San Luis Rey Band of Mission Indians by phone. Phone calls were made to both groups on March 30, 2017. Additionally, the NAHC provided a list of an additional 26 Native American tribes and individuals to contact about the Proposed Project Area and requested follow-up phone calls. Letters were sent out to the Native American tribes and individuals on March 30, 2017. To date, responses have been received from three tribal groups. Responses received were from the Rincon Band of Luiseno Indians on May 3, 2017, who offered to provide Native American monitors for the Proposed Project; the Iipay Nation of Santa Ysabel on April 16, 2017, who requested the presence of both Luiseno and Kumeyaay monitors; and the San Luis Rey Band of Mission Indians, who responded on June 1, 2017, requesting further consultation and monitoring. A meeting was held on June 21, 2017, with SDG&E cultural resources staff and tribal members of the San Luis Rey Band of Mission Indians. SDG&E cultural resources staff provided maps of the Proposed Project and cultural resources locations and discussed with the San Luis Rey Band of Mission Indians monitoring and mitigation for potential impacts on cultural resources. To date, no additional responses have been received and tribal contact is ongoing.

The results of this search have been incorporated into this PEA. With implementation of Assembly Bill (AB) 52, lead agencies are now required to offer Native American tribes an the opportunity to consult on CEQA documents in regards to tribal cultural resources (TCRs). The procedures under AB 52 provide tribes with an opportunity to take an active role in the CEQA process to protect TCRs. SDG&E has contacted the Native American tribes identified by the NAHC with an interest in the Proposed Project Area prior to the release of the CEQA document to informally solicit their input; however, it is ultimately the lead agency's responsibility to conduct formal tribal consultation under AB 52.

#### **4.5.2.3 Cultural Resources Field Survey Methods**

NWB Environmental conducted the pedestrian survey of the survey area on February 12, 13, 16, 18, 19, 23, and 24, and March 2 and 3, 2015. On April 8, 2015, access road surveys were completed. The survey area is defined as a 300-foot-wide linear corridor, an area 150 feet from the center line on each side of the three existing power lines located in the same utility corridor as the Proposed Project Area and was intensively pedestrian surveyed using transects spaced 10-15 meters apart. In addition, each pole and anchor location, as well as associated cleared work area, was examined. Approximately 60 percent (340 acres) of the total 566-acre survey area was accessible during the survey effort in 2015; areas that were not surveyed (approximately 226 acres or 40 percent) were delineated on a final NWB survey map and noted in the geographic information system (GIS) data. These areas were delineated due to terrain restrictions and access restrictions pertaining to private property.

In 2017, ICF archaeologists joined in a supplemental job walk to review changes made to the engineering plans since 2015 pertaining to the portion of the line extending east–west along San Marcos Boulevard and south to San Marcos Substation. Surveys were conducted for additional proposed staging yard locations in February and March 2017. ICF and SDG&E conducted an additional survey on March 28, 2017, to field check previously recorded sites that the records search indicated were in the survey area and determine the existing condition of those sites. Subsurface testing was conducted on September 5, 2017, at and around the intersection of San Marcos Boulevard and Discovery Street to determine if subsurface deposits related to previously identified site CA-SDI-20363 may extend into the Proposed Project Area. The excavations identified subsurface deposits at some of the current pole locations. Additional testing and data recovery will be conducted at these locations prior to commencing construction at these locations.

### **4.5.3 Existing Conditions**

#### **4.5.3.1 Regulatory Setting**

##### **Federal**

##### *National Historic Preservation Act*

Enacted in 1966, the National Historic Preservation Act (NHPA), 16 United States Code (U.S.C.), Section 470 et seq., has become the foundation and framework for historic preservation in the United States. The NHPA authorizes the Secretary of the Interior to expand and maintain an NRHP, establishes an Advisory Council on Historic Preservation as an independent federal entity, requires federal agencies to take into account the effects of their undertakings on historic properties, affords the Advisory Council on Historic Preservation a reasonable opportunity to comment on any undertaking that may affect historic properties listed, or eligible for listing, in the NRHP, and makes the heads of all federal agencies responsible for the preservation of historic properties owned or controlled by their agencies.

Section 106 of the NHPA governs federal agencies' obligations for cultural resources. The goal of the Section 106 process is to offer a measure of protection to sites that are determined eligible for listing on the NRHP. The criteria for determining National Register eligibility are found in 36 Code of Federal Regulations (CFR) Part 60.

##### *American Indian Religious Freedom Act of 1978*

The American Indian Religious Freedom Act (42 U.S.C. Section 1996) establishes a federal policy of respect for, and protection of, Native American religious practices. It also contains provisions that allow limited access to Native American religious sites.

*Executive Orders 13007 and 13084*

**Executive Order 13007 requires federal agencies with land management responsibilities to allow access to and use of Native American sacred sites on public lands, and to avoid adversely affecting these sites. Executive Order 13084 reaffirms the government-to-government relationship between the federal government and recognized Native American Indian tribes, and requires federal agencies to establish procedures for consultation with tribes. State**

*California Environmental Quality Act*

CEQA requires that all private and public activities not specifically exempted be evaluated for the potential to affect the environment, including effects on historical resources. AB 52 adds the consideration of TCRs to CEQA and requires early notice and, if requested by the tribe, consultation with California Native American tribes on the NAHC list (amends Public Resources Code [PRC] Section 5097.94) for projects that are initiated after July 1, 2015. AB 52 defines TCRs as (1) sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe and either in or eligible for inclusion in the CRHR and (2) a resource determined by a lead agency to be significant. AB 52 specifies that a project that may cause a substantial adverse change to a TCR is a project that may have a significant effect on the environment. Per CEQA, impacts on historical resources and TCRs must be identified, and if impacts will be significant, mitigation measures must be implemented to reduce those impacts to the extent feasible.

In the protection and management of the cultural environment, both the statute and the CEQA Guidelines provide definitions and standards for cultural resources management. Pursuant to CEQA Guidelines Section 15064.5(a), the term “historical resource” includes:

- (1) A resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in, the California Register of Historical Resources.
- (2) A resource included in a local register of historical resources or identified as significant in a historical resource survey... shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- (3) Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency’s determination is supported by substantial evidence in light of the whole record. Generally, a...resource shall be considered by the lead agency to be “historically significant” if the resource meets the criteria for listing in the California Register of Historical Resources...including the following:
  - a. Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;



- b. Is associated with the lives of persons important in our past;
  - c. Embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values; or
  - d. Has yielded, or may be likely to yield, information important in prehistory or history.
- (4) The fact that a resource is not listed in, or determined to be eligible for listing in, the CRHR, not included in a local register of historical resources...or identified in a historical resources survey...does not preclude a lead agency from determining that the resource may be a historical resource.

As defined in PRC Section 21083.2(g), a “unique archaeological resource” is:

An archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- (1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
- (2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- (3) Is directly associated with a scientifically recognized important prehistoric or historical event or person.”

Section 15064.5(b)(1) of the CEQA Guidelines explains that effects on cultural properties that qualify as historical resources would be considered adverse if they involve physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource would be materially impaired.

#### *California Register of Historical Resources*

The California Office of Historic Preservation established the CRHR, which is a public listing of specific properties to be “protected from substantial adverse change.” As explained above, any resource eligible for listing in the CRHR must also be considered under CEQA.

Automatic listings include properties listed in the NRHP—which are determined to be eligible either by the Keeper of the National Register or through a consensus determination on a project review—or State Historical Landmarks from number 770 onward. In addition, Points of Historical Interest nominated since January 1998 are to be jointly listed as Points of Historical Interest and in the CRHR. Landmarks prior to number 770 and Points of Historical Interest may be listed through an action of the State Historical Resources Commission.

Resources listed in a local historic register or deemed significant in a historical resources survey, as provided under PRC Section 5024.1(g), are presumed to be historically or culturally significant unless the preponderance of evidence demonstrates that they are not. A resource that

is not listed or is determined to be ineligible for listing in the CRHR, that is not included in a local register of historical resources, or that is not deemed significant in a historical resources survey may, nonetheless, be historically significant (PRC Section 21084.1).

#### *Assembly Bill 52*

AB 52, enacted on September 25, 2014, specifies that a project that may cause a substantial adverse change to a TCR is a project that may have a significant effect on the environment. The bill, as codified in PRC Section 21074, defines TCRs as (1) sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe and either in or eligible for inclusion in the CRHR and (2) a resource determined by a lead agency, at its discretion and supported by substantial evidence, to be significant. As of July 1, 2015, AB 52 requires early notice and, if requested by a tribe, consultation with California Native American tribes on the NAHC list. The CEQA Guidelines were updated in 2016. These updated CEQA checklist questions separated questions about TCRs in a separate section; however, this PEA deviates slightly from the guidelines and includes the TCR questions in this section.

#### *California Native American Graves Protection and Repatriation Act*

The California Native American Graves Protection and Repatriation Act (Cal NAGPRA) of 2001 is contained in Health and Safety Code Sections 8010–8021 and 8025–8030. Cal NAGPRA provides for the repatriation of human remains and cultural items in the possession or control of a state or local agency or museum to the rightful California Native American tribe. This law defines the term California Native American tribe to include non-federally recognized groups.

#### *California Public Resources Code*

Provisions can be found under the PRC regarding the treatment of human remains. These provisions are detailed in Sections 5097.9 through 5097.994. These sections explain the actions to be taken when Native American remains are found. Section 7050.5 of the Health and Safety Code states that anyone who knowingly disinters, disturbs, or willfully removes any human remains in or from any location, other than a cemetery, without the authority of law is guilty of a misdemeanor, except in those circumstances described in Section 5097.99 of the PRC. Under these provisions, if a county coroner determines that remains found during excavation or disturbance of land are Native American, the coroner must contact the NAHC within 48 hours, and the NAHC must determine and notify a Most Likely Descendent (MLD), who shall complete inspection of the site within 24 hours of notification, and may recommend scientific removal and non-destructive analysis of human remains and items associated with Native American burials.

### **Local**

The Proposed Project is not subject to local discretionary land use regulations because the CPUC has exclusive jurisdiction over the siting, design, and construction of the Proposed Project. The following summary of local regulations related to cultural resources is provided for informational purposes.

### *County of San Diego*

The County of San Diego has regulations and policies dedicated to the preservation of cultural resources that can be found in Chapter 5 Conservation and Open Space Element of the *San Diego County General Plan* (updated 2011). In addition to the policies outlined in the General Plan, the County has also adopted *Guidelines for Determining Significance, Cultural Resources: Archaeological and Historic Resources* (Revised 2007) for the review of discretionary projects and environmental documents pursuant to CEQA. The San Diego County Code includes Chapter 6, Resource Protection Ordinance, which protects sensitive lands by requiring the Resource Protection Study for certain discretionary projects. The County's policies are intended to preserve archaeological resources from loss or destruction and require development to include appropriate mitigation to protect the quality and integrity of these resources including avoidance through creation of open space easements; consultation with affected communities; treatment and preservation of archaeological collections in a culturally appropriate manner; proper and respectful treatment of human remains; and coordination with other agencies, tribes, and institutions to build a cultural resources central database. The County's policies include provisions for the protection and conservation of the historical built environment including promoting preservation and/or adaptive reuse of historic sites, structures, and landscapes, and developing education and interpretation programs that focus on the rich multicultural heritage of the county.

### *City of Carlsbad*

The City of Carlsbad regulations and policies pertaining to cultural resources can be found in the *City of Carlsbad General Plan* (Updated 2015) Arts, History, Culture and Education section and in the City's Municipal Code. The City's Municipal Code outlines the current process for designating landmarks and points of interest in Municipal Code Section 22.06.030. Municipal Code Section 22.06 states that a historic resource may be considered and approved by the City Council for inclusion in the City's historic resources inventory based one or more of the following:

- It exemplifies or reflects special elements of the city's cultural, social, economic, political, aesthetic, engineering or architectural history;
- It is identified with persons or events significant in local, state or national history;
- It embodies distinctive characteristics of a style, type, period or method of construction, is a valuable example of the use of indigenous materials or craftsmanship or is representative of a notable work of an acclaimed builder, designer or architect;
- It is an archaeological, paleontological, botanical, geological, topographical, ecological or geographical site which has the potential of yielding information of scientific value;
- It is a geographically definable area with a concentration of buildings, structures, improvements, or objects linked historically through location, design, setting, materials, workmanship, feeling and/or association, in which the collective value of the improvements may be greater than the value of each individual improvement.



In 1990 the City developed guidelines for the treatment of cultural resources consistent with federal, state, and local laws. The guidelines establish standards of performance for resource investigations and present a systematic method of preserving identified resources. The City has also established a Historic Preservation Commission to advise the City Council and the Planning Commission on all matters related to the identification, protection, retention, and preservation of historic areas and sites.

#### *City of Escondido*

The City of Escondido Municipal Code Article 40, Sections 33-790 through 33-807 are related to the preservation of cultural resources. The articles are designed to:

- Protect, enhance and perpetuate historical resources, sites, and districts that represent or reflect elements of the city’s cultural, social, economic, political, and architectural history for the public health, safety, and welfare of the people of the city;
- Safeguard the city’s historical heritage as embodied and reflected in its historical resources, sites, and historical districts;
- Stabilize and improve property values;
- Foster civic pride in the character and accomplishments of the past;
- Strengthen the city’s economy by protecting and enhancing the city’s attractions to residents, tourists, and visitors and serve as a support and stimulus to business and industry;
- Enhance the visual character of the city by encouraging the preservation of unique and established architectural traditions;
- Promote the use of historical landmarks and districts for the education, pleasure, and welfare of the people of the city;
- Permit historical and archaeological sites to be identified, documented, and recorded by written and photographic means and allow an opportunity for preservation of historical and archaeological sites.

The City has established a nine-member Historic Preservation Commission to assist and advise the mayor and council in all matters relating to historic preservation in the City. The City also maintains a local register of historic resources. Additionally, the municipal code outlines the procedures and criteria for designation or rescinding of local landmark and historic districts status, incentives for preserving historical resources, and permitting procedures. The *City of Escondido General Plan* (2012) does not refer to specific policies or procedures for cultural resources, but does state the benefits of conservation of cultural resources.

*City of San Marcos*

The City of San Marcos addresses cultural resources in its General Plan's Conservation and Open Space Element (2012). The City recognizes the impact that continued growth may have on cultural resources and has adopted policies and goals to ensure the preservation of cultural resources whenever possible. The plan identifies three policies specific to the City in addition to CEQA as follows:

**Goal COS-11:** Continue to identify and evaluate cultural, historic, archeological, paleontological, and architectural resources for protection from demolition and inappropriate actions.

**Policy COS-11.1:** Identify and protect historic and cultural resources including individual properties, districts, and sites (e.g., archaeological sites) in compliance with CEQA.

**Policy COS-11.2:** Prohibit the demolition or removal of a historic structure without evaluation of the condition of the structure, the cost of rehabilitation, and the feasibility of alternatives to preservation in place including but not limited to relocation, or reconstruction offsite, and/or photo-preservation.

**Policy COS-11.3:** Identify opportunities for adaptive reuse of historic sites and buildings to preserve and maintain their viability.

The City of San Marcos also has a Historic Preservation Commission consisting of five members to advise the mayor and city council on all matters related to cultural resources including the designation of historic landmarks; maintaining a historic resources inventory; giving advice on preservation of historic sites; and conducting programs to educate local residents regarding historic places, structures or events. The City has identified a number of locally important historic resources but as of yet has not established a local register of historical resources.

*City of Vista*

The *City of Vista General Plan* outlines goals in order to achieve the desired future development of the city (City of Vista 2012). The Resource Conservation & Sustainability Element includes goals and policies intended to preserve the cultural and historical resources that are important to the community of Vista. The following goals and policies would be relevant to cultural resources in the Proposed Project Area.

**RCS Goal 11:** Continue to preserve and protect places, buildings, and objects that embody the City's social, cultural, commercial, architectural, and agricultural history.

**RCS Policy 11.3:** Support preservation of historical resources, including providing for adaptive reuse and tax incentives where appropriate.

**RCS Policy 12.2:** In collaboration with NAHC and the San Luis Rey Band of Mission Indians, adopt procedures for protecting significant archeological features, and apply to projects requiring discretionary city approval.

**RCS Policy 12.3:** Ensure that the San Luis Rey Band of Mission Indians is notified of any proposed discretionary planning or grading applications affecting lands with potential archaeological resources.

**RCS Policy 12.4:** If significant Native American artifacts are discovered during pre-construction or construction phases of a discretionary project or during the implementation of a grading permit, the first priority shall be a) to avoid any further disturbance of those areas by re-designing the proposed development or project, and b) to have those areas placed into protected open space via an open space easement or similar protective measure. If avoidance is not feasible based on consultation with the Most Likely Descendant of such artifacts, appropriate mitigation shall be required. Any discovered Native American artifacts shall be returned to their Most Likely Descendant and repatriated at the earliest opportunity.

**RCS Policy 12.5:** If Native American human remains and/or associated grave goods are found during any of the activities identified in RCS Policy 12.4, the first priority shall be a) to avoid any further disturbance (i.e., grading, development) of these areas in which they are found, and b) to have the remains and/or associated grave goods preserved in place via an open space easement or similar protective land use measure. The second priority shall be that the Most Likely Descendant of the remains and/or associated grave goods, as determined by the NAHC, must also have the opportunity to recommend other culturally appropriate treatment.

City of Vista Municipal Code Chapter 15.12, Historic Preservation, is related to the preservation of historical and cultural resources (City of Vista 2009). The ordinance is designed to:

- Effect and accomplish the protection, enhancement and perpetuation of historical resources, landmarks, and districts that represent or reflect elements of the City’s cultural, social, economic, political, and architectural history;
- Safeguard the City’s historical heritage as embodied and reflected in its historical resources, landmarks, and historical districts;
- Stabilize and improve property values;
- Foster civic pride in the character and accomplishments of the past;
- Protect and enhance the City’s attractions to residents, tourists, and visitors and serve as a support and stimulus to business and industry;
- Strengthen the economy of the City;



- Promote the use of historic districts and landmarks for the education, pleasure and welfare of the people of the City.

Section 15.12.040, Environmental Review, of the City of Vista Municipal Code further addresses historic resources in the following manner: In connection with any environmental review process occurring under the California Environmental Quality Act, the City will evaluate the historical significance of any feature of the built environment found to be more than 45 years old where a proposed project would result in its alteration or removal. This review and assessment shall occur whether or not the potential historic resource is officially designated as such at the local, state or federal level. If, such environmental review determines that the resource is of historic significance, the provisions of Section 15.12.090 must be satisfied before any project may proceed which has the potential to adversely affect such resource.

#### **4.5.3.2 Cultural Setting**

##### **Prehistoric Background**

###### *Paleoindian Period*

The earliest well-documented prehistoric sites in Southern California are identified as belonging to the Paleoindian period, which has locally been termed the San Dieguito complex/tradition. The Paleoindian period is thought to have occurred between 9,000 years ago, or earlier, and 8,000 years ago in this region. Although varying from the well-defined fluted-point complexes, such as Clovis, the San Dieguito complex is still seen as a hunting-focused economy, with limited use of seed-grinding technology. The economy is generally seen as focused on highly ranked resources, such as large mammals, and relatively high mobility, which may be related to following large game. Archaeological evidence associated with this period has been found around inland dry lakes, on old terrace deposits of the California desert, and near the coast where it was first documented at the Harris Site.

###### *Early Archaic Period*

Native Americans during the Archaic period had a generalized economy that focused on hunting and gathering. In many parts of North America, Native Americans chose to replace this economy with types that were based on horticulture and agriculture. Coastal Southern California economies remained largely based on wild resource use until European contact (Willey and Phillips 1958). Changes in hunting technology and other important elements of material culture have created two distinct subdivisions within the Archaic period in Southern California.

The Early Archaic period is differentiated from the earlier Paleoindian period by a shift to a more generalized economy and an increased focus on use of grinding and seed-processing technology. At sites dated between approximately 8,000 and 1,500 years before present, the increased use of groundstone artifacts and atlatl dart points, along with a mixed core-based tool assemblage, indicates a range of adaptations to a more diversified set of plant and animal resources. Variations of the Pinto- and Elko-series projectile points, large bifaces, manos and portable metates, core tools, and heavy use of marine invertebrates in coastal areas are characteristic of this period, but many coastal sites show limited use of diagnostic atlatl points. Major changes in

technology within this relatively long chronological unit appear limited. Several scientists have considered changes in projectile point styles and artifact frequencies within the Early Archaic period to be indicative of population movements or units of cultural change (Moratto 1984), but these units are poorly defined locally because of poor site preservation.

#### *Late Archaic or Late Prehistoric Period*

Around 2,000 years before present, dramatic cultural changes occurred. An intrusion of Shoshonean speakers into the northern part of San Diego County occurred around 1,500 years before present. The Late Prehistoric period in San Diego County is recognized archaeologically by smaller projectile points, the replacement of flexed inhumations with cremation, the introduction of ceramics, and an emphasis on inland plant food collection and processing, especially acorns. Inland semi-sedentary villages were established along major water courses, and montane areas were seasonally occupied to exploit acorns and piñon nuts, resulting in permanent milling stations on bedrock outcrops. The use of mortars for acorn processing increased in frequency relative to seed-grinding basins.

This period is known archaeologically in the southern part of San Diego County as the Yuman (Rogers 1945) or the Cuyamaca complex (True 1970). In the northern part of the county, where the Proposed Project would be located, the period is known as the San Luis Rey complex (Meighan 1954; True et al. 1974).

The San Luis Rey complex is divided into two phases. San Luis Rey I is a pre-ceramic phase, dating from approximately 2,000 to 500 years before present (True et al. 1974). The material culture of this phase includes small triangular pressure-flaked projectile points, manos, portable metates, *olivella* beads, drilled stone ornaments, and mortars and pestles. The San Luis Rey II phase differs only in the addition of ceramics and pictographs. Dates for the introduction of ceramics have not been satisfactorily documented.

#### **Ethnographic Overview**

The Proposed Project is located within the geographic boundaries of both the Luiseño and the Kumeyaay/Ipai. The Kumeyaay were divided linguistically by dialects spoken by people who are called Ipai in the north and Tipai in south, but culturally the two groups were largely the same. The Shoshonean inhabitants of northern San Diego County were called Luiseños by Franciscan friars who named the San Luis Rey River and established the San Luis Rey Mission in the heart of Luiseño territory. Their territory encompassed an area from roughly Agua Hedionda on the coast, east to Lake Henshaw, north into Riverside County, and west through San Juan Capistrano to the coast (Bean and Shipek 1978).

The Luiseño shared boundaries with the Gabrieliño and Serrano to the west and northwest, the Cahuilla from the deserts to the east, the Cupeño to the southeast, and the Kumeyaay/Ipai to the south. All but the Kumeyaay/Ipai are linguistically similar to the Luiseño, belonging to the Takic subfamily of Uto-Aztecan (Bean and Shipek 1978). The Yuman Kumeyaay/Ipai have a different language and cultural background but shared certain similarities in social structure, and some Ipai incorporated some Luiseño religious practices.

The Luiseño were divided into several autonomous lineages or kin groups. The lineage represented the basic political unit among most Southern California Indians. According to Bean and Shipek (1978), each Luiseño lineage possessed a permanent base camp, or village, in the San Luis Rey Valley and another in the mountain region for the exploitation of acorns, although this mobility pattern may apply only to the ethnohistoric present.

Acorns were the single most important food source used by the Luiseño. Their villages were usually located near water, which was necessary for leaching acorn meal. Seeds from grasses, manzanita, sage, sunflowers, lemonade berry, chia, and other plants were also used, along with various wild greens and fruits. Deer, small game, and birds were hunted, and fish and marine foods were eaten. Generally, women collected the plant resources and the men hunted, but there was no rigid sexual division of labor (Bean and Shipek 1978).

Houses were arranged in the village without apparent pattern. The houses in primary villages were conical structures, covered with tule bundles that had excavated floors and central hearths. Domestic implements included wooden utensils, baskets, and ceramic cooking and storage vessels.

Hunting implements consisted of the bow and arrow, curved throwing sticks, nets, and snares. Shell and bone hooks, as well as nets, were used for fishing. Lithic resources of quartz and metavolcanics, as well as some cherts, were available locally in some areas. Exotic materials, such as obsidian and steatite, were acquired through trade.

The Kumeyaay/Ipai who inhabited the northern part of San Diego County are the direct descendants of the of the early Yuman speaking hunter-gatherers of the Late Prehistoric Period. The Kumeyaay in general appear to have had considerable variability in in the level of social organization and settlement (Luomala 1978). The Kumeyaay were organized patrilineal, patrilocal lineages that claimed prescribed territories but did not own the resources in general (Shipek 1982).

The Kumeyaay occupied bipolar villages during the year and would occupy residential bases in the foothills/mountains during the summer and the lower elevations in the winter with numerous campsites throughout as they exploited seasonally available resources (Carrico 2008). Acorns were the most important staple of the diet as indicated by the presence of numerous large habitation sites near the locations of abundant oaks and bedrock suitable for milling. Grass seeds, sages, berries, wild greens and fruits were eaten. Houses were usually only built for the winter and were conical shaped structures covered with tule bundles or willow and had excavated floors and central hearths (Spier 1923). Houses and campsites are believed to have been relatively dispersed with no formal layout or discrete boundaries for structures or campsites. Both pottery and basketry were utilized in addition to stone tools. Religious activities were practiced with the assistance of shaman and a *cimul* (Shipek 1991).

Spanish explorers first encountered coastal Luiseño villages and Kumeyaay villages to the south in 1769 when Mission San Diego de Alcalá was established near the mouth of the San Diego River and later established Mission San Luis Rey de Francia in 1798, 4 miles inland from the mouth of the river. The missions “recruited” both peoples to use as laborers and convert them to



Catholicism. The inland Luiseño and Ipai were not heavily affected by Spanish influence until 1816, when outposts of the missions were established 20 miles farther inland, at Pala and Santa Ysabel (Sparkman 1908).

At the time of contact, Luiseño population estimates ranged from 5,000 to as many as 10,000 individuals. Missionization, along with the introduction of European diseases, greatly reduced the Luiseño population. Most villagers, however, continued to maintain many of their aboriginal customs and simply adopted the agricultural and animal husbandry practices learned from the Spaniards. The Kumeyaay were generally resistant to Spanish attempts to coerce them into the Euroamerican culture, but the change in location of the mission enabled the priests to gain more converts. As the Spanish gained influence many of the Kumeyaay became resentful and this culminated in the sacking and burning of Mission San Diego de Alcalá in 1775 (Carrico 2008).

By the early 1820s, California came under Mexico's rule, and in 1834, the missions were secularized, resulting in a political imbalance that caused Indian uprisings against the Mexican rancheros. Many of the Native Americans left the missions and ranchos and returned to their original village settlements.

When California became a sovereign state in 1849, the local Native Americans were recruited more heavily as laborers and experienced even harsher treatment. Conflicts between Native Americans and encroaching Anglos finally led to the establishment of reservations for some Luiseño and Kumeyaay populations. The reservation system interrupted Native American social organization and settlement patterns, yet many aspects of the original cultures still persist today. Certain rituals and religious practices are maintained, and traditional games, songs, and dances continue, as does the use of foods such as acorns, yucca, and wild game.

### **Historic Background**

Cultural activities within San Diego County between the late 1700s and the present provide a record of Native American, Spanish, Mexican, and American control, occupation, and land use. An abbreviated history of San Diego County is presented for the purpose of providing a background on the presence, chronological significance, and historical relationship of cultural resources within the county.

Native American control of the Southern California region ended, in the political view of western nations, with Spanish colonization of the area, beginning in 1769. De facto Native American control of the majority of the population of California did not end until several decades later. In Southern California, Euroamerican control was firmly established by the end of the Garra uprising in the early 1850s (Phillips 1975).

The Spanish Period (1769–1821) represents a period of Euroamerican exploration and settlement. Dual military and religious contingents established the San Diego Presidio and the San Diego and San Luis Rey Missions. The mission system used Native Americans to build a footing for greater European settlement. The mission system also introduced horses, cattle, and agricultural goods and implements as well as new construction methods and architectural styles.

The cultural and institutional systems established by the Spanish continued beyond 1821, when California came under Mexican rule.

The Mexican Period (1821–1848) includes the retention of many Spanish institutions and laws. The mission system was secularized in 1834, which dispossessed many Native Americans and increased Mexican settlement. After secularization, large tracts of land were granted to individuals and families when the rancho system was established. Cattle ranching dominated other agricultural activities. Hide and tallow trading with the United States increased during the early part of this period.

The Pueblo of San Diego was established during this period, and Native American influence and control greatly declined. The Mexican Period ended when Mexico ceded California to the United States after the Mexican-American War of 1846–1848. The Rancho Vallecitos de San Marcos was granted to Jose Maria Alvarado in 1840 by Governor, and relative, Juan Bautista Alvarado; however, the rancho lands were not settled until the late 1850s, when Cave Coutts allowed Major Gustavus Merriam of Kansas to homestead 160 acres in Twin Oaks Valley. The eastern end of the Proposed Project is located in Escondido, which was part of a land grant that was bestowed to former Governor Juan Bautista Alvarado in 1843 by then-Governor Manuel Micheltorena. Alvarado built an adobe and raised cattle on the property.

Soon after American control was established (1848–present), gold was discovered in California. The tremendous influx of American and Europeans that resulted quickly drowned out much of the Spanish and Mexican cultural influences and eliminated the last vestiges of de facto Native American control. Few Mexican ranchos remained intact because of land claim disputes. In addition, the homestead system increased American settlement beyond the coastal plain. German and Dutch immigrants arrived in the 1880s. John H. Barham founded the town of Barham near the intersection Rancho Santa Fe Road and San Marcos Boulevard, which is in the Proposed Project Area, in 1884. In 1887, the Coutts family sold most of the land to the San Marcos Land Company. The town of San Marcos was established that year 1 mile north of Barham in anticipation of the arrival of the railroad line from Oceanside to Escondido, which was started in 1887. The railroad plans did not come to fruition, and the railroad was placed 1 mile away from the center of San Marcos. Without direct access to the railroad, the town of Barham began to disappear. Hoping to avoid the same fate as Barham, in 1903, the townspeople of San Marcos moved the town approximately 2 miles to the east to be closer to the railroad, settling in an area just north of present-day State Route (SR) 78, near the intersection of West Mission Road and Pico Avenue, approximately 1 mile north of the Proposed Project.

Escondido's history during this time period is similar to that of San Marcos. After the death of Juan Bautista Alvarado in the 1850s, his heirs sold the rancho to Oliver S. Witherby, a judge from San Diego. The land changed hands over the years until finally a group of land speculators from Kansas purchased it in 1883 and began viticultural pursuits in the valley. Churches, schools and the Escondido Hotel would be constructed in a short time. The railroad was completed in late 1887, and the first freight was shipped from the Santa Fe depot at the west end of Grand Avenue in early 1888. During this time, the portion of the Proposed Project within Escondido was agricultural land and would not be developed until well into the 20<sup>th</sup> century.

## Cultural Resources in the Survey Area

### *Records Search Results*

The records search results were taken from the SDG&E cultural resources records search using a 0.5-mile buffer for the approximately 12-mile-long corridor for the Proposed Project and staging yards, using data provided under contract from the SCIC in 2014, and supplemented in 2016 and 2017.

A total of 194 previously recorded resources were identified in the 0.5 mile radius of the Proposed Project Area; 16 of these are within the survey area and an additional two resources were recorded during the cultural resources surveys in 2015. Of the 194 previously recorded cultural resources located within the 0.5 mile radius, the vast majority are prehistoric origin and consist primarily of lithic scatters and bedrock milling sites, including two habitation sites. The remaining cultural resources include 14 historic age (50 years or older) residences, two ranch complexes, one mining adit, four historic trail or road segments, and 13 historic age resources, structures, or objects that include watering troughs, a radio tower, a pump house, rock walls, a wooden cross, and residence sites.

### *Archaeological Field Survey Results*

NWB archaeologists conducted a pedestrian survey of the survey area in February and March 2015. The survey area was surveyed by examining an area 150 feet from the centerline of the Proposed Project Area on each side of the existing three linear power and transmission lines. Additionally, each pole location, associated anchor locations, and cleared work areas were also examined. Approximately 60 percent (340 acres) of the total 566-acre survey corridor was accessible during the survey effort in 2015; areas that were not surveyed (approximately 226 acres or 40 percent) were delineated on a final NWB survey map. In January 2017, ICF archaeologists took part in a supplemental job walk for the survey area, which included only the portion of the alignment that runs east–west along West San Marcos Boulevard and south to San Marcos Substation that was proposed for changes to the footprint for the Proposed Project alignment. Additional surveys were conducted in February and March 2017 for multiple staging areas. A total of 16 previously recorded resources and two newly identified resources were identified within survey area (Table 4.5-1: Field Survey Results within the Survey Area). A summary of the recommendations for each observed resource within the survey area is provided below. Several previously recorded resources are plotted in areas that have been completely paved over or lie just outside the survey area. In these instances, monitoring or testing has been recommended because of the sensitivity of the areas and the potential for the presence of buried deposits.

Known cultural resources, or “sites,” that can be protected from direct impacts but are close to construction activities (i.e., within 50 feet) have been identified and will be considered Environmentally Sensitive Areas (ESAs). The establishment of ESAs is a non-destructive method of avoiding impacts on recorded cultural resources. ESAs may be established around sites that have been determined eligible for listing in the NRHP or CRHR or sites that have not been formally evaluated and thus are being treated as eligible for listing in the NRHP (for purposes of Section 106) or the CRHR. Ground-disturbing work at such sites is avoided if feasible during construction.



Prior to construction activities, ESAs within or adjacent to a construction work area (i.e., within 100 feet for ground-disturbing work and within 50 feet for non-ground-disturbing work) would be marked for avoidance using temporary staking, fencing, or flagging. Construction crews would be instructed to avoid entering or disturbing these areas where feasible. ESAs would be depicted in an ESA Mapbook provided to the construction contractor. ESAs would be marked by one or more archaeological monitors and overseen by the Principal Archaeologist (PA) prior to initiation of construction activities in the area. ESAs would be maintained for the duration of the construction activities in that area. Archaeological monitors in coordination with Native American monitors would ensure that ESA marking would not interfere with construction vehicle travel and would conduct archaeological monitoring during construction activities within ESAs as appropriate. Archaeological and Native American monitors would monitor all ground disturbing activities within the ESAs.

**Table 4.5-1: Field Survey Results within the Survey Area**

Site/Isolate Designation	USGS Quad	Description	NRHP/CRHR Status	Relocated/ Recommendations
37-004495/ CA-SDI-04495	Rancho Santa Fe	Early San Dieguito/ Paleo-Indian quarry	3S and 3CS – Appears potentially eligible through survey evaluation	No cultural remains relocated within the survey area. ESAs and monitoring recommended. Construction to stay within current disturbance footprint.
37-004499/ CA-SDI-04499	Rancho Santa Fe	San Dieguito lithic quarry	3S and 3CS – Appears potentially eligible through survey evaluation	No cultural remains relocated within the survey area. ESAs and monitoring recommended; construction to stay within current disturbance footprint.
37-005501/ CA-SDI-05501	Escondido	Two milling slicks	6Z – Ineligible through survey evaluation (destroyed)	Paved/destroyed; ESAs and monitoring recommended.
37-005543/ CA-SDI-05543	San Marcos	Mano, isolate	6Z – Ineligible through survey evaluation (collected)	Area is disturbed; ESAs and monitoring recommended.
37-007306/ CA-SDI-07306	Rancho Santa Fe	Lithic scatter and workshop area	7R – Not evaluated	Access road location; no blading or ground disturbance. Vehicle travel on existing dirt roads; ESAs and monitoring recommended.
37-009047/ CA-SDI-9047	San Marcos	Isolate shell fragment	6Z – Ineligible through survey evaluation	Area is developed; site not relocated/assumed destroyed. Monitoring recommended.
37-010550/ CA-SDI-10550	San Marcos	Lithic scatter	6Z – Ineligible through survey evaluation (destroyed)	Area is developed; site not relocated/assumed destroyed. Monitoring recommended.

Site/Isolate Designation	USGS Quad	Description	NRHP/CRHR Status	Relocated/ Recommendations
37-010551/ CA-SDI-10551	San Marcos	Lithic scatter	6Z – Ineligible through survey evaluation (destroyed)	Area is developed; site not relocated/assumed destroyed. Monitoring recommended.
37-011442/ CA-SDI-11442	Rancho Santa Fe	Temporary camp with shell, lithics, and tools; scattered historic trash	7R – Not evaluated; portion of site within the Proposed Project Area assumed destroyed by construction but intact deposits may be present outside the Proposed Project Area	Portion of site within the Proposed survey area. Area developed for road; site not relocated. ESAs and monitoring recommended.
37-012209/ CA-SDI-12209	Escondido	Large prehistoric village site	3CS – Recommended eligible for CRHR through evaluation; data recovery occurred as part of road project that will destroy site	Access road location and stringing site; no blading or ground disturbance. Stringing will be done by hand. Vehicle travel on existing dirt roads only; ESAs and monitoring recommended.
37-255575/ CA-SDI-16988	Escondido	Bedrock milling/temporary camp	6Z – Ineligible through survey evaluation (destroyed)	Area is disturbed with cut-and-fill slopes; site destroyed. ESAs and monitoring recommended.
37-017514	Escondido	Quartz fragment, isolate	6Z – Ineligible through survey evaluation	Not relocated. Monitoring recommended.
P-37-031871	San Vicente Reservoir	Historic ranch complex	7R – Not evaluated	Ranch complex present and in use. Arc avoid; monitoring recommended only for ground disturbance.
37-032160/ CA-SDI-20363	San Marcos	Prehistoric habitation	3CS – Appears eligible for CRHR through survey evaluation	Site has been capped. ESA and monitoring recommended.
P-37-033103	San Marcos	Two flakes, isolates	6Z – Ineligible through survey evaluation	Area is disturbed; artifacts not relocated. Monitoring recommended.
37-033635/ CA-SDI-21128	Rancho Santa Fe	Historic road segment	6Z – Ineligible through survey evaluation	Relocated; monitoring recommended. Construction to stay within current disturbance footprint.
TL-6975-S-4	Escondido	Historic can scatter	7R – Not evaluated	Newly identified. Overhead work. ESAs and monitoring recommended only for ground disturbance.
TL-6975-S-5	Rancho Santa Fe	Prehistoric lithic reduction site	7R – Not evaluated	Newly identified access road location; no blading or

Site/Isolate Designation	USGS Quad	Description	NRHP/CRHR Status	Relocated/ Recommendations
				ground disturbance. Vehicle travel on existing dirt access roads only; monitoring recommended.

\*Table is based on surveys conducted by NWB 2015 and ICF 2017

During the field surveys, four of the 16 previously recorded archaeological resources were relocated and updated by NWB or ICF (CA-SDI-7306, CA-SDI-12209, CA-211128, and P-37-031871). Twelve previously recorded sites were not relocated within the survey area: (CA-SDI-4495, CA-SDI-4499, CA-SDI-5501, CA-SDI-5543, CA-SDI-9047, CA-SDI-10550, CA-SDI-10551, CA-SDI-11442, CA-SDI-16988, CA-SDI-20363, P-37-033103, and P-37-031871). These 12 resources all appear to have been either partially or completely developed over since they were first recorded. Additionally, NWB identified two new resources (TL-6975-S-4 and TL-6975-S-4).

**37-004495/CA-SDI-04495:** This prehistoric site was originally recorded by R. May in 1975 and described as a truly unique lithic quarry site, spanning at least 2 acres, with up to 4 feet of cultural soils, hearths, millions of flakes, thousands of cores, and many hammerstones. Finished tools were rare, and no projectile points were observed. It was noted at the time of recordation as possessing very high research potential. The site was updated in 2000 by Jones and Stokes and reported to be in the same condition as in 1975; however, the County of San Diego constructed the San Elijo Landfill over an area of 100 acres, including the portions of the location of CA-SDI-4495. The landfill was in operation from 1978 until 1997, when it was closed. The landfill site was to have been capped during 2000s with 5 to 8 feet of soil. Survey personnel by both NWB and ICF were unable to inspect the majority of the archaeological site because it was fenced and locked off; it appears that most of the site has been disturbed or destroyed. The eastern boundary, which overlaps site CA-SDI-4499, appears to be more intact. Because sites CA-SDI-4495 and CA-SDI-4499 overlap, and given their spatial proximity and functional similarity, it is recommended that these two resources are combined into one resource.

**37-004499/CA-SDI-04499:** This prehistoric site was originally recorded in 1975 by Ron May and described as a truly unique lithic quarry site, with an enormous basalt-andesite dike spanning at least 14 acres, with up to 3 feet of cultural soils, thousands of flakes, many preforms, utilized flakes, several hammerstones, and battered nodules from the underlying dike, which are referred to as “immoveable cores.” The site was updated in 2000 by Jones and Stokes and reported to be in the same condition as in 1975. The archaeological site is behind locked gates and fencing and was not accessible during the current survey. Site CA-SDI-4495 and CA-SDI-4499 appear to overlap; therefore, based on their spatial proximity and functional similarity, it is recommended that these two resources are combined into one resource (although they were originally recorded separately) once they are updated and submitted to the SCIC if the SCIC accepts this change.

**37-005501/CA-SDI-05501:** This prehistoric site was originally recorded by Flower in 1978 as a milling feature, comprising two slicks on one exposed granitic boulder. The possibility of



destruction was listed as “likely” because of a then-proposed industrial park. The record has not been updated since that time. Between 1996 and 2002, an industrial park and South Andreasen Drive were constructed where the site was located. No cultural remains were identified during the current survey, including the bedrock milling feature; it is assumed that the site was destroyed because of the scale of earthmoving activities. It is unknown whether the site was evaluated for significance prior to being destroyed.

**37-005543/CA -SDI-05543:** This resource, an isolated bifacially ground mano, was identified in 1978 by R. H. Norwood. The mano was collected at that time, and no updates to the record have been added since. No other artifacts were identified during the survey for the Proposed Project Area.

**37-007306/CA-SDI-07306:** This prehistoric site was originally recorded in 1979 by W. Graham as a moderately dense lithic scatter/workshop area on a saddle, covering a 150- by 30-meter area. No midden was observed, although a serrated quartzite blade and a bifacial mano were noted. The record does not appear to have been updated since it was originally recorded. The site was relocated during the current survey and found to be in good condition. Mining activities and dirt roads have had minor impacts on the site, but these appear to be consistent with the disturbances noted when the site was originally recorded.

**37-009047/CA-SDI-9047** This prehistoric site was originally recorded in 1981 by R. H. Norwood as seven dispersed, isolated artifact locations, consisting of debitage, shell, and lithic tools. The isolate artifact located within the survey area was identified as a single fragment of a Chione shell. The resource was not relocated during the current survey effort.

**37-010550/CA-SDI-10550:** This prehistoric site was originally recorded by Cardenas and Winterrowd in 1985 as a light-density surface scatter with debitage, one core, one scraper, and one fragment of shell on a 335- by 49-meter area. The site was revisited for the current effort and found to be disturbed by mass grading and terracing for an industrial park. Although no buildings have been constructed on the site, the surrounding area has been developed with industrial buildings. No cultural remains were identified during the survey; it is assumed that the site has been destroyed because of the scale of earthmoving activities.

**37-010551/CA-SDI-10551:** This prehistoric site was originally recorded by Cardenas and Winterrowd in 1985 as a light-density surface scatter with debitage, one hammerstone, and two fragments of shell on a 79- by 49-meter area. The site was revisited for the current effort and found to be disturbed by mass grading and terracing for an industrial park. Although no buildings have been constructed on the site, the surrounding area has been developed with industrial buildings. No cultural remains were identified during the survey; it is assumed that the site has been destroyed because of the scale of earthmoving activities.

**37-011442/CA-SDI-11442:** This multicomponent site was originally recorded in 1989 Andrew Pignuolo and Steven H. Briggs as a temporary prehistoric campsite with shell, lithics, and formed tools. The historic component consists of a scatter of historic domestic debris, including amethyst and aqua glass fragments as well as tin can and white ware fragments. The record does not appear to have been updated since it was originally recorded. Construction of San Elijo

Road has affected the eastern half of the site; the portion of the site within the survey area appears to have been destroyed; however, intact portions of the site remain to the west that may contain subsurface deposits.

**37-012209/CA-SDI-12209:** This extensive prehistoric site was originally recorded in 1979 by ERC Environmental as a lithic scatter with five types of stone; no artifacts or features were noted. Documentation regarding a private collection that was donated to the Museum of Man in 1973 was added to the site record at a later date. According to the documentation, many types of flaked stone scrapers were collected from the vicinity of the site. Transcribed notes from sometime in the early 20<sup>th</sup> century describe bedrock mortars, pictographs, and “stone walled rooms,” which were dismantled by ranchers prior to 1919. The site was revisited in 1991 and 2001, and portions of the site were tested in 2009 and 2010 by Bowden-Renna and Apple and identified as an extensive and significant habitation site. The northwest portion of the site appears to have been destroyed by the construction of industrial buildings between 2006 and 2009; however, approximately 80 to 90 percent of the site appears to remain undeveloped. The site (and nearby SDI-8280) were tested in 2016, and the records were updated. Data recovery was performed at CA-SDI-12209 (Loci 1 and 2) in 2015 as mitigation for proposed impacts associated with the Citracado Parkway Extension, resulting in the recovery of more than 156,000 artifacts, relocation of pictographs, and recovery of human remains. The current survey found the site to be in unchanged condition since 2015.

**37-017514:** This prehistoric isolated angular piece of quartz was recorded in 1999 by Tierra Environmental Services. No updates appear to have been added to the record since that time. The isolate was not relocated during the current survey.

**37-025575/CA-SDI-16988:** This prehistoric site was recorded and tested in 2004 by Brian F. Smith and Associates. As described, the site appears to have been a temporary camp, with lithic production waste, a bedrock milling feature, faunal remains, shell, and fire-affected rock. The artifacts noted during testing totaled 381; these were recovered from 10 shovel test pits and one test unit. At the time the site was recorded, the property was rural residential and only slightly developed. Beginning in 2004, the property was developed for a business park. Significant grading and padding occurred. Citracado Parkway (a four-lane paved road) was constructed through the west edge of the site, and an office complex was built on the northwest corner. The site was revisited for the current effort. No cultural remains were identified within the recorded boundaries of the site; it is assumed that the site was destroyed. It seems likely that testing at the site found it not eligible for the CRHR or that data recovery was conducted prior to construction and then the site was destroyed; however, no site record updates were found to corroborate this assumption.

**37-031871:** This resource is a historic ranch complex near a proposed staging area. The resource appears to be in the same condition as originally recorded by ASM Affiliates in 2010, with a residence and several outbuildings that were built from a variety of materials over a period of many years. The original structure reportedly dates to 1914. The resource has not been evaluated for its significance; however, the possibility exists that significant subsurface deposits could exist on the grounds surrounding the buildings.

**37-032160/CA-SDI-20363:** This significant prehistoric site was originally identified during monitoring for the San Marcos High School Expansion Project in 2001 by ASM Affiliates. Upon discovery, the site was tested using shovel test pits, tests units, and trenching to determine the extent of the site. Flaked stone, ground stone, shell, fire-affected rock, bone, and ocher were recovered. San Marcos Unified School District, the San Luis Rey Band of Mission Indians, and the Pechanga Band of Luiseño Indians agreed to cap the site, leaving much of it intact below the ground surface. The site is significant and extensive. The site location was visited for the current survey; no cultural remains were identified on the surface. Subsurface testing was conducted through the excavation of 12 shovel test pits at seven pole locations. Three pole locations were positive for subsurface archaeological deposits and the site boundaries expanded.

**37-033103:** This resource consists of two metavolcanic flakes that were identified down slope from a disturbed road shoulder in 2013 by K. Davison. No other cultural materials were identified in the vicinity. Since the time the resource was recorded, the area has been graded, cut, filled, and padded for development as a business park. The isolated flakes were not relocated during the current survey.

**37-033635/CA-SDI-21128:** This historic linear resource was originally recorded in 2014 by C. Shaver, described as a segment of road dating to 1879. It was noted that the road has been affected greatly by the modern era. It was paved sometime in the early to mid-20<sup>th</sup> century, and no features or artifacts dating to earlier than the 1950s were identified during recordation. The record was updated in 2015 by I. Cordova, when the site was found to be in much the same condition as the year before. The site was visited during the current survey and found to be in the same condition as previously reported, although it had been recently repaved.

**TL-6975-S-4:** This is a historic site with scattered brick and debris. It was recorded by NWB during the 2015 survey.

**TL-6975-S-5:** This is a lithic reduction site. It was recorded by NWB during the 2015 survey.

#### **4.5.4 Potential Impacts**

The Proposed Project includes removing existing wood pole structures, installing new steel pole structures, and reconductoring for the existing TL 680C power lines; constructing a new power line segment; and converting a de-energized line to a 69 kV power line. The operation and maintenance activities required for the power lines would not change from those currently required for the existing system. The new steel poles would require less maintenance and repair than the existing wood poles; however, due to the additional structures and hardware in Segment 2, there would be a slight increase in frequency of maintenance. Because the increase in the frequency would be slight, effects from the operation and maintenance of the Proposed Project on the environment would be negligible. Therefore, the impact analysis is focused on construction activities that are required to install the new conductor, remove existing wood pole structures, install new steel pole structures, and establish temporary work areas, as described in Chapter 3, Project Description.



#### 4.5.4.1 Significance Criteria

Under CEQA, the effects of construction, operation, and maintenance of the Proposed Project on historically significant cultural resources must be considered.

According to Section 15002(g) of the CEQA Guidelines, “a significant effect on the environment is defined as a substantial adverse change in the physical conditions that exist in the area affected by the proposed project.” As stated in Section 15064(b) of the CEQA Guidelines, the significance of an activity may vary with the setting. The potential significance of Project-related impacts on cultural resources was evaluated with respect to the applicable criteria from Appendix G of the CEQA Guidelines, as discussed in the following sections.

**a) Would the project cause a substantial adverse change in the significance of a historical resource, as defined in Section 15064.5?**

**Construction – Less than Significant with Mitigation Incorporated**

There are 18 identified cultural resources within the survey area, of which three are historical resources. One of the resources has been deemed not eligible for the NRHP/CRHR. The remaining two resources have not been evaluated for historical significance and may qualify as historical resources, as identified in State CEQA Guidelines Section 15064.5(a). For the purpose of the Proposed Project, these sites are assumed to qualify as “historical resources,” as defined by CEQA.

Resources were identified through record searches and cultural surveys, and avoidance measures were developed through field visits by NWB, ICF, and SDG&E personnel. In most cases, Proposed Project facilities would be far enough from historical resource locations to avoid direct impacts with only minimal avoidance measures. In other cases, a resource or portion of a resource is within a developed area and has most likely been destroyed by that facility’s construction; therefore, no further action is required. Implementation of the avoidance measures presented below would protect the integrity of the remaining cultural resources present within the survey area. The objective of the avoidance measures is to avoid any adverse effects on sites during the removal of existing wood poles, the setting of new steel poles, the setting of associated anchors, work spaces, stringing sites, access roads, and other Proposed Project components. The avoidance measures presented herein reduce the potential for significant adverse effects on such resources.

The current design places the Proposed Project far enough from intact historical resource locations so that no direct impacts should occur with implementation of Applicant-Proposed Measures (APMs) CUL-1 through CUL-9. These APMs would require training of construction workers, establishment of ESAs to avoid resources, monitoring in ESAs, and treatment for inadvertent discoveries. With implementation of these APMs, any potential impacts on such historical resources would remain less than significant.

Construction of the Proposed Project including the installation of new poles and limited underground work could affect unknown historical resources by disturbing subsurface soils and disturbing or destroying unknown buried cultural deposits. With implementation of APMs CUL-1 through CUL-9, any potential impacts on such unknown historical resources would remain less than significant.

#### **Operation and Maintenance – No Impact**

SDG&E currently maintains and operates existing electric power, transmission, distribution and substation facilities throughout the Proposed Project site. Maintenance associated with these facilities are included in the baseline conditions used to complete this analysis. The Proposed Project would require the same type of maintenance activities as the existing electric utilities corridor. The new steel poles would require less maintenance and repair than the existing wood poles; however, the new structures and hardware in Segment 2 would require an increase in the frequency of maintenance trips; however, this increase would be so small it would be negligible. Moreover, SDG&E already has standard internal programs and practices that avoid impacts on cultural resources, and those programs and practices would not change as a result of the Proposed Project. There would be no regular operational impacts (ground disturbance) on cultural resources within the Proposed Project once construction is completed. Any ground-disturbing activities associated with Proposed Project operation and maintenance would be performed at locations already disturbed for Proposed Project construction. Therefore, no impacts on cultural resources are anticipated during the continuing operation and maintenance following construction of the Proposed Project.

#### **b) Would the project cause a substantial adverse change in the significance of an archaeological resource, as defined in Section 15064.5?**

##### **Construction – Less than Significant with Mitigation Incorporated**

A total of 18 cultural resources that have been identified within the Proposed Project. Three are historical resources, the remaining 15 are archaeological sites or isolates. Four of the archaeological resources have been recorded as appearing eligible for the CRHR. Nine are deemed not eligible for the CRHR including one site that has potentially eligible deposits; however, the portion of the previously recorded boundary within the Proposed Project has been destroyed. Two have not been evaluated for their potential eligibility for the CRHR as significant resources. APMs CUL-1 through CUL-9 will be implemented to lessen impacts to less-than-significant levels. Therefore, no substantial adverse changes to the significance of an archaeological resource would occur. Should the footprint of the Proposed Project change, areas that have not been surveyed would need to be, and if cultural resources are present in these areas, impacts on the resources would need to be addressed in supplemental documentation.

Construction of the Proposed Project (e.g., excavation of holes for installation of the power line structures) could affect prehistoric archaeological sites by disturbing subsurface soils and disturbing or destroying unknown buried cultural deposits. Any potential impacts would remain less than significant with implementation of the cultural resources Proposed Project design features, such as avoiding culturally sensitive areas; ordinary construction restrictions, such as establishing ESAs in the construction area (see Section 4.5.3.2, Cultural Setting, subheading Archaeological Field Survey Results); and APMs CUL-1 through CUL-9.

**Operation and Maintenance – No Impact**

SDG&E currently maintains and operates existing electric power, transmission, distribution and substation facilities throughout the Proposed Project site. Maintenance associated with these facilities are included in the baseline conditions used to complete this analysis. The Proposed Project would require the same type of maintenance activities as the existing electric utilities corridor. The new steel poles would require less maintenance and repair than the existing wood poles; however, the new structures and hardware in Segment 2 would require an increase in the frequency of maintenance trips; however, this increase would be so small it would be negligible. Moreover, SDG&E already has standard internal programs and practices that avoid impacts on cultural resources and those programs and practices would not change as a result of the Proposed Project. There would be no operational impacts (ground disturbance) on cultural resources within the Proposed Project once construction is completed. The only activities that would occur would be regular inspection, maintenance, and repairs, such as structure and insulator replacements and underground line inspection (performed from the nine underground splice vaults). With the exception of the underground transmission line inspection and maintenance (Segment B) these activities would decrease slightly from existing conditions, and would have no effect on archaeological resources. Any ground-disturbing activities associated with Proposed Project operation and maintenance would be performed at locations already disturbed for Proposed Project construction and thus would have no effect on archaeological resources. Therefore, no impacts on cultural resources are anticipated during the continuing operation and maintenance following construction of the Proposed Project.

**c) Would the project disturb any human remains, including those interred outside of formal cemeteries?****Construction – Less than Significant with Mitigation Incorporated**

There are no known existing cemeteries or previously recorded Native American or other human remains within or directly adjacent to the survey area. Therefore, the potential for the inadvertent discovery of Native American or other human remains during subsurface construction associated with the Proposed Project is considered low. If human remains are encountered during the course of construction, SDG&E would halt work in the vicinity of the find and implement the appropriate notification processes, as required by law (California Health and Safety Code Section 7050.5, Public Resources Code Section 5097.98-99, and Cal NAGPRA). As a result, potential impacts would be less than significant. Should the footprint of the Proposed Project change, areas that have not been surveyed would need to be, and if human remains are present in these areas, impacts on the resources would need to be addressed in supplemental documentation. Any potential impacts on as-yet unidentified human remains would remain less than significant with implementation of the cultural resources Project design features, such as avoiding culturally sensitive areas; ordinary construction restrictions, such as establishing ESAs in the construction area (see Section 4.5.3.2, Cultural Setting, subheading Archaeological Field Survey Results); and APMs CUL-1 through CUL-9.

**Operation and Maintenance –No Impact**

SDG&E currently maintains and operates existing electric power, transmission, distribution and substation facilities throughout the Proposed Project site. Maintenance associated with these facilities are included in the baseline conditions used to complete this analysis. The



Proposed Project would require the same type of maintenance activities as the existing electric utilities corridor. The new steel poles would require less maintenance and repair than the existing wood poles; however, the new structures and hardware in Segment 2 would require an increase in the frequency of maintenance trips; however, this increase would be so small it would be negligible. Moreover, SDG&E already has standard internal programs and practices that avoid impacts on cultural resources and those programs and practices would not change as a result of the Proposed Project. Ground-disturbing activities associated with Proposed Project operation and maintenance would be performed at locations that have been previously disturbed for Proposed Project construction. Therefore, no impacts on human remains are anticipated during the continuing operation and maintenance of the Proposed Project.

**d) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:**

- i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?
- ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

**Construction – Less than Significant with Mitigation Incorporated**

The San Luis Rey band of Mission Indians has identified site CA-DI-20363 as a TCR. Subsurface survey excavations were undertaken to determine if site CA-SDI-20363 extended into the Proposed Project Area. The subsurface testing identified archaeological deposits within the Proposed Project Area. Additional testing or data recovery will be conducted within the Proposed Project Area prior to commencing construction. Native American tribes will be given the opportunity to participate in and monitor this work. Tribal formal consultation would conclude at the end of the CEQA process by appropriate lead agencies; however, informal coordination with tribes will continue as appropriate. The Santa Ysabel Band of Diegueno Mission Indians and the San Luis Rey Band of Mission Indians both consider the Proposed Project Area to be sensitive for cultural resources for both the Luiseno and Kumeyaay people because it overlaps traditional areas of occupation for both groups. The Tribes have requested that a Native American from both tribes participate in monitoring during all ground-disturbing activities that occur within native soils. If any additional TCRs are identified in the Proposed Project Area, they will be avoided, preserved in place, or handled appropriately as determined during consultation. This may include implementing APMs CUL-1 through APM CUL-9, which would provide worker awareness, demarcation of sensitive areas near existing resources, and

appropriate treatment measures for TCRs that might be discovered. As a result, any potential impacts would be less than significant.

#### **Operation and Maintenance – Less than Significant with Mitigation Incorporated**

SDG&E currently maintains and operates existing electric power, transmission, distribution and substation facilities throughout the Proposed Project site. Maintenance associated with these facilities are included in the baseline conditions used to complete this analysis. The Proposed Project would require the same type of maintenance activities as the existing electric utilities corridor. The new steel poles would require less maintenance and repair than the existing wood poles; however, the new structures and hardware in Segment 2 would require an increase in the frequency of maintenance trips; however, this increase would be so small it would be negligible. Moreover, SDG&E already has standard internal programs and practices that avoid impacts on cultural resources and those programs and practices would not change as a result of the Proposed Project. Ground-disturbing activities associated with Proposed Project operation and maintenance would not be likely; however, if they occurred, they would be performed at locations that have been previously disturbed for Proposed Project construction and would not impact undisturbed archaeological subsurface deposits within a TCR. Any possible potential impacts on as-yet unidentified TCRs would remain less than significant with continuing consultation; implementation of the cultural resources Proposed Project design features, such as avoiding culturally sensitive areas; ordinary construction restrictions, such as establishing ESAs in the construction area (see Section 4.5.3.2, Cultural Setting, subheading Archaeological Field Survey Results); and APMs CUL-1 through CUL-9.

#### **4.5.5 Applicant-Proposed Measures**

The following cultural resource-specific APMs would be implemented for the Proposed Project:

**APM CUL-1:** Prior to the initiation of construction or ground-disturbing activities, all SDG&E contractors and subcontractor personnel will receive training regarding the appropriate work practices necessary to effectively implement the following APMs and comply with the applicable environmental laws and regulations. The training will address the potential for exposing subsurface cultural resources and recognizing possible buried resources. The training will include the procedures to be followed upon discovery or suspected discovery of archaeological materials, including Native American remains, and their treatment.

**APM CUL-2:** Prior to construction, a qualified archaeological consultant will be retained by SDG&E to complete an analysis and assessment of the potential to disturb resources that were identified during the initial studies from major ground-disturbing activities. The analysis and assessment will be prepared to meet regulatory requirements. Proposed Project sites that require testing for a significance determination or data recovery for significant sites, will be treated on a case-by-case basis using all applicable criteria. One area, the San Marcos High School area, has currently been identified as a site that would require further testing and or data recovery.

**APM CUL-3:** If grading or road improvements are to be conducted along existing access roads that contain unevaluated or NRHP- or CRHR-eligible resources, monitoring by a qualified archaeological monitor will occur where the access road crosses the site or is located within the boundaries of a site. If surface expressions of the site (i.e., artifacts) are present within the road, equipment blades will be lifted when traversing the site. Additionally, all vehicles will remain on existing dirt roads and/or new access routes identified for the Proposed Project. If needed, additional overland travel or access routes will be reviewed by SDG&E's Cultural Resource Specialist, and appropriate avoidance measures and monitoring will be implemented.

**APM CUL-4:** Native American monitoring may be implemented for portions of the Proposed Project that have the potential to affect unidentified TCRs. The role of the Native American monitor will be to observe Proposed Project construction in mapped sensitive areas and facilitate communication of tribal concerns to the qualified archaeologist, the SDG&E Cultural Resources Specialist, and/or construction personnel and tribal council.

**APM CUL-5:** A qualified archaeologist will attend preconstruction meetings, as needed, to consult with the excavation contractor concerning excavation schedules, archaeological field techniques, and safety.

**APM CUL-6:** Known cultural resources that can be avoided will be demarcated as ESAs. Construction crews will be instructed to avoid disturbance of these areas. A qualified archaeological monitor, under the direction of the qualified archaeologist, will monitor ground-disturbing activities in the vicinity of all ESAs and areas determined to have a high potential for buried cultural deposits within the Proposed Project Area. The requirements for archaeological monitoring will be noted in the preconstruction training and reiterated at construction tailboards, as appropriate. During construction, if ESA fencing has been established and the possibility of buried cultural deposits is determined to be low after initial ground disturbance, the onsite qualified archaeological monitor may determine that monitoring is no longer required in that area. The archaeologist's and monitor's duties will include monitoring, evaluating any finds, analyzing collected materials, and preparing a monitoring results report conforming to guidelines for Archaeological Resource Management Reports.

**APM CUL-7:** An archaeological monitoring results report (with appropriate graphics), which describes the results, analyses, and conclusions of the monitoring program, will be prepared and submitted to SDG&E's Cultural Resources Specialist following termination of construction activities in a given area when the monitoring program is no longer required. Any new cultural sites or features encountered will be recorded with the SCIC at San Diego State University.

**APM CUL-8:** All collected cultural remains will be cataloged and permanently curated with an appropriate institution. All artifacts will be analyzed to identify function and chronology as they relate to the history of the area. Faunal material will be identified as to species.



**APM CUL-9:** In the event that cultural resources are discovered, the archaeologist will have the authority to divert or temporarily halt ground disturbance to allow evaluation of potentially significant cultural resources. The archaeologist will contact SDG&E's Cultural Resource Specialist at the time of discovery. The archaeologist, in consultation with SDG&E's Cultural Resource Specialist, will determine the significance of the discovered resources. SDG&E's Cultural Resource Specialist must concur with the evaluation procedures to be performed before construction activities are allowed to resume. If the discovery is not significant, no further work is required. For significant cultural resources, preservation in place shall be the preferred manner of mitigating impacts. For resources that cannot be preserved in place, a Research Design and Data Recovery Program will be prepared and carried out to mitigate impacts.

#### 4.5.6 References

- Bean, Lowell John, and Florence Shipek. 1978. Luiseño. Pages 550–563 in Robert F. Heizer (ed.), *Handbook of North American Indians*. Volume 8, California. Washington, DC: Smithsonian Institution.
- Carrico, Richard L. 2008. *Strangers in a Stolen Land*. Sunbelt Publications.
- City of Vista. 2009. *City of Vista Municipal Code*. Online: <http://records.cityofvista.com/WebLink/DocView.aspx?id=357144&searchid=6689bacf-0195-4258-a180-6c6d27d23690&dbid=0>. Site visited on July 31, 2017.
- City of Vista. 2012. *Vista General Plan 2030*. Online: <http://www.cityofvista.com/services/city-departments/community-development/building-planning-permits-applications/vista-general-plan-2030>. Site visited on July 21, 2017.
- Luomala, Kathleen. 1978. ipai-Ipai. In R. F. Heizer (ed.), *Handbook of North American Indians*. Volume 8, California. Smithsonian Institution, Washington D.C.
- Meighan, C. W. 1954. A Late Complex in Southern California Prehistory. In *Southwestern Journal of Anthropology* 10(2):255–264.
- Moratto, Michael. 1984. *California Archaeology*. Academic Press, Inc.
- Phillips, George Harwood. 1975. *Chiefs and Challengers*. Los Angeles, CA: University of California Press.
- Rogers, Malcolm J. 1945. An Outline of Yuman Prehistory. In *Southwestern Journal of Anthropology* 1(2):157–198.
- Shipek, Florence C. 1982. Kumeyaay Socio-Political Structure. *Journal of California and Great Basin Anthropology* 4(2):296–303.
- Shipek, Florence C. 1991. *Delfina Cuero*. Ballena Press.

- Sparkman, Phillip S. 1908. The Culture of the Luiseño Indians. In *University of California Publications in Archaeology*. Volume 8. Berkeley, CA: University of California Press.
- Spier, L. 1923. Southern Diegueño Customs. *University of California Publications in American Archaeology and Ethnology* 20:292–358.
- True, D. L. 1970. *Investigation of a Late Prehistoric Complex in Cuyamaca Rancho State Park, San Diego County, California*. Archaeological Survey Monograph, Department of Anthropology, University of California, Los Angeles.
- True, D. L., C. W. Meighan, and Harvey Crew. 1974. Archaeological Investigations at Molpa, San Diego County, California. In *University of California Publications in Anthropology*. Volume 11. Berkeley, CA: University of California Press.
- White, Raymond C. 1963. Luiseño Social Organization. In *University of California Publications in American Archaeology and Ethnology*. Volume 48. Berkeley, CA: University of California Press.
- Wiley, G. R., and P. Phillips. 1958. *Method and Theory in American Archaeology*. University of Chicago Press.
- Winterrowd, Cathy L., and Florence C. Shipek. 1986. *Ethnographic Investigation: Pala Sand and Gravel Extraction Project*. San Diego, California. RBR and Associates, Inc.

Page Intentionally Left Blank



## Table of Contents

<b>4.6</b>	<b>Geology and Soils .....</b>	<b>4.6-1</b>
4.6.1	Introduction.....	4.6-2
4.6.2	Methodology .....	4.6-2
4.6.3	Existing Conditions.....	4.6-2
4.6.4	Potential Impacts.....	4.6-11
4.6.5	Applicant-Proposed Measures .....	4.6-16
4.6.6	References.....	4.6-17

## List of Figures

Figure 4.6-1: Geologic Units .....	4.6-19
------------------------------------	--------

## List of Tables

Table 4.6-1: Geologic Units along the Proposed Project Alignment.....	4.6-7
Table 4.6-2: Major Faults in the Region .....	4.6-8
Table 4.6-3: Soils in the Proposed Project Area .....	4.6-11

## Acronyms and Abbreviations

Alquist-Priolo Act	Alquist-Priolo Special Studies Act of 1972
amsl	above mean sea level
APM	Applicant-Proposed Measure
BMPs	best-management practices
CEQA	California Environmental Quality Act
Construction General Permit	General Permit for Discharges of Stormwater Runoff Associated with Construction Activity
CPUC	California Public Utilities Commission
Mw	maximum earthquake magnitude
PEA	Proponent's Environmental Assessment
RWQCB	Regional Water Quality Control Board
SDG&E	San Diego Gas & Electric Company
SWPPP	Stormwater Pollution Prevention Plan
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Service

## 4.6 GEOLOGY AND SOILS

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a.	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i.	Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii.	Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii.	Seismically related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv.	Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b.	Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c.	Be located on a geologic unit or soil that is unstable, or would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d.	Be located on expansive soil, as defined by Article 1803.5 of the California Building Code, creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e.	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



### 4.6.1 Introduction

This section of the Proponent's Environmental Assessment (PEA) describes existing geologic and soil resources within the Proposed Project Area and potential impacts on these resources that could result from construction, operation, and maintenance of the Proposed Project. The Proposed Project's potential effects on these resources were evaluated using the significance criteria set forth in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. The analysis concludes that, with implementation of project design features, construction, operation, and maintenance of the Proposed Project would have a *less-than-significant impact* on geology and soils.

### 4.6.2 Methodology

Preparation of this section was based primarily on review of geologic literature and unpublished documents and/or data (such as engineering investigations/services for adjacent development projects) that cover the Proposed Project Area. These included publications from the U.S. Geological Service (USGS), the U.S. Soil Conservation Service, and the California Department of Conservation, California Geological Survey. In addition, a geotechnical study was prepared for the TL 6975 San Marcos to Escondido Project by Geocon in 2017. General plans from the County of San Diego (County), City of Carlsbad, City of Escondido, City of San Marcos, and City of Vista were also reviewed for seismic and geologic hazards data. Finally, the Proposed Project description was reviewed, and the potential for impacts related to geologic resources and hazards was evaluated, based on existing geologic and soil conditions, as determined by the data review.

### 4.6.3 Existing Conditions

#### 4.6.3.1 Regulatory Setting

##### Federal

No federal regulatory requirements are relevant to the assessment of Proposed Project impacts related to geology and soils.

##### State

##### *Alquist-Priolo Special Studies Act of 1972*

The Alquist-Priolo Special Studies Act of 1972 (Alquist-Priolo Act), required the California Division of Mines and Geology (now the California Geological Survey) to compile maps of the surface traces of all known active faults in California. Although the Alquist-Priolo Act does not impose any requirements on the Proposed Project, the active faults mapped by the state provide information for evaluating potential impacts from surface fault displacement in accordance with the CEQA Initial Study Checklist 6(a)(i).

*California Public Utilities Commission General Order 95*

California Public Utilities Commission (CPUC) General Order 95 designates rules and regulations for overhead electric line construction.

*Regional Water Quality Control Board General Construction Permit*

The Regional Water Quality Control Board (RWQCB) General Construction Permit requires that a Stormwater Pollution Prevention Plan (SWPPP) be prepared and implemented for projects disturbing more than 1 acre of land. Although the General Construction Permit is a regulatory requirement for water quality protection (see further discussion in Section 4.8, Hydrology and Water Quality), its requirements for stormwater best management practices (BMPs) include measures that limit impacts on soils.

**Local**

The Proposed Project is not subject to local discretionary regulations because the CPUC has exclusive jurisdiction over the siting, design, and construction of the Proposed Project. The following analysis of local regulations related to geology and soils is provided for informational purposes.

*San Diego County General Plan*

The *San Diego County General Plan* (2011) Safety Element provides goals, objectives, and policies regarding geological hazards and includes safety considerations in the planning and decision-making process by establishing policies related to future development that will minimize the risk of personal injury, loss of life, property damage, and environmental damage associated with natural and manmade hazards. Select applicable County General Plan policies are listed below.

**S-7: Reduced Seismic Hazards.** Minimized personal injury and property damage resulting from seismic hazards.

**S-7.1: Development Location.** Locate development in areas where the risk to people or resources is minimized. In accordance with California Department of Conservation Special Publication 42, require development be located a minimum of 30 feet from active or potentially active faults, unless an alternative setback distance is approved, based on geologic analysis and feasible engineering design measures adequate to demonstrate that the fault rupture hazard would be avoided.

**S-7.2: Engineering Measures to Reduce Risk.** Require all development to include engineering measures to reduce risk in accordance with the California Building Code, Uniform Building Code, and other seismic and geologic hazard safety standards, including design and construction standards that regulate land use in areas known to have or potentially have significant seismic and/or other geologic hazards.

**S-7.3: Land Use Location.** Prohibit high-occupancy uses, essential public facilities, and uses that permit significant amounts of hazardous materials within Alquist-Priolo and County special studies zones.

**S-8: Reduced Landslide, Mudslide, and Rock Fall Hazards.** Minimized personal injury and property damage caused by mudslides, landslides, or rock falls.

**S-8.1: Landslide Risks.** Direct development away from areas with high landslide, mudslide, or rock fall potential when engineering solutions have been determined by the County to be infeasible.

**S-8.2: Risk of Slope Instability.** Prohibit development from causing or contributing to slope instability.

#### *City of Carlsbad General Plan*

The *City of Carlsbad General Plan* Public Safety Element acknowledges the risk posed by hazards and outlines goals and policies to reduce the risk of injury, loss of life, property damage, and economic and social dislocation resulting from natural and manmade hazards. The following policy pertains to utility work within Carlsbad:

**P-6.9:** Allow for consideration of seismic and geologic hazards at the earliest possible point in the development process, preferably before comprehensive engineering work has commenced.

**P-6.10:** Maintain geotechnical report guidelines identifying specific requirements for various levels of geotechnical evaluation, including reconnaissance studies, preliminary geotechnical investigation reports, and as-graded geotechnical reports.

**P-6.11:** Use information in Figure 6-4 as a generalized guideline for planning purposes and in determining the type and extent of geotechnical report to be required for a proposed development project. When a geotechnical report is required, require submission of the report and demonstration that a project conforms to all mitigation measures recommended in the report prior to city approval of the proposed development.

**P-6.12:** Require a geotechnical investigation and report of all sites proposed for development in areas where geologic conditions or soil types are susceptible to liquefaction. Also require demonstration that a project conforms to all mitigation measures recommended in the geotechnical report prior to city approval of the proposed development (as required by state law).

**P-6.13:** Prohibit location of critical structures directly across known earthquake faults unless a geotechnical and/or seismic investigation is performed to show that the earthquake fault is neither active nor potentially active.



**P-6.14:** Require applicants to conduct detailed geologic and seismic investigations at sites where the construction of critical structures (high-occupancy structures and those that must remain in operation during emergencies) and structures over four stories are under consideration.

**P-6.15:** In accordance with the California Subdivision Map Act, deny subdivision maps if a project site is not physically suitable for either the type or density of a proposed development because of geologic, seismic, or other hazards.

**P-6.16:** Require qualified geotechnical engineering professionals to review grading plans and inspect areas of excavation during and after grading to evaluate slope stability and other geotechnical conditions that may affect site development and public safety. In areas of known or suspected landslides and/or adverse geologic conditions, the following determinations should be made: extent of landslide depth-to-slide plane, soil types and strengths, presence of clay seams, and groundwater conditions.

**P-6.17:** Continue to regulate development, including remodeling or structural rehabilitation, to ensure adequate mitigation of safety hazards on sites having a history or threat of seismic dangers, erosion, subsidence, or flooding.

#### *City of Escondido General Plan*

The *City of Escondido General Plan* Community Protection Element addresses such issues as flood and fire hazards, geologic and seismic activity, and hazardous materials and identifies and addresses the most relevant public safety issues affecting the community. The following policy pertains to utility work within Escondido:

**Soils and Seismicity Policy 7.1:** Regularly review, adopt, and enforce seismic and geologic safety standards, including the Uniform Building Code, in site design and building construction methods to protect public health and safety.

**Soils and Seismicity Policy 7.2:** Minimize development of public utilities in areas where geologic and seismic hazards exist to avoid additional costs associated with installation, maintenance, and replacement.

**Soils and Seismicity Policy 7.3:** Require that development applications in areas where the potential for geologic and seismic hazards exist, such as slopes of 25 percent or greater, submit a site-specific geotechnical analysis prepared by a certified geotechnical engineer to identify potential hazards and recommend measures to avoid or mitigate said hazards.

**Soils and Seismicity Policy 7.4:** Approve new development in areas identified with geologic or seismic hazards only after completion of a city-approved geotechnical report with appropriate mitigation of such hazards.

**Soils and Seismicity Policy 7.5:** Avoid developing in areas that are susceptible to erosion and sediment loss. Where avoidance is not feasible, require the restoration of natural patterns of surface water runoff after grading to minimize erosion.

#### *City of San Marcos General Plan*

The *City of San Marcos General Plan* Land Use and Safety Element documents safety conditions in the planning area. It identifies preliminary geologic, seismic, flood airport hazards present within the planning area and outlines goals and policies to help mitigate those potential conditions. The following policy pertains to various utility work within San Marcos:

**Policy S-1.1:** Reduce the risk of impacts from geologic and seismic hazards by applying current and proper land use planning, development engineering, building construction, and retrofitting requirements.

#### *City of Vista General Plan*

The *City of Vista's General Plan* contains no specific goals, policies, or ordinances that would be relevant to geology and soils and utility projects.

### **4.6.3.2 Topographic Setting**

The Proposed Project traverses variable terrain, ranging from relatively flat-lying valley floors to steep, rocky slopes. Elevations range from a low of approximately 450 feet above mean sea level (amsl) at Meadowlark Junction and 500 feet amsl at San Marcos Substation on the northwest end to a high of approximately 1,150 feet amsl in the foothills east of San Elijo Road.

### **4.6.3.3 Geological Setting**

#### **Regional Setting**

The Proposed Project Area is within the southern Peninsular Ranges Physiographic Province, which is characterized by northwest-trending fault-bounded mountain ranges, broad intervening valleys, and low-lying coastal plains. Specifically, the Proposed Project Area is in the foothills subprovince of the Peninsular Ranges Geomorphic Province, a region typified by northwest/southeast-trending structural blocks separated by major regional fault zones.

The province has a long and active geologic history. In general, the Peninsular Ranges Geomorphic Province is underlain by Jurassic metavolcanic and metasedimentary rocks and Cretaceous igneous rocks of the Southern California batholith. The Proposed Project occurs on a block of igneous basement rock bounded by the Elsinore Fault Zone to the northeast and the Newport-Inglewood Fault Zone to the west. Surface exposures in the area include rocks ranging from Mesozoic to Quaternary in age as well as recent soil and alluvial deposits of variable depths and composition.

### Proposed Project Geologic Setting

Geologic units that occur along the Proposed Project alignment are summarized in Table 4.6-1: Geologic Units along the Proposed Project Alignment. A geologic map is provided in Figure 4.6-1: Geologic Units. The majority of the Proposed Project alignment occurs in the metamorphosed and unmetamorphosed volcanic and sedimentary (Mzu), Santiago Formation (Tsa), and Tonalite (Kt) zones.

**Table 4.6-1: Geologic Units along the Proposed Project Alignment**

Symbol	Unit Name	Age	Description
Sedimentary Units			
Qya	Young Alluvial Deposits	Quaternary (Holocene Epoch)	Unconsolidated to slightly consolidated sand and gravel deposited in active washes and floodplains.
Tsa	Santiago Formation	Eocene	Low-grade metamorphosed volcanics and volcaniclastics.
af	Artificial Fill	Holocene	Artificial fill from the late Holocene era.
gf	Undocumented Fill	Mesozoic	Granitic and other intrusive crystalline rocks.
Kt	Tonalite, Undivided	Cretaceous	Massive, coarse-grained, light-gray hornblende.
Kmm	Monzogranite of Merriam Mountain	Cretaceous	Massive, medium- to coarse-grained, leucocratic hornblende-biotite monzogranite.
Mzu	Metamorphosed and Unmetamorphosed Volcanic	Mesozoic	Wide variety of unmetamorphosed and low to high metamorphic-grade volcanic and sedimentary rocks. They include prebatholithic (metamorphosed) and synbatholithic (unmetamorphosed) rocks, including metavolcanic rocks (Santiago Peak Volcanics) of Larsen.
Klh	Leucograndiorite of Lake Hodges	Pleistocene	Massive, medium- to coarse-grained biotite-hornblende, leucogranodiorite.
Qoa	Old Alluvial Floodplain Deposits, Undivided	Ecocene	Fluvial sediments deposited on canyon floors. Consists of moderately well-consolidated, poorly sorted, permeable, common slightly dissected gravel, sand, silt, and clay-bearing alluvium.
Kgb	Gabbro, Undivided	Cretaceous	Massive, coarse-grained, dark-gray and black biotite-hornblende-hypersthene gabbro.
Qvop8	Very Old Parlic Deposits, Unit 8	Pleistocene	Poorly sorted, moderately permeable, reddish-brown, interfingering strandline, beach, estuarine, and colluvial deposits composed of siltstone, sandstone, and conglomerate. These deposits rest on the 123- to 125-meter Tierra Santa terrace.
Source: California Department of Conservation 2017			



#### 4.6.3.4 Faulting and Seismicity

The Alquist-Priolo Act required the California Division of Mines and Geology (now the California Geological Survey) to compile maps of the surface traces of all known active faults in the state. By definition, an active fault is one that is “sufficiently active and well-defined,” with evidence of surface displacement within the Holocene epoch time (within approximately about the last 11,000 years). Active fault zones are the locations in the state with the most potential for surface fault rupture. A potentially active fault is one that has evidence of displacement within the Quaternary period (last 1.6 million years). Potentially active faults are considered to also represent possible surface rupture hazards, although to a lesser degree than active faults. In contrast to active or potentially active faults, faults that are considered inactive have not moved in the last 1.6 million years.

The Proposed Project occurs within the area of two USGS 7.5-minute quadrangle maps: (1) the Rancho Santa Fe quadrangle and (2) the Escondido quadrangle. There are no known active or potentially active faults or Alquist-Priolo Act earthquake fault zones in these quadrangles. The closest known active or potentially active faults are those associated with the Newport-Inglewood Fault Zone. The Newport-Inglewood Fault Zone has an estimated slip rate of 1.5 to 2 millimeters per year (Geocon 2017). The closest active or potentially active faults north and east of the Proposed Project are those associated with the Elsinore Fault Zone. The Elsinore Fault Zone is a major dextral strike-slip fault zone that is part of the overall San Andreas fault system that accommodates up to 5 millimeters per year of Pacific-North American plate boundary slip. Active and potentially active surface traces of the Elsinore Fault Zone occur more than 25 miles northeast of the Proposed Project. Other regional faults with the potential to cause strong ground shaking in the Proposed Project Area include the Earthquake Valley Fault Zone and the San Jacinto Fault Zone. The distance from the Proposed Project Area and maximum earthquake magnitude (Mw) for each of these faults is provided in Table 4.6-2: Major Faults in the Region.

**Table 4.6-2: Major Faults in the Region**

<b>Fault Name</b>	<b>Approximate Distance to Proposed Project (miles) and Direction</b>	<b>Maximum Earthquake Magnitude (Mw)</b>
Newport-Inglewood Fault Zone	8.7 miles W	7.2
Elsinore (Julian Section)	> 20 miles NW	7.1
Earthquake Valley	> 30 miles E	6.5
San Jacinto (Coyote Creek Section)	> 50 miles E	6.8
San Jacinto (Anza Section)	> 50 miles NE	7.2
Sources: U.S. Geological Survey 2017		

#### **4.6.3.5 Fault Rupture**

There are no known active or potentially active faults or Alquist-Priolo Act earthquake fault zones within the Proposed Project footprint. Therefore, there are no locations within the Proposed Project footprint that are prone to surface fault rupture.

#### **4.6.3.6 Strong Seismic Shaking**

Strong ground motion or the intensity of seismic shaking during an earthquake is dependent on the distance from the epicenter of the earthquake, the magnitude of the earthquake, and the geologic conditions underlying and surrounding the area. All of Southern California is considered to be a seismically active region. San Diego County is subject to strong seismic shaking from regional earthquakes that may occur on active faults in the region. Active faults that are close enough to the Proposed Project route to cause strong seismic ground shaking are provided in Table 4.6-2: Major Faults in the Region.

#### **4.6.3.7 Geologic Hazards**

##### **Subsidence**

The primary causes of most subsidence are human activities, including groundwater or petroleum withdrawal from large alluvial basins with thick accumulations of unconsolidated sediments, and drainage of organic soils. Regional lowering of land elevation occurs gradually over time. Subsidence is not a significant risk for the Proposed Project because the Proposed Project does not involve the withdrawal of fluid from geologic materials that could cause subsidence and because Proposed Project facilities are not generally vulnerable to adverse effects from subsidence.

##### **Landslides**

Landslide potential can be high in steeply sloped areas. Human factors such as oversteepening/overloading of slopes or the introduction of excessive water in soil pores or joints and fractures in rock can also lead to landslides. The principal natural factors contributing to landslides are topography, geology, and precipitation. Much of the Proposed Project alignment has been investigated by a geotechnical study prepared for previous San Diego Gas & Electric Company (SDG&E) projects (Geocon 2017). No landslides have been identified within the Proposed Project Area. A review of the terrain using aerial photographs, in conjunction with this PEA evaluation, also did not identify any landslides in proximity to Proposed Project structures. Nevertheless, in areas of locally steep terrain, there is potential for landslides and other mass wasting to occur. None of the geologic units that occur in the Proposed Project Area were identified by Geocon's geotechnical study as being prone to landslides. Furthermore, final design of all Proposed Project components would address any substantive risks identified by the geotechnical study.

## Liquefaction and Lateral Spreading

Liquefaction is a seismic phenomenon in which loose, saturated, fine-grained granular soils behave similar to a fluid when subjected to high-intensity ground shaking. An increase in pore pressure occurs as the soil attempts to compact in response to the shaking, resulting in less grain-to-grain soil contact and, therefore, loss of strength. Liquefaction occurs when three general conditions exist: shallow groundwater (40 feet below ground surface or less); low-density, fine-grained sandy soils; and high-intensity ground motion. Effects of liquefaction on level ground can include sand boils, settlement, and bearing capacity failures below structural foundations.

The California Geological Survey has mapped the liquefaction potential in the Proposed Project Area. None of the locations of Proposed Project structures are within areas mapped as potentially susceptible to liquefaction; however, the geotechnical study prepared by Geocon determined that there is a potential liquefaction hazard within the Proposed Project Area that would affect four structure locations near San Mateo Creek. The final design of the four structure locations would address any substantive risks identified as potential liquefaction hazards.

Lateral spreads involve lateral displacement of large intact soil blocks down gentle slopes or in the direction of a steep free face such as a stream bank. Lateral spreading can occur in fine-grained sensitive soils such as quick clays, particularly if remolded or disturbed by construction and grading. Loose granular soils present on gentle slopes and underlain by a shallow water table commonly produce lateral spreads through liquefaction. Conditions conducive to lateral spreading include gentle surface slope, a shallow water table, and liquefiable cohesionless soil. These conditions commonly are found along streams banks, canals, or cut slopes in recent alluvial or deltaic deposits. Structures located at the head of the slide may be pulled apart, and those at the toe of the slide may buckle or compress. The potential for lateral spreading in the Proposed Project Area is low.

## Soil Collapse

Soil collapse occurs when added moisture causes bonds between soil particles to weaken, which allows the soil structure to collapse and the ground surface to subside. Collapsible soils are generally low-density, fine-grained combinations of clay and sand left by mudflows that have dried, resulting in the formation of small air pockets in the subsurface. The addition of moisture reduces the strength of the soil, resulting in collapse or subsidence. The geotechnical study completed for the Proposed Project evaluated the Proposed Project alignment for conditions susceptible to soil collapse. The final design of all Proposed Project components would address any substantive risks identified by the geotechnical study.

### 4.6.3.8 Soils

Table 4.6-3: Soils in the Proposed Project Area, identifies soils that could be affected by the Proposed Project. Soils range from rocky sandy loam to clay. Soil symbols and names in Table 4.6-3: Soils in the Proposed Project Area, correspond to the U.S. Department of Agriculture (USDA) Soil Conservation Service mapping program.



**Table 4.6-3: Soils in the Proposed Project Area**

Symbol	Name	Drainage Class	Typical Slope (%)
AtD	Altamont Clay	Well Drained	9–15
CmE2	Cieneba Rocky	Well Drained	9–30
ExG	Exchequer Rocky Silt	Well Drained	9–30
DaE	Exchequer Rocky Silt	Well Drained	30–70
GaA	Gaviota Fine Sandy Loam	Well Drained	0–2
GaE	Gaviota Fine Sandy Loam	Well Drained	9–30
Hrc	Huerhuero Loam	Well Drained	2–9
HrE2	Huerhuero Loam	Well Drained	15–30
SmE	San Miguel Rocky Silt	Well Drained	9–30
SnG	San Miguel-Exchequer Rocky Silty Loams	Well Drained	9–70
Lec	Las Flores Loamy Fine	Well Drained	2–9
LrE	Los Posas	Well Drained	9–30
Vab	Visalia Sandy Loam	Well Drained	2–5
VsC	Vista Course Sandy Loam	Well Drained	5–9
VsD	Vista Course Sandy Loam	Well Drained	9–15
Source: U.S. Department of Agriculture 2017			

#### 4.6.4 Potential Impacts

The Proposed Project includes reconductoring, removal of existing wood pole structures, and installation of new steel pole structures for the existing TL 680C power lines; construction of a new power line segment; and converting a de-energized line to a 69-kilovolt (kV) power line. The operation and maintenance activities required for the power lines would not change from those currently required for the existing system; however, because of the additional structures and hardware in Segment 2, there would be a slight increase in frequency of maintenance. Because the increase would be slight, effects from operation and maintenance of the Proposed Project on the environment would be negligible. Therefore, the impact analysis is focused on construction activities that are required to install the new conductor, remove the existing wood pole structures, install the new steel pole structures, and establish temporary work areas, as described in Chapter 3, Project Description.

## Significance Criteria

According to Section 15002(g) of the CEQA Guidelines, “a significant effect on the environment is defined as a substantial adverse change in the physical conditions which exist in the area affected by the proposed project.” As stated in Section 15064(b) of the CEQA Guidelines, the significance of an activity may vary with the setting. Project-related impacts on geology and soils were evaluated for the applicable criteria from Appendix G of the CEQA Guidelines, as discussed in the following sections.

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

### Construction – No Impact

No portion of the Proposed Project Area is in an Alquist-Priolo Act Earthquake Fault Zone, and no active or potentially active faults cross the Proposed Project route. The closest known active fault is the Newport-Inglewood fault, which is offshore, approximately 8.7 miles west of the Proposed Project. Because no recognized active faults underlie the Proposed Project Area, no impacts from fault rupture are expected.

### Operation and Maintenance – No Impact

SDG&E currently maintains and operates electric transmission, power, distribution, and substation facilities throughout the Proposed Project Area. SDG&E’s existing facilities and operation and maintenance activities are included in the baseline against which the impacts of the Proposed Project are evaluated. Operation and maintenance activities for the Proposed Project would be similar to baseline conditions; however, the proposed steel poles would require less maintenance and repair than the existing wood poles, while the new structures and hardware in Segment 2 would require slightly more maintenance. This slight increase would not represent a significant change to existing operation and maintenance activities. Therefore, operation and maintenance of the Proposed Project would not result in any potential impacts related to fault rupture.

- a(ii) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?**

### Construction – Less-than-Significant Impact

As previously described in Section a(i), no portion of the Proposed Project Area is in an Alquist-Priolo Act Earthquake Fault Zone, and no active or potentially active faults cross the Proposed Project route. Nonetheless, all of Southern California is considered to be a seismically active region, and the San Diego County area is subject to strong seismic shaking from regional earthquakes that occur on active faults outside the Proposed Project Area. Because of the short construction period and the low likelihood of a moderate-to-large earthquake occurring during

that time, the potential for construction personnel to experience strong seismic ground shaking is considered low. As such, the risk of exposure of people or structures to strong seismic ground shaking during construction is less than significant.

### **Operation and Maintenance – Less-than-Significant Impact**

Design and construction of overhead facilities would conform to CPUC General Order 95, industry practice, and SDG&E internal structural design requirements. These transmission design requirements for wind loading, combined with broken-phase loading, exceed those for seismic accelerations. With application of engineering principles and compliance with design standards outlined in General Order 95 to minimize damage from seismic shaking, the risk of damage to Proposed Project facilities would be less than significant.

As previously noted, SDG&E currently maintains and operates electric transmission, power, distribution, and substation facilities throughout the Proposed Project Area. SDG&E's existing facilities and operation and maintenance activities are included in the baseline against which the impacts of the Proposed Project are evaluated. Operation and maintenance activities for the Proposed Project would be similar to baseline conditions; however, the proposed steel poles would require less maintenance and repair than the existing wood poles, while the new structures and hardware in Segment 2 would require slightly more maintenance. This slight increase would not represent a significant change to existing operation and maintenance activities. Therefore, the operation and maintenance-related seismic risk to people would not be materially different from existing conditions, and the impact would be less than significant.

#### **a(iii) Would the project expose people or structures to potential substantial adverse effects including the risk of loss, injury, or death involving seismically related ground failure, including liquefaction?**

### **Construction – Less-than-Significant Impact**

The Proposed Project alignment has been investigated by a geotechnical study prepared by Geocon (2017). Four structure locations were identified as being potentially susceptible to liquefaction. The four structure locations are in low-lying, saturated alluvial areas adjacent to San Mateo Creek and could be susceptible to liquefaction. As previously mentioned, a geotechnical study was completed for the Proposed Project that considered the geotechnical conditions at each proposed structure location. Because the Proposed Project's final design of the four structure locations would address any substantive risks identified by potential liquefaction hazards, and because of the low likelihood of a large earthquake occurring during the short construction period, the risk of construction personnel being exposed to earthquake-induced liquefaction would be less than significant.

### **Operation and Maintenance – Less-than-Significant Impact**

SDG&E currently maintains and operates existing electric power, distribution, and substation facilities throughout the Proposed Project Area. SDG&E's existing facilities and operation and maintenance activities are included in the baseline against which the impacts of the Proposed Project are evaluated. Operation and maintenance activities for the Proposed Project would be



similar to baseline conditions; however, the proposed steel poles would require less maintenance and repair than the existing wood poles, while the new structures and hardware in Segment 2 would require slightly more maintenance. This slight increase would not represent a significant change to existing operation and maintenance activities. Pursuant to project design features, pole foundations at locations where liquefaction could occur have been designed to account for the possibility of liquefaction to reduce the risk of damage to constructed facilities to less-than-significant levels.

**a(iv) Would the project expose people or structures to potential substantial adverse effects including the risk of loss, injury, or death involving landslides?**

**Construction – Less-than-Significant Impact**

Hazards related to slope instability and landslides are generally associated with foothill areas and mountain terrain as well as steep riverbanks and levees. The majority of the Proposed Project Area is relatively flat, with more elevated topographic features in the eastern part of the alignment, which does not contain landslide hazards. The geological study prepared by Geocon (2017) did not identify any landslide hazard zones. In addition, the Proposed Project would not result in, or create, any new landslide hazards; however, in any areas of locally steep terrain, there is still the potential for landslides to occur. Therefore, the impact would be less than significant.

**Operation and Maintenance – No Impact**

SDG&E currently maintains and operates extensive existing electric transmission, distribution, and substation facilities throughout the Proposed Project Area. SDG&E's existing operation and maintenance activities are included in the baseline against which the impacts of the Proposed Project are evaluated. Operation and maintenance activities for the Proposed Project would be similar to baseline conditions; however, the proposed steel poles would require less maintenance and repair than the existing wood poles, while the new structures and hardware in Segment 2 would require slightly more maintenance. This slight increase would not represent a significant change to existing operation and maintenance activities. Therefore, no impact is anticipated.

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

**Construction – Less-than-Significant Impact**

Construction activities for the Proposed Project would occur mostly within SDG&E's existing power line corridor, with the addition of a widened corridor for a portion of Segment 1 to accommodate replacement poles. Soil erosion or loss of topsoil could result from minor ground-disturbing activities at new pole locations, trenching for underground components, and construction of spur roads, and staging yards where needed during construction.

Soil erosion and topsoil loss would be controlled by implementing SDG&E's *BMP Manual* during design and construction of the Proposed Project. In addition, the Proposed Project would comply with the General Permit for Discharges of Stormwater Runoff Associated with Construction Activity (Construction General Permit), which would include the preparation of a

SWPPP (see Section 4.8, Hydrology and Water Quality, for additional information on the Construction General Permit). Surface disturbance would be minimized to the extent consistent with safe and efficient completion of the Proposed Project. Once temporary surface disturbances are complete, temporary construction impact areas would be stabilized. Therefore, impacts related to soil erosion and loss of topsoil would be less than significant.

### **Operation and Maintenance – No Impact**

SDG&E currently maintains and operates existing electric power, distribution, and substation facilities throughout the Proposed Project Area. The Proposed Project would be located primarily within an existing SDG&E right of way. SDG&E's existing facilities and operation and maintenance activities are included in the baseline against which the impacts of the Proposed Project are evaluated. Operation and maintenance activities for the Proposed Project would be similar to baseline conditions; however, the proposed steel poles would require less maintenance and repair than the existing wood poles, while the new structures and hardware in Segment 2 would require slightly more maintenance. This slight increase would not represent a significant change to existing operation and maintenance activities. Therefore, the Proposed Project's operation and maintenance would have no impact related to soil erosion or loss of topsoil.

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

### **Construction – Less-than-Significant Impact**

The potential for liquefaction and landslide-related impacts is addressed above in CEQA Significance Criteria a(iii) and a(iv).

As described in Section 4.6.3.7, Geologic Hazards, lateral spreading is not a material hazard for the Proposed Project. Therefore, the risk of lateral spreading during construction is less than significant. Construction would have no subsidence impact because the Proposed Project would not involve the withdrawal of subsurface fluids that could cause subsidence, nor would it affect sedimentary materials that are particularly prone to subsidence. As described in Section 4.6.3.7, Geologic Hazards, collapsible soil deposits are not anticipated to be present in the Proposed Project Area. The impact is anticipated to be less than significant.

### **Operation and Maintenance – No Impact**

SDG&E currently maintains and operates existing electric power, distribution and substation facilities throughout the Proposed Project Area. The Proposed Project would be located primarily within an existing SDG&E right of way. SDG&E's existing facilities and operation and maintenance activities are included in the baseline against which the impacts of the Proposed Project are evaluated. Operation and maintenance activities for the Proposed Project would be similar to baseline conditions; however, the proposed steel poles would require less maintenance and repair than the existing wood poles, while the new structures and hardware in Segment 2 would require slightly more maintenance. This slight increase would not represent

a significant change to existing operation and maintenance activities. Therefore, there are no potential impacts as a result of subsidence or collapsible soils associated with the Proposed Project.

**d) Would the project be located on expansive soil, as defined by article 1803.5 of the CBC, creating substantial risk to life or property?**

**Construction – Less-than-Significant Impact**

Expansive soils are clayey soils that have a high plasticity index. Typical shallow reinforced-concrete spread-footing foundations, such as those for buildings and other foundations that cover a considerable area of ground, can be affected by expansive soils if such soils are present close to the ground surface. The Proposed Project does not include any spread-footing foundations (mainly pier foundations) that could be adversely affected by expansive soils. Furthermore, no expansive soils have been identified by Geocon's geotechnical study. Considering that the Proposed Project does not include any foundations that would be susceptible to damage from expansive soils, the limited expansive soils that are present do not create a substantial risk to life or property, and impacts would be less than significant.

**Operation and Maintenance – No Impact**

SDG&E currently maintains and operates extensive existing electric transmission, distribution, and substation facilities throughout the Proposed Project Area. SDG&E's existing operation and maintenance activities are included in the baseline against which the impacts of the Proposed Project are evaluated. Operation and maintenance activities for the Proposed Project would be similar to baseline conditions; however, the proposed steel poles would require less maintenance and repair than the existing wood poles, while the new structures and hardware in Segment 2 would require slightly more maintenance. This slight increase would not represent a significant change to existing operation and maintenance activities. As with the baseline condition, operation and maintenance of the Proposed Project would not include activities that have the potential to affect or be affected by expansive soils. Therefore, no impact is anticipated.

**e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?**

**Construction, Operation and Maintenance – No Impact**

Soil permeability is a consideration for projects that require septic system installation. Because the Proposed Project would not involve the installation of a septic tank or alternative wastewater disposal system, no impacts would occur.

## **4.6.5 Applicant-Proposed Measures**

The Proposed Project would have no potentially significant impacts on geology and soils; therefore, no APMs are proposed.



#### 4.6.6 References

- California Department of Conservation. 2017. *Geologic Hazard Maps*. Online: <https://maps.conservation.ca.gov/geologichazards/>. Site visited on August 14, 2017.
- Geocon Incorporated (Geocon). 2016. *Geotechnical Consultation, TL6975 – San Marcos – Escondido Supplemental Overhead and Underground, San Marcos, California*. Revised: May 6, 2017.
- Geocon Incorporated (Geocon). 2017. *Geotechnical Investigation, TL6975 – San Marcos – Escondido Supplemental Overhead and Underground, San Marcos, California*. August 9, 2017.
- San Diego County. 2011. *San Diego County General Plan*. Adopted August 3 (last amended on October 29, 2014). Online: [http://www.sandiegocounty.gov/pds/gpupdate/docs/BOS\\_Aug2011/C.1-4\\_Conservation\\_and\\_Open\\_Space.pdf](http://www.sandiegocounty.gov/pds/gpupdate/docs/BOS_Aug2011/C.1-4_Conservation_and_Open_Space.pdf). Site visited on August 14, 2017.
- U.S. Department of Agriculture. 2017. *Natural Resources Conservation Service Web Soil Survey*. Online: <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>. Site visited on August 16, 2017.
- U.S. Geological Survey. 2017. *Earthquake Hazards Program*. Online: <https://earthquake.usgs.gov/hazards/qfaults/map/#qfaults>. Site visited on August 14, 2017.

Page Intentionally Left Blank



TL6975 San Marcos  
to Escondido  
Figure 4.6 1:  
Geologic Units

Legend

Project Alignment

- Segment 1 - Rebuild
- Segment 2 - New Build
- Segment 3 - Reconnector

Project Features

- Staging Yard
- Geology Survey Area (250ft Buffer)

General Features

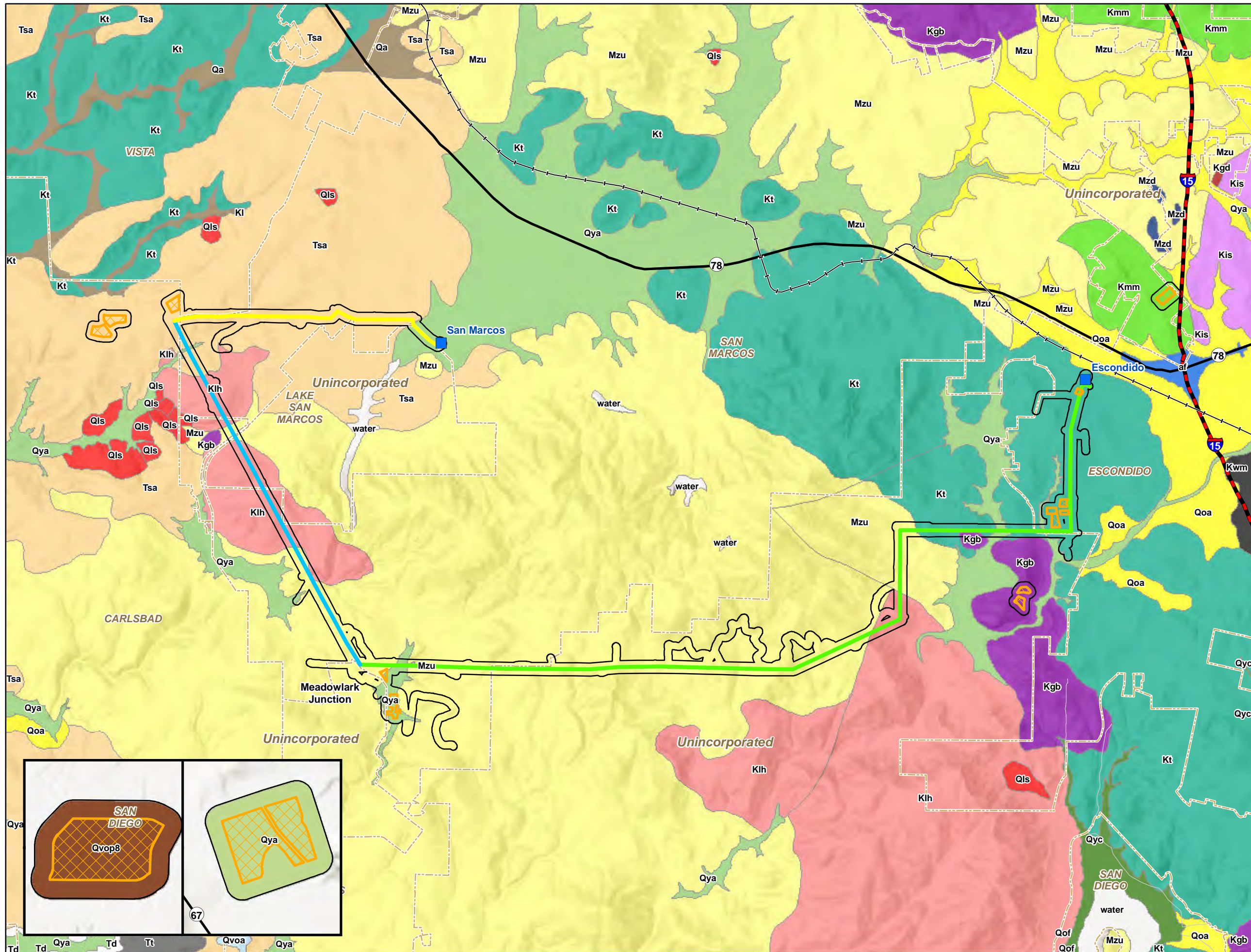
- Existing Substation
- Interstate
- State Highway
- Railroad
- City Boundary
- County Boundary

Geologic Units

- Kgb
- Kgd
- Kis
- Kl
- Klh
- Kmm
- Kt
- Kwm
- Mzd
- Mzu
- Qa
- Qls
- Qoa
- Qof
- Qvoa
- Qvop8
- Qya
- Qyc
- Td
- Tsa
- Tt
- af



0 1,000 2,000 3,000 4,000 5,000  
Feet







## Table of Contents

<b>4.7</b>	<b>Greenhouse Gas Emissions .....</b>	<b>4.7-1</b>
4.7.1	Introduction.....	4.7-1
4.7.2	Methodology .....	4.7-1
4.7.3	Existing Conditions.....	4.7-2
4.7.4	Potential Impacts.....	4.7-9
4.7.5	Applicant-Proposed Measures .....	4.7-12
4.7.6	References.....	4.7-13

## List of Tables

Table 4.7-1: Global Warming Potentials and Atmospheric Lifetimes of Greenhouse Gases .....	4.7-2
Table 4.7-2: Greenhouse Gas Construction Emissions.....	4.7-11

## Acronyms & Abbreviations

AB	Assembly Bill
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CH <sub>4</sub>	methane
CH <sub>4</sub>	methane
CO <sub>2</sub>	carbon dioxide
CO <sub>2e</sub>	carbon dioxide equivalent
CPUC	California Public Utilities Commission
EO	Executive Order
EPA	U.S. Environmental Protection Agency
GHG	greenhouse gas
kV	kilovolt
LTPP	long-term procurement plan
MMT	million metric tons
MT	metric tons
MW	megawatt
N <sub>2</sub> O	nitrous oxide
NO <sub>2</sub>	nitrogen dioxide
O&M	operation and maintenance
OPR	Office of Planning and Research
PEA	Proponent’s Environmental Assessment
PFCs	perfluorocarbons
SB	Senate Bill
SDAPCD	San Diego Air Pollution Control District
SDG&E	San Diego Gas & Electric Company
SF <sub>6</sub>	sulfur hexafluoride
U.S.	United States



## 4.7 GREENHOUSE GAS EMISSIONS

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a.	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b.	Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 4.7.1 Introduction

This section of the Proponent's Environmental Assessment (PEA) describes the existing conditions related to greenhouse gases (GHGs) within the Proposed Project Area and potential GHG-related impacts associated with construction, operation, and maintenance of the Proposed Project. The Proposed Project's potential effects related to GHGs were evaluated using the significance criteria set forth in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. The analysis concludes that the Proposed Project would have *less-than-significant* impacts related to GHG.

### 4.7.2 Methodology

Federal, state, and regional/local regulations and policies were consulted to determine the Proposed Project's level of compliance with, as well as potential impacts on, applicable climate action plans and/or GHG standards. Information for this section was obtained from internet searches of federal, state, and regional/local websites. Refer also to Appendix 4.3-A, Air Quality and Greenhouse Gas Assessment, for modeling inputs, outputs, and additional discussion of the methods used to predict GHG impacts resulting from the Proposed Project.

The majority of the analysis of GHG impacts for the Proposed Project used the latest version of the California Emissions Estimator Model (CalEEMod), Version 2016.3.1 (CAPCOA 2016). CalEEMod contains emissions factors from the California Air Resources Board (CARB)'s OFFROAD Model for heavy construction equipment and CARB's EMFAC 2014 Model for on-road vehicles. Emissions from helicopter use during Proposed Project construction were quantified separately using emission factors and assumptions derived from the review of recent guidance and environmental documents from the United States (U.S.) Environmental Protection Agency (EPA), the Climate Registry, San Diego County, California Public Utilities Commission (CPUC), and industry handbooks. Short-term emissions from construction on the Proposed Project site would occur in San Diego County, where the San Diego Air Pollution Control District (SDAPCD) has primary responsibility for controlling air pollution. GHG impacts at the Proposed Project site during construction were reviewed against established significance criteria.

The analysis of air quality impacts from Proposed Project construction is presented in Section 4.3, Air Quality.

### 4.7.3 Existing Conditions

#### 4.7.3.1 Global Climate Change

Global climate change refers to changes in average climatic conditions on Earth as a whole, including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by naturally occurring atmospheric gases, including water vapor, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O), which are known as GHGs. These gases allow solar radiation (i.e., sunlight) into Earth's atmosphere, but prevent radiative heat from escaping, thus warming Earth's atmosphere.

GHGs are emitted by both natural processes and human activities. Emissions from human activities, such as burning fossil fuels for electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere.

The accumulation of GHGs in the atmosphere regulates Earth's temperature. Global warming potential is the potential of a gas or aerosol to trap heat in the atmosphere. GHGs have varying global warming potential. Global warming potential is the effectiveness of a gas or aerosol to trap heat in the atmosphere. According to the EPA, global warming potential is the "cumulative radiative forcing effect of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas" (EPA 2016). The reference gas for global warming potential is CO<sub>2</sub>; therefore, CO<sub>2</sub> has a global warming potential of 1. The other main GHGs that have been attributed to human activity include CH<sub>4</sub>, which has a global warming potential of 25, and N<sub>2</sub>O, which has a global warming potential of 298.

Table 4.7-1: Global Warming Potentials and Atmospheric Lifetimes of Greenhouse Gases, presents the global warming potential and atmospheric lifetimes of common GHGs.

**Table 4.7-1: Global Warming Potentials and Atmospheric Lifetimes of Greenhouse Gases**

GHG	Formula	100-Year Global Warming Potential	Atmospheric Lifetime (Years)
Carbon Dioxide	CO <sub>2</sub>	1	Variable
Methane	CH <sub>4</sub>	25	12
Nitrous Oxide	N <sub>2</sub> O	298	114
Sulfur Hexafluoride	SF <sub>6</sub>	22,800	3,200

Source: CARB 2016.

All types of GHG emissions are expressed in terms of carbon dioxide equivalent (CO<sub>2</sub>e) and are typically quantified in metric tons (MT) or million metric tons (MMT).

## **SF<sub>6</sub> Emissions**

The use of sulfur hexafluoride (SF<sub>6</sub>) in power transformers and circuit breakers also is relevant because of its extremely high global warming potential of 22,800. Within the electricity industry, emissions of SF<sub>6</sub> generally occur from losses through poor gas-handling practices during equipment installation, maintenance, and decommissioning, and leakage from SF<sub>6</sub>-containing equipment. Older equipment has been found to have a higher rate of SF<sub>6</sub> leakage, while new equipment has a low leak rate of approximately 0.1 percent annually, per industry standards.

### **4.7.3.2 Regulatory Setting**

#### **Federal**

##### *United States Environmental Protection Agency Endangerment Finding*

On April 17, 2009, the EPA issued its proposed endangerment finding for GHG emissions. On December 7, 2009, the EPA Administrator signed the following two distinct findings regarding GHGs under Section 202(a) of the federal Clean Air Act:

- **Endangerment Finding.** The EPA found that the current and projected concentrations of the six key well-mixed GHGs (CO<sub>2</sub>, CH<sub>4</sub>, nitrogen dioxide (NO<sub>2</sub>), hydrofluorocarbons, perfluorocarbons [PFCs], and SF<sub>6</sub>) in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding.** The EPA found that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare.

The findings do not themselves impose any requirements on industry or other entities. Nonetheless, this action was a prerequisite to finalizing the EPA's proposed GHG emission standards for light-duty vehicles, which were jointly proposed by the EPA and the Department of Transportation's National Highway Safety Administration on September 15, 2009.

##### *Mandatory Reporting of Greenhouse Gases*

Mandatory Reporting of Greenhouse Gases (40 Code of Federal Regulations Part 98) requires mandatory reporting of GHGs for certain facilities. Subpart DD of Electrical Transmission and Distribution Equipment Use requires reporting about SF<sub>6</sub> from gas-insulated substations. Under the final Mandatory Reporting Rule for Additional Sources of Fluorinated GHGs, owners and operators of electric power system facilities with a total nameplate capacity that exceeds 17,820 pounds (7,838 kilograms) of SF<sub>6</sub> and/or PFCs must also report emissions of SF<sub>6</sub> and/or PFCs from the use of electrical transmission and distribution equipment. Owners or operators must collect emissions data, calculate GHG emissions, and follow the specified procedures for quality assurance, missing data, recordkeeping, and reporting.



The rule requires that each electric power system facility must report total SF<sub>6</sub> and PFC emissions (including emissions from equipment leaks, installation, servicing, decommissioning, and disposal, and from storage cylinders) from the following types of equipment:

- Gas-insulated substations;
- Circuit breakers;
- Switchgear, including closed-pressure and hermetically sealed-pressure switchgear;
- Gas-insulated lines containing SF<sub>6</sub> or PFCs;
- Gas containers such as pressurized cylinders;
- Gas carts;
- Electric power transformers; and
- Other containers of SF<sub>6</sub> or PFCs.

### State

California Health and Safety Code Section 38505(g) defines GHGs as any of the following compounds: CO<sub>2</sub>, CH<sub>4</sub>, NO<sub>2</sub>, hydrofluorocarbons, PFCs, and SF<sub>6</sub>. CO<sub>2</sub>, followed by SF<sub>6</sub> and N<sub>2</sub>O, are the most common GHGs that result from human activity.

### *California Global Warming Solutions Act of 2006*

In September 2006, Governor Schwarzenegger signed California Assembly Bill (AB) 32, the Global Warming Solutions Act, into law. AB 32 required that by January 1, 2008, the CARB determine what the statewide GHG emissions level was in 1990, and approve a statewide GHG emissions limit that is equivalent to that level, to be achieved by 2020.

The CARB adopted a comprehensive AB 32 Scoping Plan in December 2008 that outlined programs designed to achieve the 2020 GHG reduction goal of 174 MMTCO<sub>2e</sub> emissions through regulations, market mechanisms, and other actions.<sup>1</sup> The CPUC and California Energy Commission concluded a lengthy proceeding in October 2008 to provide electricity and natural gas-specific recommendations to the CARB for inclusion in its Scoping Plan and AB 32 regulations and programs.

For the electricity sector, the Scoping Plan adopted the fundamental recommendations of the CPUC for investor-owned and publicly owned utilities to reduce GHG emissions. The investor-owned and publicly owned utilities must continue to pursue energy-efficiency programs, meet the goal of obtaining 33 percent of their electricity from renewable generation sources by 2020, and comply with a cap-and-trade program that seeks to reduce GHGs from electric generation and other sources.

---

<sup>1</sup> Since adoption of the 2008 Scoping Plan, the CARB subsequently reevaluated its emissions forecast in light of the economic downturn and updated the projected 2020 emissions to 507 MMTCO<sub>2e</sub>. As a result of this updated forecast, an estimated reduction of 80 MMTCO<sub>2e</sub> would be necessary to lower statewide emissions to the AB 32 target of 427 MMTCO<sub>2e</sub> by 2020.

Throughout 2009, CARB staff drafted rules to implement the AB 32 Scoping Plan and held public workshops on each measure included in the Scoping Plan. The CARB identified “Discrete Early Actions” that would be implemented to reduce GHG emissions from the years 2007 through 2012. On January 29, 2009, the CARB announced its regulatory schedule to adopt 74 separate regulations and other measures, including the enhanced energy efficiency programs and 33 percent Renewables Portfolio Standard. The early action measures identified within the Scoping Plan took effect in January 2010.

As required by AB 32, the Scoping Plan must be updated at least every 5 years to evaluate the mix of AB 32 policies to ensure that California is on track to meet the targets set out in the legislation. In October 2013, a draft update to the initial Scoping Plan was developed that builds upon the initial Scoping Plan with new strategies and expanded measures, and identifies opportunities to leverage existing and new funds to drive GHG emission reductions through strategic planning and targeted program investments. The First Update to the Scoping Plan was approved on May 22, 2014 by the CARB.

In addition, Governor Brown signed Executive Order (EO) B-30-15 in April 2015, which established an interim target of reducing GHG emissions to 40 percent below 1990 levels by 2030 and required the CARB to update its Scoping Plan to identify measures to meet the 2030 target. Consequently, the CARB moved forward with a second update to the Scoping Plan to reflect the 2030 target set by EO B-30-15. At the time of this analysis, the Draft 2017 Scoping Plan Update prepared by the CARB is currently out for public review.

#### *Assembly Bill 32 Scoping Plan Measure H-6*

AB 32 Scoping Plan Measure H-6 led to the CARB’s Regulation for Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear (17 California Code of Regulations, Sections 95350–95359). The CARB’s SF<sub>6</sub> regulation sets the maximum emission rate for SF<sub>6</sub>-containing equipment at 10 percent by 2011. The maximum allowable emission rate decreases by 1 percent each year. In 2020, the threshold will remain at 1 percent.

#### *Senate Bill 97*

Senate Bill (SB) 97, enacted in 2007, amends CEQA to state that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. The new regulations became effective as part of the State CEQA Guidelines on March 18, 2010.

Section 15064.4 of the State CEQA Guidelines specifically addresses the potential significance of GHG emissions. Section 15064.4 calls for a “good-faith effort” to “describe, calculate or estimate” GHG emissions. Section 15064.4 states that the analysis of GHG impacts should consider the extent to which the Proposed Project would increase or reduce GHG emissions; exceed a locally applicable threshold of significance; and comply with “regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.”

Section 15064(h)(3) of the State CEQA Guidelines states that a project may be found to have a less-than-significant impact related to GHG emissions if it complies with an adopted plan that includes measures to reduce GHG emissions. The State CEQA Guidelines do not require or recommend a specific analytical methodology or set a quantitative threshold for determining the significance of GHG emissions. The California Supreme Court provided additional guidance in its decision for the Newhall Ranch case on November 30, 2015. The Court upheld the methodology of determining significance of emissions by comparing them to reductions from “business as usual” required to reduce emissions to 1990 levels by 2020, as required by AB 32 and based on CARB’s methodology in its 2008 Climate Scoping Plan. Nonetheless, the Court did not uphold comparing the overall statewide target of 29 percent reduction from the business as usual case to a specific project without adjustment by considering the impacts of a specific project in a specific location. Lead agencies can also apply specific numerical thresholds developed by some local agencies or demonstrate compliance with locally adopted plans.

#### *Senate Bill 375*

SB 375, enacted in 2009, requires the CARB to develop regional reduction targets for GHGs, and prompts the creation of regional plans to reduce emissions from vehicle use throughout the state. California’s 18 Metropolitan Planning Organizations have been tasked with creating Sustainable Community Strategies. The Metropolitan Planning Organizations must develop the Sustainable Communities Strategies through integrated land use and transportation planning, and demonstrate an ability to attain the proposed reduction targets by 2020 and 2035. The Metropolitan Planning Organization for the Proposed Project region is the Southern California Association of Governments. On April 4, 2012, the regional Council of the Southern California Association of Governments adopted the 2012–2035 Regional Transportation Plan/Sustainable Community Strategy.

#### *Executive Order S-3-05*

EO S-3-05, signed by Governor Schwarzenegger on June 1, 2005, calls for a reduction in GHG emissions to 1990 levels by 2020 and for an 80 percent reduction in GHG emissions by 2050. EO S-3-05 also calls for the California Environmental Protection Agency to prepare biennial science reports on the potential impact of continued global climate change on certain sectors of the California economy.

#### *State Standards Addressing Vehicular Emissions*

California AB 1493 (Pavley), enacted on July 22, 2002, required the CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light-duty trucks. The CARB has adopted amendments to the Pavley regulations that reduce GHG emissions in new passenger vehicles from 2009 through 2016. Additional strengthening of the Pavley standards (referred to previously as Pavley II and now referred to as the *Advanced Clean Cars* measure) was adopted for vehicle model years 2017–2025 in 2012. Together, the two standards are expected to increase average fuel economy to roughly 54.5 miles per gallon in 2025.



*Executive Order S-21-09*

EO S-21-09 was enacted on September 15, 2009. EO S-21-09 requires that the CARB, under its AB 32 authority, adopt a regulation by July 31, 2010 that sets a 33 percent renewable energy target, as established in EO S-14-08. Under EO S-21-09, the CARB will work with the CPUC and California Energy Commission to encourage the creation and use of renewable energy sources, and will regulate all California utilities.

The CARB will also consult with the California Independent System Operator and other load-balancing authorities on the impacts on reliability, renewable integration requirements, and interactions with wholesale power markets in carrying out the provisions of the EO. The order requires the CARB to establish highest priority for those resources that provide the greatest environmental benefits with the least environmental costs and impacts on public health.

*Senate Bills 1078 and 107 and Executive Order S-14-08*

SB 1078 requires retail sellers of electricity to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 changed the target date to 2010. In November 2008, Governor Schwarzenegger signed EO S-14-08, which expands the Renewables Energy Standard to 33 percent by 2020. In April 2011, the California legislature enacted SB X1-2, which mandates the Renewables Portfolio Standard of 33 percent by 2020 for investor-owned and publicly owned utilities. On October 7, 2015, SB 350 was signed into law that established new clean energy, clean air and GHG reduction goals for 2030 and beyond. In particular, SB 350 increased the Renewables Portfolio Standard to 50 percent for 2030.

*Executive Order B-30-15 and Senate Bill 32 and Assembly Bill 197*

EO B-30-15 was signed by Governor Brown in April 2015. It established an interim target to those established in EO S-3-05 of reducing GHG emissions to 40 percent below 1990 levels by 2030 and required the CARB to update its current AB 32 Scoping Plan to identify the measures to meet the 2030 target. In September 2016, SB 32 was signed by Governor Brown, which required the CARB to ensure that statewide GHG emissions are reduced to at least 40 percent below the 1990 level by 2030, consistent with the target set forth in EO B-30-15. As a companion legislation to SB 32, AB 197 was also passed to provide more legislative oversight of CARB. In particular, AB 197 created requirements to form a Joint Legislative Committee on Climate Change Policies, required the CARB to prioritize direct emission reductions and consider social costs when adopting regulations to reduce GHG emissions beyond the 2020 statewide limit, required the CARB to prepare reports on sources of GHGs and other pollutants, established 6-year terms for voting members of ARB, and added two legislators as non-voting members of the CARB.

**Local**

The Proposed Project is not subject to local discretionary regulations because the CPUC has exclusive jurisdiction over the siting, design, and construction of the Proposed Project.

## SDG&E Programs

San Diego Gas & Electric Company (SDG&E) has been engaged in programs to increase energy efficiency for many years. It has also increased the portion of its electricity generation portfolio devoted to renewable energy resources.

SDG&E is required to submit long-term procurement plans (LTPP) to the CPUC that describe its strategy for meeting forecasted load during the coming 10 years. These plans must be consistent with the “loading order” prescribed in the Energy Action Plan to meet growth first with conservation, then with renewable sources of electricity, and finally with new fossil-fueled sources to the extent necessary. New generation sources must be consistent with the LTPP. SDG&E’s LTPP was approved by the CPUC in September 2008, and provides for all substantial forecasted additional reduction in GHG emissions by 2016 through the following programs:

- Energy efficiency, which will reduce needed capacity by 487 megawatts (MW)
- Demand response, which will reduce needed capacity by 249 MW
- Renewables, which will provide 318 MW in 2010 and 727 MW in 2016
- New peaker plants to back up intermittent renewables and support retirement of older plants

Forecasted reductions in GHG emissions from these programs are greater than 1.5 MMTCO<sub>2e</sub> per year. Approval by the CPUC will be required for future expenditures to implement these programs. These efforts will result in a carbon intensity reduction of one-third while accommodating continued population growth, and will ensure consistency with the applicable plans, policies, and regulations adopted by the State of California for the purpose of reducing the emissions of GHGs.

SDG&E currently implements SF<sub>6</sub> standards and programs during the operation and maintenance of SF<sub>6</sub>-containing equipment. These include the following:

- Recording company-wide SF<sub>6</sub> purchases for use in reporting annual GHG emissions under the California Climate Action Registry Power Utilities Protocol and as a member of the EPA SF<sub>6</sub> Partnership.
- Reporting GHG emissions with the Climate Registry.
- Implementing an SF<sub>6</sub> recycling program.
- Training employees on the safety and proper handling of SF<sub>6</sub>.
- Implementing SDG&E’s SF<sub>6</sub> leak detection and repair program. This program includes monthly visual inspections of each generator circuit breaker, which includes checking pressure levels within the breaker and recording these readings in SDG&E’s Substation Management System.

#### **4.7.4 Potential Impacts**

The Proposed Project includes removing existing wood pole structures, installing new steel pole structures, and reconductoring for the existing TL 680C power lines; constructing a new power line segment; and converting a de-energized line to a 69 kV power line. The operation and maintenance (O&M) activities required for the power lines would not significantly change from those currently required for the existing system; however, due to the additional structures and hardware in Segment 2, there would be a slight increase in frequency of maintenance. Because the increase in the frequency would be slight, effects from O&M of the Proposed Project on the environment would be negligible. Therefore, the impact analysis is focused on construction activities that are required to install the new conductor, remove the existing wood pole structures, install the new steel pole structures, and establish required temporary work areas, as described in Chapter 3, Project Description.

##### **4.7.4.1 Significance Criteria**

According to Section 15002(g) of the State CEQA Guidelines, “a significant effect on the environment is defined as a substantial adverse change in the physical conditions which exist in the area affected by the proposed project.” As stated in Section 15064(b) of the State CEQA Guidelines, the significance of an activity may vary with the setting. The potential significance of project-related impacts on GHGs were evaluated for the applicable criteria from Appendix G of the State CEQA Guidelines, as discussed in the following section.

#### **California Governor’s Office of Planning and Research**

The Office of Planning and Research (OPR) is the state-wide, comprehensive planning agency that is responsible for making policy recommendations and coordinating land use planning efforts. The OPR also coordinates the state-level review of environmental documents pursuant to CEQA. The OPR’s stance on GHG significance thresholds has been to allow each lead agency to determine their own level of significance. The OPR issued a Technical Advisory recommending an approach to evaluating GHGs in CEQA documents, and is currently developing amendments to the State CEQA Guidelines concerning GHG emission assessments. State CEQA Guidelines Section 15064.4 provides:

- (b) A lead agency should consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment:
  - (1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;
  - (2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project;
  - (3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.



### **San Diego County Air Pollution Control District**

The SDAPCD has not established GHG thresholds under CEQA; however, significance thresholds have been adopted by other California air districts. In particular, several California air districts have adopted a significance threshold of 10,000 MTCO<sub>2e</sub> annually for stationary sources.<sup>2</sup> The County of San Diego Planning and Development Services department previously issued a significance threshold of 10,000 MTCO<sub>2e</sub> and recommended amortizing construction emissions over a 30-year period to account for project contribution to GHG emissions over the lifetime of a project; however, San Diego County is currently in the process of reviewing and revising their thresholds. In light of the fact that there are no established GHG thresholds in San Diego County, it is assumed that annual emissions below 10,000 MTCO<sub>2e</sub> would not generate GHG emissions that would have a significant impact on the environment, consistent with adopted thresholds throughout the state.

#### **a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

##### **Construction – Less-than-Significant Impact**

The main source of GHG emissions associated with the Proposed Project would be combustion of fossil fuels during construction of the Proposed Project. GHG emissions for construction were calculated using the same approach as criteria pollutant emissions for overall construction emissions (refer to Section 4.3, Air Quality). Estimated GHG emissions are summarized in Table 4.7-2: Greenhouse Gas Construction Emissions. Emission calculations are provided in Appendix 4.3-A, Air Quality and Greenhouse Gas Assessment.

As discussed previously, although SDAPCD has not established GHG thresholds under CEQA, other California air districts have proposed an annual emissions significance threshold of 10,000 MTCO<sub>2e</sub>. Estimated Proposed Project construction CO<sub>2e</sub> emissions of 3.8 metric tons in 2019 and 1,334.5 metric tons in 2020, as well as the 30-year amortized total of 44.6 MTCO<sub>2e</sub> per year, would be well below these thresholds. The Proposed Project would therefore not generate GHGs that would have a significant impact on the environment. The impact would be less than significant.

---

<sup>2</sup> The Monterey Bay Unified Air Pollution Control District, Santa Barbara County Air Pollution Control District, Sacramento Metropolitan Air Quality Management District, San Luis Obispo Air Pollution Control District, South Coast Air Quality Management District, Placer County Air Pollution Control District, and Bay Area Air Quality Management District have an adopted significance threshold of 10,000 MTCO<sub>2e</sub> annually for stationary sources. The Mojave Desert Air Quality Management District has an adopted significance threshold of 100,000 MTCO<sub>2e</sub> annually for stationary sources.

**Table 4.7-2: Greenhouse Gas Construction Emissions**

Construction Emission Source	GHG Emissions (metric Tons) <sup>1</sup>		
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O
<b>2019<sup>2</sup></b>			
Construction Emissions (e.g., heavy off-road equipment, on-road haul trucks and worker trips)	3.8	0.00	0.00
Global Warming Potential	1	25	298
CO <sub>2</sub> e	3.8	0.0	0.0
Total 2019 CO <sub>2</sub> e	3.8		
<b>2020</b>			
Construction Emissions (e.g., heavy off-road equipment, on-road haul trucks and worker trips)	1317.4	0.4	0.0
Helicopter Emissions	7.1	0.0	0.0
Global Warming Potential	1	25	298
CO <sub>2</sub> e	1324.5	10.0	0.1
Total 2020 CO <sub>2</sub> e	1334.5		
<b>Total Project Construction Emissions CO<sub>2</sub>e</b>	1338.3		
<b>Amortized Construction Emissions (amortized over 30 years)</b>	44.6		
Source: See Appendix 4.3-A, Air Quality and Greenhouse Gas Assessment.			
<sup>1</sup> Some values are in the one thousandths and have been rounded, thus, are represented as zero.			
<sup>2</sup> Although construction of the Proposed Project would commence in 2020, preconstruction activities (staging yard setup, deliveries to staging yards, road refreshing, vegetation trimming, etc.) would occur in late 2019.			

### Operation and Maintenance – Less-than-Significant Impact

O&M activities would include regular inspection of the two substations, distribution circuits, and power lines and periodic maintenance activities. These activities would generate a minor amount of GHG emissions from vehicles and equipment used to inspect and maintain the facilities. With respect to these GHG emissions sources, however, the Proposed Project's O&M activities would not significantly change from those currently required for the existing system. Although the additional structures and hardware in Segment 2 would result in a slight increase in the frequency of maintenance that would require a slight increase in the use of light-duty trucks for inspections, there would also be a slight reduction in the use of heavy-duty trucks that are mainly used for activities such as insulator washing and intrusive inspections, which would no longer occur after implementation of the Proposed Project. Overall, while the frequency of maintenance activities would slightly increase under the Proposed Project, the total mileage traveled by the light-duty and heavy-duty trucks performing these activities would remain relatively the same, although slightly increased, as that under the existing system. Because the increase in the frequency would be slight, effects from the O&M of the Proposed Project on the environment would be negligible. GHG emissions associated with vehicles and equipment used for the Proposed Project's O&M activities would be well below the applicable significance thresholds.

Equipment that contains SF<sub>6</sub> has the potential to contribute to GHG emissions during O&M of the Proposed Project. As part of the Proposed Project, a new 69 kV SF<sub>6</sub> circuit breaker would be installed at both San Marcos Substation and Escondido Substation. Each of these two circuit

breakers is estimated to hold 33 pounds of SF<sub>6</sub>. The Proposed Project would accordingly use a total of approximately 66 pounds of SF<sub>6</sub>.

New SF<sub>6</sub> equipment, including the Proposed Project's two 69 kV circuit breakers, has a low leak rate of approximately 0.1 percent annually per industry standards. The Proposed Project would include design and operational features to maintain the SF<sub>6</sub> emissions rate at approximately 0.1 percent, which is well below the maximum allowable SF<sub>6</sub> emissions rate of 1 percent that CARB has established for 2020. With a leak rate of 0.1 percent annually, the Proposed Project would emit approximately 0.066 pound of SF<sub>6</sub> per year. Because SF<sub>6</sub> has a global warming potential of 22,800, the Proposed Project's 69 kV circuit breakers would have an annual emission of approximately 1,504.80 pounds (0.68 MT) of CO<sub>2</sub>e for O&M. When this annual GHG emissions amount is added to the Proposed Project's amortized construction emissions of 44.6 MTCO<sub>2</sub>e as shown in Table 4.7-2: Greenhouse Gas Construction Emissions, a total annual emissions amount of 45.3 MTCO<sub>2</sub>e would result. As discussed previously, other California air districts have proposed an annual emissions significance threshold of 10,000 MTCO<sub>2</sub>e. The Proposed Project's total construction and O&M emissions of 45.3 MTCO<sub>2</sub>e per year would fall well below these thresholds. Accordingly, impacts would be less than significant.

**b) Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?**

**Construction – Less-than-Significant Impact**

Construction of the Proposed Project would be temporary. GHG emissions would be well below the proposed significance thresholds of 90,718 MTCO<sub>2</sub>e (EPA) and 10,000 MTCO<sub>2</sub>e (other California air districts). Construction equipment and vehicles supporting the construction of the Proposed Project would comply with the requirements implemented by the CARB to reduce GHG emissions. Accordingly, construction impacts would be less-than-significant.

**Operation and Maintenance – No Impact**

The two new 69 kV SF<sub>6</sub> circuit breakers would be the only equipment introduced as part of the Proposed Project that would contain SF<sub>6</sub>. SDG&E has ongoing standard internal programs and practices that ensure compliance with the applicable SF<sub>6</sub> regulations and air quality plan, and those programs and practices will not change as a result of the Proposed Project. By virtue of its compliance with applicable rules and regulations and its similarity to existing operation and maintenance requirements, the Proposed Project would be consistent with AB 32's goals. Emissions would not differ from emission levels for O&M under existing rules and regulations. Accordingly, the Proposed Project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions and there would be no impact.

**4.7.5 Applicant-Proposed Measures**

The Proposed Project would have no potentially significant impacts related to GHGs; therefore, no Applicant-Proposed Measures are proposed.



#### 4.7.6 References

California Air Pollution Officers Association (CAPCOA). 2016. California Emissions Estimator Model (CalEEMod). Version 2016.3.1. Online:  
<http://www.aqmd.gov/caleemod/home>. Site visited on May 24, 2017.

California Air Resources Board (CARB). 2016. *Global Warming Potentials*. Online:  
<https://www.arb.ca.gov/cc/inventory/background/gwp.htm#transition>. Site visited on May 11, 2017.

United States Environmental Protection Agency (EPA). 2016. *Fast Facts from the Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2014*. Online:  
[https://www.epa.gov/sites/production/files/2016-06/documents/us\\_ghg\\_inv\\_fastfacts2016.pdf](https://www.epa.gov/sites/production/files/2016-06/documents/us_ghg_inv_fastfacts2016.pdf). Site visited on May 11, 2017.

Page Intentionally Left Blank

## Table of Contents

<b>4.9 Hydrology and Water Quality .....</b>	<b>4.9-1</b>
4.9.1 Introduction.....	4.9-2
4.9.2 Methodology .....	4.9-2
4.9.3 Existing Conditions.....	4.9-2
4.9.4 Potential Impacts.....	4.9-12
4.9.5 Applicant-Proposed Measures .....	4.9-20
4.9.6 References.....	4.9-20

## List of Figures

Figure 4.9-1: Hydrologic Area, Watersheds, and Drainages .....	4.9-23
--	--------

## List of Tables

Table 4.9-1: Carlsbad Hydrologic Unit Jurisdictional Summary .....	4.9-7
Table 4.9-2: Rainfall Data Summary for the Proposed Project Area (in inches) .....	4.9-11



## Acronyms and Abbreviations

BMPs	Best Management Practices
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CPUC	California Public Utilities Commission
CWA	Clean Water Act
E.O.	Executive Order
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FFRMS	Federal Flood Risk Management Standard
FIRM	Flood Insurance Rate Maps
HA	Hydrologic Areas
HSA	Hydrologic Sub-Areas
HU	Hydrologic Unit
LUP	Linear Underground/Overhead Project
MS4	Municipal Separate Storm Sewer System
NFIP	National Flood Insurance Program
NPDES	National Pollutant Discharge Elimination System
OES	Office of Emergency Services
RWQCB	San Diego Regional Water Quality Control Board
OHWM	ordinary high water mark
SDG&E	San Diego Gas & Electric Company
SPCC	Spill Prevention, Control, and Countermeasures
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TDS	total dissolved solids
TMDLs	Total Maximum Daily Loads
U.S.C.	United States Code
USACE	U.S. Army Corps of Engineers
VWD	Vallecitos Water District
WDRs	Waster Discharge Requirements
WP	Water Purveyors
WQIP	Water Quality Improvement Plan
WRRs	Water Reclamation Requirements

## Table of Contents

<b>4.8 Hazards and Hazardous Materials.....</b>	<b>4.8-1</b>
4.8.1 Introduction.....	4.8-2
4.8.2 Methodology .....	4.8-2
4.8.3 Existing Conditions.....	4.8-3
4.8.4 Potential Impacts.....	4.8-17
4.8.5 Applicant-Proposed Measures .....	4.8-25
4.8.6 References.....	4.8-25

## List of Figures

Figure 4.8-1: Fire Hazard Severity Map .....	4.8-27
--	--------

## List of Tables

Table 4.8-1: Hazardous Materials Sites Along the Proposed Project.....	4.8-14
Table 4.8-2: Hazardous Materials Sites Within 200 feet of the Proposed Project .....	4.8-15
Table 4.8-3: Description of Databases Searched by EDR .....	4.8-15
Table 4.8-4: Schools Within 0.25 Mile of the Proposed Project .....	4.8-17
Table 4.8-5: Hazardous Materials Typically Used for Construction.....	4.8-19

## List of Appendices

Appendix 4.8-A: EDR Corridor Study	
------------------------------------	--

## Acronyms and Abbreviations

AIA	Airport Influence Areas
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
APMs	Applicant-Proposed Measures
BMPs	Best Management Practices
CAA	Clean Air Act
Cal/OSHA	California Occupational Safety and Health Administration
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CHMIRS	California Hazardous Material Incident Reporting System
CPUC	California Public Utilities Commission
CUPA	Certified Unified Program Agency
DTSC	Department of Toxic Substances Control
EDR	Environmental Data Resource, Inc.
EMI	Emergency Management Institute
ENF	Enforcement
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FIA	Federal Insurance Administrator
FINDs	Facility Index System
FTZ	Fire Threat Zone
H&SC	Health and Safety Code
HAZNET	Hazardous Waste Information System
Hist	Historical
HMBP	Hazardous Materials Business Plan
HMMD	Hazardous Materials Management Division
HSWA	Hazardous and Solid Waste Act
HWCL	Hazardous Waste Control Law
LUST	leaking underground storage tank
MJHMP	Multi-Jurisdictional Hazard Mitigation Plan
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
OES	Office of Emergency Services
OSHA	Occupational Safety and Administration
PEA	Proponent's Environmental Assessment



PRC	Public Resources Code
PSFS	Public Safety, Facilities, and Services
RCRA	Resource Conservation and Recovery Act of 1976
RCRA	Resource Conservation and Recovery Act
ROW	right-of-way
SARA	Superfund Amendments and Reauthorization Act
SDG&E	San Diego Gas and Electric Company
SEMS	Standardized Emergency Management System
SLIC	Spills Leaks Investigation and Cleanup
SPCC	Spill Prevention, Control, and Countermeasure
SWEEPS	Statewide Environmental Evaluation and Planning System
SWRCY	Solid Waste Recycling
TQs	threshold quantities
U.S.C.	U.S. Code
UST	underground storage tank

Page Intentionally Left Blank

## 4.8 HAZARDS AND HAZARDOUS MATERIALS

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



### 4.8.1 Introduction

This section of the Proponent's Environmental Assessment (PEA) describes the existing conditions related to hazards and hazardous materials within the Proposed Project Area, and potential Project-related impacts from hazards or hazardous materials associated with construction, operation, and maintenance of the Proposed Project. The Proposed Project's potential effects related to hazards and hazardous materials were evaluated using the significance criteria set forth in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. The analysis concludes that the Proposed Project would have a *less-than-significant* impact with mitigation incorporated related to hazards and hazardous materials.

### 4.8.2 Methodology

The following analysis was performed using an Environmental Data Resource, Inc. (EDR) hazardous materials database report for the Project Area. The *San Diego County General Plan*, *City of Escondido General Plan*, *City of Carlsbad General Plan*, *City of Vista General Plan 2030*, and *City of San Marcos General Plan* were reviewed for emergency evacuation, hazardous material, and wildfire preparedness plans and policies. The San Diego Gas and Electric Company (SDG&E) Project Fire Plan was also reviewed for project-specific plans and protocol. The California Department of Forestry and Fire Protection Fire Hazard Severity Zone Map and the Fire Threat Map found in the *San Diego County General Plan* Safety Element provided fire hazard information for the Project Area. Lastly, the McClellan-Palomar Airport Land Use Compatibility Plan (ALUCP) was used to identify potential conflicts between the airport and the Proposed Project. Each type of resource is described in detail below.

#### 4.8.2.1 Hazardous Materials and Wastes Database Search

An EDR database search was obtained for the Proposed Project alignment and a 0.25-mile buffer area. The EDR database search included more than 60 federal and state hazardous material data tracking sites that provide listings of sites with records of hazardous material handling or releases to the environment. The EDR database report for the Proposed Project was reviewed to determine whether there are known sites with past or ongoing hazardous materials releases that could affect or be affected by the implementation of the Proposed Project. The EDR report is included as Appendix 4.8-A: EDR Corridor Study.

#### 4.8.2.2 Historic Information Sources

Historic aerial photographs and topographic maps were reviewed on the Historic Aerials by NETROnline website (<https://www.historicaerials.com>). The aerial photographs and topographic maps were reviewed for potential hazardous material sites along the Proposed Project alignment and the surrounding area.

#### 4.8.2.3 Site Reconnaissance

Site reconnaissance for hazardous materials was not conducted as part of this PEA.

#### **4.8.2.4 Emergency/Evacuation Plans and Local Municipality Planning Documents**

The County of San Diego Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) and high fire hazard severity zone maps were reviewed to determine the potential impacts that could result from the Proposed Project. The general plans for the Cities of Escondido, San Marcos, Carlsbad, and Vista were reviewed for goals and policies applicable to the handling and potential disturbance of hazardous materials, which are discussed below. The General Plan Safety Element was also reviewed for policies pertaining to Proposed Project development located near areas of natural hazards or hazardous materials. Additional emergency response and adopted plans are discussed in later sections of this PEA.

### **4.8.3 Existing Conditions**

#### **4.8.3.1 Regulatory Setting**

##### **Federal**

##### *U.S. Environmental Protection Agency*

The U.S. Environmental Protection Agency (EPA) maintains a list of materials considered to be hazardous to the environment or to human health (40 Code of Federal Regulations [CFR] Section 261). Waste that has not been previously listed may still be considered hazardous if it exhibits one or more of the following characteristics: ignitability, corrosivity, reactivity, or toxicity.

##### *Resource Conservation and Recovery Act*

The Resource Conservation and Recovery Act of 1976 (RCRA) established a program administered by the EPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. The RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the "cradle-to-grave" system of regulating hazardous wastes. Individual states may implement hazardous waste programs under RCRA with EPA approval.

##### *Federal Aviation Administration*

All airports and navigable airspace not administered by the Department of Defense are under the jurisdiction of the Federal Aviation Administration (FAA). The FAA must be notified of any structures located in the airspace of an airport, as defined in 14 CFR Section 77.9 (b)(1), (2), and (3), or new structures taller than 200 feet in height (14 CFR Section 77.13(a)) to confirm that the proposed structures would not pose a threat to safety.

##### *Comprehensive Environmental Response, Compensation, and Liability Act*

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), which is often commonly referred to as "Superfund," is a federal statute enacted in 1980 to address abandoned sites with hazardous waste disposal and/or contamination (42 U.S. Code [U.S.C.] 9601, et seq.). CERCLA also provides federal jurisdiction to respond directly to releases or impending releases of hazardous substances that may endanger public health or the environment. CERCLA was amended in 1986 by the Superfund Amendments and

Reauthorization Act (SARA) and by the Small Business Liability Relief and Brownfields Revitalization Act of 2002. CERCLA establishes prohibitions and requirements concerning closed and abandoned hazardous waste sites; establishes liability of persons responsible for releases of hazardous waste at these sites; and establishes a trust fund to provide for cleanup when no responsible party can be identified. The trust fund is funded largely by a tax on the chemical and petroleum industries. CERCLA also provides federal jurisdiction to respond directly to releases or impending releases of hazardous substances that may endanger public health or the environment.

#### *Occupational Safety and Health Administration*

The Occupational Safety and Health Act of 1970 contains specific requirements that ensure worker safety in the presence of certain hazardous substances, such as lead and asbestos. The Occupational Safety and Administration (OSHA) regulations—which are intended to create a safe workplace—are found in 29 CFR, Part 1910, Subpart H, and include procedures and standards for safe handling, storage, operation, remediation, and emergency response activities involving hazardous materials and waste. Section 1910.120 (Hazardous Waste Operations and Emergency Response) contains requirements for worker training programs, medical surveillance for workers engaging in the handling of hazardous materials or wastes and hazardous material, and waste site emergency and remediation planning, for those who are engaged in the operations specified by Sections 1910.120(a)(1)(i – v) and 1926.65(a)(1)(i – v).

#### *Clean Water Act/Clean Air Act*

The Clean Water Act provides measures governing the accidental release of hazardous materials to surface waters. Similarly, the Clean Air Act (CAA) provides measures aimed at preventing the accidental release of hazardous materials into the atmosphere. Regulations implementing the CAA and governing hazardous materials emissions are provided in 40 CFR Part 68.

#### *United States Department of Transportation*

The Department of Transportation regulations govern the interstate transport of hazardous materials and wastes through implementation of the Hazardous Materials Transportation Act.

#### *Oil Pollution Prevention*

The EPA's regulations at 40 CFR 112 require the owner or operator of a facility with an aggregate aboveground oil storage capacity greater than or equal to 1,320 gallons to prepare and implement a Spill Prevention, Control, and Countermeasure (SPCC) Plan. These regulations set forth specific requirements for prevention of, preparedness for, and response to, oil discharges at regulated facilities. Substations with oil-filled electrical equipment above the threshold quantity are subject to these requirements. In addition, stationary oil-filled equipment with a capacity of 55 gallons must have secondary containment as part of SPCC practices.



## State

### *California Occupational Safety and Health Administration*

The California Occupational Safety and Health Administration (Cal/OSHA) is the primary agency responsible for the safety of construction and industrial workers, and worker safety in the handling and use of chemical products in the workplace. Cal/OSHA standards are generally more stringent than federal OSHA regulations, although Cal/OSHA has adopted and implements all of the federal standards within the state of California. Each employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 California Code of Regulations [CCR] Sections 337 – 340). The regulations specify requirements for employee training, availability of safety equipment, accident prevention programs, and hazardous substance exposure warnings. Cal/OSHA regulations also regulate safe exposure to hazardous materials in hazardous material remediation and hazardous waste operations (8 CCR 5192) and require employers to communicate hazards to workers (8 CCR 5194). Similar to the federal OSHA, Cal/OSHA contains requirements to prevent worker exposure to certain types of hazardous substances in the workplace, such as asbestos and lead.

### *Department of Toxic Substances Control/California Environmental Protection Agency*

The Department of Toxic Substances Control (DTSC) regulates hazardous waste, cleans up existing contamination, and looks for ways to reduce the hazardous waste produced in California, while the California EPA is charged with developing, implementing, and enforcing the state's environmental protection laws.

### *California Hazardous Waste Control Law*

The California Hazardous Waste Control Law (HWCL) is codified at California Health and Safety Code Chapter 6.5 and administered by the California EPA to regulate hazardous wastes within the State of California. Both the HWCL and the federal hazardous waste regulations under RCRA apply in California, and the HWCL is equally or more stringent than hazardous waste regulations under RCRA. For the purposes of these laws, a material is a “waste” when it is first generated and determined to no longer have a practical use. It is a hazardous waste if it is a waste with hazardous properties. DTSC is the primary agency in charge of enforcing both the federal and state hazardous waste laws in California. DTSC regulates hazardous waste and pursues avenues of reducing hazardous waste generation in California.

### *California Hazardous Materials and Waste Codes*

Within the State of California, the storage, handling, use, and/or disposal of hazardous materials is regulated through various sections of the California Health and Safety Code (H&SC). Individual states are required by the RCRA to develop their own programs for the regulation of hazardous waste discharges; however, such plans are required to meet or exceed RCRA requirements.

The California HWCL addresses the control of hazardous wastes for the state. The HWCL regulates generators of universal waste (e.g., batteries, mercury control devices, dental amalgams, aerosol cans, and lamps/cathode ray tubes) under Section 25100 et seq. of the H&SC,

as well as hydrocarbon waste (e.g., oils, lubricants, and greases) that is not classified as hazardous waste under the federal RCRA regulations. DTSC is responsible for the administration and enforcement of the HWCL.

The Hazardous Materials Release Response Plans and Inventory Act (H&SC, Section 25500 et seq.) and regulations provided in 19 CCR Section 2620 et seq. require that local governments be responsible for the regulation of facilities that store, handle, or use hazardous materials above threshold quantities (TQs). Facilities storing such hazardous materials in excess of their TQs are required to prepare a Hazardous Materials Business Plan (HMBP) to identify the facility's internal response requirements to accidental spills. The HMBP is required to be submitted to the local administering agency, which is typically the local fire department or public health agency.

Section 25404 et seq. of the California H&SC includes the California Unified Hazardous Waste and Hazardous Material Management Regulatory Program Act, which establishes specific requirements for handling hazardous waste locally by establishing the Certified Unified Program Agency (CUPA). The responsibility for management of local hazardous wastes is delegated by the California EPA to the local agency through a Memorandum of Understanding. The primary CUPA relative to the Proposed Project site is the County of San Diego's Department of Environmental Health Hazardous Materials Management Division.

#### *California Code of Regulations, Title 22, Division 4.5*

CCR, Title 22, Division 4.5 regulates the management of hazardous waste in California pursuant to the HWCL. According to CCR Title 22, Division 4.5 (Chapter 11, Article 3), wastes having a characteristic of toxicity, ignitability, corrosivity, or reactivity must be managed as hazardous waste in accordance with CCR Title 22, Division 4.5, unless they are otherwise exempted. CCR Title 22, Division 4.5, Chapter 13 identifies detailed requirements for transporters of hazardous waste and other chapters identify specific requirements for treatment storage and disposal destination facilities that are permitted to receive hazardous waste. Collectively, the CCR Title 22, Division 4.5 chapters provide a cradle-to-grave system for safe management of hazardous waste.

#### *California Public Resources Code*

The California Public Resources Code (PRC) provides regulations to enhance safety with regard to the operation and management of electrical power lines. These include, but are not limited to, the following:

- PRC Section 4292: This section requires the clearing of flammable vegetation around specific structures that support certain connectors or types of electrical apparatus. An approximately 10-foot radius around such structures must remain clear of vegetation for the entirety of the fire season.
- PRC Section 4293: This section requires specific clearance between conductors and vegetation. As the line voltage increases, the radius of clearance also increases. It is also required that some trees must be removed if they pose the potential to fall on an electrical power line and cause damage.

### *Hazardous Materials Disclosure Programs*

The Unified Program administered by the State of California consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities for the state's environmental and emergency management programs, which include Hazardous Materials Release Response Plans and Inventories (business plans), the California Accidental Release Prevention Program, and the Underground Storage Tank Program. The Unified Program is implemented at the local government level by the CUPAs.

### *California Public Utilities Commission*

The California Public Utilities Commission (CPUC) originally adopted General Order 95 in 1941. General Order 95 governs the design, construction, and maintenance of overhead electrical lines. Rule 31.1 of General Order 95 generally requires that overhead electrical lines be designed, constructed, and maintained in accordance with accepted good practices for the given conditions known at the time. Rule 35 of General Order 95 establishes requirements for tree trimming.

On January 18, 2012, the CPUC issued D.12-01-032, which adopted significant revisions to General Order 95, Overhead Electric Line Construction, and General Order 165, Inspection Requirements for Electric Distribution and Transmission Facilities. Phase I and Phase II revisions to the General Orders addressed vegetation management practices, inspection cycles, corrective maintenance timeframes, and other fire-reduction measures in fire threat zones.

### **Local**

The Proposed Project is not subject to local city and county discretionary regulations because the CPUC has exclusive jurisdiction over the siting, design, and construction of the Proposed Project; however, the Proposed Project would be required to comply with the Airport Land Use Commission. The following summary of local city and county regulations related to hazards and hazardous materials is provided for informational purposes.

Fire protection plans and policies are addressed at a local level by the City of San Marcos, City of Escondido, City of Carlsbad, City of Vista, and County of San Diego General Plans, as discussed below. The San Marcos Fire Department Community Wildfire Protection Plan and the McClellan-Palomar Airport Land Use Compatibility Plan are also discussed as they apply to the Proposed Project, below. The County of San Diego Emergency Response and Evacuation Regulations are discussed in Section 4.8.3.2, Emergency Response and Evacuation Regulations and Adopted Plans.

### ***San Diego County***

#### *San Diego County General Plan*

The *San Diego County General Plan* (2011) Safety Element addresses the safety concerns of the County including seismic hazards, wildfires, and crime. The Safety Element establishes policies to protect the region from natural hazards, and continue coordination with the jurisdictions within the region to better provide fire prevention and protection. Applicable policies are described below:



**Fire Hazards Policy 1:** The County will consider site constraints in terms of fire hazards in land use designations. Within designated areas where population or building densities may be inappropriate to the hazards present, measures will be taken to mitigate the risk of life and property loss.

### ***City of San Marcos***

#### ***City of San Marcos General Plan Safety Element***

The *City of San Marcos General Plan* (2012) Safety Element establishes goals and protocols to follow to minimize potential risk due to natural and human-made emergencies. The Safety Element addresses fire safety and emergency response. The following policies are applicable to the Proposed Project.

**Policy S-3.1:** Require development to be located, designed and constructed to provide adequate defensibility and reduce the risk of structural loss and life resulting from wildland fires. Development will consider hazards relative to terrain, topography, accessibility and proximity to vegetation. One such provision for development to minimize the risk of structural loss and life shall be the inclusion of overhead fire sprinklers.

**Policy S-3.3:** Require development to provide additional access roads when necessary to provide for safe access of emergency equipment and civilian evacuation concurrently.

#### ***San Marcos Fire Department Community Wildfire Protection Plan***

The City of San Marcos Fire Department developed its Community Wildfire Protection Plan to meet the requirements of the federal Healthy Forests Restoration Act for community fire plans. The Community Wildfire Protection Plan, consistent with San Diego County fire protection plans and documents (as described below in this section and in Section 4.8.3.2, Emergency Response and Evacuation Regulations and Adopted Plans), outlines methods for protecting the wildland urban interface and the San Marcos Fire Protection District.

### ***City of Escondido***

#### ***City of Escondido General Plan***

The Community Protection Element of the *City of Escondido General Plan* (2012) identifies several Fire Protection Policies to address protection of residences and property from fire emergencies.

**Fire Protection Policy 2.4:** Require new residential and non-residential development to be constructed consistent with the California Fire Code and the requirements set by the State.

**Fire Protection Policy 2.10:** Establish and maintain an adequate fire flow in relation to structure, size, design, and requirements for construction and/or built-in fire protection.

**Fire Protection Policy 2.14:** Require new development in high wildfire risk areas to incorporate site design, maintenance practices, and fire resistant landscaping to protect properties and reduce risks.

### ***City of Carlsbad***

#### ***City of Carlsbad General Plan Public Safety Element***

The *City of Carlsbad General Plan* (2013) Public Safety Element identifies natural and human-made hazards, and establishes preventative and response measures to mitigate their potential impacts. The Public Safety Element includes measures to mitigate risk due to wildfire and emergency response. The following policies are applicable to the Proposed Project.

**Policy 6-P.34:** Enforce the Uniform Building and Fire codes, adopted by the City, to provide fire protection standards for all existing and proposed structures.

**Policy 6-P.35:** When future development is proposed to be intermixed with wildlands and/or adjacent to wildlands, require applicants to comply with the City's adopted Landscape Manual, which includes requirements related to fire protection, and call for preparation of a fire protection plan when a Proposed Project contains or is bounded by hazardous vegetation or is within an area bounded by a very high fire hazard severity zone, or determined by the Fire Code official or his representative.

### ***City of Vista***

#### ***City of Vista General Plan Public Safety, Facilities, and Services Element***

The Public Safety, Facilities, and Services (PSFS) Element of the *City of Vista General Plan* (2012) describes the manner in which the City will protect people, structures, infrastructure, public facilities, and natural resources from natural and human-made hazards. The Element is also intended to ensure that public facilities and services support existing and planned future development within Vista. The following policies identified in the General Plan would be relevant to new development projects in Vista.

**PSFS Policy 3.1:** Require a site-specific geotechnical report, prepared by State-license personnel as a condition of project approval for development within areas of known or suspected geologic hazard on site.

**PSFS Policy 3-5:** Discourage development in areas of known slope instability and/or high landslide risk.

**PSFS Policy 4.2:** Require that all new development (including construction, filing, grading, and dredging) within floodplains and special flood hazard areas identified by FEMA's Federal Insurance Administrator (FIA) and/or the City's Floodplain Administrator comply with the City's Flood Area Construction Regulations Ordinance and all other applicable regulations.

**PSFS Policy 4.10:** Discourage the construction of critical and essential uses and infrastructure, and high occupancy buildings and uses, within designated dam inundation areas.

**PSFS Policy 5.1:** Require development or projects within very high, high, or moderate fire zones, as designated by the City’s Fire Hazard Severity Zones map, to comply with regulations and/or implement measures to mitigate the risk to life and structures from intrusion of fire from wildland fire exposures and fire exposures from adjacent structures, and to mitigate structure fires from spreading to wildland fuels. This may include, but is not limited to:

- a. Preparing fire protection plans
- b. Creating and maintaining defensible space and vegetation management
- c. Planting and maintaining fire-resistant landscaping
- d. Using fire-resistant building materials and construction techniques
- e. Ensuring adequate water supply and fire flow
- f. Providing adequate circulation, emergency access, and property addressing and road identification

**PSFS Policy 7.1:** Evaluate new development proposals within the Airport Influence Areas (AIAs) of the McClelland-Palomar and Oceanside Municipal Airports to ensure that they comply with the applicable compatibility criteria and policies of the respective Airport Land Use Compatibility Plans (ALUCPs).

**PSFS Policy 12.5:** Place all utility and other service wires underground, with highest priority given to areas of Vista that are most prone to wildfire hazards (especially the eastern and southern portions of the City and SOI).

### ***Other Jurisdictions***

#### ***McClellan-Palomar Airport Land Use Compatibility Plan***

The Airport Land Use Commission (ALUC) developed the McClellan-Palomar ALUCP (2010) to delineate the compatibility land use zones for noise, safety, airspace protection, and overflight for the McClellan-Palomar Airport. The ALUCP contains guidelines for land uses and new development within each zone.

#### **San Diego Gas & Electric Company Standards**

##### ***Electric Standard Practice 113.1 (Wildland Fire Prevention and Fire Safety)***

SDG&E’s Electric Standard Practice 113.1 constitutes SDG&E’s wildland fire prevention and fire safety standards for all activities, including construction activities such as those included as part of the Proposed Project. The purpose of Electric Standard Practice 113.1 is to formalize procedures and routine construction practices that will, among other things, improve SDG&E’s ability to prevent the start of any fire; set standards for tools and equipment to assist with rapid response to small fires; incorporate federal, state and local requirements into standard business practices; establish “Red Flag Warning” restrictions; set criteria for when a formal fire prevention plan is required; and establish a template and requirements for formal fire plans.



### *Fire Prevention Plan*

The SDG&E Fire Prevention Plan was prepared in compliance with Commission Decision 12- 01-032 (Fire Safety Order) and provides “a comprehensive inventory of the organizational and operational activities that SDG&E undertakes in order to address the risk of fire in the SDG&E service territory.”

SDG&E undertakes and implements numerous fire prevention and safety programs, procedures, and protocols, and the Fire Prevention Plan includes descriptions of SDG&E fire prevention and safety procedures and programs including, but not limited to, the following:

- Fire threat and risk area mapping
- Operational practices to reduce the risk of fires
- Fire prevention outreach and training programs
- Field practice guidelines
- Advanced vegetation management
- Fire Potential Index
- Fire-hardening programs and practices, including:
  - Design standards
  - Construction standards
  - Facility inspection
  - Oversight of activities in rural areas
  - Wood-to-Steel Projects

As part of SDG&E’s fire threat and risk mapping program, SDG&E utilizes a network of 170 weather stations to monitor for high-risk weather conditions, such as extreme winds.

### **TL 6975 Project Fire Prevention Plan**

The Proposed Project’s Fire Prevention Plan meets fire prevention measures required by the California Forest Practices Rules, Title 14 Article 8. Fire prevention measures include training and briefings of all personnel working on the Proposed Project in fire prevention and suppression methods as well as tailgate safety sessions. A fire watch/ patrol will be assigned during specific work activities to ensure immediate detection of a fire. Fire tools and 5 gallon backpack pumps with water will be kept within 50 feet of work activities, in accordance with SDG&E standard protocol (ESP 113.1) to ensure the capability for rapid extinguishment in the event of a fire. A water tender or water tank may also be required during specific work activities as outlined in the plan. Weather and fire danger will be monitored daily by company meteorologists and wildland fire specialists in order to provide timely and immediate communication of significant changes that could impact the Proposed Project. During periods of extreme fire danger, such as a Red Flag Warning issued by the National Weather Service, no work will occur, or if construction has commenced, work will cease, except in cases where leaving the work unfinished may create a

greater safety or fire danger. Implementation of the Proposed Project's Fire Prevention Plan in addition to standard SDG&E operational procedures and protocols would ensure that the risk of fire during construction remains less than significant.

#### **4.8.3.2 Emergency Response and Evacuation Regulations and Adopted Plans**

Within the Proposed Project Area, emergency response is handled first and primarily by the individual municipal or county agency with jurisdictional authority. Mutual aid, response, and emergency management are available from state government agencies, where appropriate, or by direct request of the local agency. The standard emergency response procedures for each of the relevant jurisdictions are outlined within the following subsections.

##### **The State of California**

The State Emergency Plan outlines the emergency management system for use during all emergencies within the State of California. The State Emergency Plan is developed, maintained, and implemented by the California Office of Emergency Services (OES). The State Emergency Plan defines the "policies, concepts, and general protocols" for proper implementation of the California Standardized Emergency Management System (SEMS). The SEMS is an emergency management protocol that agencies within the State of California must follow during multiagency response efforts whenever state agencies are involved.

##### **San Diego County**

###### *San Diego County Multi-Jurisdictional Hazard Mitigation Plan*

The San Diego County OES implements the San Diego County Multi-jurisdictional Hazard Mitigation Plan. The MJHMP identifies hazards that could potentially affect any or all portions of the County as well as measures for the prevention and minimization of such hazards. The MJHMP was prepared in accordance with the Federal Disaster Mitigation Act of 2000. The preparation of the MJHMP qualifies the County for post-disaster funds from the Hazard Mitigation Grant Program.

The San Diego County OES coordinates the County-wide response effort in the event of a disaster situation. San Diego County OES is responsible for notifying appropriate agencies in the event of a disaster, as well as coordinating all responding agencies. The Unified Disaster Council is the governing body of San Diego County OES, and is chaired by the Chair of the San Diego County Board of Supervisors and includes representatives from the 18 incorporated cities of the County. OES serves as staff to the Unified Disaster Council and acts as a liaison between the incorporated cities, the State OES and Federal Emergency Management Agency, as well as non-governmental agencies such as the American Red Cross.

##### **City of San Marcos**

The City of San Marcos does not have an individual emergency evacuation plan therefore, it complies with the San Diego County MJHMP.

***City of Escondido***

The City of Escondido does not have an individual emergency evacuation plan available, therefore, it complies with the San Diego County MJHMP.

***City of Carlsbad******City of Carlsbad Emergency Operations Plan***

The City of Carlsbad's Emergency Management Administrative Team maintains the Carlsbad Emergency Operations Plan. This plan is consistent and compatible with the County of San Diego MJHMP, so the regional authorities can maximize support in emergency situations.

**4.8.3.3 Hazardous Materials Setting**

Hazardous materials would be used and stored during construction, operation, and maintenance of the Proposed Project. The following subsections describe the types and amounts of hazardous materials present, or potentially present, within the Proposed Project Area, including existing wastes and materials (hazardous materials sites) and typical hazardous materials utilized during construction, operation, and maintenance.

**Hazardous Materials Utilized During Construction**

Implementing the Proposed Project would involve the periodic and routine use of hazardous materials, such as diesel fuels, hydraulic liquids, oils, solvents, transmission fluid, and paints. Cartridges containing primer for ignition and nitrocellulose propellant for gas production could be used during construction in the event that blasting is necessary, due to dense rock formation at excavation sites for foundations, or underground utilities.

**Hazardous Materials Utilized During Operation and Maintenance**

Operation and maintenance of the Proposed Project would not involve substantially different practices from what SDG&E currently performs on the existing power line. The new steel poles would require less maintenance and repair than the existing wood poles. Operation and maintenance of the Proposed Project would be subject to the same laws and regulations governing the handling and disposal of hazardous materials. All relevant local, state, and federal regulations would be followed.

**Hazardous Materials Sites near the Proposed Project*****Proposed Project Site***

There are no known hazardous materials releases within the Proposed Project alignment. There are seven sites along the Proposed Project alignment that are listed on national, state, or local databases for hazardous materials; however, none reported releases of hazardous materials to the Proposed Project site. San Marcos Substation is listed on the Hazardous Waste Information System (HAZNET), San Diego County Hazardous Materials Management Division (HMMD), and Facility Index System (FINDs) databases. There have not been any violations or spills reported at San Marcos Substation. These database-listed sites are described further in Table 4.8-1: Hazardous Materials Sites Along the Proposed Project.



**Table 4.8-1: Hazardous Materials Sites Along the Proposed Project**

Site Name/Address	Separation Distance/ Closest Project Structure	Hazardous Materials Release List	Description
Carlsbad Victory Industrial Park 3248 Lionshead Ave Carlsbad, CA 92010	Approximately 0.15 mile west of Lionshead Ave #5 staging yard	NPDES	Active site, NPDES number CAS000002.
Albertson's #6711 1929 W San Marcos Blvd San Marcos, CA 92078	Pole 22 is located on this site	HAZNET SWRCY San Diego Co. HMMD FINDS	Storage and/or transfer of retail hazardous wastes and pharmaceuticals.
San Marcos Unified School District 1615 W San Marcos Blvd San Marcos, CA 92078	Poles 11 through 16, 18, 19, and 20 are located on the site	HAZNET FINDS	Storage and/or transfer of site of laboratory waste chemicals and organic solids.
Discovery at San Pablo Drive, San Marcos, CA 92069	Exact location unknown; Pole 6 is approximately 43 feet southeast of the intersection	CHMIRS	Release of raw sewage due to a system overflow with rain water, in the collection system.
Lake San Marcos Country Club 1295 Discovery San Marcos, CA 92069	Approximately 12 feet southwest of Poles 4, 5, and 6	HIST Cortese LUST SLIC SWEEPS UST	Leaking gasoline UST was closed 5/19/92. Lake San Marcos and San Marcos Creek are listed as impaired.
SDG&E San Marcos Substation 1260 W Discovery Way San Marcos, CA 92069	Proposed Project is located on this site	FINDS San Diego Co. HMMD HAZNET	Active HMMD Permit # 210030 for batteries, mineral oil, sulfur hexafluoride.
San Marcos Sanitary Landfill 20825 Hidden Canyon Rd San Marcos, CA 92024	Staging Yard #9 Recycling Plant is located on the site	Hist UST SWEEPS San Diego Co. HMMD	Closed landfill site.
Source: EDR 2017. CHMIRS= California Hazardous Material Incident Reporting System; EMI = Emergency Management Institute; ENF = Enforcement; FINDS = Facility Index System; HAZNET = Hazardous Waste Information System; Hist = Historical; HMMD = Hazardous Materials Management Division; LUST = leaking underground storage tank; NPDES =National Pollutant Discharge Elimination System; SLIC = Spills Leaks Investigation and Cleanup; SWEEPS = Statewide Environmental Evaluation and Planning System; SWRCY = Solid Waste Recycling; UST = underground storage tank			

### Surrounding Sites

The EDR database report provided a list of over 200 sites that are currently or were historically on a database for handling hazardous waste within 0.25 mile of the Proposed Project. Table 4.8-2: Hazardous Materials Sites Within 200 feet of the Proposed Project, summarizes the listed sites within 200 feet of a Proposed Project component. The majority of the sites listed are facilities known to handle hazardous materials, but have not been the source of a release.

**Table 4.8-2: Hazardous Materials Sites Within 200 feet of the Proposed Project**

Site Name/Address	Separation Distance/ Closest Project Structure	Hazardous Materials Release List	Description
San Marcos Specialty Medical/Mobile Doctor Medical Clinic 1582 San Marcos Blvd San Marcos, CA 92069	135 feet north of Pole 11	FINDS San Diego Co. HMMD	Medical facility with pharmaceutical waste.
Kindred Transitional Care Unit and Rehabilitation Village SQ 1586 W San Marcos Blvd San Marcos, CA 92078	Approximately 150 feet from Poles 14, 13, and 12	HAZNET San Diego Co. HMMD	Medical facility with pharmaceutical waste.
Line-X of Escondido 2368 Auto Park Way Escondido, CA 92029	Approximately 45 feet from Pole 119.2	San Diego Co. HMMD HAZNET	Permit renewed 4/29/2016. Storage, bulking, and/or transfer off site of hazardous materials.
Integrated Engineering & Manufacturing 1040 S Andreasen Dr Escondido, CA 92029	Approximately 115 feet from Pole 109	San Diego Co. HMMD HAZNET	Permit last updated 11/2/2012.
Source: EDR 2017			

Table 4.8-3: Description of Databases Searched by EDR, provides a brief description of each database.

**Table 4.8-3: Description of Databases Searched by EDR**

Hazardous Materials Database	Description
AST	Listing of aboveground storage tank petroleum storage tank.
FINDS	Facility Index System; facility information from the U.S. Environmental Protection Agency (EPA).
HAZNET	Database from the copies of hazardous waste manifests received by the Department of Toxic Substance Control.
HIST UST	Historical UST registered database.
HIST CORTESE	Sites designated by the State Water Resource Control Board, Integrated Waste Board, and the Department of Toxic Substances Control; this database is no longer updated by the state.
ICIS	Integrated Compliance Information System supports the NPDES.
Indian LUST	A list of leaking underground storage tank locations on Indian Land.
LUST	Leaking Underground Storage Tank sites included in GeoTracker.
NPDES	National Pollutant Discharge Elimination System.

<b>Hazardous Materials Database</b>	<b>Description</b>
RCRA-CESQG	EPA’s Resource Conservation and Recovery Act (RCRA)—Conditionally Exempt Small Quantity Generators; generate less than 100 kilograms of hazardous waste a month.
San Diego Co. HMMD	San Diego County Hazardous Materials Management Division
SEMS	Superfund Enterprise Management System—formerly known as CERCLIS; Potentially hazardous waste sites, sites on, or proposed to the National Priorities List (NPL), or undergoing screening for the NPL.
SLIC	Cleanup Program Sites included in GeoTracker
SWEEPS UST	Statewide Environmental Evaluation and Planning System; this listing is no longer updated.
WDS	California Water Resources Control Board – Waste Discharge System.
Source: EDR 2017	

#### 4.8.3.4 Hazards Setting

##### Existing Electric Substations and Transmission and Power Line Facilities

The Proposed Project includes three segments with different electric facilities. Segment 1 involves rebuilding approximately 1.08 miles of an existing power line near the existing San Marcos Substation. Segment 2 involves 2.8 miles of new build, single circuit along an existing utility corridor. The new segment would use approximately 17 new steel poles. Segment 3 involves reconductoring approximately 7.4 miles of a de-energized power line segment from Meadowlark junction to Escondido Substation. Segment 3 would also include minor work at Escondido Substation to accommodate the new circuit. Much of the construction would be in existing SDG&E right-of-way (ROW) and corridors, except for a small area in Segment 1 that would require new ROW to widen the existing easement to accommodate the new structures. The existing power line represents the baseline conditions from which potential hazards and hazardous materials impacts are evaluated. The Proposed Project would not install any new overhead electric facilities where they do not already exist.

##### Fire Hazards

The Proposed Project is located within residential, commercial, industrial, vacant and undeveloped, agriculture, and open space land uses. Based on SDG&E’s 2015 Fire Threat Zone Map, portions of TL 6975 are designated as Wildland Fire Threat Zone (FTZ). The San Diego County Fire Hazard Severity Zone Map indicates the majority of the power line is located in Moderate or Very High Fire Hazard Zones, as depicted in Figure 4.8-1: Fire Hazard Severity Map. SDG&E has developed operating protocols and safety standards that minimize the risk of wild fires during construction and operation activities. The management of fire risk during construction would be governed internally within SDG&E through the implementation of a Proposed Project-specific fire plan as discussed above in Section 4.8.3.1, Regulatory Setting.



#### 4.8.3.5 Schools

There are seven schools within 0.25 mile of the Proposed Project alignment. Table 4.8-4: Schools Within 0.25 Mile of the Proposed Project, lists the schools and their proximity to the Proposed Project.

**Table 4.8-4: Schools Within 0.25 Mile of the Proposed Project**

School Name	School Location in Relation to the Proposed Project
San Marcos High School	Approximately 248 feet south
High Tech Elementary School	Approximately 936 feet north
High Tech Middle School	Approximately 580 feet north
High Tech High	Approximately 265 feet north
Valley Christian School	Approximately 200 feet east
Community Christian School	Approximately 138 feet southwest
San Elijo Middle School	Approximately 1,146 feet north
Carilyn Gilbert Education Center	Approximately 908 feet east

#### 4.8.3.6 Hospitals

The Palomar Medical Center Escondido is located adjacent to Segment 3, approximately 600 feet west of Pole 112 and approximately 900 feet southwest of Escondido Substation. Palomar Health Expresscare San Elijo Hills is located at 1571 San Elijo Road S., San Marcos, California 92078. The Proposed Project is approximately 613 feet south of the urgent care between San Elijo Road and Elfin Forest Road at Poles 80 and 81.

#### 4.8.3.7 Airports

There are no airports within 2 miles of the Proposed Project; however, the McClellan-Palomar Airport is approximately 2.2 miles to the west, and the Proposed Project is within its Airport Influence Area. The Proposed Project falls within Airport Influence Area Review Area 2 and within the FAA Height Notification Boundary as identified in the McClellan-Palomar ALUCP. Review Area 2 consists of areas not within Review Area 1 but still within the airspace protection and/or overflight notification areas for the airport. There are limits on heights of structures in this review area. The FAA Height Notification Boundary designates an area surrounding the airport in which proposed projects meeting the height specifications must notify the FAA of their construction, for the safety of the aircrafts landing and taking off at the airport.

#### 4.8.4 Potential Impacts

The Proposed Project includes removing existing wood pole structures, installing new steel pole structures, and reconductoring for the existing TL 680C power lines; constructing a new power line segment; and converting a de-energized line to a 69 kV power line. The operation and maintenance activities required for the power lines would not change from those currently

required for the existing system. The new steel poles in Segment 1 would require less maintenance and repair than the existing wood poles; however, due to the additional structures and hardware in Segment 2, there would be a slight increase in frequency of maintenance. Because the increase in the frequency would be slight, effects from the operation and maintenance of the Proposed Project on the environment would be negligible. Therefore, the impact analysis is focused on construction activities that are required to install the new conductor, remove existing wood pole structures, install new steel pole structures, and establish temporary work areas, as described in Chapter 3, Project Description.

#### **4.8.4.1 Significance Criteria**

According to Section 15002(g) of the CEQA Guidelines, “a significant effect on the environment is defined as a substantial adverse change in the physical conditions which exist in the area affected by the proposed project.” As stated in Section 15064(b) of the CEQA Guidelines, the significance of an activity may vary with the setting. The potential significance of project-related impacts related to hazards and hazardous materials was evaluated for each of the criteria from Appendix G of the CEQA Guidelines, as discussed in the following sections.

##### **a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**

#### **Construction – Less-than-Significant Impact**

Construction activities could include the use of potentially hazardous materials, such as diesel fuel, hydraulic fluids, lubricating oils, solvents, paints, or safety fuses. The use of these materials would be temporary or short-term, associated with construction equipment and materials. There is the potential for accidental release of these hazardous materials, which would have the potential to impact workers, the public, and the surrounding environment if they are not properly contained and removed. The Proposed Project would comply with SDG&E requirements for the proper handling procedures for hazardous materials. This would include proper disposal procedures, minimization and avoidance of hazardous materials release, protection of the environment from potential hazardous material releases through the use of Best Management Practices (BMPs), and emergency response procedures in the case of a release. A health and safety plan would be developed specifically for the Proposed Project by the construction contractor prior to construction (APM HAZ-4). The health and safety plan is used to establish and follow safety protocols to protect workers and the general public from exposure to hazardous materials at the Proposed Project site. Implementation of SDG&E standard operational procedures would ensure the potential impacts from the release of a hazardous material would be less than significant.

**Table 4.8-5: Hazardous Materials Typically Used for Construction**

• ABC fire extinguisher	• Hot stick cleaner (cloth treated with polydimethylsiloxane)
• Acetylene gas	• Hydraulic fluid
• Air tool oil	• Insulating oil (inhibited, non-PCB)
• Ammonium hydroxide	• Lubricating grease
• Antifreeze (ethylene glycol)	• Mastic coating
• Automatic transmission fluid	• Methyl alcohol
• Battery acid (in vehicles and in the meter house of the substations)	• Motor oils
• Bottled oxygen	• NCCP Approved Pesticide
• Brake fluid	• Paint thinner
• Canned spray paint	• Propane
• Chain lubricant (contains methylene chloride)	• Puncture seal tire inflator
• Connector grease (penotox)	• Safety fuses
• Contact cleaner 2000	• Starter fluid
• Diesel de-icer	• Sulfur hexafluoride (within the circuit breakers in the substations)
• Diesel fuel	• Two-cycle oil (contains distillates and hydrotreated heavy paraffinic)
• Diesel fuel additive	• WD-40
• Eye glass cleaner (contains methylene chloride)	• ZEP (safety solvent)
• Gasoline	• ZIP (1,1,1-trichloroethane)
• Gasoline treatment	

### Operation and Maintenance – Less-than-Significant Impact

The operation and maintenance of the Proposed Project would generally require the use of the same hazardous materials as are used during construction. Operation and maintenance activities of the Proposed Project would not change substantially from the existing power line. The new steel poles would require less maintenance and repair than the existing wood poles; however, there would be a slight increase in maintenance frequency due to the additional structures and hardware in Segment 2. There is still a chance of accidental spills or leaks of the abovementioned hazardous materials; however, SDG&E would implement standard operational procedures during operation and maintenance to ensure the proper handling of hazardous materials and the safe response to an accidental spill. Therefore, the impact would be less than significant.



- b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?**

**Construction – Less-than-Significant with Mitigation Incorporated**

Construction of the Proposed Project would include handling and use of hazardous materials, such as fuels, hydraulic oils, lubricants, and paints. The use of hazardous materials would be temporary, and would not include the use or transport of substantial quantities of hazardous materials that would present an unusual risks compared to typical construction projects. Prior to construction, a project-specific health and safety plan would be developed by the construction contractor (APM HAZ-1). The plan would provide safety guidelines to protect the workers and the general public from accidental exposure to hazardous materials. In addition, SDG&E's standard operational procedures would further minimize the potential risk of upset and/or accidental release of hazardous substances creating a significant adverse environmental effect.

The EDR database report identified 17 sites in proximity to the Proposed Project that handle hazardous materials. Table 4.8-1: Hazardous Materials Sites Along the Proposed Project, and Table 4.8-2: Hazardous Materials Sites Within 200 feet of the Proposed Project, describe the sites along the Proposed Project alignment and within 200 feet of the Proposed Project. San Marcos Substation, a location of proposed work, is listed on hazardous material databases; however, the substation has no record of any violations or spills. One site in proximity to the Proposed Project was the site of a historic release of hazardous materials to the environment. This site has been remediated and closed, and has not had further violations or spills. Based on the information provided by the EDR database report, it is not likely contamination would be encountered or released to the public or the environment as a result of the Proposed Project construction in these areas. Impacts would be less than significant with mitigation incorporated.

**Operation and Maintenance – Less-than-Significant Impact**

The operation and maintenance procedures for the Proposed Project would be similar to those of the existing TL 6975 alignment. Maintenance for the Proposed Project would require the occasional use of hazardous materials such as paints, solvents, fuels, and oils. SDG&E would implement standard procedures for the handling of, and prevention of the release of, hazardous materials. Therefore, the potential impact from the accidental release of a hazardous material would be less than significant.

- c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**

**Construction – Less-than-Significant Impact**

Seven schools are located within 0.25 mile of the Proposed Project. Hazardous materials would be used during the construction process. There is a chance of accidental leaks or spills of hazardous materials to the environment, even with the implementation of safety protocols and BMPs. If a release were to occur, it would be contained as a result of following SDG&E standard safety protocols. Even if a leak or spill occurred and was not correctly contained, the

quantities of hazardous materials that would be used and stored on site would not represent a significant risk to nearby schools. Consequently, a release would not pose a substantial risk to the nearby schools. Therefore, the impact would be less than significant.

### **Operation and Maintenance – Less-than-Significant Impact**

The operation and maintenance procedures for the Proposed Project would be similar to those of the existing TL 6975 alignment. Maintenance of the Proposed Project would require the occasional use of hazardous materials such as paints, solvents, fuels, and oils. The new steel poles would require less maintenance and repair than the existing wood poles; however, maintenance activities would increase slightly compared to the existing line due to the new structures and hardware in Segment 2. SDG&E would implement standard procedures for the handling of, and prevention of the release of, hazardous materials. Maintenance activities would occur on an as-needed rather than continual basis. Therefore, the potential impact from the accidental release of a hazardous material would be less than significant.

#### **d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?**

### **Construction – Less-than-Significant Impact**

The Proposed Project would not occur on any site listed on a database pursuant to Government Code Section 65962.5. Construction activity would occur within the San Marcos Substation, which is listed on the federal FINDS, San Diego County HMMD, and the HAZNET databases. These databases maintain lists of any site which handles hazardous materials. San Marcos Substation is listed as containing hydrogen sulfate (battery), dielectric oil (mineral oil), and sulfur-hexafluoride. These are substances commonly used in operation and maintenance of the substation. The site has not had any violations or accidental spills reported. As a result, the site listing would not create a significant hazard to the public or the environment, and the impact would be less than significant.

### **Operation and Maintenance – Less-than-Significant Impact**

The operation and maintenance activities would not result in significant impacts because no known sites of contamination exist within the Proposed Project Area. The Proposed Project would occur within SDG&E ROW, along existing alignments, and in a portion of newly acquired ROW in Segment 1. Operation and maintenance activities would continue in the same manner as they did prior construction of the Proposed Project. Although the new steel poles would require less maintenance and repair than the existing wood poles, the Proposed Project would result in slightly more maintenance to the system due to the additional structures and hardware in Segment 2; however, this increase would be slight and the potential impact on the environment would be negligible. Therefore, the potential for the Proposed Project to result in a significant impact to the public or the environment would be less than significant.

- e) **For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?**

#### **Construction – Less-than-Significant Impact**

There are no airports within 2 miles of the Proposed Project; however, the McClellan-Palomar Airport is approximately 2.2 miles to the west, and the Proposed Project is within the Airport Influence Area identified in the ALUCP. The Proposed Project falls within Airport Influence Area Review Area 2 and within the FAA Height Notification Boundary. Review Area 2 consists of areas within the airspace protection and/or overflight notification areas for the airport. There are limits on heights of structures in this review area. The FAA Height Notification Boundary designates an area surrounding the airport in which proposed projects meeting the height specifications must notify the FAA of their construction, for the safety of the aircrafts landing and taking off at the airport. The height of some structures would increase with implementation of the Proposed Project, but the maximum height above ground of the structures would be 170 feet, and therefore would not exceed the FAA height notification limit of 200 feet; however, due to the proximity of the Proposed Project to the airport, the proposed structures could interfere with navigation and instrument function. SDG&E would provide notification to the FAA for the portions of the Proposed Project that fall within the Notification Boundary pursuant to FAA regulation 14 CFR Part 77. SDG&E would also consult the ALUC, which would review the Proposed Project for compatibility. By complying with the review process of the FAA and the ALUC, SDG&E would prevent potential conflicts with the McClellan-Palomar ALUCP. Therefore, the Proposed Project would not result in a safety hazard for people residing or working in the Project Area, and the impact would be less than significant.

A helicopter may be used during overhead stringing activities. It is anticipated that helicopters used during construction would be staged at the nearest airport, McClellan-Palomar Airport. Helicopter flights would be limited to the SDG&E ROW and their designated flight paths to and from the airports and SDG&E landing areas. Helicopter use would temporarily increase air traffic at the nearest airport and at the Proposed Project site. SDG&E would coordinate flight paths and schedules with air traffic control and the FAA to avoid any potential impacts. Therefore, the Proposed Project would not result in a safety hazard for people residing and working in the Project Area, and the impact would be less than significant.

#### **Operation and Maintenance – No Impact**

Operation and maintenance activities would be similar to those performed currently. The new steel poles would require less maintenance and repair than the existing steel poles; however, the frequency of maintenance would increase slightly due to the additional structures and hardware in Segment 2. Helicopter use would not be anticipated during operation and maintenance activities. Operations and maintenance would not result in changes to structures that increase height or otherwise require FAA notification. Therefore, no impacts are anticipated on the safety of people residing and working in the Project Area.



- f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?**

**Construction, Operation and Maintenance – No Impact**

The Proposed Project is not located within the vicinity of a private airstrip. Therefore, construction, operation, and maintenance would not result in impacts on the safety of people residing or working in the Proposed Project Area as the result of a private airstrip.

- g) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

**Construction – Less-than-Significant with Mitigation Incorporated**

The Proposed Project would occur within approximately 12 miles of SDG&E ROW, a small portion of new ROW in Segment 1, temporary stringing sites, and temporary staging yards. SDG&E would continue to coordinate with San Diego County to comply with the County MJHMP and emergency response regulations and to avoid conflict with evacuation plans and emergency response access. Construction of the Proposed Project may involve lane closures when the work area is located adjacent to a public road. Road closures are not anticipated due to construction activities, but in the case that a road closure would be necessary, it would be temporary, and detour routes would be provided. SDG&E and/or its contractors would coordinate with the local emergency response agencies to ensure access to emergency vehicles at all times, and to avoid any conflict with the adopted emergency response plans. If lanes and/or roads are temporarily closed, traffic control personnel would direct traffic to maintain the flow of traffic and ensure safe travel along the work areas. Further discussion of traffic control can be found in Section 4.17, Transportation and Traffic. APM TRA-1 would be implemented as necessary. Therefore, impacts on an adopted emergency response plan or emergency evacuation plan would be less than significant with mitigation incorporated.

**Operation and Maintenance – No Impact**

The operation and maintenance of the Proposed Project would be generally the same as for the existing transmission and power lines on the Proposed Project site. Segment 2 would require slightly more maintenance due to the addition of new structures and hardware, which would result in a slight increase of vehicle trips to and from the Proposed Project. Maintenance crews would use access roads and footpaths periodically, and may conduct maintenance on Proposed Project components adjacent to the public ROW. Maintenance equipment may be located within the public ROW, which may require a lane or road closure temporarily. If this is the case, SDG&E would implement traffic control measures during any maintenance activities that would interfere with traffic (see Section 4.17, Transportation and Traffic, for further discussion). SDG&E would coordinate with local emergency agencies to ensure access for emergency vehicles. Therefore, the Proposed Project would not result in an impact on emergency response plans or emergency evacuation plans.

- h) Would the project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?**

### **Construction – Less-than-Significant Impact**

The Proposed Project is primarily located in residential, commercial, industrial, open space, vacant and undeveloped areas, and agricultural land uses. The Proposed Project is mapped within the Moderate and Very High Fire Hazard Severity Zones on the San Diego County Fire Hazard Severity Map. It is also mapped in the FTZ based on SDG&E's 2015 Fire Threat Zone Map. The replacement of the existing wood poles with new steel poles would greatly reduce the fire risk associated with the existing alignment. This would decrease the risk of the power line contributing to the spread of wildfire.

There is also risk associated with the Proposed Project being a source of an electric fire during construction activities. Additionally, there is potential for construction equipment to start a fire in a number of ways, such as by parking over dry brush, which could be ignited by the vehicle's engine, or construction equipment striking rocks and causing sparks. SDG&E would follow the standard operating safety protocols to manage the risk of wildfires during construction activities. Consistent with current SDG&E standard practices, SDG&E would implement the Proposed Project's fire prevention and protection BMPs, which typically include requirements for carrying emergency fire suppression equipment and conducting "tailgate meetings" that cover fire safety discussions, restrictions on smoking and idling vehicles, and construction restrictions during red flag warnings. In addition, SDG&E and its contractors would comply with the project-specific fire plan. The Proposed Project would not expose people or structures to significant risk of loss, injury, or death involving wildland fires with implementation of SDG&E's comprehensive construction fire prevention program and the project-specific fire plan. Therefore, the Proposed Project would have a less-than-significant impact.

### **Operation and Maintenance – Less-than-Significant Impact**

The replacement of wood poles with steel poles would result in a lower risk of wildfire during operation and maintenance activities in Segment 1 of the Proposed Project. Operation and maintenance activities would continue to comply with state regulations to reduce potential safety hazards along the electric utility corridor. In accordance with fire break clearance requirements in PRC 4292 and 14 CCR 1254, SDG&E would trim and remove flammable vegetation in the areas surrounding the power lines to reduce potential fire and safety hazards. In accordance with tree and power line clearance requirements in Public Resources Code 4293, Title 14, Section 1256 of the CCR and CPUC General Order 95, SDG&E would trim trees and clear vegetation to manage fire. Vehicles would use existing roads to access Proposed Project components during operation and maintenance activities, which would reduce the potential for vehicle heat to ignite dry vegetation and start a fire. In addition, a shield wire would be installed on the steel poles to protect the energized conductor from lightning, further reducing potential fire hazards. Applicable fire prevention and protection BMPs that would be incorporated into construction activities would also be implemented during maintenance activities to prevent potential fire hazards such as smoking and idling vehicles. With the implementation of these standard practices, the potential impact from operation and maintenance activities would be less than significant.

### 4.8.5 Applicant-Proposed Measures

The following hazards and hazardous materials Applicant-Proposed Measures (APMs) would be implemented for the Proposed Project:

**APM HAZ-1:** A Health and Safety Plan will be prepared and implemented during construction. The Health and Safety Plan will describe the anticipated hazards that construction workers may encounter while working on the Proposed Project, the safety measures that must be taken to address those hazards, and the necessary training requirements for personnel working on the Proposed Project. Safety hazards and applicable federal and state occupational standards will be identified in conjunction with the development of appropriate response actions, as well as a protocol for accident reporting. The Health and Safety Plan will also identify security and safety requirements for staging areas, storage yards, excavation areas, and any other areas of the Proposed Project where hazards may exist during construction activities. In addition, information regarding medical kits, safety equipment, and evacuation procedures will be outlined in the Health and Safety Plan. A qualified safety field representative will be present on site to observe and document adherence to the Health and Safety Plan as needed. The Health and Safety Plan will be prepared by the SDG&E construction contractor and will be available immediately prior to construction.

### 4.8.6 References

Airport Land Use Commission (ALUC). 2010. *McClellan-Palomar Airport Land Use Compatibility Plan*. January. As amended through December 1, 2011.

City of Carlsbad. 2015. *General Plan*. September.

City of Escondido. 2012. *General Plan*. May.

City of San Marcos. 2013. *General Plan*. As amended through May 7, 2002.

Escondido Unified School District. 2017. *Escondido Unified School District*. Online: <https://eusd.org/>. Site visited on February 13, 2017.

San Diego County. August 2011. *General Plan*. As amended through December 14, 2016.

San Diego Gas & Electric Company. 2009. Electric Standard Practice No. 113.1 – Wildland Fire Prevention and Fire Safety. July.

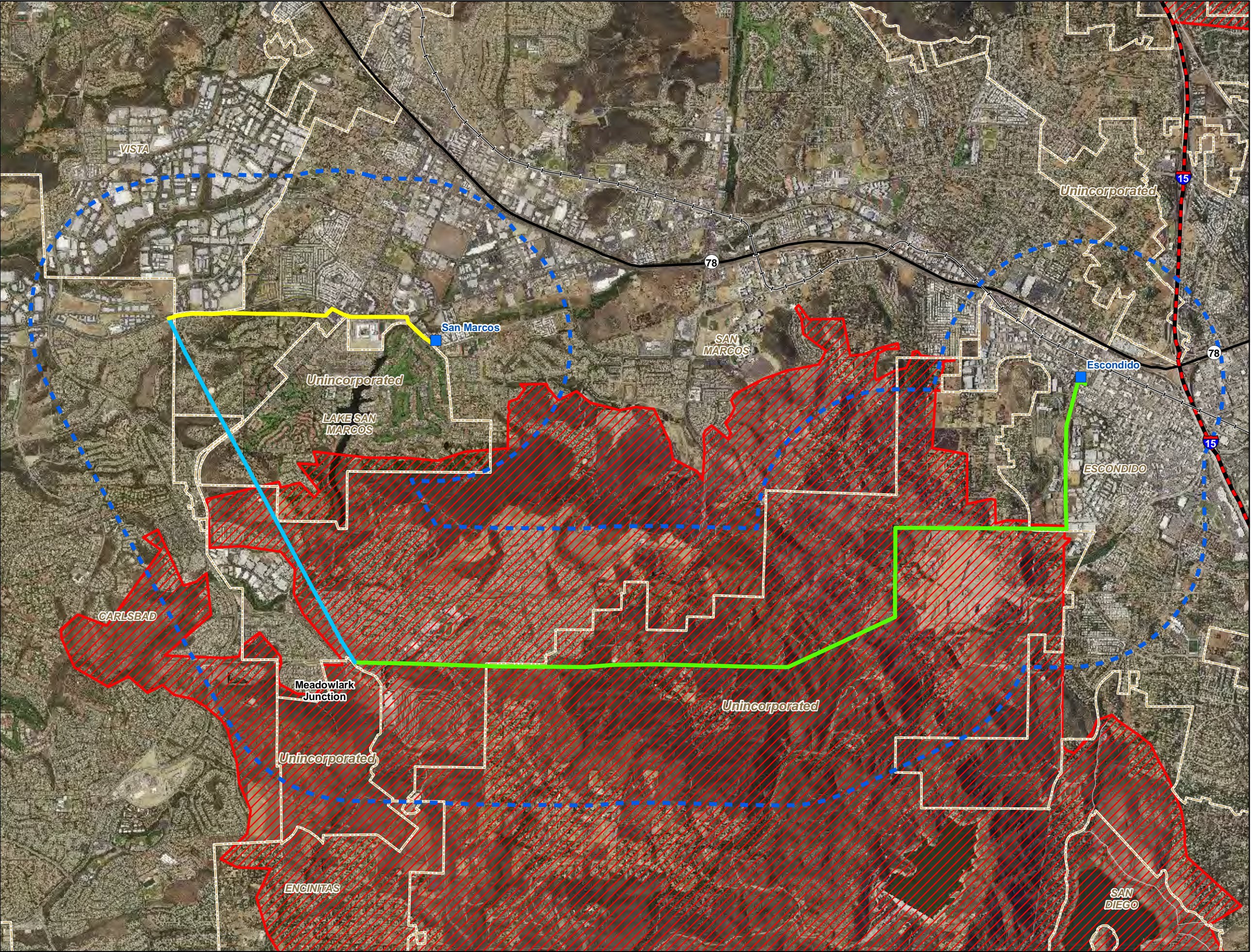
San Diego Gas & Electric Company. 2012. *Fire Prevention Plan*. December.

San Marcos Unified School District. 2017. *San Marcos Unified School District*. Online: <http://www.smusd.org/>. Site visited on February 13, 2017.



Page Intentionally Left Blank





TL6975 San Marcos to Escondido

Figure 4.8-1:

Fire Severity Zone

Legend

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

1 Mile Buffer

General Features

Existing Substation

Interstate

State Highway

Railroad

City Boundary

County Boundary

Fire Severity Zone - 2015

Orange County

Riverside County

San Diego County

Pacific Ocean

MAP LOCATION

0 1,000 2,000 3,000 4,000 5,000

Feet

SDGE

A Sempra Energy utility®







**4.9 HYDROLOGY AND WATER QUALITY**

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

### 4.9.1 Introduction

This section of the PEA provides information about existing surface water and groundwater, and an analysis of potential impacts on hydrology and water quality from construction, operation, and maintenance of the Proposed Project. The Proposed Project's potential effects on these resources were evaluated using the significance criteria set forth in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. The analysis concludes that the Proposed Project would have *less-than-significant* impacts on hydrology and water quality.

### 4.9.2 Methodology

The hydrology and water quality in the Proposed Project Area was evaluated by reviewing aerial photographs, Federal Emergency Management Agency (FEMA) maps for flood zones, and local city and county General Plans. In addition, field surveys were conducted at all pole locations and Proposed Project access points (survey area). The San Diego Regional Water Quality Control Board (RWQCB) Region 9, Water Quality Control Plan for the San Diego Basin, was reviewed to ensure compliance with state and local regulations. Wetland resources were identified during reconnaissance surveys conducted in 2015. Furthermore, in an effort to become more current, the results of the previous delineation were re-verified in April 2017, formal wetland data forms were completed, and new potential staging yards were assessed between February 2017 and April 2017.

### 4.9.3 Existing Conditions

#### 4.9.3.1 Regulatory Background

##### Federal

##### *Clean Water Act*

The Clean Water Act (CWA) (33 United States Code [U.S.C.] Section 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the “Waters of the United States” (U.S.). The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and certain non-point sources discharges into surface water. Point source discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402).

*Section 402.* The NPDES program was established in 1972 to control discharges of pollutants from defined point sources (33 U.S.C. Section 1342) to Waters of the U.S. The program originally focused on industrial-process wastewater and publically owned treatment works. In 1987, Section 402 of the CWA was amended to include requirements for stormwater discharges.

In California, NPDES permitting authority is generally delegated to, and administered by, the State Water Resources Control Board (SWRCB) and the nine RWQCBs, with the exception that NPDES permitting on Indian Tribal Lands is administered by the U.S. Environmental Protection

Agency (EPA) unless the Indian Tribe has been delegated that authority. Currently, no Indian Tribe has been delegated NPDES authority within the Proposed Project boundary. The SWRCB has issued a General Permit for Storm Water Discharges Associated with Construction and Land Disturbance (Construction General Permit, Order No. 2009-0009) under the NPDES permit program. The Construction General Permit applies to construction activities in California that disturb one acre or greater of soil, or less than one acre but part of a larger common plan of development or sale. To obtain coverage under the Construction General Permit, the project applicant must submit Permit Registration Documents, including a Notice of Intent, to the SWRCB and develop a Storm Water Pollution Prevention Plan (SWPPP) that complies with the Construction General Permit requirements. The project applicant must also receive a SWRCB-issued Waste Discharger Identification number before starting construction activities. The project applicant must implement the SWPPP during construction, including requirements for inspections and monitoring, Best Management Practices (BMPs), and must revise the SWPPP and implement revisions as needed to protect storm water quality.

*Section 401.* Section 401 of the CWA requires that any applicant for a federally issued permit for an activity that may result in a discharge of pollutants into Waters of the U.S. must obtain a certification from the applicable state agency (or by the Indian Tribe on Indian Tribal Lands—if authorized—or if not, by the EPA) that the activity complies with all applicable water quality standards, limitations, and restrictions. Therefore, a federal agency cannot issue a license or permit for this activity without a Section 401 certification. For the Proposed Project Area, the San Diego RWQCB issues Section 401 certifications for non-Indian Tribal Lands unless the project qualifies for coverage under the SWRCB's existing certification of Nationwide Permit 12 (CWA Section 401 Water Quality Certification of U.S. Army Corps of Engineers [USACE] 2012 Nationwide Permits, April 19, 2012), and EPA issues Section 401 certifications for Indian Tribal Lands.

*Section 404.* Under Section 404 of the CWA, USACE regulates the discharge of dredged and/or fill material into Waters of the U.S. The term Waters of the U.S. is defined by 33 Code of Federal Regulations (CFR) Part 328 and currently includes: (1) all navigable waters (including all waters subject to the ebb and flow of the tide), (2) all interstate waters and wetlands, (3) all other waters (e.g., lakes, rivers, intermittent streams) that could affect interstate or foreign commerce, (4) all impoundments of waters mentioned previously, (5) all tributaries to waters mentioned previously, (6) the territorial seas, and (7) all wetlands adjacent to waters mentioned previously. Refer to Section 2.2.1 in the Jurisdictional Delineation Report (Appendix 4.4-D) for a complete description of the USACE jurisdictional limits. The EPA also has authority over wetlands, and may veto a USACE permit under CWA Section 404(c).

*Section 404 Nationwide Permits.* Nationwide Permits are general Section 404 permits for categories of activities which have minimal impact on aquatic resources and meet certain conditions. Nationwide Permit 12, Utility Line Activities, authorizes activities required for the construction, maintenance, repair, and removal of utility lines and associated facilities in Waters of the U.S., provided the activities do not result in the loss of greater than 0.5 acre of Waters of the U.S. Nationwide Permit 12 requires a pre-construction notification to the USACE district engineer before beginning the activity if the proposed activity results in discharges that result in the loss of greater than one-tenth acre of Waters of the U.S.



*Sections 303 and 304.* Section 303 of the CWA requires states to adopt water quality standards for all surface Waters of the U.S. (33 U.S.C. Section 1313). Section 304(a) requires the EPA to publish water quality criteria that accurately reflect the latest scientific knowledge on the kind of effects and extent of effects that pollutants in water may have on health and welfare (33 U.S.C. Section 1314[a]). Where multiple uses exist, water quality standards must protect the most sensitive use. Water quality standards are typically numeric, although narrative criteria based on biomonitoring methods may be employed when numerical standards cannot be established or when they are needed to supplement numerical standards.

Section 303(c)(2)(b) of the CWA requires states to adopt numerical water quality standards for toxic pollutants for which the EPA has published water quality criteria and that could reasonably be expected to interfere with designated uses in a waterbody.

Under Section 303(d) of the CWA, states, territories, and authorized tribes are required to develop a list of waterbodies where beneficial uses are impaired. The waters on the list do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. The law requires that these jurisdictions establish priority rankings for water segments on the lists and develop action plans, called Total Maximum Daily Loads (TMDLs), to improve water quality.

#### *Rivers and Harbors Appropriation Act Section 10*

Section 10 of the Rivers and Harbors Appropriation Act of 1899 (33 U.S.C. Section 401 et seq.) makes it unlawful to obstruct or alter a navigable river or other navigable Water of the U.S. Construction, excavation, or deposition of materials in, over, or under such waters, or any work that will affect the course, location, condition, or capacity of those waters, requires a Section 10 permit and approval from the USACE. A Section 10 permit also requires a Section 401 certification.

#### *Federal Flood Risk Management Standard*

Presidential Executive Order (E.O.) 13690 was issued in January 2015 to create a new flood risk reduction standard. The Federal Flood Risk Management Standard (FFRMS) is designed to be a flexible framework to increase resiliency against flooding and to help preserve the natural values of floodplains. Specifically, the FFRMS creates a national minimum flood risk management standard to ensure that federal actions located in or near a floodplain, when there are no other practical alternatives, last as long as intended by considering risks, changes in climate, and vulnerability.

The existing implementation guidelines for E.O. 11988 were revised in 2015 to address E.O. 13690. For federally funded projects, the revised implementation guidelines require use of a higher vertical flood elevation and corresponding horizontal floodplain than the 100-year floodplain. The revised implementation guidelines contain other requirements for federal actions that include projects that require a federal permit.

### *National Flood Insurance Program*

The FEMA is responsible for determining flood elevations and floodplain boundaries based on USACE studies. FEMA is also responsible for distributing the Flood Insurance Rate Maps used in the National Flood Insurance Program (NFIP). These maps identify the locations of special flood hazard areas, including the 100-year floodplain. FEMA allows non-residential development in floodplains; however, construction activities are restricted within flood hazard areas, depending on the potential for flooding within each area. Federal regulations governing development in a floodplain are set forth in 44 CFR 60 et seq., enabling FEMA to require municipalities that participate in the NFIP to adopt certain flood hazard reduction standards for construction and development in 100-year floodplains.

### **State**

In California, the regulation, protection and administration of water quality are carried out by the SWRCB and nine California RWQCBs. The Proposed Project is located within the San Diego Region governed by the San Diego RWQCB. The San Diego RWQCB, under the SWRCB, implements state and regional policies and programs that protect the quality of the regional waterbodies. These programs include preserving the existing water quality, enhancing water quality, and protecting the beneficial uses of regional waterbodies, as defined in the Water Quality Control Plan for the San Diego Basin (9).

### *Streambed Alteration Agreements*

California Fish and Game Code Sections 1600–1616 require any person, state or local government agency, or public utility to notify the California Department of Fish and Wildlife (CDFW) before beginning any activity that would substantially modify a river, stream, or lake. Notification of CDFW through the Section 1602 Streambed Alteration Agreement process is required for a project that would:

- substantially divert or obstruct the natural flow of any river stream or lake;
- substantially change or use any material from the bed, channel, or bank of, any river, stream or lake; or
- deposit or dispose of debris, waste, or other material containing crumbled, flake, or ground pavement where it may pass into any river, stream, or lake.

### *Porter-Cologne Water Quality Control Act*

The Porter-Cologne Water Quality Control Act of 1967, Water Code Section 13000 et seq., requires the SWRCB and the nine RWQCBs to adopt water quality criteria to protect state waters. These criteria include the identification of beneficial uses, narrative and numerical water quality standards, and implementation procedures. Protection of water quality is achieved through adoption of water quality control plans, policies, and discharge permits. Each of the RWQCBs has adopted a Water Quality Control Plan (Basin Plan). The San Diego RWQCB adopted a Water Quality Control Plan (Basin Plan) in September 1994, and amended the plan in April 2011. The criteria for the Proposed Project Area are contained in the Water Quality Control Plan for the San Diego Basin (9). Applicable constraints in the water quality control

plans relate primarily to the avoidance of altering the sediment discharge rate of surface waters, and the avoidance of introducing toxic pollutants to water resources. A primary focus of water quality control plans is to protect designated beneficial uses of waters, which range from drinking water quality to recreation and wildlife habitat. Persons proposing to discharge waste that could affect the quality of the Waters of the State must make a report of the waste discharge to the RWQCB or SWRCB, as appropriate, in compliance with the Porter-Cologne Water Quality Act.

#### *State Water Resources Control Board Order 2014-0174-DWQ*

The SWRCB adopted a revised statewide permit for dewatering utility vaults and underground structures (Statewide General NPDES Permit for Discharges from Utility Vaults and Underground Structures to Surface Waters [General Permit CAG990002]) in 2014. This permit authorizes permittees to discharge uncontaminated water from vaults and substructures to surface waters during the operational phase of projects.

#### *San Diego Regional Water Quality Control Board Conditional Waivers (Order R9-2014-0041)*

The San Diego RWQCB revised and reissued their Conditional Waivers of Waste Discharge Requirements for Low Threat Discharges in the San Diego Region in 2014. The following waivers are applicable to construction projects.

*No. 3 – Miscellaneous Low-threat Discharges to Land.* RWQCB Conditional Waiver No. 3 is for “low-threat” discharges to land, which are contained on site and can percolate to groundwater. Low-threat discharges include liquid wastes containing pollutant concentrations that are not expected to adversely impact the quality of waters of the state under ambient conditions. Low-threat discharges may include potable water or uncontaminated groundwater. Potable water and uncontaminated groundwater are not considered waste when initially discharged; however, when they come into contact with pollutants and transport those pollutants in surface runoff or leach those pollutants into the soil and groundwater, they become waste. Low-threat discharges to land are not expected to contain significant concentrations of pollutants that can adversely affect the quality of underlying groundwater.

Discharges from low-volume and short-term construction dewatering operations to land are one type of discharge that may be eligible for Conditional Waiver No. 3.

#### *State Water Resources Control Board San Diego Municipal Stormwater Permit*

The SWRCB San Diego MS4 permit (Order No. R9-2007-0001 NPDES No. CAS0108758) regulates stormwater discharges from MS4s.

### **Local**

The Proposed Project is not subject to local discretionary regulations because the California Public Utilities Commission (CPUC) has exclusive jurisdiction over the siting, design, and construction of the Proposed Project. San Diego Gas & Electric Company (SDG&E) would comply, when applicable, with the local stormwater ordinances and construction permits and



guidelines within each jurisdiction where the Proposed Project would be constructed.

### Other Applicable Plans

#### *SDG&E Construction Water Sourcing Investigation Plan*

This plan provides an overview of potential water sources available within the SDG&E service territory and is utilized by SDG&E to determine the most appropriate source(s) of water for project construction and operations phases. The plan outlines the regulatory requirements for sourcing, procuring, and using water from various sources (e.g., water districts, surface water diversions, groundwater wells). The plan is an internal reference document used to assist SDG&E in conserving potable water resources and selecting alternative water sources (e.g., recycled water) whenever and wherever feasible for both construction and operations components of approved projects.

#### 4.9.3.2 Hydrology and Water Quality Setting

The San Diego RWQCB Region includes most of San Diego County, parts of southwestern Riverside County, and southwestern Orange County, and is divided into 11 major hydrologic units. Each hydrologic unit is further subdivided into Hydrologic Areas (HA) and Hydrologic Sub-Areas (HSA).

The Proposed Project is primarily located in within the Carlsbad Hydrologic Unit (HU). The Carlsbad HU is approximately 210 square miles extending from the Pacific Ocean on the west to Lake Wohlford to the East, and from Vista to the North to Cardiff-by-the-Sea to the South. This HU includes the Loma Alta, Buena Vista Creek, Agua Hedionda, Encinas, San Marcos, and Escondido Creek HAs.

**Table 4.9-1: Carlsbad Hydrologic Unit Jurisdictional Summary**

Hydrologic Area (HA #)	Receiving Water (s)	Size (square miles)	Percent of Carlsbad HU	Percent of Hydrologic Area							
				City of Carlsbad	City of Encinitas	City of Escondido	City of Oceanside	San Diego County	San Marcos	Solana Beach	Vista
Escondido Creek (904.60)	San Elijo Lagoon, Pacific Ocean	84.6	40	0	11	29	0	55	4	1	0
San Marcos (904.50)	Batiquitos Lagoon, Pacific Ocean	59.7	28	29	15	5	0	18	33	0	0
Agua Hedionda (904.30)	Agua Hedionda and Pacific Ocean Lagoon	29.4	14	41	0	0	6	24	5	0	24
Data source: Regional Water Quality Control Board, Region 9, Basin Plan.											

The drainages and wetlands in the Proposed Project Area are fed by direct precipitation, stormwater runoff, groundwater percolation, and dry weather flows from urban runoff. The drainages in the area of the Proposed Project are mostly ephemeral, where flows only occur as a direct response to rainfall. Weather in the Proposed Project Area is characterized by mild, wet winters, and mild, dry summers. The topography of the Proposed Project Area varies; it traverses through developed and naturally vegetated areas through steep slopes, canyons, and drainages.

### **Watersheds**

The Proposed Project Area occurs primarily within three HAs: Escondido Creek, San Marcos, and Agua Hedionda, with the majority of the Proposed Project Area crossing the San Marcos Creek and Escondido Creek watersheds.

As noted in Table 4.9-1: Carlsbad Hydrologic Unit Jurisdictional Summary, the Escondido Creek HA encompasses approximately 40% of the Carlsbad HU, and ultimately flows to San Elijo Lagoon and the Pacific Ocean. The HA is located on the eastern end of the Proposed Project in Escondido. The Escondido Creek watershed spans the Proposed Project Area from the east end at Escondido Substation in Escondido through Segment 3 to Pole 132, in San Marcos. The Carlsbad Water Quality Improvement Plan (WQIP) identifies indicator bacteria, toxicity, nutrients, indicator bacteria, sedimentation/siltation, and eutrophication as primary water quality stressors for Escondido Creek and San Elijo Lagoon.

The San Marcos HA is located in the center of the Proposed Project in parts of Escondido, San Marcos, Carlsbad, and unincorporated San Diego County. Within the Proposed Project Area, the San Marcos Creek watershed originates at Pole 131 at the west end of Segment 3, and continues through Segment 2 until about Pole 53, where Segment 1 begins and heads east. The Carlsbad WQIP indicates that nutrients, toxicity, and indicator bacteria are the primary stressors on the San Marcos HA.

The Agua Hedionda HA is located on the northwest end of the Proposed Project in San Marcos. The Agua Hedionda watershed touches parts of Carlsbad, Vista, and San Marcos, while within the Proposed Project Area only includes Poles 54 and 50, and possible work that may occur on Poles 54.1, 54.2, and 54.3. Indicator bacteria, toxicity, nutrients, sediment (erosion and hydromodification) and nitrates and nitrites were identified as primary stressors to the Agua Hedionda HA in the Carlsbad WQIP.

Two proposed staging yards (Harmony Grove and Kearny) occur further south from the Proposed Project Area within the Lower San Diego HA (part of the San Diego HU). The City of San Diego Watershed Asset Management Plan (2013) identifies indicator bacteria, nutrients (phosphorus), TDS (total dissolved solids, including Chloride), low dissolved oxygen, and turbidity as baseline high priority water quality problems.

### **Surface Water Resources**

San Diego County's watersheds and geologic nature are characterized by its lagoons, lakes, reservoirs, rivers, and creeks. These water bodies capture the region's surface water runoff and

become a blend of natural runoff and imported water. In addition to supporting natural habitat and supplying residents with potable water, these water bodies supply water for fire suppression and serve as popular recreation areas. Watersheds support lakes and reservoirs, which offer a variety of recreational activities, including fishing, boating, sailing, bike and horseback riding, and picnicking.

ICF biologists performed a jurisdictional delineation of aquatic features located within the Proposed Project Area. A full description of survey methods and results can be found in Appendix 4.4-D: Jurisdictional Delineation Report, Appendix 4.4-B: Biological Technical Report, and Section 4.4, Biological Resources of this PEA.

### *Wetlands*

Wetland vegetation was predominantly associated with intermittent and perennial streams and was dominated by black, red, and arroyo willows (*Salix* sp.), mulefat (*Baccharis salicifolia*), cattail (*Typha* sp.), and bulrush (*Schoenoplectus* sp.). Some wetlands were inundated at the time of the site visit.

### *Ephemeral Streams*

A total of 59 ephemeral streams were identified within the Proposed Project Area. These features had clear bed and bank, as well as multiple ordinary high water mark (OHWM) indicators. OHWM indicators commonly included: shelving, changes in particle size, water staining, changes in vegetation cover/species, and changes in slope from the active floodplain to the low terrace. The ephemeral streams in the Proposed Project Area were variable in size and ranged from 1 to 15 feet wide measured from bank to bank. Ephemeral streams supported patches of mule fat, tamarisk (*Tamarix* sp.), and/or coast live oaks (*Quercus agrifolia*).

### *Intermittent Streams*

A total of four intermittent stream were identified within the Proposed Project Area. The majority of the intermittent streams identified throughout the Proposed Project alignment were associated with tributaries to San Marcos Creek and/or Escondido Creek. These features often supported riparian vegetation and wetlands and were associated with NHD streamlines. These features had a clearly distinguished bed and bank and exhibited evidence of OHWM indicators such as shelving, sediment sorting, destruction of terrestrial vegetation, and water staining. Intermittent streams were typically identified in conjunction with perennial streams and were variable in size, ranging from nine to 92 feet measured from bank to bank.

### *Perennial Streams*

Twelve perennial streams were identified within the Proposed Project Area. Perennial streams include San Marcos Creek and associated unnamed tributaries. Each perennial stream had contained flowing waters, evidence of inundation, and always supported wetlands and riparian vegetation.



## Surface Water Quality

The Water Quality Control Plan, also called the Basin Plan, issued by the San Diego RWQCB describes water quality objectives for surface waters in the Proposed Project Area. Wildlife habitat, municipal, industrial, and agricultural supplies are among some of the beneficial uses that the objectives seek to protect. The quality of surface water is affected by point sources such as stormwater runoff and discharges from industrial outfalls and non-point sources from agricultural run-off, aerial particulate deposition, and residential activities in the region. The San Diego RWQCB uses permits and other programs to regulate and reduce pollution of surface waters.

CWA Section 303(d) requires states to develop a list of waterbodies with impaired water quality. The waters on the list are those that do not meet water quality standards even after known point sources of pollution have installed the minimum required levels of pollution control technology.

The State's Section 303(d) list identifies Escondido Creek as impaired for dichlorodiphenyltrichloroethane, enterococcus, fecal coliform, manganese, phosphate, selenium, sulfates, total dissolved solids (TDS), total nitrogen as N, and toxicity. Escondido Creek drains to San Elijo Lagoon which lists eutrophication, indicator bacteria, and sedimentation/siltation as causes of impairment. Escondido Creek is approximately 1,000 feet south of the Proposed Project Area. San Marcos Creek is on the State's Section 303(d) list for dichlorodiphenyltrichloroethane, phosphorus, sediment toxicity, and selenium. San Marcos Creek drains to Lake San Marcos, an impaired water body due to ammonia as nitrogen, nutrients and phosphorous. Batiquitos Lagoon, which is not listed, is the receiving water for San Marcos Creek. San Marcos Creek crosses the Proposed Project Area near the corner of San Marcos Boulevard and Discovery Street in San Marcos.

## Precipitation

San Diego County's climates are generally mild with average temperatures of 65 degrees Fahrenheit in coastal areas and 57 degrees Fahrenheit in inland areas. Rainfall across San Diego County is variable, with most rain falling from November to April. Generally, the average rainfall is highest in the mountains and least along the coast and in the desert. Most of the county experiences light rainfall, although some of the central mountain areas receive more than 30 inches per year. The average seasonal precipitation along the coast is 10 inches or less. The annual precipitation in the Lower Escondido Creek watershed ranges from approximately 10 to 15 inches per year, the Agua Hedionda HA watershed receives about 10 to 13 inches per year, and the San Marcos watershed receives approximately 10 to 15 inches per year.

Based on the San Miguel weather station located 0.5 mile northeast of the Proposed Project Area, total estimated precipitation within the last year was approximately 19.34 inches (Table 4.9-2: Rainfall Data Summary for the Proposed Project Area (in inches)).

**Table 4.9-2: Rainfall Data Summary for the Proposed Project Area (in inches)**

	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Total	0.23	0	0	0	.8	0.03	1.33	4.43	6.61	5.72	0.19	0
Data source: Western Regional Climate Control Center, <a href="http://www.raws.dri.edu">http://www.raws.dri.edu</a> . Visited online April 12, 2017. The San Miguel weather station is approximately 0.5 mile northwest of the center of the Proposed Project Area.												

## Groundwater Resources

Groundwater basins in the Proposed Project Area include Escondido Creek water basin and the San Marcos area water basin. The Escondido Creek water basin is located in Escondido in the eastern portion of the Proposed Project, where the water basin covers Escondido Substation as well as Poles 114 through 117, 119.1, 119.2, 121, 122, 124, 125, 126, 127, and 128. The basin is located east of the Proposed Project from approximately Pole 112 to Pole 109. The San Marcos area water basin is located in the northwest area of the Proposed Project in San Marcos. The water basin covers an area just west of San Marcos Substation from Poles 5 through 21. Both groundwater basins are within the Carlsbad Hydrologic Unit.

The San Marcos water basin is bound by semi-permeable marine and non-marine deposits, and impermeable granitic and metamorphic rocks. Groundwater recharge of the San Marcos area groundwater basin occurs from percolation of rainfall to the valley floor and ephemeral stream flow. The Escondido groundwater basin drains from the Escondido Creek and occurs from percolation of rainfall. The Escondido Creek basin is bound by cretaceous granitic rocks and pre-cretaceous metamorphic rocks.

In general, the groundwater in these basins is used for domestic and irrigation uses. Groundwater levels vary with wet and dry weather cycles but are typically shallow. The groundwater is on average range between 10 and 50 feet below ground surface.

## Floodplains

The Proposed Project falls within the 100 year floodplain of both San Marcos Creek and Escondido Creek. As shown in Figure 4.9-1, Poles 5, 6, 7, and 9.1 would be located within the 100-year flood zone. The entire Proposed Project falls within the 500-year floodplain. Flood zone information is provided by FEMA on Flood Insurance Rate Maps (FIRM).

## Dam Failure Inundation Areas

Dam owners submit inundation maps to the California Office of Emergency Services (OES) for review and approval in accordance with guidance issued by OES. The OES is responsible for the identification of inundation areas for dam failures in California and provides city and county emergency services coordinators with approved maps of dam failure inundation areas. San Marcos Substation and a portion of Segment 1, including Poles 1 through 13, are within the inundation area for the South Lake Dam. A portion of Segment 2 crosses the inundation area for the San Marcos Creek dam, however no poles are located within the inundation area (see Figure 4.9-1: Hydrologic Area, Watersheds, and Drainages ).

#### 4.9.4 Potential Impacts

The Proposed Project includes removing existing wood pole structures, installing new steel pole structures, and reconductoring for the existing TL 680C power lines; constructing a new power line segment; and converting a de-energized line to a 69 kV power line. The operation and maintenance activities required for the power lines would not change from those currently required for the existing system. The proposed steel poles would require less maintenance and repair than the existing wood poles; however, due to the additional structures and hardware in Segment 2, there would be a slight increase in frequency of maintenance. Because the increase would be slight, effects from the operation and maintenance of the Proposed Project on the environment would be negligible. Therefore, the impact analysis is focused on construction activities that are required to install the new conductor, remove the existing wood pole structures, install the new steel pole structures, and establish temporary work areas, as described in Chapter 3, Project Description.

##### 4.9.4.1 Significance Criteria

According to Section 15002(g) of the CEQA Guidelines, “a significant effect on the environment is defined as a substantial adverse change in the physical conditions which exist in the area affected by the proposed project.” As stated in Section 15064(b) of the CEQA Guidelines, the significance of an activity may vary with the setting. The potential significance of project-related impacts on hydrology and water quality were evaluated for the applicable criteria in Appendix G of the CEQA Guidelines, as discussed in the following sections.

##### a) Would the project violate any water quality standards or waste discharge requirements?

###### Construction – Less-than-Significant Impact

As detailed below, the Proposed Project would not violate any water quality standards or waste discharge requirements. No new sources of point discharge water pollution would result from the Proposed Project construction.

San Marcos Creek and Escondido Creek are both listed as Section 303(d) impaired water bodies. Any contribution of listed pollutants from Proposed Project would be considered a significant impact.

Construction of the Proposed Project has the potential to affect surface water quality. Construction would use mechanized equipment requiring fuels and lubricants and involve fabrication of structures that require hazardous materials such as coatings, adhesives, and solvents. Improper storage and equipment malfunction could result in an accidental release of pollutants, which could impact surface water quality. Construction also generates trash and debris. Construction materials such as concrete and drilling mud could impact water quality if released. If concrete were released, it could increase the pH of the surface water. Drilling mud could carry with it other pollutants associated with the equipment within which it is used, and could increase the turbidity of the surface water, if released. In addition, construction would disturb soil surfaces and would locally modify soil grades. The heavy equipment expected to be



used during construction of the Proposed Project could result in disturbed sediments and compacted soil. If the removal of vegetation is required for grading or pole installation activities, this could result in a less stable surface soil. This would create a temporary potential for erosion and sediment transport.

To protect water quality and address all these factors, BMPs would be implemented to address any potential impacts created by the Proposed Project. Stormwater BMPs reduce or eliminate pollutants in runoff from the Proposed Project construction site to protect nearby surface water quality. BMPs selected for the Proposed Project could include permanent or structural BMPs, such as permanent stabilization of exposed soil surfaces or slopes to minimize erosion, and/or temporary BMPs for use during construction activities. Once the pollutants of concern are identified, and the condition of the construction site is evaluated, BMPs can be implemented. Construction BMPs could include, but are not limited to, silt fencing, fiber rolls, or gravel bag berms for sediment control; temporary soil stabilization, hydraulic mulching, or hydroseeding for erosion control and stabilization; vehicle and equipment washing and fueling controls; and spill control for non- storm water BMPs. The BMPs selected are specific to the site conditions and requirements.

The Proposed Project would disturb more than one acre and therefore requires coverage under the statewide Construction General Permit. SDG&E would obtain coverage under the Construction General Permit and comply with its relevant requirements, including development and implementation of a SWPPP and BMP plan for water quality protection.

The Linear Underground/Overhead Project (LUP) requirements of the Construction General Permit would apply to the Proposed Project. LUP activities covered under the Construction General Permit include, but are not limited to, those activities necessary for the installation of overhead linear facilities (e.g., conduits, substructures, poles, cables, wires, connectors, switching equipment, regulating equipment, transforming equipment, and associated ancillary facilities). These activities include, but are not limited to, underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavation, boring and drilling, access roads, pole/tower pads, cable/wire pull stations, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, welding, concrete and/or pavement repair or replacement, and stockpile borrow locations.

The Construction General Permit requires prevention of unauthorized discharges and implementation of a SWPPP with BMP guidance to prevent discharges from construction activities that would otherwise violate water quality standards. The Construction General Permit further requires inspections, monitoring, and reporting to ensure that BMPs are implemented and effective and modified if needed to ensure protection of water quality. SDG&E would implement BMPs consistent with the Construction General Permit requirements and its *BMP Manual*. Specific requirements for LUPs are provided in the Construction General Permit (Order No. 2009-0009). The *SDG&E Subregional NCCP* also contains protocols for avoiding and minimizing potential erosion and water quality issues.

Other than the Construction General Permit, no waste discharge requirements apply to construction of the Proposed Project because no discharges other than stormwater are

anticipated. Some dewatering may be required from structural foundation excavations and trenching, depending on seasonal groundwater levels, however these activities would be considered a low threat discharge [to land] and potentially eligible for Conditional Waiver No. 3 from the San Diego RWQCB if the discharge is considered allowable, which in some cases requires the filing of a Notice of Intent.

SDG&E plans to use potable water for approved construction activities including dust control, soil compaction, concrete mixing, and/or housekeeping during construction. The potable water would be sourced from local Water Purveyors (WPs). SDG&E received a Will Serve Letter dated October 19, 2017, confirming water availability for the Proposed Project from Vallecitos Water District (VWD). VWD has indicated potable would be available through existing fire hydrants in the area. VWD also provided a map indicating approximate locations of fire hydrants along the Proposed Project Alignment (see Appendix 3-D: Agency Correspondence). Construction meters would be installed by VWD on the fire hydrants. VWD indicated that because VWD relies one hundred percent on imported water supplies, water may not be available at the time of project commencement. Service may be subject to VWD fees, charges, rules, regulations, and ordinances. Given the proximity of the water source to the Proposed Project alignment, the potable water would be utilized for direct use or would be loaded into tanker trucks for transport to a central staging location and stored in drop tanks. The use of potable water would not violate any water quality standards or waste discharge requirements.

Therefore, the Proposed Project would not violate any water quality standard or waste discharge requirement because SDG&E would comply with the regulatory requirements for protection of water quality, including implementation of the SWPPP and BMPs in accordance with SDG&E's *BMP Manual* and the *SDG&E Subregional NCCP*. Therefore, potential impacts would be less than significant.

### **Operation and Maintenance – Less-than-Significant Impact**

SDG&E currently maintains and operates existing electric facilities throughout the Proposed Project alignment. The Proposed Project's power lines would be installed within SDG&E easements, where regular operation and maintenance activities (e.g., inspection, vegetation removal, equipment replacement, etc.) already occur.

Throughout the operation and maintenance of the Proposed Project, SDG&E would continue to implement BMPs consistent with its *BMP Manual* and the *SDG&E Subregional NCCP* and any future revisions to those documents. SDG&E already does this under the existing conditions.

SDG&E would also follow the existing Spill Prevention, Control, and Countermeasures (SPCC) Plan and follow ordinary operating restrictions to control containment of any hazardous materials at substations (e.g., oils, lubricants, etc.), as is currently the case. No violation of any water quality standard would be anticipated from use of hazardous materials during operation and maintenance of the Proposed Project.

No waste discharge requirements apply to operation and maintenance of the Proposed Project because no discharges are anticipated to occur. The Proposed Project would not violate any

water quality standard or waste discharge requirements during operation and maintenance because SDG&E would comply with the regulatory requirements for protection of water quality, including implementation of the SWPPP and BMPs, and implement BMPs in the *BMP Manual* and *SDG&E Subregional NCCP*. Therefore, potential impacts would be less than significant.

**b) Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level?**

**Construction – No Impact**

It is estimated that approximately 3 million gallons of water could be used for power line construction and dust control over the duration of construction and restoration activities. The water demand from construction would be temporary and short-term, and would be satisfied using potable water supplied from existing water supply facilities. SDG&E received a Will Serve Letter from VWD on October 19, 2017 confirming water availability for the Proposed Project. Proposed Project construction would require approximately 3 million gallons of potable water, and the demand would be temporary and short-term. Potable water would be obtained from existing VWD hydrant facilities. The VWD obtains its water supply primarily from imports from the Colorado River and the State Water Project and does not utilize groundwater, so the short-term use of potable water would not deplete groundwater supplies. Surface disturbance outside of existing roads would be limited and negligible compared to the affected watershed areas, so there would be no impact on groundwater recharge.

Dewatering may be required during construction where localized shallow groundwater is encountered in structure foundation excavations or other project excavations. Dewatering may have localized effects on groundwater levels, but the effects would be isolated to a small area due to the short duration of pumping. Dewatering is not expected to affect area wells, which rely on deeper water-bearing zones. For these reasons, there would be no net deficit in aquifer volume or lowering of the groundwater table and no impact on groundwater supplies or recharge. Therefore, no impacts related to groundwater supplies would occur.

**Operation and Maintenance – No Impact**

SDG&E currently maintains and operates existing electric facilities throughout the Proposed Project alignment. The Proposed Project's power lines would be installed along existing SDG&E easements, where regular operation and maintenance activities already occur. The removal of 19 existing poles is not expected to require dewatering. The proposed steel poles would require less maintenance and operation than the existing wood poles, but operation and maintenance activities for the Proposed Project would increase slightly in frequency due to the additional hardware in Segment 2; however, the increase in frequency would be so slight as to be negligible. There would be no net deficit in aquifer volume or lowering of the groundwater table and no impact on groundwater supplies or recharge. Therefore, no impacts related to groundwater supplies would occur.



- c) **Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?**

### **Construction – Less-than-Significant Impact**

The activities within the Proposed Project Area that could require grading would be the establishment of new spur roads and a new access road, regrading of existing access roads, and the construction of new steel poles in upland areas. Grading would disturb the soil surface, resulting in a possible minor change in the infiltration and absorption capacity of the affected areas. Graded areas would be stabilized to promote infiltration and reduce runoff potential. None of the Proposed Project's structures are located in drainages, or at any location that could alter the course of a stream or river or modify flood condition water levels.

SDG&E does not propose any grading in creeks or drainages. The Construction General Permit requires BMPs to prevent excessive erosion and sediment transport and would also require that disturbed areas be stabilized. The RWQCB would accept the Notice of Termination of the Construction General Permit only after demonstration of stabilization.

Construction of the Proposed Project would not substantially alter existing drainage patterns of the site or area because: (1) the Proposed Project does not include grading in creeks or drainages; (2) grading would be designed to return runoff to existing drainage patterns without increasing runoff; and (3) erosion protection and sediment control BMPs would be implemented in compliance with the Construction General Permit, SWPPP, *BMP Manual*, and *SDG&E Subregional NCCP*. Therefore, the impact on existing drainage patterns would be less than significant.

### **Operation and Maintenance – No Impact**

SDG&E currently maintains and operates existing facilities throughout the Proposed Project Area. The Proposed Project's power lines would be installed along existing SDG&E easements, where regular operation and maintenance activities already occur. The frequency of maintenance would increase slightly due to the new hardware in Segment 2; however, this increase would be so small as to be negligible. The removal of existing wood poles would marginally decrease SDG&E's annual inspection requirements in Segment 1 and would not alter drainage patterns. Operation and maintenance activities for the Proposed Project would therefore not result in a significant change compared to baseline conditions.

SDG&E would continue to implement BMPs during grading work associated with operation and maintenance, including returning runoff to existing drainage patterns and stabilizing surface disturbances. This would prevent any substantial alteration of the existing drainage pattern of the site in a manner that would result in substantial erosion or siltation on- or off site. For these reasons, there would be no impacts from substantial erosion or siltation off- or on site due to substantial alteration of existing drainage patterns within the Proposed Project Area.

- d) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?**

**Construction – Less-than-Significant Impact**

As discussed in the response to Question 4.9c, construction-related activities would not substantially alter the existing drainage patterns on site nor would the activities increase the existing velocity or volume of storm water flows on site or in offsite areas. As such, flow rates and volumes would not be substantially altered and potential impacts from runoffs or flooding would be less than significant.

**Operation and Maintenance – No Impact**

Once construction of the Proposed Project facilities and associated improvements has been completed, no additional changes to on-site or off-site drainages are anticipated. The Proposed Project would not result in the potential for increased runoff volumes, and storm water facilities in the surrounding area would not be further affected. Therefore, no impact resulting from storm water runoff or flooding is anticipated with operation and maintenance of the Proposed Project.

- e) Would the project create, or contribute to runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?**

**Construction – Less-than-Significant Impact**

Soil conditions within temporary work areas may change as a result of construction activities. All surface conditions would be restored to pre-construction conditions within temporary work areas after construction is complete. Permanent impacts on soil conditions as a result of permanent work areas may result in minor changes to infiltration or runoff from soil compaction. Where Proposed Project facilities require alteration of surface conditions (e.g., grading), graded areas would be stabilized to promote infiltration and reduce runoff potential. With implementation of BMPs, including surface stabilization, grading required for the Proposed Project is not anticipated to result in an increase in material/sediment in runoff from the Proposed Project's footprint. The Proposed Project would not adversely impact the capacity of existing or planned storm water drainage systems because no substantive increase in runoff is expected, and grading would be designed to return runoff to existing drainages.

SDG&E would comply with the Construction General Permit and would develop and implement a SWPPP outlining BMPs for water quality protection. The Construction General Permit requires prevention of unauthorized discharges and implementation of BMPs needed to prevent discharges of polluted runoff to the maximum extent practicable. The Construction General Permit also requires inspections, monitoring, and reporting to ensure that polluted runoff is not discharging from the construction site.

SDG&E would implement BMPs in accordance with the Construction General Permit and its *BMP Manual*. Construction of the Proposed Project would not be a substantial source of polluted runoff considering the regulatory requirements for protection of water quality, including implementation of the SWPPP and BMPs. Therefore, potential impacts would be less-than-significant.

#### **Operation and Maintenance – Less-than-Significant Impact**

SDG&E currently maintains and operates existing electric facilities throughout the Proposed Project Area within its existing easements. The Proposed Project's power lines would be installed along existing SDG&E easements where regular operation and maintenance activities already occur. Although the proposed steel poles in Segment 1 would require less maintenance and repair than the existing wood poles, maintenance frequency would increase slightly in Segment 2 due to the new hardware; however, the increase would result in a negligible impact. The foundations required for the Proposed Project's new structures would not constitute substantial areas of new impermeable surfaces. No substantial increase in runoff from the Proposed Project's footprint is anticipated. Operation and maintenance activities for the Proposed Project would therefore not materially change compared to baseline conditions. SDG&E would continue to implement BMPs during maintenance work. Therefore, operation and maintenance of the Proposed Project would not affect drainage capacity of existing or planned stormwater drainage systems or cause a substantial additional source of polluted runoff.

#### **f) Would the project otherwise substantially degrade water quality?**

##### **Construction – Less-than-Significant Impact**

Construction of the Proposed Project would comply with the Construction General Permit, which includes BMPs to prevent degradation of water quality from storm water runoff and other permitted discharges. No other discharges to surface or groundwater are anticipated during construction. Construction impacts to water quality would be less than significant based on compliance with the Construction General Permit.

##### **Operation and Maintenance – Less-than-Significant Impact**

As discussed in 4.9a) the protection of the water quality would be covered through implementation of the Proposed Project SWPPP and BMPs. Operation and maintenance activities for the Proposed Project would slightly increase in frequency in Segment 2 due to the new structures; however, the increase would be so slight it would be negligible compared to baseline conditions. SDG&E would continue to implement BMPs during maintenance work. Therefore, operation and maintenance of the Proposed Project would not otherwise substantially degrade water quality.

#### **g) Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?**

##### **Construction, Operation and Maintenance – No Impact**

No housing would be constructed as a part of the Proposed Project. Therefore, no housing would be placed within a 100-year flood hazard area, and no impact would occur.



**h) Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?**

**Construction, Operation and Maintenance – Less-than-Significant Impact**

The Proposed Project would include locating some poles within the mapped 100-year flood hazard area. Poles 5, 6, 7, and 9.1 are located within the 100-year floodplain just northwest of San Marcos Substation in Segment 1. Pole 9.1 is also located within the 100-year floodplain, but would only require overhead work. The steel poles would have a limited footprint. No grading is proposed at these locations and the poles would not impede or redirect flood flows if inundated due to their small cross-sectional area. Impacts on flood flows would be less than significant.

**i) Would the project expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?**

**Construction – Less than Significant Impact**

The Proposed Project does not involve housing development or development of facilities that would normally be attended, so there would be a less than significant risk of exposing people in those structures to loss, injury, or death involving flooding. Construction workers would only be within the flood risk areas for very short amounts of time and relocation out of flood risk areas is easily attained at Proposed Project pole locations. Structures and facilities for the Proposed Project would be located outside of the 100-year flood risk areas except for Poles 5, 6, 7, and 9.1, which are adjacent to San Marcos Creek. Poles 5, 6, 7, 9.1, and two guard structures are located within the developed area on the flood plain. San Marcos Substation and a portion of Segment 1, including Poles 1 through 13, are within the inundation area for the South Lake Dam. A portion of Segment 2 crosses the inundation area for the San Marcos Creek Dam; however, no poles are located within the inundation area. The poles would not impede or redirect flood flows due to their small cross-sectional area. Structures located within the 100-year flood hazard zone would be designed to withstand potential flood inundation without damage to structures. Considering these factors, the Proposed Project would not expose people or structures to a significant risk of loss, injury, or death involving flooding. The impact on flood flows would thus be less than significant.

**Operation and Maintenance – Less-than-Significant Impact**

SDG&E currently maintains and operates extensive existing electric facilities throughout the Proposed Project Area, and the Proposed Project would not change the regular operation and maintenance activities of those facilities. Although the frequency of maintenance activities would increase slightly in Segment 2 due to the new structures and hardware, the increase would be so slight it would represent a negligible change compared to baseline conditions.

Structures located within the 100-year flood hazard zone would be designed to withstand potential flood inundation without damage to structures. The new locations for Poles 5, 6, 7, and 9.1 would be outside the normal creek channel, and flood inundation would only occur on occasion and for short intervals. Furthermore, operation and maintenance workers would only be within the flood risk areas for very short amounts of time and relocation out of flood risk areas is easily attained at Proposed Project pole locations. As such, the Proposed Project would

not expose people or structures to a significant risk of loss, injury, or death involving flooding. Impacts would be less than significant.

**j) Inundation by seiche, tsunami, or mudflow?**

**Construction, Operation and Maintenance – Less-than-Significant Impact**

The Proposed Project Area is located approximately 8 miles east of the Pacific Ocean, which is susceptible to tsunamis. Given the distance from the Pacific Ocean, it is unlikely that a tsunami would cause catastrophic damage to the Proposed Project Area. Because the Proposed Project is in an area that would not be affected by a tsunami, no impact would occur. Seiches are typically associated with impounded waterbodies. The Proposed Project is located approximately 1 mile from Lake San Marcos, and due to the distance, no impact from seiches would occur. A mudflow is a flow of soil and debris that occurs after intense rainfall, earthquakes, or severe wildfires. The potential for a mudflow to occur depends on the slope steepness, soil type, and soil moisture content. Although access roads are unvegetated and sometimes on steep slopes, the Proposed Project Area is within existing SDG&E right-of-ways. Access roads are both developed and routinely maintained. Therefore, mudflow is unlikely but does have slight potential for occurrence in the Proposed Project Area; however, the proposed structures would be engineered to withstand such flows and the Proposed Project would not otherwise place structures or humans at substantial risk of mudflows. Therefore, impacts would be less than significant.

**4.9.5 Applicant-Proposed Measures**

The Proposed Project would have no potentially significant impacts related to hydrology and water quality; therefore, no Applicant-Proposed Measures are proposed.

**4.9.6 References**

California Department of Water Resources. 2004a. *San Marcos Groundwater Basin*. Online: <http://www.water.ca.gov/groundwater/bulletin118/basindescriptions/9-32.pdf>. Site visited on April 12, 2017.

———. 2004b. *Escondido Groundwater Basin*. Online: [http://www.water.ca.gov/pubs/groundwater/bulletin\\_118/basindescriptions/9-9.pdf](http://www.water.ca.gov/pubs/groundwater/bulletin_118/basindescriptions/9-9.pdf). Site visited on April 12, 2017.

Carlsbad Watershed Network. 2004 *Aqua Hedionda Creek*. Online: <http://carlsbadwatershednetwork-net.san-diego-tango-lessons.com/mywatershed.php#Agua>. Last Updated February 6, 2006. Site visited on April 12, 2017.

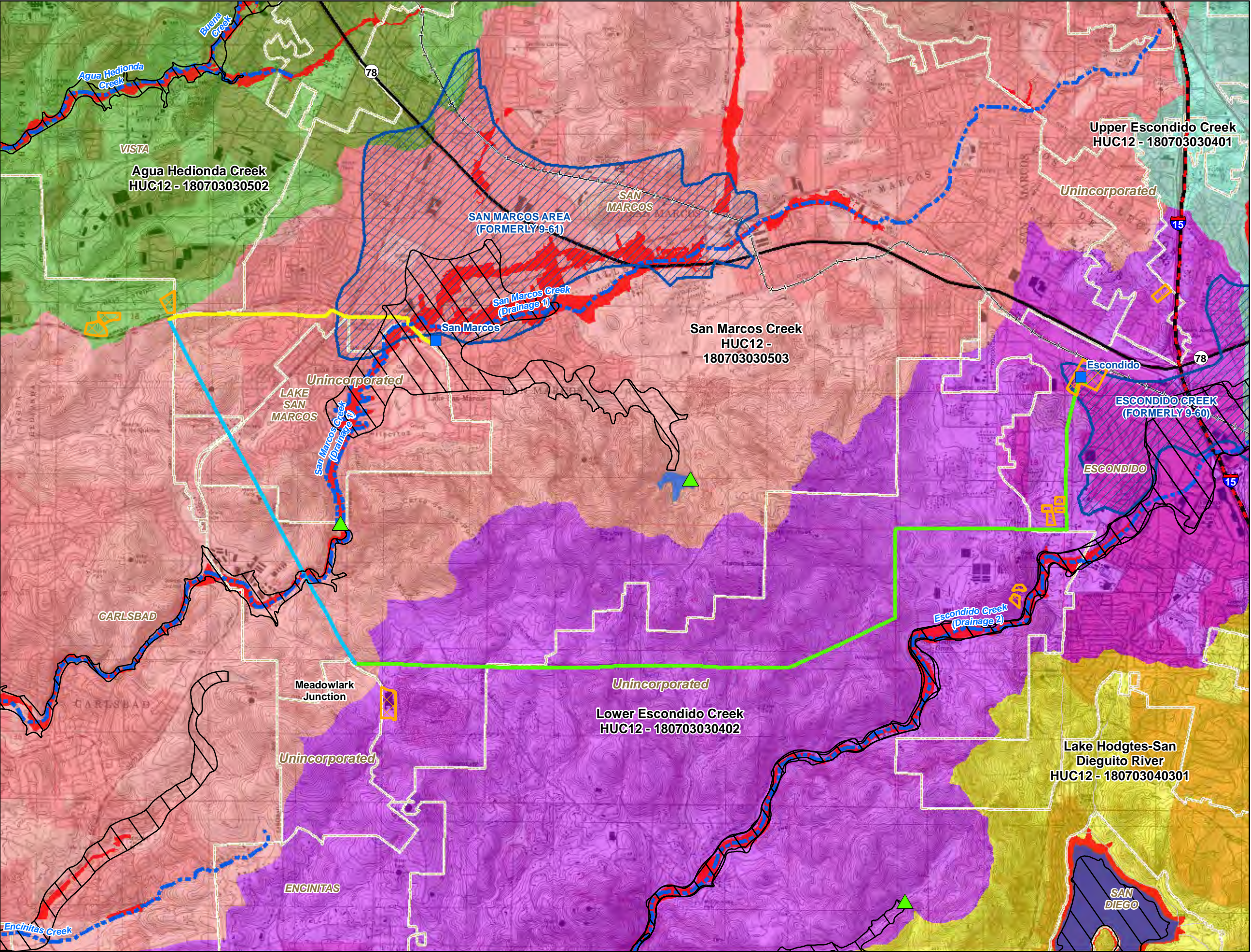
City of San Marcos. 2011. *San Marcos Creek Specific Plan*. Online: [https://faast.waterboards.ca.gov/attachments/proposal\\_24572/attachment\\_69112.pdf](https://faast.waterboards.ca.gov/attachments/proposal_24572/attachment_69112.pdf). Site visited on April 12, 2017.

- City of San Diego. 2013. *Watershed Asset Management Plan*. Online: <https://www.sandiego.gov/sites/default/files/legacy/stormwater/pdf/wamp2013.pdf>. Site visited on April 12, 2017.
- County of San Diego. 2007a. *Guidelines for Determining Significance: Surface Water Quality*.
- . 2007b. *Guidelines for Determining Significance: Groundwater Resources*.
- . 2009. *Draft North County Area Plan*. Online: <http://www.sdcounty.ca.gov/pds/mscp/nc.html>. Site visited on April 12, 2017.
- . 2011. *County of San Diego General Plan*. Adopted August 3, 2011. Online: <http://www.sdcounty.ca.gov/pds/generalplan.html>. Site visited on April 12, 2017.
- San Diego Regional Water Quality Control Board. 1994. *Water Quality Control Plan for the San Diego Basin*. (With April 4, 2011 Amendments.)
- . 2003. *Order No. R9-2003-0007, Master Reclamation Permit with Waste Discharge Requirements for the Production and Purveyance of Recycled Water for the WP*. February 5, 2003.
- . 2009. *Aqua Hedidona Watershed*. Online: [http://www.swrcb.ca.gov/rwqcb9/press\\_room/announcements/carlsbad\\_desalination/updates\\_3\\_13\\_09/item\\_116\\_tab\\_o.pdf](http://www.swrcb.ca.gov/rwqcb9/press_room/announcements/carlsbad_desalination/updates_3_13_09/item_116_tab_o.pdf). Site visited on April 12, 2017.
- . 2017. *Lake San Marcos Water Quality*. [http://www.swrcb.ca.gov/rwqcb9/board\\_decisions/adopted\\_orders/2017/R9-2017-0038.pdf](http://www.swrcb.ca.gov/rwqcb9/board_decisions/adopted_orders/2017/R9-2017-0038.pdf). Site visited on April 12, 2017.
- San Elijo Lagoon Conservancy. 2005. *Escondido Creek Action Plan*. [https://www.sanelijo.org/sites/sanelijo.org/files/Publications/Reports/Esc\\_Creek\\_Action\\_Plan.pdf](https://www.sanelijo.org/sites/sanelijo.org/files/Publications/Reports/Esc_Creek_Action_Plan.pdf). Site visited on April 12, 2017.
- Western Regional Climate Center. 2017. *Monthly Summary Time series Weather for Mission Valley, CA 92108*. Online: <http://www.raws.dri.edu/cgi-bin/rawMAIN.pl?caCSPQ>. Site visited on April 12, 2017.
- Water Purveyors (WP). *Rules and Regulations Governing the Use of Recycled Water*. Effective February, 2015,









TL6975 San Marcos to Escondido

Figure 4.9-1: Hydrologic Area, Watersheds, and Drainages

Legend

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconstructor

Project Features

Stringing Site

General Features

Existing Substation

Interstate

State Highway

Railroad

City Boundary

County Boundary

Hydrology

Dam Location

303(d) listed waters - Impaired waters

303(d) listed water body - Impaired waters

Groundwater Basin

Dam Failure Inundation Area

100 Year Floodplain

Watershed Boundaries (HUC12)

Agua Hedionda Creek

Lake Hodges-San Dieguito River

Lower Escondido Creek

San Marcos Creek

Upper Escondido Creek

Orange County

Riverside County

San Diego County

Pacific Ocean

MAP LOCATION

Scale: 0 1,000 2,000 3,000 4,000 5,000 Feet

SDGE

San Diego Gas & Electric







## Table of Contents

<b>4.10 Land Use and Planning .....</b>	<b>4.10-1</b>
4.10.1 Introduction.....	4.10-1
4.10.2 Methodology .....	4.10-1
4.10.3 Existing Conditions.....	4.10-2
4.10.4 Potential Impacts.....	4.10-10
4.10.5 Applicant-Proposed Measures .....	4.10-13
4.10.6 References.....	4.10-13

## List of Figures

Figure 4.10-1: Existing Land Use Map.....	4.10-17
Figure 4.10-2: General Plan Land Use Designations Map .....	4.10-19
Figure 4.10-3: Zoning Designations Map.....	4.10-21

## List of Tables

Table 4.10-1: Designated and Existing Land Uses in the Proposed Project Area.....	4.10-7
---	--------

## **Acronyms and Abbreviations**

CEQA	California Environmental Quality Act
CPA	Community Plan Area
CPUC	California Public Utilities Commission
GIS	Geographic Information Systems
MSCP	Multiple Species Conservation Program
NCCP	Natural Community Conservation Planning
PEA	Proponent’s Environmental Assessment
ROW	right-of-way
SANDAG	San Diego Association of Governments

## 4.10 LAND USE AND PLANNING

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

### 4.10.1 Introduction

This section of the Proponent’s Environmental Assessment (PEA) describes the existing land uses and land use and zoning designations within the Proposed Project vicinity, and the potential impacts on land use that could result from construction, operation, and maintenance of the Proposed Project. The Proposed Project’s potential effects on land use were evaluated using the significance criteria set forth in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. The analysis concludes that the Proposed Project would have *no impact* on land use and planning.

### 4.10.2 Methodology

The land use analysis included a review of various land use plans, policies, and regulations for the City of Carlsbad, the City of San Marcos, the City of Escondido, the City of Vista, and the County of San Diego. The planning and natural resources management documents that were reviewed include the following: City of San Marcos Zoning Ordinance, *City of San Marcos General Plan*, *City of Carlsbad General Plan*, City of Carlsbad Zoning Ordinance, *City of Escondido General Plan*, City of Escondido Zoning Ordinance, *City of Vista General Plan*, *County of San Diego General Plan*, County of San Diego Zoning Ordinance, SDG&E Subregional NCCP, the North County Multiple Habitat Conservation Program, *the City of Carlsbad Subarea Plan*, *the City of Escondido Subarea Plan*, Geographic Information Systems (GIS) data and other aerial imagery, and pre-approved mitigation areas identified in the draft North County Multiple Species Conservation Program (MSCP).



### 4.10.3 Existing Conditions

#### 4.10.3.1 Regulatory Setting

##### **Federal**

No federal regulations related to land use and planning apply to the Proposed Project.

##### **State**

###### *California Public Utilities Commission*

Pursuant to Article XII, Section 8, of the California Constitution, the California Public Utilities Commission (CPUC) has exclusive jurisdiction, in relation to local government, to regulate the design, siting, installation, operation, maintenance, and repair of electric transmission facilities. SDG&E must receive a Permit to Construct from the CPUC to gain regulatory approval for the Proposed Project. The CPUC is the Lead Agency for CEQA review of the Proposed Project.

Other state agencies have concurrent jurisdiction with the CPUC. Although local governments do not have the power to regulate construction of electric facilities and substations, the CPUC encourages, and SDG&E participates in, cooperative discussions with affected local governments to address their concerns, where feasible. As part of the environmental review process, SDG&E has considered relevant city and county land use plans and policies, specific plans, community plans, Natural Community Conservation Planning (NCCP) programs, and Habitat Conservation Plans (HCPs), and prepared this evaluation of the Proposed Project's potential impacts on land use and planning. Further, SDG&E should obtain any required ministerial permits from local agencies, as applicable to the Proposed Project.

##### **Local**

The Proposed Project is not subject to local discretionary land use regulations because the CPUC has exclusive jurisdiction over the siting, design, and construction of the Proposed Project. The following summary of local regulations related to land use is provided for informational purposes.

###### *City of San Marcos*

The *City of San Marcos General Plan* (2013) provides long-range planning policies that reflect the aspirations and values of residents, land owners, businesses, and organizations within the community and provide direction for future growth and provides policies related to land use, mobility, conservation, housing, safety, and noise. The Land Use and Community Design Element provides a framework for managing future development in the City. The main goals of the Element are to ensure land use diversity and balanced development; establish and maintain community connections that better connect people to places; promote economic strength and stability; create a synergy between the business community and academia; encourage integration of high-quality and sustainable development; promote community design that produces a distinctive built environment with memorable places; direct and sustain growth through management; determine the future location, type, and intensity of new development; and establish the desired mix and relationship between projects to maximize the long-term livability of the community.

The *City of San Marcos General Plan* contains the following potentially relevant policies:

**COS-4.6:** Promote efficient use of energy and conservation of available resources in the design, construction, maintenance and operation of public and private facilities, infrastructure and equipment.

**COS-4.7:** As City facilities and services are constructed or upgraded, incorporate energy and resource conservation standards and practices by:

- Taking a leadership role in implementing programs for energy and water conservation, waste reduction, recycling and reuse and increased reliance on renewable energy.
- Upgrading City buildings and infrastructure facilities to comply with State of California green building standards.
- Implementing landscaping that reduces demands on potable water; this may include the use of drought tolerant landscaping and/ or use of well water for irrigation, favoring recycling and energy-efficient products and practices when issuing City purchase agreements.

**COS-4.8:** Encourage and support the generation, transmission and use of renewable energy.

**LU-3.7:** Require new development to prepare traffic demand management programs.

**LU-17.1:** Coordinate with all communications and utility companies (electrical, gas, telephone, cable, satellite and future utilities) in the provision of services throughout the community and the installation and maintenance of facilities in their respective franchise areas.

**LU-17.4:** Require utility location to be shown on all site development plans at the time of development/ project application.

### *City of Carlsbad*

The *City of Carlsbad General Plan* (2013) provides a broad framework of policies, objectives, and land use designations to guide the future of development in Carlsbad. The main goals of the plan are to outline a vision for Carlsbad's long-term physical and economic development and community enhancement; provide strategies and specific implementing actions that will allow this vision to be accomplished; establish a basis for judging whether specific development proposals and public projects are in harmony with the General Plan policies and standards (such as for density, parks, and mobility); allow City departments, other public agencies, and private developers to design projects that will enhance the character of the community; preserve and enhance important environmental resources, and minimize hazards; and provide the basis for establishing priorities for implementing plans and programs, such as the Zoning Ordinance, the Capital Improvements Program, facilities plans, and specific and area plans.

The *City of Carlsbad General Plan* contains the following potentially applicable goals and policies.

**2-G.21:** Ensure that adequate public facilities and services are provided in a timely manner to preserve the quality of life of residents.

**4-P.5:** Require compliance with the Growth Management Plan open space performance standard specified in the Citywide Facilities and Improvements Plan, and maintain appropriate criteria, standards, and classifications. The following open space areas shall not be utilized to meet the open space performance standard:

- d. Power line easements, except where the land within the easement is identified by the OSCRMP [Open Space and Conservation Resource Management Plan] as an open space priority, such as a trail or greenway, and the granting of the open space credit will not adversely impact the city's ability to achieve all of the open space priorities identified for the LFMZ [Local Facility Management Zones] by the OSCRMP. Major power line easements that provide key links to the Carlsbad trail system shall receive credit toward the open space performance standard.

**6-P.39:** Ensure all new development complies with all applicable regulations regarding the provision of public utilities and facilities.

**9-G.3:** Promote energy efficiency and conservation in the community.

### *City of Escondido*

The *City of Escondido General Plan* (1993) is a statement of long-range public policy to guide the use of private and public lands within the community's boundaries. This established plan reflects the aspirations and values of its residents and provides broad guidelines for future development in the City.

The *City of Escondido General Plan* contains the following potentially relevant policies.

**1.4:** Coordinate the planning and development of the overall open space system with other public facilities and services within Escondido.

**1.8:** Require that proposed development projects implement appropriate measures to minimize potential adverse impacts on sensitive habitat areas, such as buffering and setbacks. In the event that significant biological resources are adversely affected, consult with appropriate state and federal agencies to determine adequate mitigation or replacement of the resource.

**2.1:** To anticipate the demand for services, prepare, maintain, and periodically update public facility master plans that are based on adopted growth projections through coordination of appropriate city departments and agencies.

**16.1:** Monitor federal, state and regional energy policies and lobby for appropriate changes that benefit the community.



**16.9:** Coordinate with regional and local energy providers to increase energy conservation through public education programs

### *City of Vista*

The *City of Vista General Plan* (2011) provides the vision for the direction of future development in Vista. The General Plan provides expresses the goals for the future of the community and identifies actions necessary to achieve those goals. The Land Use and Community Identity Element identifies areas in the City that would experience growth and change; and establishes goals and policies that will foster a vibrant, attractive, and economically viable community. The following policies would be relevant to new development within the City.

**LUCI Policy 1.1:** Require the application of the City of Vista Design Guidelines, including site design, architecture, lighting, and signage, when reviewing and approving new development and redevelopment.

**LUCI Policy 1.6:** Encourage undergrounding of utilities, and discourage new electric and communications lines to be added to existing aboveground utility systems.

**LUCI Policy 3.1:** Require all new development to be designed to minimize impacts to adjoining residential neighborhoods.

### *County of San Diego*

The *County of San Diego General Plan* (1978) is based on a set of guiding principles designed to protect the County's unique and diverse natural resources and maintain the character of its rural and semi-rural communities. The General Plan directs future growth in the unincorporated areas of the County.

The *County of San Diego General Plan* contains the following potentially relevant policies.

**LU-12.2:** Maintenance of Adequate Services. Require development to mitigate significant impacts to existing service levels of public facilities or services for existing residents and businesses.

**LU-12.4:** Planning for Compatibility. Plan and site infrastructure for public utilities and public facilities in a manner compatible with community character, minimize visual and environmental impacts, and whenever feasible, locate any facilities and supporting infrastructure outside preserve areas.

**COS-18.1:** Alternate Energy Systems Design. Work with San Diego Gas and Electric and non-utility developers to facilitate the development of alternative energy systems that are located and designed to maintain the character of their setting.

The *San Dieguito Community Plan* (2011) was also reviewed as part of the *County of San Diego General Plan* and provides for the orderly development of the San Dieguito Community Plan

Area (CPA) while maintaining the identities of historically established neighborhoods and preserving a more rural environment.

The *San Dieguito Community Plan* contains the following potentially relevant policies.

Preserve the integrity, function and long-term viability of environmentally sensitive habitat within the San Dieguito CPA. Emphasis shall be placed on areas exhibiting riparian characteristics; Coastal sage and scrub; and coastal mixed chaparral.

Locate specific utility sites and networks and indicate the level and quality of services that should be provided within San Dieguito.

Provide a network of trails for horseback riding and hiking; and minimize the cost of the trail system by utilizing floodplains, existing trails, public lands and major utility rights-of-way.

The *North County Metropolitan Subregional Plan* (2011) was also reviewed as a supplement to the *San Diego County General Plan* and provides specific emphasis on the planning needs of the North County Metropolitan Subregion. The *North County Metropolitan Subregional Plan* contains the following potentially relevant policy.

The county will cooperate in the planning and regulating of growth in the unincorporated territory within each city's sphere of influence. Future county decisions on proposed projects in the sphere areas will take each city's planning objectives into consideration.

### **Natural Community Conservation Plans and Habitat Conservation Plans**

#### *SDG&E Subregional Natural Community Conservation Plan*

SDG&E's ongoing installation, use, maintenance, and repair of its gas and electric systems in the Proposed Project Area are governed by the SDG&E Subregional NCCP. As a part of the SDG&E Subregional NCCP, SDG&E has been issued incidental take permits (Permit PRT-809637) by the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife for 110 Covered Species. The SDG&E Subregional NCCP includes measures and operational protocols designed to avoid and minimize potential impacts on sensitive species. Refer to Section 4.4, Biological Resources, for more information about the SDG&E Subregional NCCP.

The SDG&E Subregional NCCP supersedes any other multiple-species conservation plans or HCPs for the species covered under the NCCP. The purpose of this provision in the SDG&E Subregional NCCP is to harmonize areas of overlap such that there is no conflict with other plans.

#### *North County Multiple Habitat Conservation Program*

The Multiple Habitat Conservation Program (MHCP) is a multi-jurisdictional conservation planning program that encompasses the Cities of Carlsbad, Escondido, Vista and San Marcos. The goal of the program is to conserve approximately 19,000 acres of habitat and over 80 rare, endangered, or threatened species. The MHCP Subregional Plan addresses the conservation

needs of these plant and animal habitats in northwestern San Diego County, and is administered by San Diego Association of Governments (SANDAG), and adopted in 2003. The Proposed Project would fall within the limits of the City of Carlsbad Subarea Plan, approved in 2004, and the City of Escondido Subarea Plan, approved in 2001. The subarea plan for San Marcos is currently under development. Vista does not have one at this time. Refer to Section 4.4, Biological Resources, for more information about the MHCP Plan.

#### 4.10.3.2 Land Use Setting

The Proposed Project is located in northern San Diego County; in the cities of Carlsbad, San Marcos, Vista, and Escondido; and in the unincorporated area of the county. The Proposed Project Area has *City of San Marcos General Plan*, *City of Carlsbad General Plan*, *City of Escondido General Plan*, *City of Vista General Plan*, and *San Diego County General Plan* land use designations of Residential; Commercial; Industrial; Open Space/Park/Recreation; Agriculture; Public/Institutional; Roads, Freeways, and Transportation; Undeveloped/Vacant Land; Access Roads; Communication Utility; and Mixed Use (see Figure 4.10-1: Existing Land Use Map; Figure 4.10-2: General Plan Land Use Designations Map; Figure 4.10-3: Zoning Designations Map and Table 4.10-1: Designated and Existing Land Uses in the Proposed Project Area). The Proposed Project would be constructed within existing SDG&E right-of-way (ROW), SDG&E franchise area, existing substation property boundaries, and newly acquired ROW in Segment 1.

**Table 4.10-1: Designated and Existing Land Uses in the Proposed Project Area**

Pole(s) and Other Components	Jurisdiction/Community	Existing Land Use <sup>1</sup>	General Plan Land Use Designation <sup>2</sup>	Zoning Designation <sup>3</sup>
<b>Segment No. 1</b>				
Pole Nos. 1, 2, 7, 8, 9	City of San Marcos	Public/Institutional, Park/Open Space/Recreation, Residential, Commercial, Road ROW, Communication/Utility	Park/Open Space/Recreation, Residential, Public/Institutional, Specific Plan Area, Road ROW	Residential, Public/Institutional, Specific Plan Area, Road ROW
2.1, 3, 4, 5, 6	Unincorporated County of San Diego	Residential, Road ROW	Village Residential, Road ROW	Residential, Road ROW
Pole Nos. 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20	City of San Marcos	Public/Institutional, Commercial, Road, Park/Open Space/Recreation	Public/Institutional, Road ROW, Mixed Use	Public/Institutional, Road ROW, Industrial
Pole Nos. 21-37, 39, 40, 42, 43, 45, 47, 49	City of San Marcos	Commercial, Residential, Vacant and Undeveloped Land, Park/Open Space/Recreation, Road and Access Roads	Commercial, Residential, Park/Open Space/Recreation, Industrial, Specific Plan Area; Road ROW	Residential, Park/Open Space/Recreation, Commercial, Specific Plan Area, Industrial; Road ROW



<b>Pole(s) and Other Components</b>	<b>Jurisdiction/Community</b>	<b>Existing Land Use<sup>1</sup></b>	<b>General Plan Land Use Designation<sup>2</sup></b>	<b>Zoning Designation<sup>3</sup></b>
Pole Nos. 38, 41, 44, 46, 48, 50	City of Vista	Commercial, Mixed Use, Road ROW	Mixed Use, Research Light Industrial	Specific Plan
Pole Nos. 51, 52, 53, 54, 54.1, 54.2, 54.3	City of Carlsbad	Park/Open Space/Recreation, Road ROW	Park/Open Space/Recreation	Residential, Park/Open Space/Recreation
<b>Segment No. 2</b>				
Pole Nos. 55, 56, 57, 58, 59, 61-71, 71.1, 71.2	City of San Marcos	Park/Open Space/Recreation, Vacant and Undeveloped Land, Residential	Park/Open Space/Recreation, Specific Plan Area, Residential, Industrial	Residential, Park/Open Space/Recreation, Industrial
Pole Nos. 59.1, 60, 71.3	Unincorporated County of San Diego	Residential	Residential	Residential, Rural Residential
<b>Segment No. 3</b>				
Pole Nos. 71.4, 72, 74, 75, 76, 77, 77.1, 79, 130, 131, 132	City of San Marcos	Park/Open Space/Recreation, Road ROW (parking lot)	Park/Open Space/Recreation, Specific Plan Area	Open Space/Park/Recreation, Specific Plan Area,
Pole Nos. 73, 80 – 83,	City of San Marcos	Park/Open Space/Recreation,	Park/Open Space/Recreation, Specific Plan Area	Park/Open Space/Recreation,
Pole Nos. 84 – 106, 99.1, 106.1	Unincorporated County of San Diego	Residential, Park/Open Space/Recreation, vacant/undeveloped, Agriculture	Rural Residential, Rural Lands, Specific Plan Area, Park/Open Space/Recreation	Rural Residential, Agriculture, Specific Plan Area
Pole Nos. 107 – 128, 119.1, 119.2,	City of Escondido	Industrial, Vacant and Undeveloped Land, Public/Institutional	Specific Plan Area, Industrial	Industrial, Specific Plan Area
Sources: City of Carlsbad GIS Department (2017); City of Escondido GIS Section (2017a, 2017b); City of San Marcos Information Technology Department – Geographic Information Systems (GIS) Program (2017a, 2017b); SanGIS Regional GIS Data Warehouse (2017a, 2017b, 2017c); San Diego County General Plan (2013).				
<sup>1</sup> Existing land use generally reflects the current land use within and adjacent to the Proposed Project ROW.				
<sup>2</sup> Designated land use is taken from the City of Carlsbad, City of San Marcos, City of Escondido, City of Vista Land Use Maps and generally reflects designated land uses within and adjacent to the Proposed Project ROW.				
<sup>3</sup> Zoning designations were taken from City of Carlsbad, City of San Marcos, City of Escondido, City of Vista, and County of San Diego Zoning Maps. Zoning signifies the general nature of the pre-approved land uses within a given area.				

## **Segment 1**

Along Segment 1, the Proposed Project route begins at San Marcos Substation on Discovery Street, following it northwest along a park/recreation use and residential homes until it gets to San Marcos Boulevard. From there, it extends west bordering public/institutional facility and commercial uses, where it then cuts through residential communities, access roads, vacant and undeveloped land, and open space, until it meets back up with San Marcos Boulevard, and from there, follows the street along residential homes to the end of Segment 1 at Palomar Airport Road west of White Sands Drive. Segment 1 ends at Pole 51 and also includes Poles 54, 54.1, 54.2 and 54.3.

The rebuilt and reconductored portions of the power line would be entirely within existing ROWs, with a small portion of the Segment 1 Rebuild section, covering approximately 2 miles, requiring that new ROW to be obtained. The land use within and adjacent to the Segment 1 ROW is characterized primarily by open space, commercial buildings, vacant and undeveloped land, and single-family residential homes.

## **Segment 2**

Starting near Palomar Airport Road west of White Sands Drive, the segment extends southeast through mostly designated open space, and runs through residential communities, communication utilities, and vacant and undeveloped land, crossing over roads and access roads, until it reaches the Meadowlark Junction.

Because this portion would be constructed in existing SDG&E ROW, no additional land would be disturbed. Segment 2 includes Poles 52 through 71.3.

## **Segment 3**

From the Meadowlark Junction, the southern portion of Segment 3 extends through designated open space, roads and access roads, and vacant and undeveloped land. When the route begins to trend north towards Escondido Substation, it passes through residential land, orchards, and vacant and undeveloped land. The route then heads east through orchards, vacant and undeveloped land, open space, access roads, and a communication utility until it again goes north, passing through industrial, vacant and undeveloped land, and roads and access roads until it reaches the substation. Segment 3 includes Poles 71.4 through 132.

## **Temporary Construction Staging Yards**

The Proposed Project includes approximately 10 proposed temporary construction-staging yards (refer to Appendix 3-B for locations and a more detailed description), resulting in a total area of approximately 74.1 acres; however, it is likely that not all of the potential staging yards would be used in the Proposed Project. Therefore, the total area would decrease. There is one staging yard located at a recycling plant in San Marcos. Located near the southern portion of the Proposed Project, the Recycling Plant Yard is made up of two lots, one of which has a land use designation of “warehouse,” the other of which has a land use designation of “specific plan area with special land use conditions.” There are three staging yards in Carlsbad in the northwestern portion of the Proposed Project. These staging yards, Lionshead Avenue #5, Carlsbad Business

Park, and Eagle Drive #2 yards, are all within industrial land use designations. There are two staging yards located within the eastern portion of the Proposed Project in Escondido. The NE District Employee Parking Lot staging yard is located in special districts land use designations, including “hazardous chemical overlay” and “vineyard/tier 1.” South Andreasen staging yard consists of four lots, located in the southeastern portion of the Proposed Project, and is identified as a specific plan “vineyard/tier 1” land use designation. Lastly, there are two staging yards located in unincorporated County of San Diego. The first, Harmony Grove, is located in the southeastern portion of the Proposed Project, and is identified as a specific plan “S88.” The second, The Montiel & Rocksprings staging yard, is within a residential land use designation located approximately 0.75 mile northeast of Escondido Substation. There are two yards proposed for equipment storage. The Kearney storage site is in the City of San Diego and is currently owned and operated by SDG&E, and the Icon 3PL Materials Yard storage site is in unincorporated San Diego County; both sites are designated as industrial land uses.

#### **4.10.4 Potential Impacts**

The Proposed Project includes removing existing wood pole structures, installing new steel pole structures, and reconductoring for the existing TL 680C power lines; constructing a new power line segment; and converting a de-energized line to a 69 kV power line. The operation and maintenance activities required for the power lines would not change from those currently required for the existing system. The new steel poles would require less maintenance and repair than the existing wood poles; however, due to the additional structures and hardware in Segment 2, there would be a slight increase in frequency of maintenance. Because the increase would be slight, effects from the operation and maintenance of the Proposed Project on the environment would be negligible. Therefore, the impact analysis is focused on construction activities that are required to install the new conductor, remove the existing wood pole structures, install the new steel pole structures, and establish temporary work areas, as described in Chapter 3, Project Description.

##### **4.10.4.1 Significance Criteria**

According to Section 15002(g) of the CEQA Guidelines, “a significant effect on the environment is defined as a substantial adverse change in the physical conditions which exist in the area affected by the Proposed Project.” As stated in Section 15064(b) of the CEQA Guidelines, the significance of an activity may vary with the setting. The potential significance of project-related impacts on land use were evaluated for the applicable criteria from Appendix G of the CEQA Guidelines, as discussed in the following sections.

##### **a) Would the project physically divide an established community?**

##### **Construction – No Impact**

The Proposed Project is almost entirely within existing SDG&E ROW where similar facilities already exist (existing utility corridors), and within an existing franchise position (city streets). Temporary use of some staging yards and stringing site areas outside of the existing ROW during construction would not divide an established community. The Proposed Project construction would occur in areas that are close to residential neighborhoods, schools, industrial



buildings, parks, preserves, and open space areas. In several areas, the Proposed Project would either be close to or adjacent to bicycle paths or hiking/mountain biking trails; however, in none of these areas would the Proposed Project introduce power lines into an established community where these facilities do not currently exist. Therefore, Proposed Project construction would not result in the division of any established community, and there would be no impacts.

Impacts related to access to parks and other recreational facilities are discussed in Section 4.15, Public Services. Impacts associated with construction within public roadways (and associated lane closures) are discussed in Section 4.17, Transportation and Traffic.

### **Operation and Maintenance – No Impact**

SDG&E maintains and operates existing electric transmission, power, distribution, and substation facilities throughout the Proposed Project site. SDG&E's existing facilities and operation and maintenance activities are included in the baseline for evaluating the impacts of the Proposed Project. Operation and maintenance activities within the new and existing Proposed Project ROW would not modify, eliminate access to, or divide any community facilities when compared to existing conditions. Therefore, the operation and maintenance of the Proposed Project would not result in significant impacts related to the physical division of an established community.

### **b) Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect?**

#### **Construction – No Impact**

As noted previously, local land use plans, policies, and regulations do not apply to the Proposed Project as a matter of law. As such, the underlying general plans and zoning ordinances are not applicable and the Proposed Project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Proposed Project. SDG&E is obligated to obtain ministerial permits from local agencies, as applicable to the Proposed Project.

The Proposed Project includes the rebuilding of existing structures from single circuit to double circuit, construction of a new overhead single circuit electric power line structures, and reconductoring and reenergizing of existing conductors almost entirely within existing SDG&E ROW where similar facilities already exist (existing utility corridors), and within an existing franchise position (city street). The Proposed Project does not include the construction of any new or relocated electric facilities in areas where similar facilities do not already exist. No changes in land use or zoning are required with the Proposed Project activities. The Segment 1 and Segment 3 portions of the power line would be mostly within existing ROWs, with a small portion of the Segment 1 Rebuild section covering approximately 2 miles requiring that new ROW be obtained. Construction activities would take place within SDG&E property and ROW. SDG&E communicates with local agencies (i.e., the Cities of San Marcos, Escondido, Carlsbad, Vista, and San Diego and the County of San Diego) about the use of these temporary construction areas to ensure the avoidance of any temporary land use impacts. The use of these staging yards and stringing sites would be temporary and are currently compatible with existing

land uses or designations;. Therefore, the Proposed Project activities would not conflict with any applicable land use plan, policy, or regulation; and no impacts would occur.

Refer to Section 4.16, Recreation, for impacts on recreational facilities during construction of the Proposed Project and Section 4.17, Transportation and Traffic, for impacts on traffic as a result of construction-related traffic and construction activities within roadways.

### **Operation and Maintenance – No Impact**

As noted previously, local land use plans, policies and regulations do not apply to the Proposed Project. As such, the underlying general plans and zoning ordinances are not considered applicable; therefore, the Proposed Project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Proposed Project.

SDG&E currently maintains and operates existing electric transmission, power, distribution, and substation facilities throughout the Proposed Project ROW. SDG&E's existing facilities and operation and maintenance activities are included in the baseline for evaluating the impacts of the Proposed Project. Overall, less maintenance would be required for the new steel poles in Segment 1, but operation and maintenance required for the Proposed Project would increase slightly due to the new structures. However, this increase would be so slight as to be negligible. Therefore, no impacts on applicable land use plan, policy, or regulations are anticipated.

### **c) Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?**

#### **Construction – No Impact**

As discussed in Section 4.10.3.1: Regulatory Setting, the Proposed Project would not conflict with the North County MHCP through compliance with the SDG&E Subregional NCCP.

SDG&E's existing NCCP, the North County MHCP Plan, and the City of Carlsbad and City of Escondido Subarea Plans are the only adopted conservation plans that are relevant to the Proposed Project Area. The NCCP addresses potential impacts on sensitive resources associated with SDG&E's ongoing installation, use, maintenance, and repair of its gas and electric systems, as well as typical expansions of those systems throughout SDG&E's existing service area. The NCCP was developed in coordination with the USFWS and CDFW, and designed to be consistent with local habitat conservation plans and the overall preserve planning effort. The NCCP protocols would be applied to the Proposed Project to avoid and/or minimize potential impacts resulting from construction of the Proposed Project, as further described in Section 4.4, Biological Resources. Therefore, the Proposed Project would not conflict with any applicable conservation plan, and no impacts would occur.

#### **Operation and Maintenance – No Impact**

Operation and maintenance activities for the Proposed Project would be similar to those currently performed by SDG&E in the area to maintain existing facilities. NCCP protocols would continue to be applied to avoid and/or minimize potential species impacts during operation and maintenance activities in areas with potentially limited biological resources.

Because SDG&E would utilize its existing NCCP during operation and maintenance activities for the Proposed Project, there would be no conflict with the plan, and no impact would occur.

#### **4.10.5 Applicant-Proposed Measures**

The Proposed Project has no potentially significant impacts related to land use; therefore, no Applicant-Proposed Measures are proposed.

#### **4.10.6 References**

City of Carlsbad. 2012. *City of Carlsbad Zoning Ordinance 2012*. Online: <http://www.carlsbadca.gov/services/depts/planning/zoning.asp>. Site visited on February 23, 2017.

City of Carlsbad. 2013. *City of Carlsbad General Plan 2013*. Online: <http://www.carlsbadca.gov/services/depts/planning/general.asp>. Site visited on February 23, 2017.

City of Carlsbad GIS Department. 2017. *Combination Zoning and General Plan Land Use.pdf*. Map Download Site. Online: <http://www.carlsbadca.gov/civicax/filebank/blobdload.aspx?BlobID=23514>. Downloaded on March 13, 2017.

City of Escondido. 2017b. *City of Escondido General Plan*. Online: <https://www.escondido.org/general-plan.aspx>. Site visited on February 23, 2017.

City of Escondido GIS Section. 2017a. *Zoning GIS Data*. GIS Data Download Site. Online: <ftp://ftp.escondido.org/150026/>. Downloaded on March 10, 2017.

City of Escondido GIS Section. 2017b. *General Plan Land Use GIS Data*. GIS Data Download Site. Online: <ftp://ftp.escondido.org/150026/>. Downloaded on March 10, 2017.

City of San Diego. 1998. *Multiple Species Conservation Program*. Online: <https://www.sandiego.gov/planning/programs/mscp>. Site visited on February 23, 2017.

City of San Marcos. 2012a. *City of San Marcos Zoning Ordinance 2012*. Online: <http://www.san-marcos.net/home/showdocument?id=11357>. Site visited on February 23, 2017.

City of San Marcos. 2012b. *City of San Marcos Planning Division*. Online: <http://www.san-marcos.net/departments/development-services/planning-division>. Site visited on February 23, 2017.

City of San Marcos. 2013. *City of San Marcos General Plan 2013*. Online: <http://www.san-marcos.net/work/economic-development/general-plan>. Site visited on February 23, 2017.

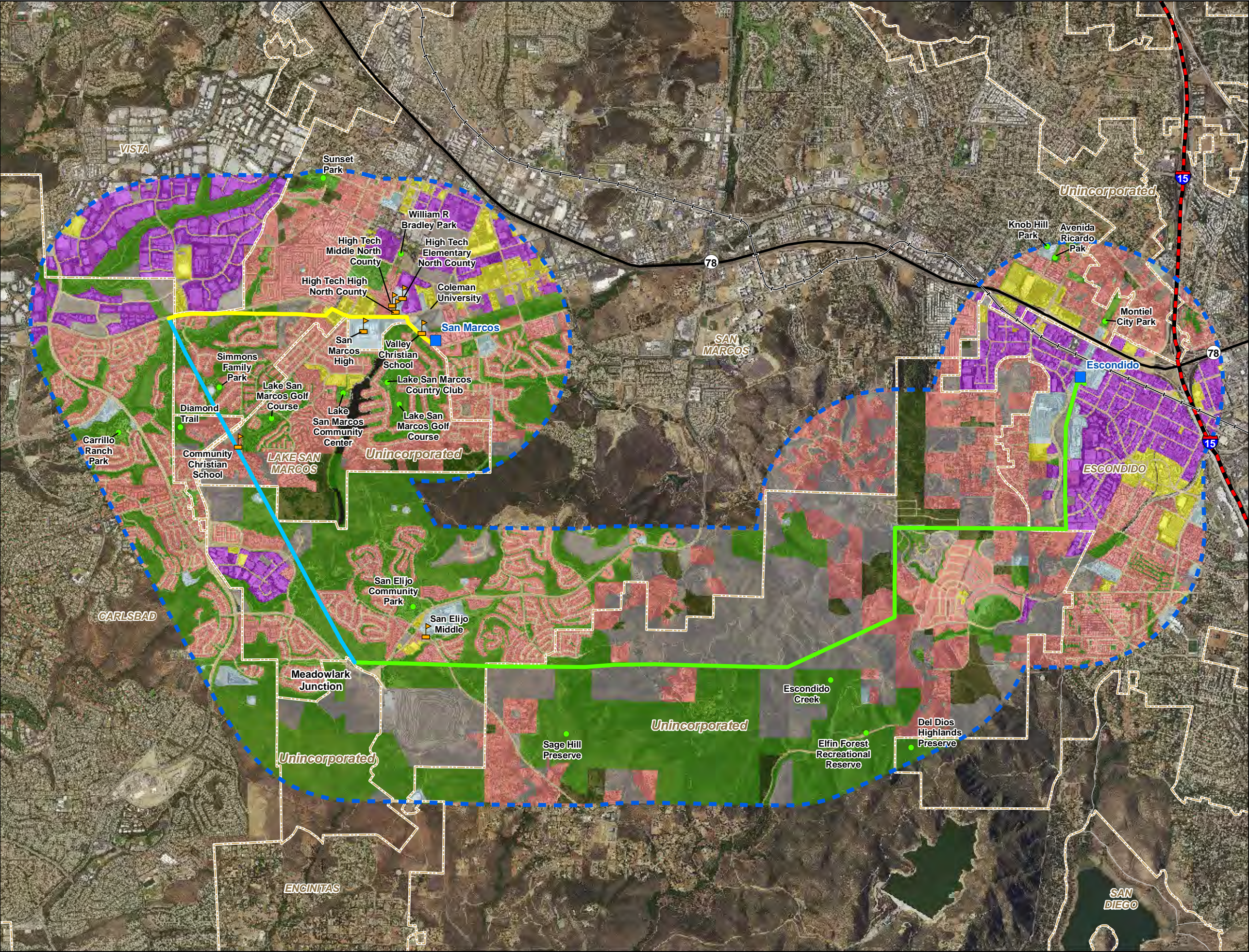


- City of San Marcos Information Technology Department – Geographic Information Systems (GIS) Program. 2017a. Zoning GIS Data. GIS Data Download Site. Online: <ftp://public.san-marcos.net/public>. Downloaded on March 6, 2017.
- City of San Marcos Information Technology Department – Geographic Information Systems (GIS) Program. 2017b. General Plan Land Use GIS Data. GIS Data Download Site. Online: <ftp://public.san-marcos.net/public>. Downloaded on February 28, 2017.
- City of Vista. 2011. *City of Vista General Plan 2030*. Online: <http://www.cityofvista.com/services/city-departments/community-development/building-planning-permits-applications/vista-general-plan-2030>. Site visited on August 3, 2017.
- City of Vista. 2017. *City of Vista Zoning Map*. Revised: July 19, 2017. Online: <http://www.cityofvista.com/home/showdocument?id=1178>. Site visited on August 16, 2017.
- County of San Diego. 2013. *County of San Diego General Plan 1978*. Online: <http://www.sandiegocounty.gov/pds/generalplan.html>. Site visited on March 11, 2017.
- North County Metropolitan Subregional Plan. 2011. *North County Metropolitan Subregional Plan/County of San Diego General Plan 1974*. Online: [http://www.sandiegocounty.gov/pds/docs/CP/NC\\_Metro\\_CP.pdf](http://www.sandiegocounty.gov/pds/docs/CP/NC_Metro_CP.pdf). Site visited on May 8, 2017.
- San Diego Association of Governments (SANDAG). 2003. *Multiple Habitat Conservation Program Subregional Plan*. March 2003. Online: <http://www.sandag.org/index.asp?projectid=97&fuseaction=projects.detail>. Site visited on May 17, 2017.
- San Diego Gas and Electric (SDG&E). 1995. *Subregional Natural Community Conservation Plan*. December.
- San Dieguito and County of San Diego. 2011. *San Dieguito Community Plan/County of San Diego General Plan 1974*. Online: [http://www.sandiegocounty.gov/content/dam/sdc/pds/docs/CP/San\\_Dieguito\\_Community\\_Plan.pdf](http://www.sandiegocounty.gov/content/dam/sdc/pds/docs/CP/San_Dieguito_Community_Plan.pdf). Site visited on May 8, 2017.
- SanGIS Regional GIS Data Warehouse. 2017a. County of San Diego, Planning and Development Services, LUEG-GIS Service "ZONING\_UNINCORPORATED" GIS Data. GIS Data Download Site. Online: <http://www.sangis.org/download/index.html>. Downloaded on February 26, 2017.
- SanGIS Regional GIS Data Warehouse. 2017b. SANDAG Technical Services – GIS, SANDAG Land Layers Inventory. "LANDUSE\_CURRENT" GIS Data. GIS Data Download Site. Online: <http://www.sangis.org/download/index.html>. Downloaded on March 6, 2017.

SanGIS Regional GIS Data Warehouse. 2017c. County of San Diego, Planning and Development Services, LUEG-GIS Service. "CMTY\_GENERAL\_PLAN\_CN" Unincorporated San Diego County General Plan GIS Data. GIS Data Download Site. Online: <http://www.sangis.org/download/index.html>. Downloaded on March 6, 2017.

Page Intentionally Left Blank





TL6975 San Marcos to Escondido

Figure 4.10 1: Existing Land Use

Legend

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconnector

1 Mile Buffer

General Features

Existing Substation

School - Within 0.25 Mile

Recreation Facilities - Within 1 Mile

Interstate

State Highway

Railroad

City Boundary

County Boundary

Land Use

Residential

Commercial

Mixed Use

Industrial

Park / Open Space / Recreation

Agricultural

Public / Institutional

Vacant and Undeveloped Land

Road ROW

Orange County

Riverside County

San Diego County

Pacific Ocean

MAP LOCATION

0 1,000 2,000 3,000 4,000 5,000

Feet

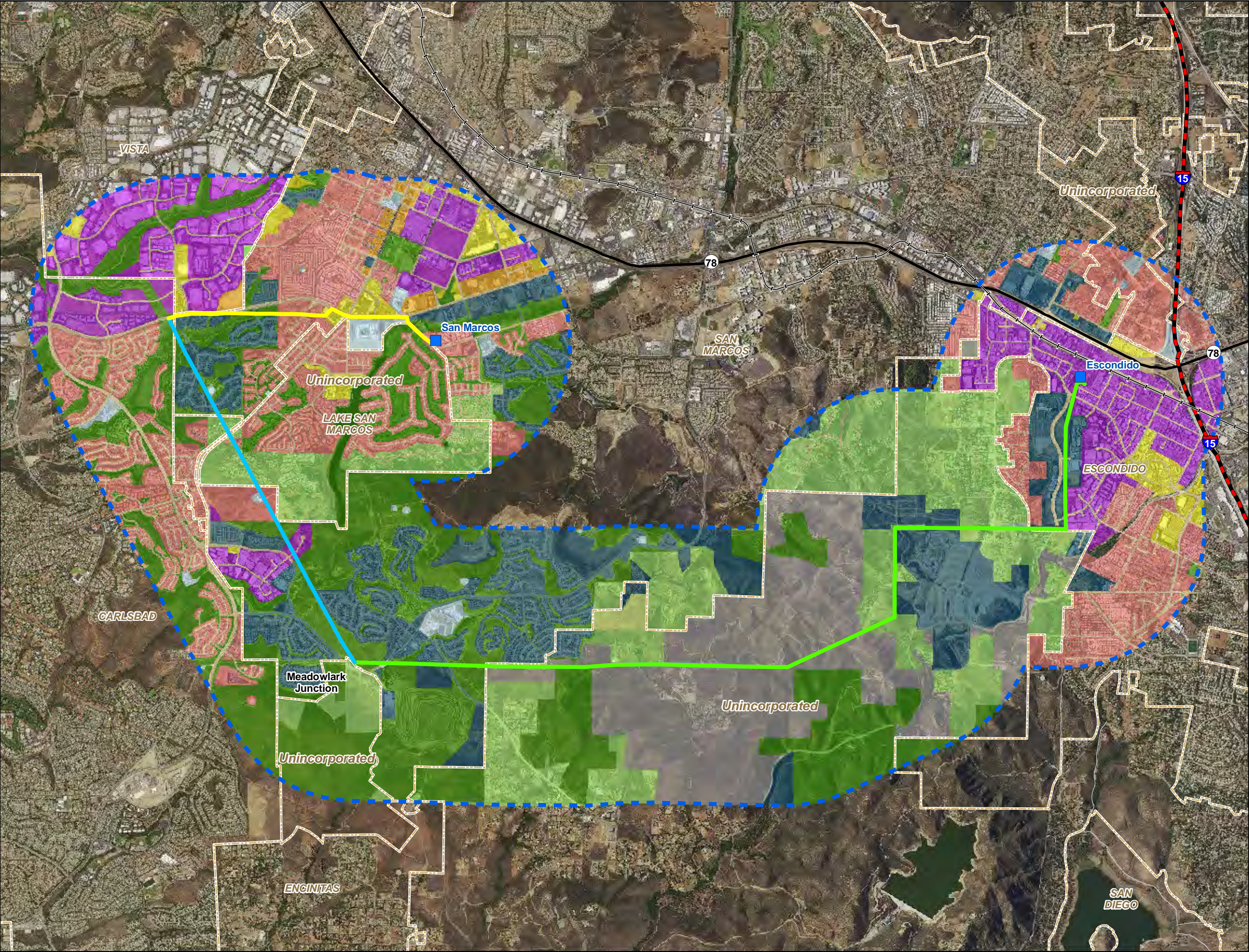
SDGE

Sempra Energy utility



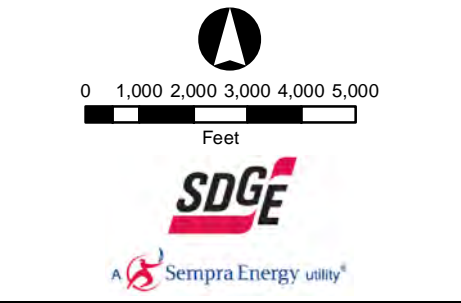
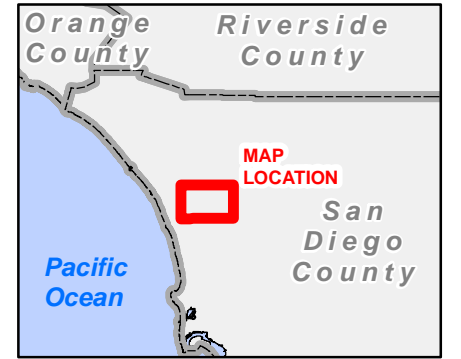






**TL6975 San Marcos  
to Escondido  
Figure 4.10 2:  
General Plan Land Use**

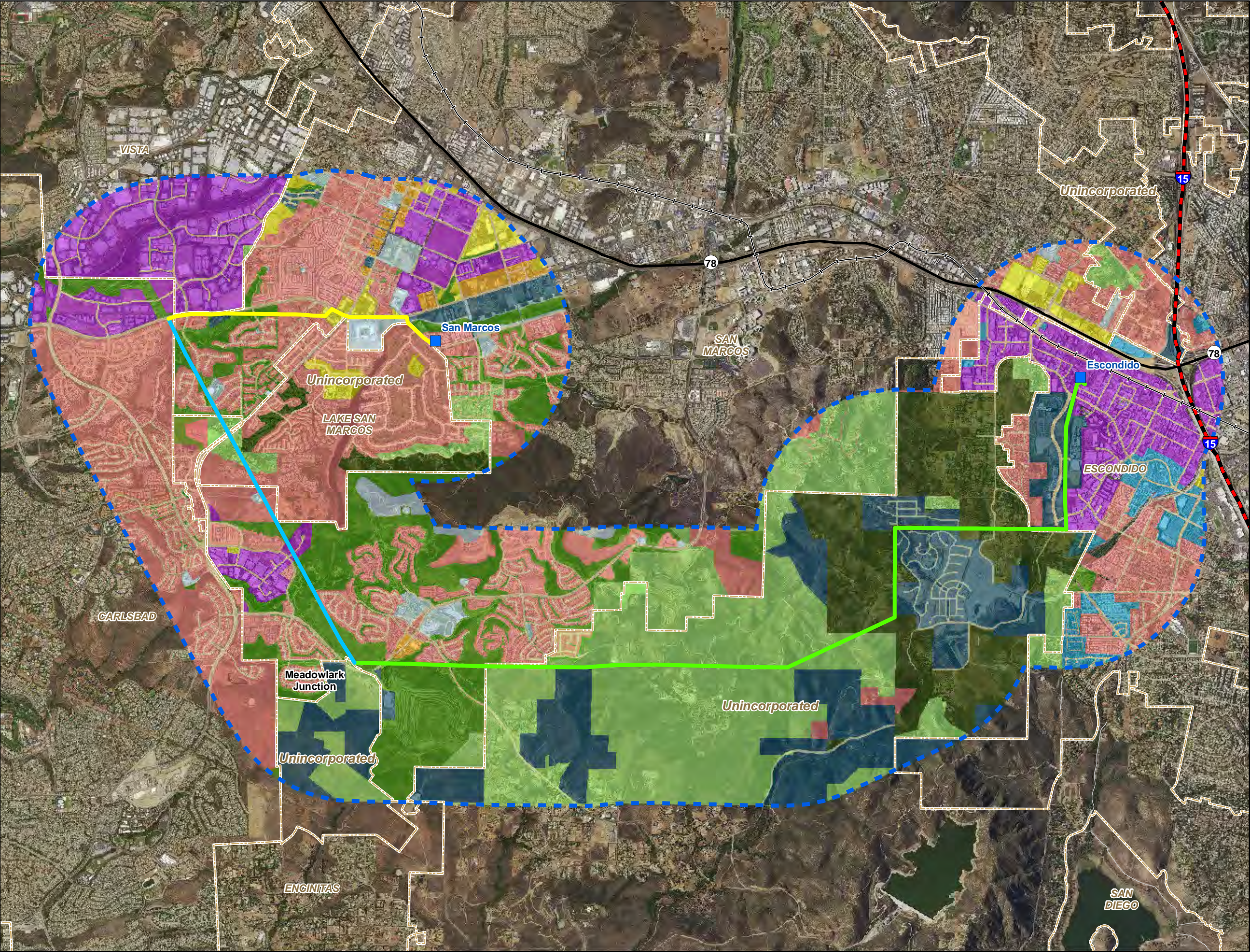
- Legend**
- Project Alignment**
- Segment 1 - Rebuild
  - Segment 2 - New Build
  - Segment 3 - Reconnector
  - 1 Mile Buffer
- General Features**
- Existing Substation
  - Interstate
  - State Highway
  - Railroad
  - City Boundary
  - County Boundary
- General Plan Land Use**
- Residential
  - Commercial
  - Mixed Use
  - Industrial
  - Specific Plan Area
  - Park / Open Space / Recreation
  - Rural Residential
  - Rural Lands
  - Public / Institutional
  - Road ROW











TL6975 San Marcos to Escondido

Figure 4.10 3:

Zoning Designations

Legend

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

1 Mile Buffer

General Features

Existing Substation

Interstate

State Highway

Railroad

City Boundary

County Boundary

Zoning

Residential

Commercial

Mixed Use

Industrial

Specific Plan Area

Park / Open Space / Recreation

Agricultural

Rural Residential

Public / Institutional

Planned Development

Road ROW

Orange County

Riverside County

San Diego County

Pacific Ocean

MAP LOCATION

0 1,000 2,000 3,000 4,000 5,000

Feet

SDGE

A Semptra Energy utility







## Table of Contents

<b>4.11 Mineral Resources .....</b>	<b>4.11-1</b>
4.11.1 Introduction.....	4.11-1
4.11.2 Methodology .....	4.11-1
4.11.3 Existing Conditions.....	4.11-1
4.11.4 Potential Impacts.....	4.11-3
4.11.5 Significance Criteria .....	4.11-4
4.11.6 Applicant-Proposed Measures .....	4.11-4
4.11.7 References.....	4.11-4

## **Acronyms and Abbreviations**

CEQA	California Environmental Quality Act
MRZs	mineral resource zones

## 4.11 MINERAL RESOURCES

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a.	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 4.11.1 Introduction

This section of the Proponent’s Environmental Assessment describes existing mineral resources within the Proposed Project Area and potential impacts on these resources that could result from construction, operation, and maintenance of the Proposed Project. The Proposed Project’s potential effects on this resource were evaluated using the significance criteria set forth in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. The analysis concludes that the Proposed Project would have *no impact* on mineral resources.

### 4.11.2 Methodology

Preparation of this section was primarily based on review of the *San Diego County General Plan*, and published mineral resource reports from the California Department of Conservation. The General Plans for the Cities of San Marcos, Escondido, Vista, and Carlsbad were also reviewed for goals and policies applicable to the mineral resources of the Proposed Project Area. Potential mineral resource impacts that could result from Proposed Project construction and operational activities were evaluated based on expected construction practices, materials, locations, and duration, as well as operation and maintenance activities as outlined in Chapter 3, Project Description.

### 4.11.3 Existing Conditions

#### 4.11.3.1 Regulatory Setting

##### Federal

There are no federal regulatory requirements relevant to the assessment of Proposed Project impacts on mineral resources.



## State

### *Surface Mining and Reclamation Act of 1975*

The Surface Mining and Reclamation Act of 1975 encourages the production, conservation, and preservation of the state's mineral resources. The law requires the California Geological Survey to designate mineral resource zones where access to important mineral resources may be threatened.

## Local

The Proposed Project is not subject to local discretionary regulations because the California Public Utilities Commission has exclusive jurisdiction over the siting, design, and construction of the Proposed Project. The following summary of local regulations related to mineral resources is provided for informational purposes.

### *San Diego County General Plan*

The *San Diego County General Plan* Conservation and Open Space Element addresses mineral resources by discouraging development and incompatible land uses in mineral resource zones (MRZs). The following policy pertains to protection of state-classified or designated lands in San Diego County:

**COS-10.2 Protection of State-Classified or Designated Lands.** Discourage development or the establishment of other incompatible land uses on or adjacent to areas classified or designated by the State of California as having important mineral resources (MRZ-2), as well as potential mineral lands identified by other government agencies. The potential for the extraction of substantial mineral resources from lands classified by the State of California as areas that contain mineral resources (MRZ-3) shall be considered by the County in making land use decisions.

### *City of San Marcos General Plan*

The *City of San Marcos General Plan* Conservation and Open Space Element identifies MRZs in the city boundaries and establishes policies to protect mineral resources. The following policy pertains to ensuring compliance with the State Surface Mining and Reclamation Act.

**COS-2.4:** Ensure compliance with State of California requirements for mineral resources contained in the State Surface Mining and Reclamation Act.

### *City of Escondido General Plan*

The *City of Escondido General Plan* does not address mineral resources within the city.

### *City of Carlsbad General Plan*

The *City of Carlsbad General Plan* Open Space, Conservation, and Recreation Element categorizes open space into four categories. Category 2: Open Space for Managed Production of Resources, includes major mineral resources. The following policy pertains to the conservation of resource production areas, including mineral resources.

**Policy 4-P.1:** Maintain an integrated open space classification system that accommodates conservation, resource production, recreation, and aesthetic needs.

#### *City of Vista General Plan*

The *City of Vista General Plan 2030* does not address mineral resources within the City's jurisdiction.

#### **4.11.3.2 Environmental Setting**

The California Geological Survey classifies land through a mineral inventory process to identify important mineral deposits and ensure their protection. The mineral areas are classified into four MRZs.

- MRZ-1 is an area where adequate information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists for their presence.
- MRZ-2 is an area where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists.
- MRZ-3 is an area containing mineral deposits, the significance of which cannot be evaluated from available data.
- MRZ-4 is an area where available information is inadequate for assignment to any other MRZ.

The Proposed Project would be located primarily within MRZ-1, MRZ-3, and MRZ-4 areas. Segment 1 is within MRZ-3 and MRZ-4 areas. Segment 2 is primarily within areas classified as MRZ-3. There is an area adjacent to Segment 2, northeast of Poles 64 and 65, that is classified as MRZ-2. It has been mined in the past for granitic rock for riprap or aggregate base, but no rock is currently being extracted. Segment 3 is in areas classified as MRZ-3 and MRZ-4.

#### **4.11.4 Potential Impacts**

The Proposed Project includes removing existing wood pole structures, installing new steel pole structures, and reconductoring for the existing TL 680C power lines; constructing a new power line segment; and converting a de-energized line to a 69 kV power line. The operation and maintenance activities required for the power lines would not change from those currently required for the existing system. The new steel poles would require less maintenance and repair than the existing wood poles; however, due to the additional structures and hardware in Segment 2, there would be a slight increase in frequency of maintenance. Because the increase in frequency would be slight, effects from operation and maintenance of the Proposed Project on the environment would be negligible. Therefore, the impact analysis is focused on construction activities that are required to install the new conductor, remove the existing wood pole structures, install the new steel pole structures, and establish temporary work areas, as described in Chapter 3, Project Description.

#### 4.11.5 Significance Criteria

According to Section 15002(g) of the CEQA Guidelines, “a significant effect on the environment is defined as a substantial adverse change in the physical conditions which exist in the area affected by the proposed project.” As stated in Section 15064(b) of the CEQA Guidelines, the significance of an activity may vary with the setting. The potential significance of Proposed Project-related impacts on mineral resources was evaluated for the applicable criteria from Appendix G of the CEQA Guidelines, as discussed in the following sections.

**a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**

**Construction, Operation and Maintenance – No Impact**

No active mining operations or known mineral resource areas are located along the Proposed Project route or within any temporary construction sites associated with the Proposed Project. In addition, there are no mineral resources designated in the Proposed Project Area. An MRZ-2 is located adjacent to Segment 2; however, no minerals are currently being extracted, and the construction, operation, or maintenance of the Proposed Project would not prevent the potential extraction of mineral resources. Therefore, the Proposed Project would not result in the loss of availability of a known mineral resource, and no impact would occur.

**b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?**

**Construction, Operation and Maintenance – No Impact**

Other than the identified MRZs in the Proposed Project Area, which are discussed above, there are no other designations related to mineral resources in the Proposed Project Area. No active mining operations or known areas designated or delineated for mineral resource recovery are within the Proposed Project route or temporary construction sites. The only nearby mining operation within the Proposed Project Area is currently inactive. Proposed Project construction activities would not result in the loss of a known mineral resource with noted value to the region or to the residents of the state. Therefore, no impact would occur.

#### 4.11.6 Applicant-Proposed Measures

The Proposed Project would have no potentially significant impacts on mineral resources; therefore, no Applicant-Proposed Measures are proposed.

#### 4.11.7 References

California Department of Conservation Division of Mines and Geology. 1982. *Special Report 153: Mineral Land Classification: Aggregate Materials in the Western San Diego County Production-Consumption Region*. Online: [ftp://ftp.conservation.ca.gov/pub/dmg/pubs/sr/SR\\_153/SR\\_153\\_Text.pdf](ftp://ftp.conservation.ca.gov/pub/dmg/pubs/sr/SR_153/SR_153_Text.pdf). Site visited on February 23, 2017.



San Diego County. 2011. *San Diego County General Plan*. Adopted August 3 (last amended on October 29, 2014). Online: [http://www.sandiegocounty.gov/pds/gpupdate/docs/BOS\\_Aug2011/C.1-4\\_Conservation\\_and\\_Open\\_Space.pdf](http://www.sandiegocounty.gov/pds/gpupdate/docs/BOS_Aug2011/C.1-4_Conservation_and_Open_Space.pdf). Site visited on February 23, 2017.

Page Intentionally Left Blank

## Table of Contents

<b>4.12 Noise .....</b>	<b>4.12-1</b>
4.12.1 Introduction.....	4.12-1
4.12.2 Methodology .....	4.12-2
4.12.3 Existing Conditions.....	4.12-2
4.12.4 Potential Impacts.....	4.12-19
4.12.5 Applicant-Proposed Measures .....	4.12-35
4.12.6 References.....	4.12-36

## List of Figures

Figure 4.12-1: Ambient Noise Measurement Locations.....	4.12-37
---	---------

## List of Tables

Table 4.12-1: Human Response to Transient Vibration .....	4.12-5
Table 4.12-2: City of Escondido Sound Level Limits .....	4.12-6
Table 4.12-3: City of San Marcos Sound Level Limits .....	4.12-7
Table 4.12-4: City of Carlsbad Land Use Compatibility for Community Noise Environments Matrix.....	4.12-8
Table 4.12-5: City of Vista Sound Level Limits.....	4.12-9
Table 4.12-6: County of San Diego Sound Level Limits .....	4.12-10
Table 4.12-7: County of San Diego Impulsive Sound Level Limits .....	4.12-10
Table 4.12-8: Sensitive Noise Receptors .....	4.12-11
Table 4.12-9: Summary of Measured Ambient Noise Levels (dBA), LT1 .....	4.12-12
Table 4.12-10: Summary of Hourly Background Measured Ambient Noise Levels (dBA), LT2 .....	4.12-15
Table 4.12-11: Summary of Measured Ambient Noise Levels (dBA) .....	4.12-18
Table 4.12-12: Typical Preconstruction Activity Sound Levels (Staging Yard Setup, Road Refreshing, Vegetation Trimming, BMP Installation) .....	4.12-21
Table 4.12-13: Estimated Typical Preconstruction Sound Levels Adjusted for 8-Hour Work Day.....	4.12-22
Table 4.12-14: Direct-Bury Pole Construction Sound Levels .....	4.12-23
Table 4.12-15: Estimated Direct-Bury Pole Construction Sound Levels Adjusted for 8-Hour Work Day .....	4.12-23
Table 4.12-16: Typical Pier Foundation Construction Sound Levels.....	4.12-24
Table 4.12-17: Estimated Pier Foundation Construction Sound Levels Adjusted for 8-Hour Work Day .....	4.12-24
Table 4.12-18: Typical Structure Installation and Assembly Sound Levels .....	4.12-25



Table 4.12-19: Estimated Structure Installation and Assembly Sound Levels Adjusted for 8-Hour Work Day .....	4.12-25
Table 4.12-20: Typical Stringing/Transfer Conductor/Sagging Activity Sound Levels .....	4.12-25
Table 4.12-21: Estimated Stringing/Transfer Conductor/Sagging Activity Sound Levels Adjusted for 8-Hour Work Day .....	4.12-26
Table 4.12-22: Typical Trenching for Installation of Underground Cables Sound Levels ..	4.12-26
Table 4.12-23: Estimated Trenching for Installation of Underground Cables Sound Levels Adjusted for 8-Hour Work Day .....	4.12-26
Table 4.12-24: Typical Demobilization/Right-of-Way Restoration and Cleanup/Road Refreshing Sound Levels .....	4.12-27
Table 4.12-25: Estimated Demobilization/Right-of-Way Restoration and Cleanup/Road Refreshing Sound Levels Adjusted for 8-Hour Work Day .....	4.12-27
Table 4.12-26: Proposed Project Staging Areas .....	4.12-29
Table 4.12-27: Vibration Source Levels for Construction Equipment at 50 Feet .....	4.12-31

## List of Appendices

Appendix 4.12-A      Ambient Noise Survey Report

## Acronyms and Abbreviations

ALUCP	Airport Land Use Compatibility Plan
APM	Applicant-Proposed Measure
CEQA	California Environmental Quality Act
Caltrans	California Department of Transportation
CNEL	community noise equivalent level
Code	San Diego County Code of Regulatory Ordinances
dB	Decibels
dBA	A-weighted sound level
DOT	U.S. Department of Transportation
EPA	U.S. Environmental Protection Agency
FAA	Federal Aviation Administration
kV	Kilovolt
L <sub>dn</sub>	day-night noise level
L <sub>eq</sub>	equivalent noise level
L <sub>max</sub>	maximum noise level
L <sub>min</sub>	minimum noise level
L <sub>n</sub>	statistical sound level
NSA	noise-sensitive area
OSHA	Occupational Health and Safety Administration
PPV	peak particle velocity
SDG&E	San Diego Gas & Electric Company

Page Intentionally Left Blank



## 4.12 NOISE

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a.	Expose people to or generate noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b.	Expose people to or generate excessive ground-borne vibration or ground-borne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c.	Result in a substantial permanent increase in ambient noise levels in the project vicinity, above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d.	Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity, above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e.	For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f.	For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 4.12.1 Introduction

This section of the Proponent's Environmental Assessment describes the existing conditions and potential effects of the Proposed Project associated with construction, operation, and maintenance as they relate to noise and vibration. The Proposed Project's potential effects related to noise were evaluated by using the significance criteria set forth in Appendix G of the California Environmental Quality Act (CEQA) Guidelines.

This section incorporates the findings from the noise analysis prepared for the Proposed Project by ICF (see Appendix 4.12-A, Ambient Noise Survey Report) as well as the calculations for the noise and vibration impacts. The analysis concludes that the Proposed Project would result in *less-than-significant* impacts related to noise.

### 4.12.2 Methodology

A review of local, regional, state, and federal literature was conducted to establish the noise standards for the Proposed Project Area. Evaluating potential noise impacts from the Proposed Project involves examining the typical noise and vibration levels that are expected from construction activities, primarily at discrete pole locations along the power line alignments. Data for construction equipment and operational noise were obtained from review of applicable literature (*FHWA Roadway Construction Noise Model* [FHWA 2008], *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances* [BBN 1971], and *Transit Noise and Vibration Impact Assessment* [FTA 2006]).

Common noise terms used are defined below.

*L<sub>eq</sub>* – The equivalent noise level over a specified period of time (i.e., 1 hour). It is a single value of sound that includes all of the varying sound energy in a given duration.

*L<sub>dn</sub>* – The day-night noise level is the A-weighted sound level (dBA) over a 24-hour period, with an additional 10-decibel (dB) penalty imposed on sounds that occur between 10 p.m. and 7 a.m.

*Community Noise Equivalent Level (CNEL)* – The CNEL is a time-weighted descriptor that applies penalties of 5 dBA to evening hours and 10 dBA to nighttime hours.

*Statistical Sound Levels (L<sub>n</sub>)* – The A-weighted sound level exceeded a certain percentage of the time. *L<sub>90</sub>* is the sound level exceeded 90 percent of the time and is often considered the background or residual noise level. *L<sub>10</sub>* is the sound level exceeded 10 percent of the time and is a measurement of intrusive sounds, such as aircraft overflights.

### 4.12.3 Existing Conditions

Noise is defined as unwanted sound. The unit of noise measurement is the decibel, which measures the energy of sound. Because the human ear is not uniformly sensitive to all noise frequencies, the A-weighted frequency scale was devised to correspond with the ear's sensitivity. A 0 dB sound corresponds to the lowest sound level that the healthy, unimpaired human ear can detect under controlled conditions. Sound levels, in decibels, are calculated on a logarithmic scale using the ratio of the measured sound pressure divided by a standardized, reference pressure (20 micropascals). Each 10 dB increase in a sound level is perceived as an approximate doubling of loudness.

Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-average or energy-equivalent sound/noise descriptor is abbreviated as *L<sub>eq</sub>*. An hour is the most common time period over which energy-average sound is measured, but it can be measured over any duration (and the duration should be specified when the *L<sub>eq</sub>* level is reported). Alternately, varying sound levels can be described by their statistical distribution over some fraction of a

given observation period. These statistical sound levels are typically abbreviated as  $L_n$ . For example, the  $L_{50}$  noise level represents the noise level that is exceeded  $n=50$  percent of the time. That is, half of the time the noise level exceeds this level, and half of the time the noise level is less than this level. Other values typically noted during a noise survey are the  $L_{min}$  and  $L_{max}$ . These values represent the minimum and maximum root-mean-square noise levels obtained over the measurement period.

Sensitivity to noise is subjective and varies from person to person, within a particular setting, or by time of day. Sensitivity to noise typically increases during the evening and nighttime hours, when excessive noise can interfere with at-home activities and the ability to sleep. To account for these day/evening/night differences in sensitivity, 24-hour descriptors have been developed that incorporate artificial noise penalties, which are added to “quiet-time” noise events. The day/night average sound level, abbreviated  $L_{dn}$ , is a measure of the cumulative noise exposure in a community, with a 10 dB penalty applied to nighttime (10:00 p.m. to 7:00 a.m.) noise levels. A similar 24-hour metric is the community noise equivalent level, or CNEL, which extends the sensitivity adjustment beyond the  $L_{dn}$  by also applying a 5 dB addition to noise levels in the evening hours (7:00 p.m. to 10:00 p.m.).

#### 4.12.3.1 Regulatory Setting

##### Federal

No federal noise standards directly regulate noise from operation of electrical power lines or substation facilities; however, in 1974, the U.S. Environmental Protection Agency (EPA) established guidelines for noise thresholds (i.e., levels below which there is no reason to suspect that the general population would be at risk from adverse noise effects). The EPA guidelines include the following:

- $L_{eq}(24)$  less than or equal to 70 dBA to protect against hearing loss.<sup>1</sup>
- $L_{dn}$  less than or equal to 55 dBA to protect against activity interference and annoyance in residential areas, on farms, and at other outdoor areas where quiet is a basis for use.
- $L_{eq}(24)$  less than or equal to 55 dBA to protect against outdoor activity interference in areas where limited time is spent, such as school yards and playgrounds.
- $L_{dn}$  less than or equal to 45 dBA to protect against indoor activity interference and annoyance in residences.
- $L_{eq}(24)$  less than or equal to 45 dBA to protect against indoor activity interference in school yards.

---

<sup>1</sup> The human ear is not uniformly sensitive to all sound frequencies; therefore, the A-weighting scale has been devised to correspond with the human ear’s sensitivity. The A-weighting scale uses the specific weighting of sound pressure levels from about 31.5 hertz to 16 kilohertz for determining the human response to sound.



These levels are not standards, criteria, regulations, or goals but are defined to protect the public health and welfare with an adequate margin of safety and provide guidelines for implementing noise standards locally. The federal government has passed various general laws to regulate and limit noise levels, as identified in the subsections below.

#### *Noise Control Act of 1972*

The Noise Control Act of 1972 initiated a federal program of regulating noise pollution in order to protect human health and minimize the annoyance of noise for the general public. The act set noise emission standards for virtually every source of noise and informed local governments of their responsibilities in land use planning in order to address noise issues.

#### *Quiet Communities Act of 1978*

The U.S. Congress passed the Quiet Communities Act of 1978, which amended the Noise Control Act. This act promoted the development of effective state and local noise control programs and provided funds for research. It also produced educational materials on the harmful effects of noise and developed potential mitigation measures. Other departments, including the Federal Aviation Administration (FAA) and U.S. Department of Transportation (DOT), have since developed their own noise control programs. Each agency has set its own criteria for unacceptable noise.

#### *Federal Aviation Administration*

The FAA has established 65 dB CNEL as the noise standard associated with aircraft noise. The CNEL is a time-weighted descriptor that applies penalties of 5 dBA to evening hours and 10 dBA to nighttime hours to account for increased sensitivity to noise during those periods. The penalty values are added to the hourly  $L_{eq}$  prior to computing the weighted 24-hour CNEL level.

#### *Federal Transit Administration*

The Federal Transit Administration, under the DOT, created a noise and vibration impact assessment manual. It provides guidance for evaluating construction, roadway, and railway noise sources. The manual also presents techniques for predicting and assessing potential noise and vibration impacts. The techniques are based primarily on the receptor land use.

#### *Occupational Health and Safety Act of 1970*

This act covers all employers and their employees in all 50 states, the District of Columbia, Puerto Rico, and other U.S. territories. Administered by the Occupational Health and Safety Administration (OSHA), the act assigns two regulatory functions to OSHA: (1) setting standards and (2) conducting inspections to ensure that employers are providing safe and healthful workplaces. Included in this act is a regulation pertaining to worker exposure to noise of 90 dBA over an 8-hour work shift. Areas where exposure exceeds 85 dBA must be designated and labeled as “high noise level” areas, and hearing protection is required.

## State

### *California Noise Control Act*

The California Noise Control Act states that excessive noise is a serious hazard to the public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. It also recognizes that continuous and increasing noise levels exist in urban, suburban, and rural areas. This act declares that the State of California has the responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise.

### *California Department of Transportation Guidance for Transportation- and Construction-Induced Vibration*

This guidance provides practical methodologies for addressing vibration issues associated with the construction, operation, and maintenance of California Department of Transportation (Caltrans) projects. Continuous and/or frequent intermittent vibration sources are significant when their peak particle velocity (PPV) exceeds 0.1 inch per second. Table 4.12-1: Human Response to Transient Vibration, outlines more specific criteria for human annoyance due to vibration. Though the guidance is non-enforceable, it provides the basis for evaluating potential vibration from the Proposed Project.

**Table 4.12-1: Human Response to Transient Vibration**

<b>Human Response</b>	<b>PPV (inches/second)</b>
Severe	1.0–2.0
Strongly Perceptible	0.25–0.9
Distinctly Perceptible	0.036–0.24
Barely Perceptible	Less than 0.035
Source: Caltrans 2004.	

## Local

The Proposed Project is not subject to local discretionary regulations because the California Public Utilities Commission has exclusive jurisdiction over the siting, design, and construction of the Proposed Project. The following analysis of local regulations related to noise is provided for informational purposes. Local noise ordinances provide standard measures used to determine if a noise related impact is significant for a particular setting or area. The following summary of local regulations related to noise is provided for determining the potential for significant noise impacts resulting from the Proposed Project. Airport Land Use Compatibility Plans are discussed in Section 4.10, Land Use and Planning; safety concerns around airports are discussed in Section 4.8, Hazards and Hazardous Materials.

### *City of Escondido*

The City of Escondido Municipal Code contains sound level limits and other noise regulations, as summarized in Table 4.12-2: City of Escondido Sound Level Limits.

**Table 4.12-2: City of Escondido Sound Level Limits**

Location	Time	One-Hour Average Sound Level Limits (dBA)
Residential Zones	7 a.m. to 10 p.m.	50
	10 p.m. to 7 a.m.	45
Multi-residential Zones	7 a.m. to 10 p.m.	55
	10 p.m. to 7 a.m.	50
Commercial Zones	7 a.m. to 10 p.m.	60
	10 p.m. to 7 a.m.	55
Industrial Zones	Anytime	70–75*
Source: Escondido Municipal Code, Section 17.229, 2016.		
* Varies according to exact designation of zone.		

The City of Escondido Municipal Code also states that fixed-location public utility distribution or transmission facilities located on or adjacent to a property line are subject to the noise level limits listed in Table 4.12-2: City of Escondido Sound Level Limits. The limits are enforced at or beyond 6 feet from the boundary of the easement where the equipment is located. The City of Escondido Municipal Code provides separate limitations on construction noise, which are not subject to the limits in Table 4.12-2: City of Escondido Sound Level Limits. Construction noise is prohibited outside the hours of 7 a.m. to 6 p.m. Monday through Friday, 9 a.m. to 5 p.m. on Saturdays, and on Sundays and holidays. Construction noise is further limited to an average of 75 dB over any 1-hour period when measured at the boundary line of the property where the noise source is located, or on any occupied property where the noise is being received.

In the event certain projects cannot conform to the requirements of the noise ordinance, the City of Escondido Municipal Code expressly authorizes the city manager to grant a variance to allow temporary deviations from the requirements. The variance process is outlined in City of Escondido Municipal Code Section 17.249 and has provisions for both emergency and non-emergency work. An application for a variance may be made to the city manager, who evaluates the request and determines if a variance will be issued, based on the potential impact the noise may have on each property that would be affected, the value to the community of the work being done, and other factors.

#### *City of San Marcos*

The City of San Marcos Municipal Code contains sound level limits and other noise regulations, as summarized in Table 4.12-3: City of San Marcos Sound Level Limits.



**Table 4.12-3: City of San Marcos Sound Level Limits**

Location	Time	One-Hour Average Sound Level Limits (dBA)	L <sub>25</sub>	L <sub>8.33</sub>	L <sub>1.67</sub>	L <sub>max</sub>
Single-family Residential (A, R-1, R-2)	7 a.m. to 10 p.m.	60	65	70	75	80
	10 p.m. to 7 a.m.	50	55	60	65	70
Multifamily Residential (R-3)	7 a.m. to 10 p.m.	65	70	75	80	85
	10 p.m. to 7 a.m.	55	60	65	70	75
Commercial Zones (C, O-P, S-R)	7 a.m. to 10 p.m.	60	65	70	75	80
	10 p.m. to 7 a.m.	55	60	65	70	75
Industrial Zones	7 a.m. to 10 p.m.	65	70	75	80	85
	10 p.m. to 7 a.m.	60	65	70	75	80
Source: San Marcos Municipal Code, Section 20.300, 2012.						

The City of San Marcos Municipal Code provides separate limitations on construction noise, which are not subject to the limits in Table 4.12-3: City of San Marcos Sound Level Limits, provided construction occurs within City-designated times. The City of San Marcos Municipal Code provides restrictions to the hours in which construction is allowed. Construction including the erection or demolition of buildings, grading and excavation of land including the use of blasting, start up and use of heavy equipment such as dump trucks and graders, and the use of jack hammers is prohibited outside the hours of 7 a.m. to 6 p.m. Monday through Friday, 8 a.m. to 5 p.m. on Saturdays, and is prohibited on Sundays and holidays.

In the event certain projects cannot conform to the requirements of the noise ordinance, the City of San Marcos Municipal Code expressly authorizes the city manager to waive any or all of the provisions of the ordinance in cases of urgent necessity, or in the interest of public health and safety. The provisions of the ordinance may also be waived or modified pursuant to a Conditional Use Permit or other development entitlement processed and issued in accordance with the applicable requirements and procedures.

#### *City of Carlsbad*

The City of Carlsbad does not provide sound level limits in its municipal code but does provide a noise guidelines manual with recommendations, as summarized in Table 4.12-4: City of Carlsbad Land Use Compatibility for Community Noise Environments Matrix.

**Table 4.12-4: City of Carlsbad Land Use Compatibility for Community Noise Environments Matrix**

Land Use Category	Community Noise Exposure Level (CNEL), dB					
	55	60	65	70	75	80
Residential Zones	Normally Acceptable	Normally Unacceptable	Normally Unacceptable	Land Use Discouraged	—	—
Transient Lodging	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Land Use Discouraged
School, Library, Church, Hospital, Nursing Home	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Normally Unacceptable	Land Use Discouraged	Land Use Discouraged
Auditorium, Concert Hall, Amphitheater	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Land Use Discouraged
Sports Arena, Outdoor Spectator Sports	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Normally Acceptable	Normally Acceptable	Land Use Discouraged
Playground, Neighborhood Park	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Land Use Discouraged	Land Use Discouraged
Golf Course, Riding Stable, Water Recreation, Cemetery	Normally Acceptable	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Land Use Discouraged
Office Building, Business Commercial, Planned Industrial and Professional	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Land Use Discouraged
General Industrial, Manufacturing, Utilities, Agriculture	Normally Acceptable	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable
Source: City of Carlsbad 1995 - <i>Noise Guidelines Manual</i> , Figure IV-1.						

The City of Carlsbad Municipal Code provides separate limitations for construction noise, which is not subject to the limits in Table 4.12-4: City of Carlsbad Land Use Compatibility for Community Noise Environments Matrix, provided construction occurs within the time limits designated by the City. The City of Carlsbad Municipal Code provides restrictions regarding the hours when construction is allowed. Construction, including the erection, demolition, alteration, or repair of any building or structure or the grading or excavation of land, is prohibited outside

the hours of 7 a.m. to 6 p.m. Monday through Friday, 8 a.m. to 6 p.m. on Saturdays, and is prohibited on Sundays and holidays.

In the event that certain projects cannot conform to the requirements of the noise ordinance, the City of Carlsbad Municipal Code expressly authorizes the building official, city engineer, or other official designated by the city manager to waive the hours of during which construction is permitted.

#### *City of Vista*

The City of Vista Municipal Code contains a Noise Abatement and Control Ordinance (Ordinance No. 83-13) which identifies exterior property line noise limits, as summarized in Table 4.12-5: City of Vista Sound Level Limits.

**Table 4.12-5: City of Vista Sound Level Limits**

<b>Zone</b>	<b>Time</b>	<b>Applicable Limit One-Hour Average Sound Level (decibels)</b>
A-1, E-1, R-1, R-1B	7AM – 10/PM	50
	10PM – 7AM	45
R-M	7AM – 10AM	55
	10PM- 7AM	50
C-1, C-2, C-3	7AM – 10PM	60
	10PM – 7AM	55
M-1, I-P, All areas of Specific Plan No. 20	Any time	70
Source: City of Vista Municipal Code, Ordinance No. 83-13, April 11, 1983.		

The municipal code provides separate regulations for construction-related noise that are exempt from the sound level limits described in Table 4.12-5: City of Vista Sound Level Limits, provided construction activities occur within the time frames designated by the City. According to Section 36.410 of Ordinance 83-13, construction noise is unlawful at any construction site except between the hours of 7 a.m. and 7 p.m. Monday through Saturday. It is unlawful for any person to operate construction equipment at any construction site on Sundays or holidays. In addition, no construction equipment or combination of equipment should cause a noise level in excess of 75 dB for more than 8 hours during a 24-hour period when measured at the property line.

#### *County of San Diego*

The County of San Diego Noise Ordinance (San Diego County Code of Regulatory Ordinances [Code]) contains sound level limits and other noise regulations, as summarized in Table 4.12-6: County of San Diego Sound Level Limits.



**Table 4.12-6: County of San Diego Sound Level Limits**

Location	Time	One-Hour Average Sound Level Limits (dBA)
Residential, Agricultural, and Semi-Rural Zones with a General Plan Land Use Designation Density of Less than 10.9 Dwelling Units per Acre	7 a.m. to 10 p.m.	50
	10 p.m. to 7 a.m.	45
Residential, Agricultural, and Semi-Rural Zones with a General Plan Land Use Designation Density of 10.9 or More Dwelling Units per Acre	7 a.m. to 10 p.m.	55
	10 p.m. to 7 a.m.	50
Commercial Zones	7 a.m. to 10 p.m.	60
	10 p.m. to 7 a.m.	55
Industrial Zones	Anytime	70–75*
Source: San Diego County Code of Regulatory Ordinances, Section 36.404, 2009. * Varies according to exact designation of zone.		

The Code provides separate limitations for construction noise that are not subject to the limits in Table 4.12-6: County of San Diego Sound Level Limits, provided construction activity occurs within the time frame designated by the City. Construction noise is prohibited outside the hours of 7 a.m. to 7 p.m. and on Sundays and holidays. Construction noise is further limited to an average of 75 dB over an 8-hour period when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is being received.

Also provided in the Code are sound level limitations on impulsive noise. The Code limits impulsive noise at the property lines of a receiving occupied property. An example of construction equipment that produces impulsive noise would be an impact pile driver. These limitations are provided below as L<sub>25</sub> noise limits. L<sub>25</sub> is the noise level exceeded 25 percent of the time; therefore, no impulse noise produced is to exceed the maximum sound level listed in Table 4.12-7: County of San Diego Impulsive Sound Level Limits, for more than 15 minutes in any hour-long measurement period.

**Table 4.12-7: County of San Diego Impulsive Sound Level Limits**

Occupied Property Use	Decibels (dBA)
Residential, Village Zoning, or Civic Use	82
Agricultural, Commercial, or Industrial Use	85
Source: San Diego County Code of Regulation, 2000 SEC. 36.410. <i>Sound Level Limitations on Impulsive Noise</i> . Online: <a href="http://library.amlegal.com/nxt/gateway.dll?f=templates&amp;fn=default.htm&amp;vid=amlegal:sandiegoco_ca_mc">http://library.amlegal.com/nxt/gateway.dll?f=templates&amp;fn=default.htm&amp;vid=amlegal:sandiegoco_ca_mc</a> . Site visited on July 31, 2017.	

In the event certain projects cannot conform to the requirements of the noise ordinance, the Code expressly authorizes the County of San Diego noise control officer to grant a variance to allow temporary deviations from the requirements. The variance process, outlined in Code Section 36.423, expressly applies to non-emergency work on a public utility facility. An application for

a variance may be made to the County of San Diego noise control officer, who evaluates the request and determines if a variance will be issued, based on the potential impact the noise may have on each property that would be affected, the value to the community of the work being done, and other factors.

#### 4.12.3.2 Noise Setting

The Proposed Project would pass through developed residential, commercial, and industrial areas as well as densely vegetated slopes and hills. The transmission line would be within the cities of Carlsbad, San Marcos, Vista, and Escondido, and unincorporated San Diego County, with staging areas in the cities of Carlsbad, Escondido, San Marcos, and in unincorporated San Diego County.

#### Summary of Noise-Sensitive Receptors

**Table 4.12-8: Sensitive Noise Receptors**

Sensitive Receptor Type	Approximate Distance from Proposed Project		
	Within 50 Feet	Within 500 Feet	Within 1,500 Feet
Residence	40	500	1,000
Churches/Places of Worship	0	1	1
Schools	1	3	4
Parks/Recreational Facilities	4	2	2
Hospitals	0	1	1

The sensitive receptors surrounding the Proposed Project Area are primarily residential and commercial land uses. There are also other types of sensitive receptors, including schools, parks, hiking trails, golf courses, and two medical facilities. In the vicinity of San Marcos Substation, the nearest residential receptors are approximately 20 feet northwest of the property line. The land uses surrounding the site on all other sides are also residential. Beyond the residential uses, a golf course and school are located to the west and northwest, respectively. In the vicinity of Escondido Substation, the nearest residential receptor is approximately 1,100 feet west of the property line. The land uses surrounding the Substation are commercial, and a hospital is located approximately 1,400 feet to the southwest.

For the overhead work associated with the Proposed Project, residences were identified within varying distances, some as close as 10 feet from the existing San Diego Gas & Electric Company (SDG&E) right-of-way. The Valley Christian School property line is approximately 90 feet northeast of Pole 6; the San Marcos High School property line is approximately 10 feet south of Poles 12 through 20, with noise-sensitive areas (NSAs) on the property approximately 25 feet south of Poles 12 through 14; and the Proposed Project runs through three parks/ preserve areas (Escondido Creek Preserve, Sage Hill Preserve, and Rancho La Costa Preserve). The Palomar Medical Center is approximately 425 feet west of Poles 112 and 113, and The Palomar Health Expresscare San Elijo Hills is located approximately 613 feet south of Poles 80 and 81.

Existing noise sources in the Proposed Project Area are discussed below.

### Airports and Airstrips

There are no airports within 2 miles of the Proposed Project. The nearest airport is McClellan-Palomar Airport, approximately 2.2 miles west of Pole 54, the Proposed Project for TL 6975 sites, and staging yards. None of the Proposed Project's components would be within 2 miles of McClellan-Palomar Airport, nor are they within the noise exposure contours as mapped in the McClellan-Palomar Airport Land Use Compatibility Plan (ALUCP 2010).

#### 4.12.3.3 Noise Surveys

The sound levels in most communities fluctuate, depending on the activity of nearby and distant noise sources, time of the day, or season of the year. Within an hour, the sound level can fluctuate between the lowest level ( $L_{min}$ ) and the highest level ( $L_{max}$ ).

The site and surroundings for the Proposed Project were visited on March 31 through April 3, 2017. Long-term ambient noise levels were measured to capture sound levels over a 24-hour period. Sampling locations were chosen between San Marcos Substation and Escondido Substation, near the closest representative noise-sensitive receptors (residences). The long-term measurement locations are shown in Figure 4.12-1: Ambient Noise Measurement Locations.

The data set was tabulated into hourly averages, as presented in Table 4.12-9: Summary of Measured Ambient Noise Levels (dBA), LT1, and Table 4.12-10: Summary of Hourly Background Measured Ambient Noise Levels (dBA), LT2. Existing noise sources in the area included vehicular traffic, distant propeller aircraft, and natural sounds, such as insects, birds, and wind. No existing substation or transmission line noise was noted.

**Table 4.12-9: Summary of Measured Ambient Noise Levels (dBA), LT1**

Site Number	Site Description	Date	Time	Monitoring Results (A-weighted Decibels)		
				$L_{eq}$	$L_{max}$	$L_{min}$
LT1	In vacant land north of 1752 Via Allondra, San Marcos, CA 92078; 5 feet off the ground, 170 feet south of Guard Structure 27.	3/31/2017	10:00	54.2	64.4	43.5
			11:00	55.0	64.1	41.6
			12:00	54.6	62.9	42.3
			13:00	54.5	62.6	42.4
			14:00	55.8	64.1	43.8
			15:00	55.5	63.8	43.0
			16:00	54.8	62.4	41.9
			17:00	56.4	71.7	42.3
			18:00	54.8	65.1	41.0
			19:00	54.0	63.4	41.4
			20:00	52.7	65.0	39.6



Site Number	Site Description	Date	Time	Monitoring Results (A-weighted Decibels)		
				L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>
			21:00	52.0	60.8	40.4
			22:00	51.7	59.6	39.7
			23:00	50.3	58.4	37.6
		4/1/2017	0:00	48.1	58.5	32.5
			1:00	46.0	58.2	28.3
			2:00	43.5	54.8	27.8
			3:00	45.6	58.0	29.9
			4:00	45.6	55.4	31.8
			5:00	47.9	56.5	36.1
			6:00	53.7	60.8	44.7
			7:00	53.3	59.3	43.7
			8:00	59.2	66.4	51.3
			9:00	52.9	61.0	41.9
			10:00	54.3	66.2	42.0
			11:00	54.7	64.8	41.5
			12:00	54.3	64.6	41.9
			13:00	54.2	61.4	44.1
			14:00	53.8	60.9	42.8
			15:00	54.7	62.1	43.0
			16:00	54.1	64.1	39.9
			17:00	53.8	65.9	39.4
			18:00	53.3	62.8	38.4
			19:00	56.4	73.2	39.8
			20:00	52.4	59.8	41.2
			21:00	52.3	58.9	41.9
			22:00	51.6	58.4	40.9
			23:00	49.6	59.4	36.6
		4/2/2017	0:00	46.7	57.3	31.0
			1:00	44.1	54.9	27.6
			2:00	43.7	56.3	26.3
			3:00	43.3	54.1	26.4
			4:00	43.9	54.2	27.0

Site Number	Site Description	Date	Time	Monitoring Results (A-weighted Decibels)		
				L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>
			5:00	47.0	56.0	32.4
			6:00	54.5	69.4	42.9
			7:00	53.7	63.0	42.6
			8:00	51.5	61.1	38.4
			9:00	52.9	64.1	38.8
			10:00	51.6	58.2	39.4
			11:00	54.4	67.9	40.1
			12:00	52.8	64.3	40.0
			13:00	54.3	66.1	41.6
			14:00	53.9	62.4	41.5
			15:00	53.6	61.7	40.2
			16:00	53.7	62.9	39.5
			17:00	52.9	60.5	40.5
			18:00	52.2	59.0	37.0
			19:00	51.7	59.1	39.2
			20:00	51.0	59.7	36.4
			21:00	51.9	64.5	34.9
			22:00	48.0	56.6	28.2
			23:00	45.8	58.7	26.7
		4/3/2017	0:00	43.0	54.9	21.7
			1:00	39.3	52.9	20.4
			2:00	39.0	52.1	20.7
			3:00	41.5	53.1	20.6
			4:00	44.2	55.0	22.0
			5:00	49.2	58.0	31.4
			6:00	55.4	62.5	45.3
			7:00	53.0	59.7	40.7
			8:00	53.1	60.1	41.4
			9:00	53.2	60.8	39.9
			10:00	53.2	64.0	39.7
			11:00	53.6	62.2	42.9
			12:00	53.7	62.2	41.2

Site Number	Site Description	Date	Time	Monitoring Results (A-weighted Decibels)		
				L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>
			13:00	53.4	61.9	42.7

**Table 4.12-10: Summary of Hourly Background Measured Ambient Noise Levels (dBA), LT2**

Site Number	Site Description	Date	Time	Monitoring Results (A-weighted Decibels)		
				L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>
LT2	Next to a pole just north of 2738 Harmony Heights Road, Escondido, CA 92029; 5 feet off the ground, approximately 430 feet west of Location Number 106.	3/31/2017	11:00	48.1	60.1	38.4
			12:00	50.3	65.6	39.5
			13:00	47.6	57.9	40.6
			14:00	49.2	59.6	40.8
			15:00	48.1	60.7	38.8
			16:00	51.1	66.7	37.2
			17:00	49.1	63.8	35.0
			18:00	47.6	60.4	33.2
			19:00	41.9	54.3	29.6
			20:00	44.6	60.7	30.3
			21:00	48.6	63.6	30.0
			22:00	56.3	67.2	33.5
			23:00	55.7	68.9	33.9
		4/1/2017	0:00	40.4	55.0	32.2
			1:00	36.9	49.8	29.5
			2:00	48.7	65.4	29.2
			3:00	51.0	68.0	30.3
			4:00	35.3	45.1	31.4
			5:00	40.6	50.8	35.8
			6:00	47.8	59.0	41.1
			7:00	48.8	61.4	41.4
			8:00	45.4	60.9	36.0
			9:00	48.0	59.4	40.2
			10:00	52.3	65.5	34.3
			11:00	53.3	64.8	46.7
			12:00	53.4	61.7	48.0
			13:00	47.2	60.8	34.8
			14:00	48.4	66.2	34.3
			15:00	45.1	57.1	34.3
			16:00	48.5	60.2	35.9



Site Number	Site Description	Date	Time	Monitoring Results (A-weighted Decibels)		
				L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>
			17:00	47.4	61.0	34.5
			18:00	45.4	59.5	36.7
			19:00	46.0	58.5	35.9
			20:00	50.4	64.4	37.0
			21:00	49.4	64.8	36.5
			22:00	41.9	55.7	32.9
			23:00	41.4	53.3	36.1
		4/2/2017	0:00	52.3	64.4	34.9
			1:00	55.8	69.6	34.1
			2:00	35.5	48.2	30.0
			3:00	41.3	54.3	30.4
			4:00	35.3	46.4	31.3
			5:00	37.5	47.3	34.2
			6:00	44.9	57.3	40.0
			7:00	56.7	71.6	37.2
			8:00	46.2	61.7	31.4
			9:00	43.0	57.4	32.7
			10:00	46.7	65.3	33.7
			11:00	44.6	57.9	34.3
			12:00	44.6	56.7	35.5
			13:00	47.1	60.9	39.2
			14:00	50.0	68.3	35.8
			15:00	42.4	52.8	34.8
			16:00	43.0	54.3	34.8
			17:00	47.4	64.5	34.7
			18:00	51.4	73.2	35.2
			19:00	44.4	59.5	33.7
			20:00	40.8	53.6	33.6
			21:00	42.5	57.8	32.2
			22:00	37.3	48.3	31.1
			23:00	43.4	60.3	28.3

Site Number	Site Description	Date	Time	Monitoring Results (A-weighted Decibels)		
				L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>
		4/3/2017	0:00	55.8	68.7	25.9
			1:00	41.5	56.9	25.5
			2:00	30.8	42.7	24.7
			3:00	45.2	60.3	25.1
			4:00	31.2	42.7	25.9
			5:00	42.3	57.3	28.7
			6:00	48.3	61.9	40.8
			7:00	49.1	61.0	42.4
			8:00	45.1	58.6	33.8
			9:00	48.6	65.0	36.3
			10:00	49.2	63.2	36.2
			11:00	47.5	60.8	37.2
			12:00	49.4	63.9	37.7
			13:00	45.7	56.4	37.2
Source: ICF 2017.						

A survey was conducted from March 31 through April 3, 2017, to collect ambient noise level data. Short-term sampling in 30-minute increments captured overall sound levels, statistical sound levels, and frequency-band data at the various measurement locations. Thirteen measurement locations were selected as representative sound monitoring locations (see Figure 4.12-1: Ambient Noise Measurement Locations). These locations were chosen to focus on residential areas in proximity to the Proposed Project's alignment and temporary construction staging yards. Table 4.12-11: Summary of Measured Ambient Noise Levels (dBA), provides the measured L<sub>eq</sub>, L<sub>max</sub>, and L<sub>min</sub> sound levels for each of the 13 locations.

**Table 4.12-11: Summary of Measured Ambient Noise Levels (dBA)**

Site Number	Date/Time of Measurement	L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>	Audible Noise Sources
ST1	4/3/2017 9:35 a.m.–10:06 a.m.	63.3	80.5	50.1	Local traffic, school yard, golf carts, landscaping
ST2	4/3/2017 10:37 a.m.–11:07 a.m.	68.7	90.7	56.4	Local traffic, large parking lot, school yards
ST3	4/3/2017 11:25 a.m.–11:55 a.m.	54.2	65.4	48.9	Local traffic, birds
ST4	4/3/2017 12:08 p.m.–12:38 p.m.	56.7	74.3	34.2	Local traffic, birds, leaves rustling
ST5	4/3/2017 12:57 p.m.–1:27 p.m.	55.1	72.9	38.6	Local traffic, birds, distant aircraft
ST6	4/3/2017 2:45 p.m.–3:15 p.m.	52.8	74.2	34.4	Distant traffic, birds, leaves rustling, distant aircraft
ST7	4/3/2017 3:33 p.m.–4:03 p.m.	51.2	70.1	42.4	Distant aircraft, birds, dogs barking
ST8	3/31/2017 2:49 p.m.–3:21 p.m.	52.2	65.9	30.2	Distant traffic, distant aircraft, birds
ST9	3/31/2017 2:01 p.m.–2:32 p.m.	46.4	65.8	32.8	Distant aircraft, birds, dogs barking, neighborhood landscaping/other maintenance activity
ST10	3/31/2017 1:05 p.m.–1:35 p.m.	47.0	64.6	35.3	Distant aircraft, birds, leaves rustling, dogs barking
ST11	3/31/2017 10:47 a.m.–11:18 a.m.	58.6	73.3	45.5	Local traffic, local construction
ST12	3/31/2017 11:29 a.m.–12:00 p.m.	51.9	62.9	43.5	Local traffic, adjacent industry, birds
ST13	3/31/2017 12:13 p.m.–12:43 p.m.	60.2	80.7	47.9	Local traffic, nearby water feature
Source: ICF 2017.					

Measured L<sub>eq</sub> sound levels ranged from 46 to 69 dBA (when rounded to the nearest whole number). The measured levels are relatively typical of suburban daytime sound levels and similar to the data from the long-term sampling locations.

The dominant ambient noise sources in the Proposed Project Area are transportation related. Some of these sources are the vehicles traveling in both directions on San Marcos Boulevard, Rancho Santa Fe Road, San Elijo Road, Country Club Drive, Citracado Parkway, and Auto Park Way. The Proposed Project would be located along these roads. Additional sources include distant propeller aircraft, commercial shopping plazas, outdoor uses at several schools, and distant traffic on State Route 78 and Interstate 15.



#### 4.12.4 Potential Impacts

The Proposed Project includes removing existing wood pole structures, installing new steel pole structures, and reconductoring for the existing TL 680C power lines; constructing a new power line segment; and converting a de-energized line to a 69 kV power line. The operation and maintenance activities required for the power lines would not change from those currently required for the existing system. The new steel poles in Segment 1 would require less maintenance and repair than the existing wood poles; however, due to the additional structures and hardware in Segment 2, there would be a slight increase in frequency of maintenance. Because the increase in the frequency would be slight, effects from the operation and maintenance of the Proposed Project on the environment would be negligible. Therefore, the impact analysis is focused on construction activities that are required to install the new conductor, remove existing wood pole structures, install new steel pole structures, and establish temporary work areas, as described in Chapter 3, Project Description.

##### 4.12.4.1 Significance Criteria

According to Section 15002(g) of the CEQA Guidelines, “a significant effect on the environment is defined as a substantial adverse change in the physical conditions that exist in the area affected by a proposed project.” As stated in Section 15064(b) of the CEQA Guidelines, the significance of an activity may vary with the setting. The potential significance of project-related impacts on noise were evaluated for each of the applicable criteria from Appendix G of the CEQA Guidelines, as discussed in the following sections. Under these guidelines, the Proposed Project could have a potentially significant noise impact if it would:

- a) Expose people to or generate noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies;
- b) Expose people to or generate excessive ground-borne vibration or ground-borne noise levels;
- c) Result in a substantial permanent increase in ambient noise levels in the project vicinity, above levels existing without the project;
- d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity, above levels existing without the project;
- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels; or
- f) For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

The construction and operational noise thresholds of significance for the Proposed Project’s components have been derived from the applicable regulatory documents, as discussed previously in Section 4.12.3.1, Regulatory Setting. Specific significance criteria for construction, operation, and maintenance noise levels are presented in the subsections that follow.

## Construction

The following thresholds of significance for temporary or periodic increases in noise from construction are derived from the San Diego County Code of Regulatory Ordinances, Section 4.36.409, for project-related  $L_{eq}$  values at noise-sensitive receptor locations:

- Less than 75 dB average between 7 a.m. and 7 p.m. when measured at or within the property lines of any property that is developed and used either in part or in whole for residential purposes would be considered noticeable but not significant.
- 75 dB average and above between 7 a.m. and 7 p.m. when measured at or within the property lines of any property that is developed and used either in part or in whole for residential purposes would be considered significant.

Because the cities of San Marcos, Vista, and Carlsbad do not include thresholds of significance for temporary or periodic increases in noise from construction, the above thresholds will be applied to those jurisdictions.

The following thresholds of significance for temporary or periodic increases in noise from construction are derived from the City of Escondido Municipal Code, Section 17.229, for project-related  $L_{eq}$  values at noise-sensitive receptor locations:

- Less than 75 dB average over any 1-hour period when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is being received would be considered noticeable but not significant.
- 75 dB average or above over any 1-hour period when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is being received would be considered significant.

## Operation and Maintenance

The following thresholds of significance for operational noise are derived from the County of San Diego Guidelines for Determining Significance, Noise, Section 1.2, for project-related ambient noise increases:

- Less than 3 dB would be considered not discernible and not significant.
- Between 3 dB and 5 dB would be considered noticeable but not significant if noise levels remain below the County of San Diego's noise standard of 75 dBA at 6 feet from the property.
- 3 dB or greater would be considered significant if the noise increase would meet or exceed the County of San Diego's noise standard of 75 dBA at 6 feet from the property.
- Increases that exceed the County of San Diego's noise standard of 75 dBA at 6 feet from the property would be considered significant.

Because the cities of Escondido, San Marcos, Vista, and Carlsbad do not include thresholds of significance for operational noise from project-related sources, the above thresholds will be applied to those jurisdictions.

- a) **Would the project expose people to or generate noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies?**

### **Construction – Less than Significant with Mitigation Incorporated**

As described in Chapter 3, Project Description (Construction Schedule), construction activities would typically occur during normal construction hours, Monday through Saturday. Activities that could require nighttime and weekend construction include, but are not limited to, delivering substation transformers, filling substation transformers, transferring systems, pouring foundations, and pulling the conductor, which requires continuous operation or work during off-peak hours, per agency requirements. SDG&E would meet and confer with the cities of San Marcos, Escondido, Vista, and Carlsbad and the County of San Diego as needed regarding activities that would be conducted outside of the hours and/or in excess of the noise standards permitted by noise ordinance.

Construction of TL 6975 would occur over a period of approximately 10 months, preceded by 2 months of preconstruction activities, and would require the temporary use of various types of noise-generating equipment, including graders, backhoes, augers, flatbed boom trucks, rigging and mechanics trucks, air compressors and generators, mobile cranes, concrete trucks, man lifts, and a helicopter. Wire stringing operations would require pullers, tensioners, and cable reel trailers.

The construction equipment to be used would be similar to that used during typical public works projects. Typical noise levels from these construction sources are provided in the tables below (Tables 4.12-12 through 4.12-25), with reference distances of 50 to 1,000 feet. The equipment presented could be utilized at any location along the corridor. The tables are listed in order of scheduled construction activity. In addition to the typical types of equipment, a helicopter would be used during one phase of construction. The typical helicopter noise levels are included in Table 4.12-18: Typical Structure Installation and Assembly Sound Levels.

The use of equipment during construction is cyclical. Generally, the construction equipment would not be operated continuously, nor would all equipment operate simultaneously. There would, therefore, be times when no equipment would be operating and noise would be at ambient levels. Typical usage factors for the construction equipment were applied to the sound levels below to arrive at the average sound level that may occur during a typical workday. Usage factors are applied irrespective of workday. The usage factors account for the fact that equipment is not always operated at full throttle or used for an entire workday. The tables provide the construction sound levels, adjusted to reflect a typical workday, expected at various distances from a pole site, from 50 to 1,000 feet, thereby covering the range of distances to nearby sensitive receptors.

**Table 4.12-12: Typical Preconstruction Activity Sound Levels (Staging Yard Setup, Road Refreshing, Vegetation Trimming, BMP Installation)**

Equipment <sup>1</sup>	Maximum Noise Level (dBA)				
	50 feet	100 feet	200 feet	500 feet	1,000 feet



Equipment <sup>1</sup>	Maximum Noise Level (dBA)				
	50 feet	100 feet	200 feet	500 feet	1,000 feet
Excavator <sup>(b)</sup>	85	79	73	65	59
Forklift <sup>(b)*</sup>	85	79	73	65	59
Grader <sup>(c)</sup>	85	79	73	65	59
Loader <sup>(c)</sup>	79	73	67	59	53
Mower <sup>(a)</sup>	88	82	76	68	61
Pickup Truck <sup>(b)</sup>	75	69	63	55	49
Truck (dump truck, line truck, water truck, tractor/trailer) <sup>(c)</sup>	88	82	76	68	62
Notes: <sup>1</sup> Noise levels listed are for typical equipment used during construction. Not all equipment that would be used by the Proposed Project is listed herein; however, the equipment is considered to be representative of the equipment that would be used during construction of the Proposed Project. * No noise data available through Roadway Construction Noise Model 2008, using type “All Other Equipment > 5 HP.” Sources: (a) BBN 1971, (b) FHWA 2008, (c) FTA 2006.					

**Table 4.12-13: Estimated Typical Preconstruction Sound Levels Adjusted for 8-Hour Work Day**

Equipment	Adjusted Noise Level for Workday (dBA)				
	50 feet	100 feet	200 feet	500 feet	1,000 feet
Excavator	77	71	65	57	51
Forklift	82	76	70	62	56
Grader	81	75	69	61	55
Loader	75	69	63	55	49
Mower	75	69	63	55	48
Pickup Truck	71	65	59	51	45
Truck (dump truck, water truck, tractor/trailer)	73	67	61	53	47

**Table 4.12-14: Direct-Bury Pole Construction Sound Levels**

Equipment <sup>1</sup>	Maximum Noise Level (dBA)				
	50 feet	100 feet	200 feet	500 feet	1,000 feet
Air Compressor <sup>(c)</sup>	81	75	69	61	55
Boom Truck <sup>(a)</sup>	75	69	63	55	48
Drill Rig/Truck-mounted Auger (including pressure digger) <sup>(c)</sup>	85	79	73	65	58
Pickup Truck <sup>(b)</sup>	75	69	63	55	49
Truck (line truck, tractor/trailer, water truck) <sup>(c)</sup>	88	82	76	68	62
Notes:					
<sup>1</sup> Noise levels listed are for typical equipment used during construction. Not all equipment that would be used by the Proposed Project is listed herein; however, the equipment is considered to be representative of the equipment that would be used during construction of the Proposed Project.					
Sources: (a) FHWA 2006, (b) FHWA 2008, (c) FTA 2006.					

**Table 4.12-15: Estimated Direct-Bury Pole Construction Sound Levels Adjusted for 8-Hour Work Day**

Equipment	Adjusted Noise Level for Workday (dBA)				
	50 feet	100 feet	200 feet	500 feet	1,000 feet
Air Compressor	74	68	62	54	48
Boom Truck	73	67	61	53	46
Drill Rig/Truck-mounted Auger (including pressure digger)	72	66	60	52	46
Pickup Truck	71	65	59	51	45
Truck (line truck, tractor/trailer, water truck)	73	67	61	53	47

**Table 4.12-16: Typical Pier Foundation Construction Sound Levels**

Equipment <sup>1</sup>	Maximum Noise Level (dBA)				
	50 feet	100 feet	200 feet	500 feet	1,000 feet
Air Compressor <sup>(c)</sup>	81	75	69	61	55
Boom Truck <sup>(a)</sup>	75	69	63	55	48
Drill Rig/Truck-mounted Auger <sup>(c)</sup>	85	79	73	65	58
Excavator <sup>(b)</sup>	85	79	73	65	59
Forklift <sup>(b)*</sup>	85	79	73	65	59
Generator <sup>(b)</sup>	81	75	69	61	55
Loader <sup>(c)</sup>	79	73	67	59	53
Pickup Truck <sup>(b)</sup>	75	69	63	55	49
Truck (water truck) <sup>(c)</sup>	88	82	76	68	62
Notes: <sup>1</sup> Noise levels listed are for typical equipment used during construction. Not all equipment that would be used by the Proposed Project is listed herein; however, the equipment is considered to be representative of the equipment that would be used during construction of the Proposed Project. * No noise data available through Roadway Construction Noise Model 2008, using type “All Other Equipment > 5 HP.” Sources: (a) BBN 1971, (b) FHWA 2008, (c) FTA 2006.					

**Table 4.12-17: Estimated Pier Foundation Construction Sound Levels Adjusted for 8-Hour Work Day**

Equipment	Adjusted Noise Level for Workday (dBA)				
	50 feet	100 feet	200 feet	500 feet	1,000 feet
Air Compressor	74	68	62	54	48
Boom Truck	73	67	61	53	46
Drill Rig/Truck-mounted Auger	72	66	60	52	46
Excavator	77	71	65	57	51
Forklift	82	76	70	62	56
Generator	78	72	66	58	52
Loader	75	69	63	55	49
Pickup Truck	71	65	59	51	45
Truck (water truck)	73	67	61	53	47



**Table 4.12-18: Typical Structure Installation and Assembly Sound Levels**

Equipment <sup>1</sup>	Maximum Noise Level (dBA)				
	50 feet	100 feet	200 feet	500 feet	1,000 feet
Boom Truck <sup>(a)</sup>	75	69	63	55	48
Helicopter <sup>(a,b)*</sup>	90	84	78	72	66
Pickup Truck <sup>(b)</sup>	75	69	63	55	49
Truck (bucket truck, line truck) <sup>(c)</sup>	88	82	76	68	62
Notes: <sup>1</sup> Noise levels listed are for typical equipment used during construction. Not all equipment that would be used by the Proposed Project is listed herein; however, the equipment is considered to be representative of the equipment that would be used during construction of the Proposed Project. * No noise data available through Roadway Construction Noise Model 2008, using type “All Other Equipment > 5 HP.” Sources: (a) BBN 1971, (b) FHWA 2008, (c) FTA 2006.					

**Table 4.12-19: Estimated Structure Installation and Assembly Sound Levels Adjusted for 8-Hour Work Day**

Equipment	Adjusted Noise Level for Workday (dBA)				
	50 feet	100 feet	200 feet	500 feet	1,000 feet
Boom Truck	73	67	61	53	46
Helicopter	82	76	70	62	56
Pickup Truck	71	65	59	51	45
Truck (bucket truck, line truck)	73	67	61	53	47

**Table 4.12-20: Typical Stringing/Transfer Conductor/Sagging Activity Sound Levels**

Equipment <sup>1</sup>	Maximum Noise Level (dBA)				
	50 feet	100 feet	200 feet	500 feet	1,000 feet
Boom Truck <sup>(a)</sup>	75	69	63	55	48
Helicopter <sup>(a,b)*</sup>	90	84	78	72	66
Forklift <sup>(b)*</sup>	85	79	73	65	59
Pickup Truck <sup>(b)</sup>	75	69	63	55	49
Truck (line truck, water truck, wire truck) <sup>(c)</sup>	88	82	76	68	62
Wire-Pulling Machine (pulling rig) <sup>(d)</sup>	80	74	68	60	53
Notes: <sup>1</sup> Noise levels listed are for typical equipment used during construction. Not all equipment that would be used by the Proposed Project is listed herein; however, the equipment is considered to be representative of the equipment that would be used during construction of the Proposed Project. * No noise data available through Roadway Construction Noise Model 2008, using type “All Other Equipment > 5 HP.” Sources: (a) BBN 1971, (b) FHWA 2008, (c) FTA 2006, (d) Ebasco, 1989.					

**Table 4.12-21: Estimated Stringing/Transfer Conductor/Sagging Activity Sound Levels Adjusted for 8-Hour Work Day**

Equipment	Adjusted Noise Level for Workday (dBA)				
	50 feet	100 feet	200 feet	500 feet	1,000 feet
Boom Truck	73	67	61	53	46
Helicopter	82	76	70	62	56
Forklift	82	76	70	62	56
Pickup Truck	71	65	59	51	45
Truck (line truck, water truck, wire truck)	73	67	61	53	47
Wire-Pulling Machine (pulling rig)	74	68	62	54	47

**Table 4.12-22: Typical Trenching for Installation of Underground Cables Sound Levels<sup>2</sup>**

Equipment <sup>1</sup>	Maximum Noise Level (dBA)				
	50 feet	100 feet	200 feet	500 feet	1,000 feet
Backhoe <sup>(c)</sup>	80	74	68	60	53
Concrete Truck <sup>(b)</sup>	85	79	73	65	59
Crane <sup>(c)</sup>	83	77	71	63	57
Truck (dump truck, line truck, water truck) <sup>(c)</sup>	88	82	76	68	62
Wire-Pulling Machine (pulling rig) <sup>(a)</sup>	80	74	68	60	53
Notes: <sup>1</sup> Noise levels listed are for typical equipment used during construction. Not all equipment that would be used by the Proposed Project is listed herein; however, the equipment is considered to be representative of the equipment that would be used during construction of the Proposed Project. Sources: (a) Ebasco 1989, (b) FHWA 2008, (c) FTA 2006.					

**Table 4.12-23: Estimated Trenching for Installation of Underground Cables Sound Levels Adjusted for 8-Hour Work Day**

Equipment	Adjusted Noise Level for Workday (dBA)				
	50 feet	100 feet	200 feet	500 feet	1,000 feet
Backhoe	74	68	62	54	48
Bulldozer	81	75	69	61	54
Concrete Truck	75	69	63	55	49
Crane	73	67	61	53	47
Truck (dump truck, flatbed truck)	73	67	61	53	47

<sup>2</sup> Trenching activities would be involved to intercept existing underground conduit and reroute to the new poles at some locations under the existing project plan. The use of trenching would be minimal.

Equipment	Adjusted Noise Level for Workday (dBA)				
	50 feet	100 feet	200 feet	500 feet	1,000 feet
Wire-Pulling Machine (pulling rig)	74	68	62	54	47

**Table 4.12-24: Typical Demobilization/Right-of-Way Restoration and Cleanup/Road Refreshing Sound Levels**

Equipment <sup>1</sup>	Maximum Noise Level (dBA)				
	50 feet	100 feet	200 feet	500 feet	1,000 feet
Backhoe <sup>(c)</sup>	80	74	68	60	53
Excavator <sup>(b)</sup>	85	79	73	65	59
Grader <sup>(c)</sup>	85	79	73	65	59
Mower <sup>(a)</sup>	88	82	76	68	61
Pickup Truck <sup>(b)</sup>	75	69	63	55	49
Truck (dump truck, water truck, tractor/trailer) <sup>(c)</sup>	88	82	76	68	62
Notes:					
<sup>1</sup> Noise levels listed are for typical equipment used during construction. Not all equipment that would be used by the Proposed Project is listed herein; however, the equipment is considered to be representative of the equipment that would be used during construction of the Proposed Project.					
Sources: (a) BBN 1971, (b) FHWA 2008, (c) FTA 2006.					

**Table 4.12-25: Estimated Demobilization/Right-of-Way Restoration and Cleanup/Road Refreshing Sound Levels Adjusted for 8-Hour Work Day**

Equipment	Adjusted Noise Level for Workday (dBA)				
	50 feet	100 feet	200 feet	500 feet	1,000 feet
Backhoe	74	68	62	54	48
Excavator	77	71	65	57	51
Grader	81	75	69	61	55
Mower	75	69	63	55	48
Pickup Truck	71	65	59	51	45
Truck (dump truck, water truck, tractor/trailer)	73	67	61	53	47

Construction tasks outlined above in Table 4.12-12 through 4.12-25 would occur in all segments of the Proposed Project. Table 3-2 of the Project Description outlines the approximate quantity of discrete construction tasks (number of pier foundations constructed, etc.) within each segment along the Proposed Project alignment.

The City of San Marcos Municipal Code exempts construction noise from the limits in Table 4.12-3: City of San Marcos Sound Level Limits, provided that construction occurs between the hours of 7 a.m. and 6 p.m. Monday through Friday or 8 a.m. and 5 p.m. on Saturday.



The City of Escondido Municipal Code exempts construction noise from the limits in Table 4.12-2: City of Escondido Sound Level Limits, provided that construction occurs between the hours of 7 a.m. and 6 p.m. Monday through Friday or 9 a.m. and 5 p.m. on Saturday and, when measured over any 1-hour period during the allowed times, construction noise is less than 75 dBA at the property line where the noise source is located or at any occupied property where the noise is being received.

The City of Carlsbad does not provide sound level limits in its municipal code but does provide a noise guidelines manual with recommendations, as summarized in Table 4.12-4: City of Carlsbad Land Use Compatibility for Community Noise Environments Matrix; however, construction noise is prohibited outside the hours of 7 a.m. to 6 p.m. Monday through Friday or 8 a.m. to 6 p.m. on Saturday.

The City of Vista exempts construction noise from the limits in Table 4.12-5: City of Vista Sound Level Limits, provided the construction occurs between the hours of 7 a.m. and 7 p.m. Monday through Saturday, and does not exceed 75 dBA at the property line for over 8 hours during a 24-hour period of time.

The County of San Diego Code exempts construction noise from the limits in Table 4.12-6: County of San Diego Sound Level Limits, provided that construction occurs between the hours of 7 a.m. and 7 p.m. and, when measured over an 8-hour day, construction noise is less than 75 dBA at an adjoining property line.

Although daily construction activities cannot be predicted and would vary, depending on conditions in the field, the data in the above tables reveal that it is possible that construction sound levels may exceed the 75 dBA limit at NSA locations where construction would occur within 50 feet of a residential property line. NSAs along the majority of the route are farther away from where construction would occur, and construction noise levels in these areas would be lower, as shown in the above tables. Nonetheless, in the event construction noise is anticipated to exceed an average of 75 dBA within any 8-hour period in San Diego County or an average of 75 dBA within any 1-hour period in Escondido at adjacent properties with NSAs within 50 feet of construction activities, SDG&E would meet and confer with the applicable city to discuss temporarily deviating from the requirements of the noise ordinance, as described in the noise variance process (City of Escondido Municipal Code Section 17.249, City of San Marcos Municipal Code Section 10.24.029, City of Carlsbad Municipal Code Section 8.48.020, City of Vista Ordinance 83-13, County of San Diego Guidelines for Determining Significance [Noise, Section 2.3]). This meet-and-confer process is an ordinary construction practice. If requested by any jurisdiction, SDG&E would evaluate the potential temporary relocation of residents and/or the use of portable noise barriers.

Work in proximity to any single general location on the power line corridor would most likely last from a few days to a week as construction activities move along the corridor. Therefore, no single receptor would be exposed to significant noise levels for an extended period.

The noise levels presented in the tables above are those that would be experienced by people while outdoors. A building would provide significant attenuation of associated construction noise impacts. For instance, sound levels can be expected to be up to 25 dBA lower while indoors with windows closed. Even in homes with the windows open, indoor sound levels can be reduced by up to 17 dBA.

Hydraulic rock drilling or rock blasting may be used to minimize the drilling time. Rock blasting, if utilized, would substantially reduce construction time at any one location because extensive digging in hard rock would not be required. Blasting would therefore have the effect of reducing potential noise impacts. Noise associated with these activities would occur intermittently, over short periods of time. Rock blasting, if used, is typically performed only once per day and would therefore not exceed the County of San Diego's impulsive noise standards. In addition, should blasting be determined to be required, a noise and vibration calculation would be prepared and submitted to SDG&E Environmental Programs for review before blasting at each site. The construction contractor would be required to comply with all relevant local, state, and federal regulations related to blasting activities.

As an additional ordinary construction restriction, functional mufflers and/or silencers would be maintained on all equipment to minimize noise levels.

#### *Staging Areas*

In addition to the pole construction sites, 10 staging areas would be in use during the Proposed Project. Staging areas would be used for refueling construction vehicles, pole assemblage, open storage of material and equipment, trailers, portable restrooms, parking, and lighting. Noise generated at these sites would be intermittent and typically associated with periodic movement of equipment in and out of the staging area. No construction would occur in the staging area. The staging areas and the distance to the nearest NSA for each are listed in Table 4.12-26: Proposed Project Staging Areas .

**Table 4.12-26: Proposed Project Staging Areas**

<b>Staging Area</b>	<b>Distance/Direction to Nearest Noise Sensitive Area</b>
Carlsbad Business Park within the City of Carlsbad	650 feet/south
Eagle Drive #2 within the City of Carlsbad	1,000 feet/south
Lionshead Avenue #5 within the City of Carlsbad	1,250 feet/south
Montiel and Rock Springs within San Diego County	50 feet/southeast
Recycling Plant within the City of San Marcos	1,000 feet/north
NE District Employee Parking Lot in Escondido	900 feet/southwest
Harmony Grove in Unincorporated San Diego County	50 feet/west (dependent on future development)
South Andreasen in the City of Escondido	400 feet/west
Kearny in the City of San Diego (auxiliary)	1,700 feet/southwest

Staging Area	Distance/Direction to Nearest Noise Sensitive Area
Icon 3PL Materials Yard in Unincorporated San Diego County (auxiliary)	600 feet/southwest

Sound levels associated with staging area use are anticipated to be below the applicable jurisdiction's noise limits at nearby NSAs. Noise impacts from the staging area use would be associated with construction equipment accessing or leaving the staging areas, and would be temporary. The staging areas would be primarily used for storage of equipment only. One of the staging areas (Kearny) is within the jurisdiction of the City of San Diego. This staging area is currently in use as an equipment storage location and would see no operational change from its current use to being included in the Proposed Project. Considering there are no adjacent noise sensitive receptors and the nearest residential area is 1,700 feet southwest, there would be no impact.

#### *Helicopter Landing Zones*

Helicopters would most likely be staged out of McClellan-Palomar Airport. A typical helicopter noise level is 90 dBA at 50 feet (refer to Table 4.12-18: Typical Structure Installation and Assembly Sound Levels, and Table 4.12-19: Estimated Structure Installation and Assembly Sound Levels Adjusted for 8-Hour Work Day). There are no proposed landing zones within the Proposed Project alignment.

Calculated helicopter noise levels at the nearest NSAs would be below the County of San Diego Noise Ordinance limit. Impacts are anticipated to be less than significant from helicopter landing zone use. Helicopter usage for Proposed Project construction would be limited to those hours deemed acceptable for construction activities by the County of San Diego Code (7 a.m. to 7 p.m.).

#### **Operation and Maintenance – Less-than-Significant Impact**

Modern power lines are designed, constructed, and maintained to generate a minimum of corona-related noise. Typical corona noise levels from 230 kV lines are in the range of only 15 dBA at a distance of 100 feet during dry weather (DMD & Associates Ltd. 2005). During periods of high humidity and rain, this noise level can increase from 5 dBA to 20 dBA, depending on weather conditions, with the larger increases occurring during rain. The Proposed Project involves restringing 69 kV power lines, which are considerably smaller than the 230 kV lines referenced in the study, and therefore produce less corona noise.

As described previously, corona-related noise is not anticipated to exceed the 1-hour average sound level limits or subject any noise-sensitive receptors to an  $L_{eq}$  of 45 dBA. Therefore, no standard would be violated, and there would be no impact to this threshold. No change in SDG&E's operation and maintenance protocols and procedures is anticipated or included as part of the Proposed Project. The frequency of maintenance activities would increase slightly because of the new structures; however, the increase would be negligible. Therefore, the impact would be less than significant.



**b) Would the project expose people to or generate excessive ground-borne vibration or ground-borne noise levels?**

**Construction – Less-than-Significant Impact**

Construction activities have the potential to generate ground-borne vibration and ground-borne noise, depending on the type of construction equipment in use and the distance to the receiver. Operating construction equipment generates vibrations that spread through the ground but diminish in amplitude with distance from the source. The effect on buildings in the vicinity of the construction site often varies, depending on soil type, ground strata, and construction characteristics of the receiving buildings. The human response thresholds for vibration, identified in Table 4.12-1: Human Response to Transient Vibration, indicate that vibration is barely perceptible with a PPV of 0.035.

Referring to the data in Table 4.12-1: Human Response to Transient Vibration, vibration levels would be below the barely perceptible response level. Because the closest residences would be 50 feet or more away from where any construction would occur, no impacts are anticipated.

Table 4.12-27: Vibration Source Levels for Construction Equipment at 50 Feet, provides vibration source levels for some construction equipment. The levels have been normalized to a reference distance of 50 feet.

**Table 4.12-27: Vibration Source Levels for Construction Equipment at 50 Feet**

Equipment <sup>1</sup>	PPV at 50 Feet
Caisson Drill (drilling rig)	0.031
Loaded Truck (flatbed)	0.027
Bulldozer (small)	0.001
<sup>1</sup> Vibration levels listed are for typical equipment used during construction. Not all equipment that would be used by the Proposed Project is listed herein; however, the equipment is considered to be representative of the equipment that would be used during construction of the Proposed Project. Source: FTA 2006.	

Vibration levels associated with rock blasting, if conducted, would be site specific and depend on soil/rock conditions at the site, the amount of explosive used, and the depth of the blasting. In the event that rock blasting is used during construction, SDG&E would implement ordinary construction restrictions to ensure that blasting activities comply with applicable laws, regulations, and ordinances and that potential adverse effects from blasting activities near NSAs would be less than significant.

**Operation and Maintenance – No Impact**

None of the Proposed Project's facilities would generate vibration during operation; therefore, no impacts due to vibration would occur during operation. The maintenance activities are not anticipated to include any vibration-generating sources. As such, no vibration impacts would occur during operation and maintenance.

**c) Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity, above levels existing without the project?**

**Construction – No Impact**

Construction activities would occur over a finite period, approximately 12 months including 2 months of preconstruction activities. Therefore, no permanent increase in noise would occur, and there would be no impact.

Because Proposed Project construction activities would conclude after a scheduled and defined period, these activities would not be permanent. Because no permanent increase in noise would occur during construction activities, there would be no impact.

**Operation and Maintenance – Less-than-Significant Impact**

As described previously, modern power lines are designed, constructed, and maintained so that they produce a minimum level of corona noise during dry conditions. During rainy conditions, maximum corona noise would be approximately 35 dBA at 100 feet (for 230 kV lines), but these higher sound levels are generally masked by the falling rain. Actual noise from corona discharge would be lower because a portion of the Proposed Project involves the restringing of smaller 69 kV power lines, as opposed to the above-referenced 230 kV transmission lines. The remaining portions of the Proposed Project would involve re-energizing and reconductoring existing lines. The lowest measured nighttime  $L_{eq}$  sound level along the Proposed Project's alignment was 30.8 dBA. Corona noise is therefore not expected to increase sound levels along the power line.

SDG&E currently maintains and operates extensive electric transmission, power, distribution, and substation facilities throughout the Proposed Project Area. SDG&E's existing facilities as well as operation and maintenance activities are included in the baseline for evaluating the impacts of the Proposed Project. The operational and maintenance activities would remain the same; however, the frequency of these activities would increase slightly because of the new structures. This increase would be negligible; therefore, less-than-significant impacts due to noise from operation and maintenance would occur.

**d) Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity, above levels existing without the project?**

**Construction – Less than Significant with Mitigation Incorporated**

Construction noise would be temporary and would occur primarily during the prescribed hours of each jurisdiction (see the above tables for typical construction noise levels). As such, these activities would be exempt from local noise ordinances. Nonetheless, noise-sensitive receptors would experience a temporary increase in ambient noise levels during construction activities.

The duration of the expected construction activity schedule would be approximately 10 months; however, noise from construction activities would vary appreciably during the overall construction schedule, depending on the activity phasing and the types of equipment used in any given week or month. Further, the equipment loading and power requirements to accomplish particular tasks would be variable and sporadic, resulting in different noise levels at each

individual receptor location. Given the types of heavy equipment that are typically employed during grading, this early portion of the overall construction schedule may be expected to generate higher intermittent noise levels than subsequent phases. Descriptions of the various construction activity types for the Proposed Project are given below.

#### *Site Preparation for Structure Foundations*

Prior to installing the structure foundations, vegetation at each of the structure sites would be cleared, and the area would be graded either flat or in a terraced fashion, as needed. At some sites, soil may be imported as necessary to raise the elevation of the structure pads, and retaining walls may be needed. Material removed during the process would be spread over existing access roads and work pads as appropriate or disposed of off-site according to all applicable laws.

#### *Concrete Pier Foundations*

Concrete pier foundation poles are engineered steel poles that are anchor bolted to a reinforced concrete foundation. For pole installation, a large auger would be used to excavate holes, which could range from 6 to 11 feet in diameter. Foundation depths would typically range from approximately 20 to 50 feet but could increase because of soil conditions. Foundation construction would require an approximate 35- by 50-foot work area to provide a safe and adequate temporary workspace, including a temporary work area in the access road. The new poles would have a height of approximately 43 to 110 feet above grade. 24 concrete-pier foundation poles would be installed throughout all three segments.

The potential exists for exceedance of the City of Escondido restriction that limits construction noise to a 75 dBA average in any 1-hour period. The County of San Diego also has a restriction that requires a 75 dBA average within any 8-hour period. Therefore, in the event that construction noise, including helicopter noise, is anticipated to exceed 75 dBA at adjacent properties with NSAs within 50 feet of construction activities, SDG&E would implement APM NOI-1, which would include meeting and conferring with the applicable jurisdiction to discuss acquiring a variance from the requirements of the noise ordinance, as described in the noise variance process (City of Escondido Municipal Code Section 17.249, City of San Marcos Municipal Code Section 10.24.029, City of Carlsbad Municipal Code Section 8.48.020, County of San Diego Guidelines for Determining Significance [Noise, Section 2.3]). This meet-and-confer process is an ordinary construction restriction. If requested by either city, SDG&E would evaluate the potential relocation of residents and/or the use of portable noise barriers.

#### *Micropile Foundations*

A micropile foundation consists of several small-diameter, drilled and grouted reinforced foundations, arranged in a circular pattern. For electric transmission and power line structure support, a series of approximately 4 to 16 (or more) individual micropiles are arranged in a circular pattern to take the place of a larger conventional reinforced concrete drilled pier that would typically be approximately 4 to 10 feet in diameter and 10 to 40 feet deep. One micropile typically consists of a small hole (approximately 6 to 8 inches in diameter) excavated to a depth of approximately 10 to 40 feet depending on the properties of the soil or rock underlying the surface.



The micropiles are typically installed from a platform situated approximately 6 feet above the ground surface. The platforms and all equipment can be placed by truck-mounted crane or flown to sites by helicopter. The platform is supported on 4 to 6 telescoping legs that can be adjusted to support the platform on slopes. The drilling process takes place from the platform, and drills are powered by generators or compressors that either rest on the platform or are supported nearby on the ground.

For electric transmission and power line structure support, a series of approximately 4 to 16 (or more) individual micropiles are arranged in a circular pattern to take the place of a larger conventional reinforced concrete drilled pier that would typically be approximately 4 to 10 feet in diameter and 10 to 40 feet deep. Equipment used for the micropile installations is smaller and more portable than the large drill rigs used for drilled pier excavation and construction and can be flown into inaccessible areas. Micropile foundations are more suitable for inaccessible areas due to terrain and areas where access may be prohibited due to environmental or agency concerns. Micropile foundations are also suitable for rock areas where excavation of the rock for conventional drilled piers would be difficult and entail the use of blasting or rock breakers with augers, or core barrels. The spoils and local disturbances created by micropiles are much less than that of conventional drilled concrete piers.

#### *Helicopter Use*

Helicopter use for construction of the Proposed Project would be limited to those hours deemed acceptable for construction activities by the Cities of Escondido, San Marcos, Carlsbad, and Vista, and the County of San Diego Municipal Codes. Although the full extent of helicopter utilization will not be ascertained until the construction contractor conducts a field review, it is anticipated that one light or medium-duty helicopter would be used for structure installation and assembly at locations throughout the Proposed Project alignment. When in use, the helicopter is anticipated to hover for several minutes at each installation after delivering a pole and then promptly leave. It will not remain in the same place for the entire installation. There would not be helicopter incidental landing areas within the Proposed Project Area; it is anticipated that the helicopter used during construction would be staged at the nearby airport, McClellan-Palomar Airport. At certain times when the helicopter is in use, the noise level at residential property lines may exceed 75 dBA; therefore, the potential exists for exceedance of the City of Escondido restriction that limits construction noise to a 75 dBA average in any 1 hour. The helicopter is not expected to exceed this threshold in San Marcos or Carlsbad and Vista where the restriction defers to the County's limit of a 75 dBA average over any 8 hour period. In the event that construction noise, including helicopter use, is anticipated to exceed 75 dBA at adjacent properties with NSAs within 50 feet of construction activities, SDG&E would meet and confer with the applicable city to discuss acquiring a variance from the requirements of the Noise Code, as described in the noise variance process (City of Escondido Municipal Code Section 17.249, City of Vista Ordinance 83-13, City of San Marcos Municipal Code Section 10.24.029, City of Carlsbad Municipal Code Section 8.48.020, County of San Diego Guidelines for Determining Significance [Noise, Section 2.3]). This meet-and-confer process would be implemented as part of APM NOI-1. If requested by either city, SDG&E would evaluate the potential relocation of residents and/or the use of portable noise barriers.

Therefore, with incorporation of APMs NOI-1 through NOI-3, the Proposed Project would not result in substantial temporary or periodic increases in ambient noise levels in the Proposed Project vicinity above existing levels without the Proposed Project.

### **Operation and Maintenance – No Impact**

As discussed previously, the operation and maintenance activities conducted for the Proposed Project would be similar to the operation and maintenance activities that are currently performed on the existing power lines. Impacts from operation and maintenance would not include temporary noise producing activities. Therefore, no substantial or periodic noise impact would occur.

- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels?**

### **Construction, Operation and Maintenance – No Impact**

The nearest airport is McClellan-Palomar Airport, approximately 2.2 miles west of Pole 54, the Proposed Project for TL 6975 sites, and staging yards. None of the Proposed Project's components would be within 2 miles of McClellan-Palomar Airport. The Proposed Project is located within the Airport Influence Area, Review Area 2, and the FAA Height Notification Boundary as identified by the McClellan-Palomar Airport Land Use Compatibility Plan (ALUCP) (ALUC 2010). The Proposed Project does not fall within any of the airport noise contours as identified by the ALUCP (please see Chapter 4.8, Hazards and Hazardous Materials, for further discussion of the nearby airport). Thus, the proposed construction activities would not affect noise generated by airport operations or generate substantial noise. The Proposed Project would not expose residents or people working in the area during construction to excessive noise levels that would be attributable to an airport. No impact would occur.

- f) For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels?**

### **Construction, Operation, and Maintenance – No Impact**

The Proposed Project would not be located in the vicinity of a private airstrip. Thus, no impact would occur.

## **4.12.5 Applicant-Proposed Measures**

The Proposed Project would have less-than-significant impacts with APMs proposed.

**NOI-1:** Construction activities will occur during the times established by the local ordinances, with the exception of certain activities where nighttime and weekend construction activities are necessary, including, but not limited to, construction work timeframes mandated by permit, pouring of foundations, and pulling of the conductor, which require continuous operation or must be conducted during off-peak hours per agency requirements. SDG&E will meet and confer with the applicable jurisdiction to discuss

temporarily deviating from the requirements of the noise ordinance, as described in the noise variance process.

**NOI-2:** SDG&E will provide notice of the construction plans to all property owners within 300 feet of the Proposed Project by mail at least one week prior to the start of construction activities. The announcement will state the anticipated construction start window, anticipated completion window, and hours of operation, as well as provide a telephone contact number for receiving questions or complaints during construction. SDG&E will maintain functional mufflers and/or silencers on all equipment to minimize noise levels as well as evaluate the potential use of portable noise barriers.

**NOI-3:** If blasting is deemed necessary for the construction of Proposed Project components, SDG&E will prepare a blasting plan. The blasting plan will be site specific, based on the location(s) of required blasting and location-specific conditions. The blasting plan will include a description of the planned blasting methods and a schedule for the blasting activities. The blasting plan will include measures to minimize noise related to blasting to the extent feasible.

#### 4.12.6 References

Airport Land Use Commission (ALUC). 2010. *McClellan-Palomar Airport Land Use Compatibility Plan*. January. As amended through December 1, 2011.

Bolt Beranek and Newman (BBN). 1971. *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*. NTID300.1. Prepared for U.S. Environmental Protection Agency, Washington, DC.

California Department of Transportation. 2004. *Transportation- and Construction-Induced Vibration Guidance Manual*. Noise, Vibration, and Hazardous Waste Management Office.

DMD & Associates Ltd. 2005. *Effects of High Voltage Transmission Line in Proximity of Highways*. Submitted to British Columbia Ministry of Transportation.

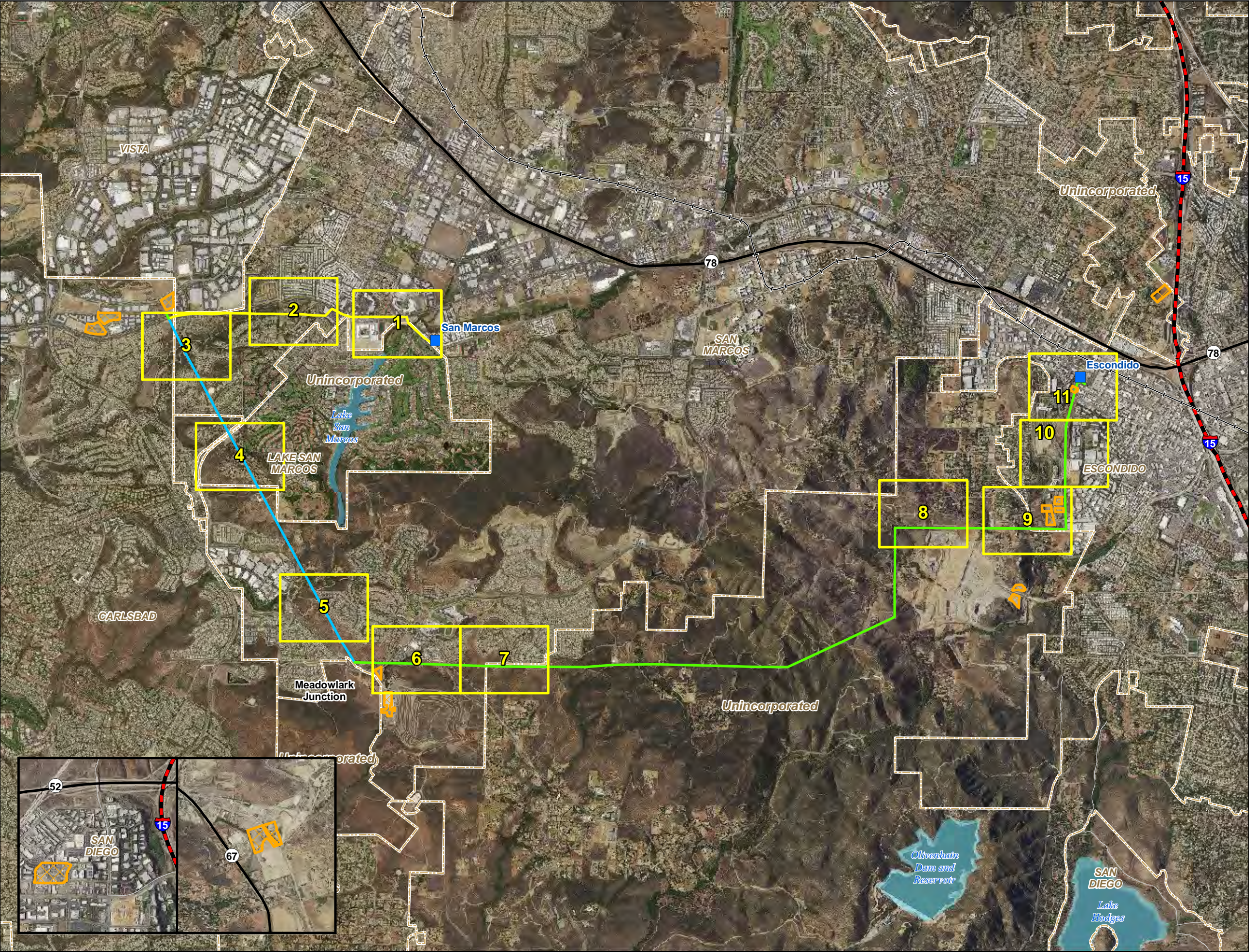
Ebasco. 1989. *Noise Assessment for NJT Aberdeen – Taylor Lane*.

Federal Highway Administration (FHWA). 2006. *FHWA Roadway Construction Noise Model User's Guide*.

———. 2008. *FHWA Roadway Construction Noise Model, v1.1*.

———. 2006. *Transit Noise and Vibration Impact Assessment*.





TL6975 San Marcos to Escondido  
Figure 4.12-1  
Ambient Noise  
Measurement Locations

Legend

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Staging Yard

General Features

Existing Substation

Interstate

State Highway

Railroad

City Boundary

County Boundary

Waterbody

Mapbook Page

Orange County

Riverside County

San Diego County

Pacific Ocean

MAP LOCATION

0

1,000

2,000

3,000

4,000

5,000

Feet

SDGE

A Semptra Energy utility









TL6975 San Marcos to Escondido  
Figure 4.12-1  
Ambient Noise  
Measurement Locations

Legend

Project Structures

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

Ambient Noise Measurement Locations

Long-Term Measurement Location

Short-Term Measurement Location

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Staging Yard

Survey Area

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

0100200300400

Feet

SDGE

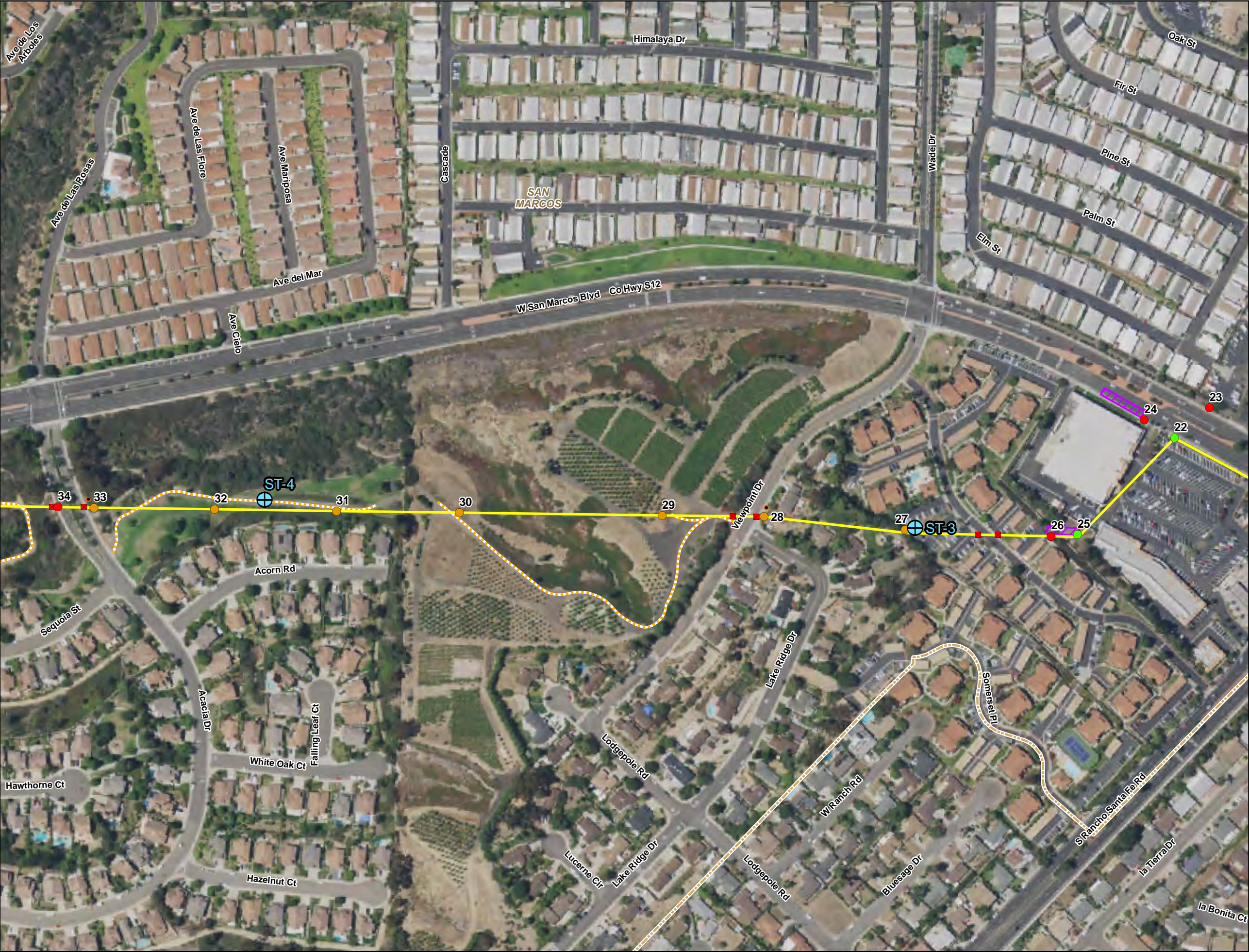
A Sempra Energy utility

Page 1









TL6975 San Marcos to Escondido  
Figure 4.12-1  
Ambient Noise  
Measurement Locations

Legend

Project Structures

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

Ambient Noise Measurement Locations

Long-Term Measurement Location

Short-Term Measurement Location

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Staging Yard

Survey Area

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

0100200300400

Feet

SDGE

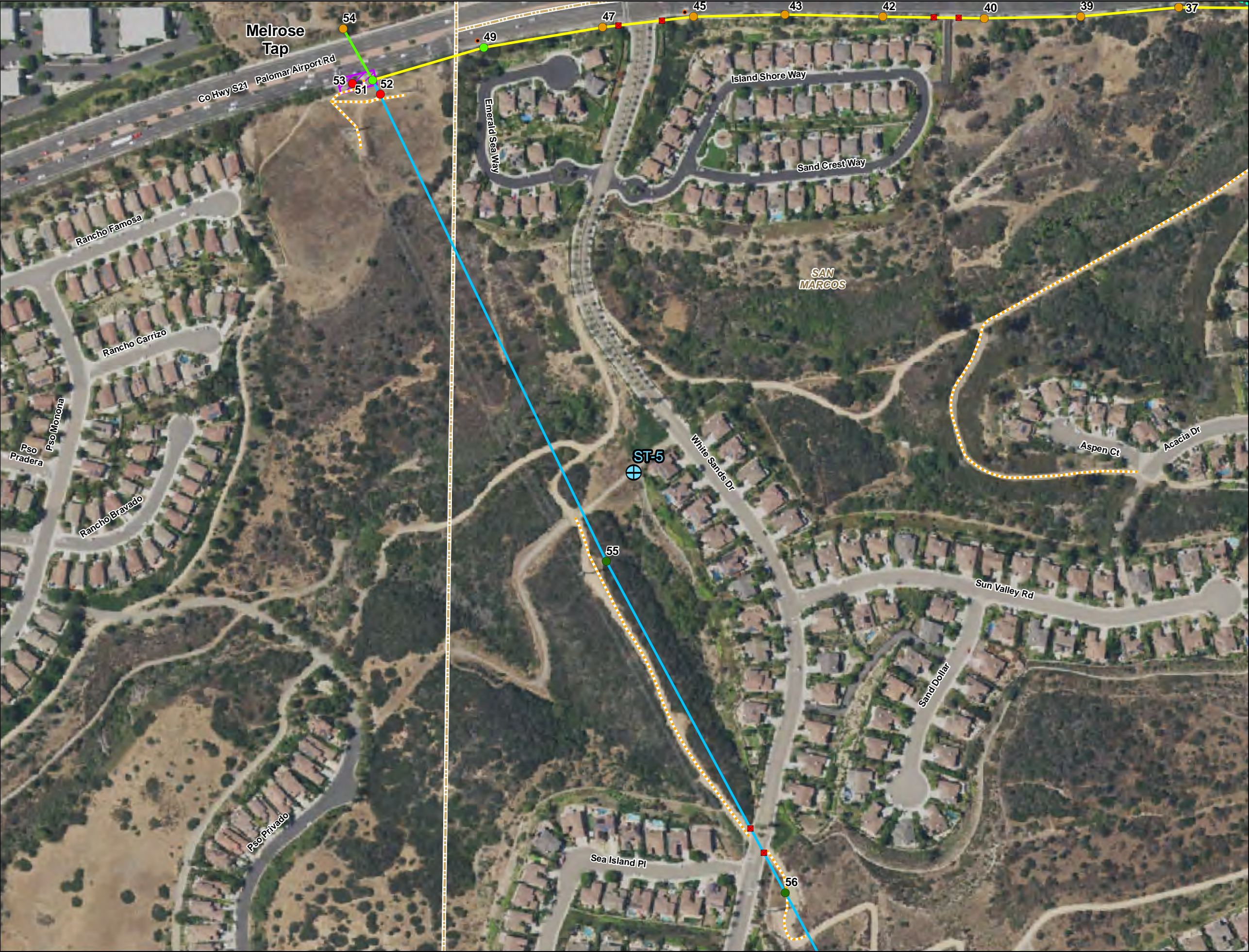
A Sempra Energy utility

Page 2









TL6975 San Marcos to Escondido  
Figure 4.12-1  
Ambient Noise  
Measurement Locations

Legend

Project Structures

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

Ambient Noise Measurement Locations

Long-Term Measurement Location

Short-Term Measurement Location

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Staging Yard

Survey Area

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

0100200300400

Feet

**SDGE**

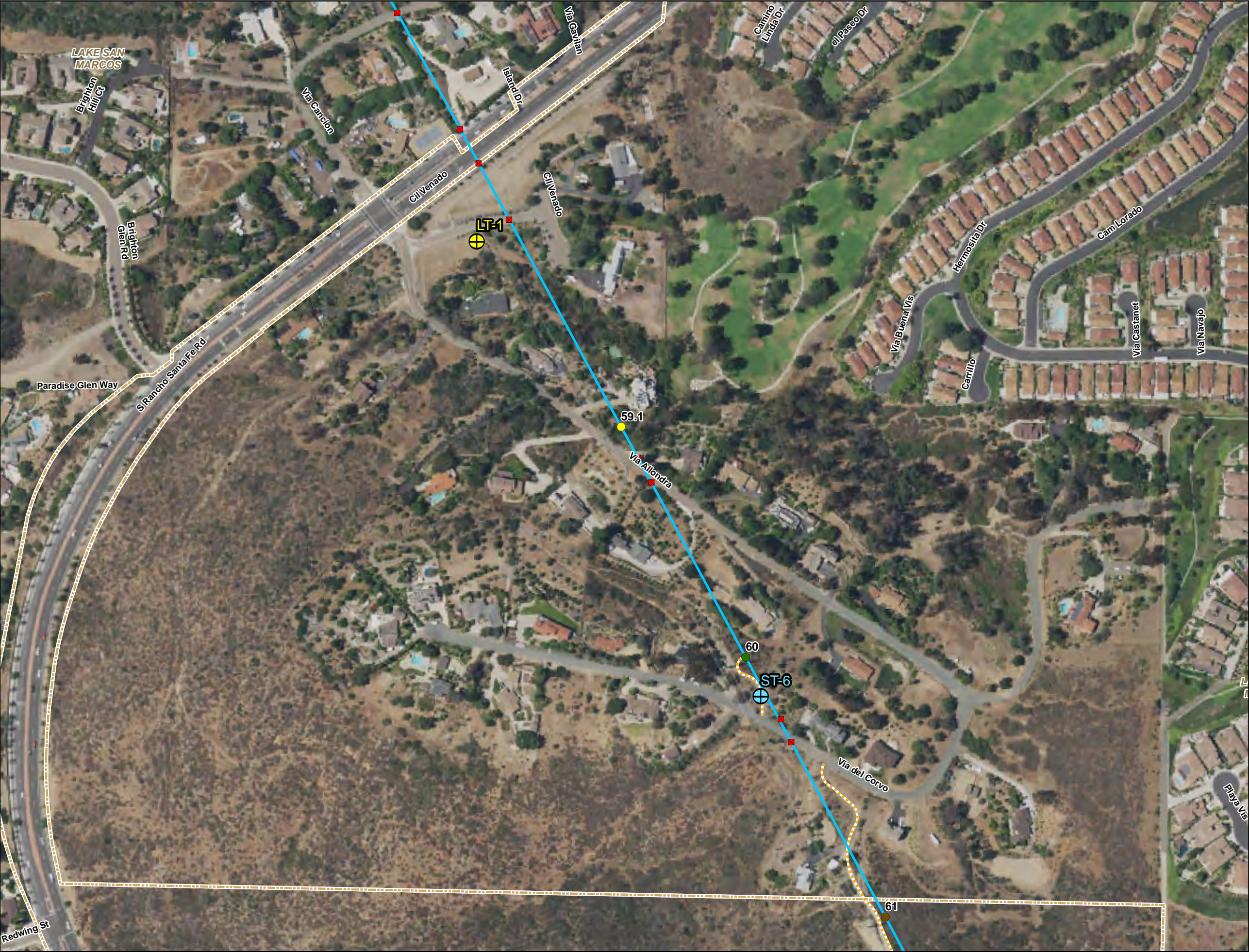
Sempra Energy utility®

Page 3









TL6975 San Marcos to Escondido

Figure 4.12-1

Ambient Noise

Measurement Locations

Legend

Project Structures

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

Ambient Noise Measurement Locations

Long-Term Measurement Location

Short-Term Measurement Location

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Staging Yard

Survey Area

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

0100200300400

Feet

SDGE

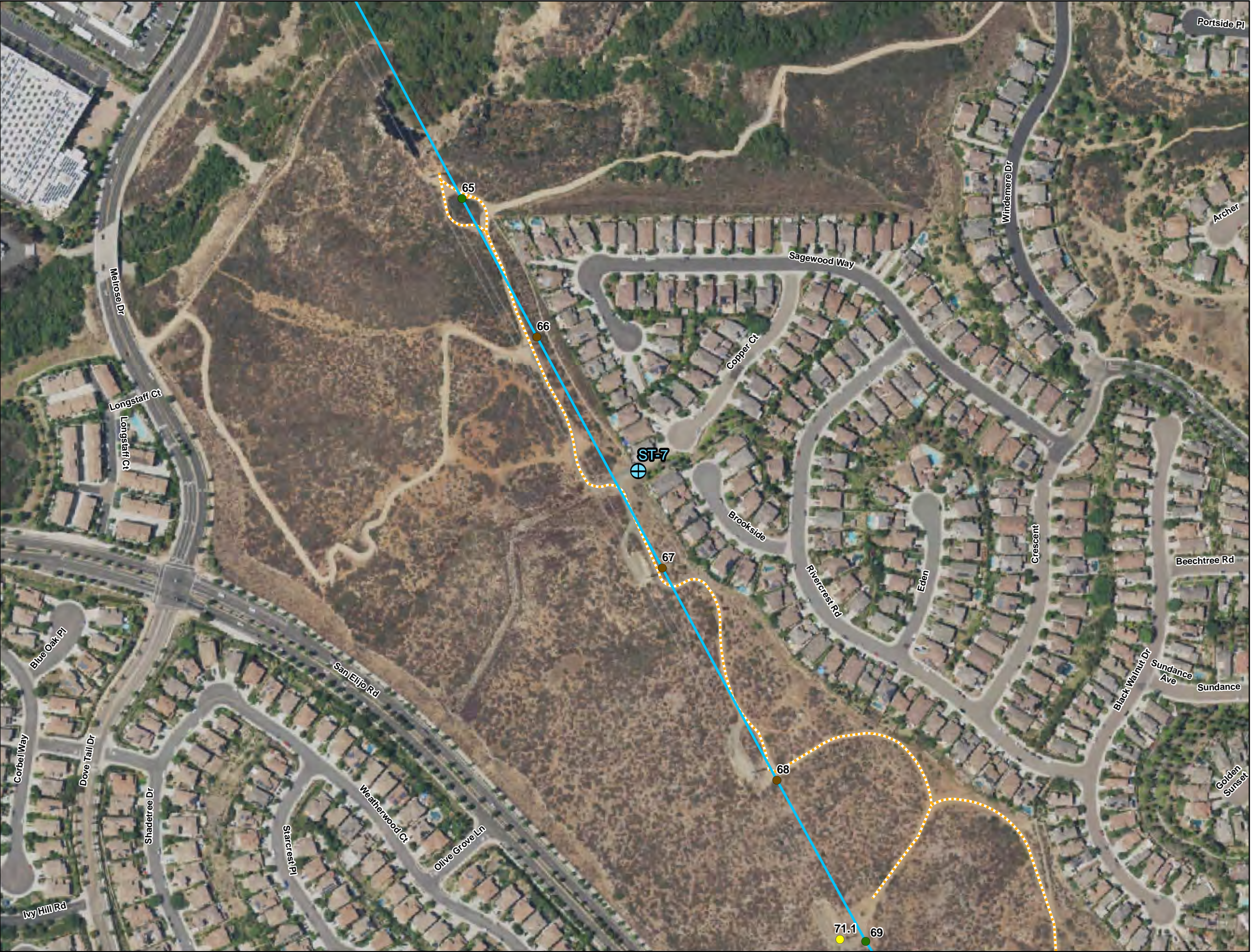
A Sempra Energy utility

Page 4









TL6975 San Marcos to Escondido  
Figure 4.12-1  
Ambient Noise  
Measurement Locations

Legend

**Project Structures**

- Replace existing with pier foundation
- New pier foundation
- Replace existing with direct bury
- New direct bury
- Overhead Work
- Overhead work / anchor work
- Existing structure re-energize conductors
- No work / information only
- Remove From Service
- Rack
- Guard Structures

**Ambient Noise Measurement Locations**

- Long-Term Measurement Location
- Short-Term Measurement Location

**Project Alignment**

- Segment 1 - Rebuild
- Segment 2 - New Build
- Segment 3 - Reconductor

**Project Features**

- Existing Access Road
- New Access Road
- Distribution Trench
- Stringing Site
- Staging Yard
- Survey Area

**General Features**

- Interstate
- State Highway
- Railroad
- Existing Substation
- City Boundary

0 100 200 300 400  
Feet

**SDGE**

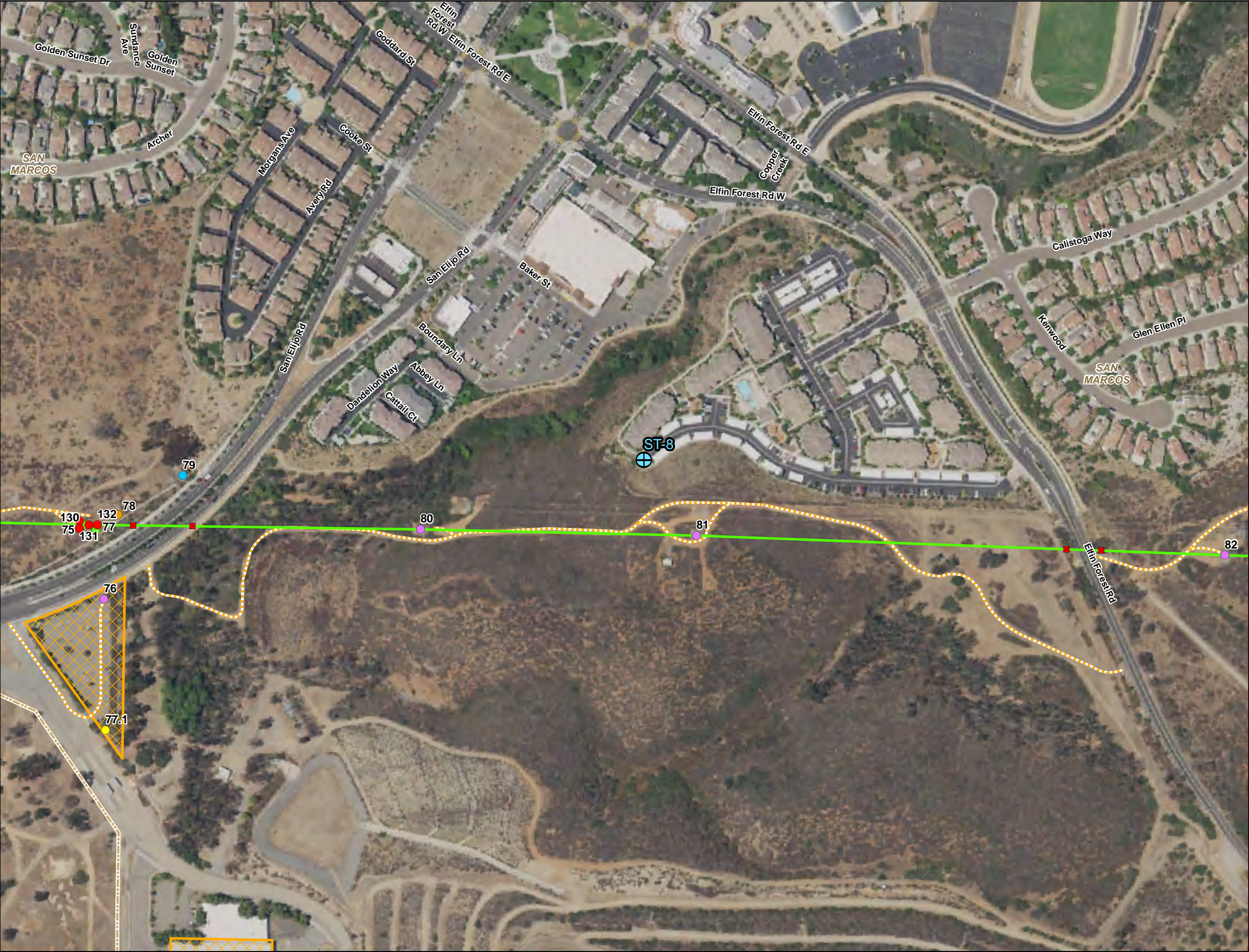
A Sempra Energy utility

Page 5









TL6975 San Marcos to Escondido  
Figure 4.12-1  
Ambient Noise  
Measurement Locations

Legend

Project Structures

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

Ambient Noise Measurement Locations

Long-Term Measurement Location

Short-Term Measurement Location

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Staging Yard

Survey Area

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

0100200300400

Feet

SDGE

A Semptra Energy utility

Page 6









TL6975 San Marcos to Escondido  
Figure 4.12-1  
Ambient Noise  
Measurement Locations

Legend

Project Structures

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

Ambient Noise Measurement Locations

Long-Term Measurement Location

Short-Term Measurement Location

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Staging Yard

Survey Area

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

0100200300400  
Feet

SDGE

A Sempra Energy utility®

Page 7









TL6975 San Marcos to Escondido  
Figure 4.12-1  
Ambient Noise  
Measurement Locations

- Legend**
- Project Structures**
- Replace existing with pier foundation
  - New pier foundation
  - Replace existing with direct bury
  - New direct bury
  - Overhead Work
  - Overhead work / anchor work
  - Existing structure re-energize conductors
  - No work / information only
  - Remove From Service
  - Rack
  - Guard Structures
- Ambient Noise Measurement Locations**
- ⊕ Long-Term Measurement Location
  - ⊕ Short-Term Measurement Location
- Project Alignment**
- Segment 1 - Rebuild
  - Segment 2 - New Build
  - Segment 3 - Reconductor
- Project Features**
- ..... Existing Access Road
  - ..... New Access Road
  - ..... Distribution Trench
  - ▨ Stringing Site
  - ▨ Staging Yard
  - ▭ Survey Area
- General Features**
- Interstate
  - State Highway
  - Railroad
  - ▭ Existing Substation
  - ▭ City Boundary









TL6975 San Marcos to Escondido  
Figure 4.12-1  
Ambient Noise  
Measurement Locations

Legend

Project Structures

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

Ambient Noise Measurement Locations

Long-Term Measurement Location

Short-Term Measurement Location

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Staging Yard

Survey Area

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

0100200300400

Feet

SDGE

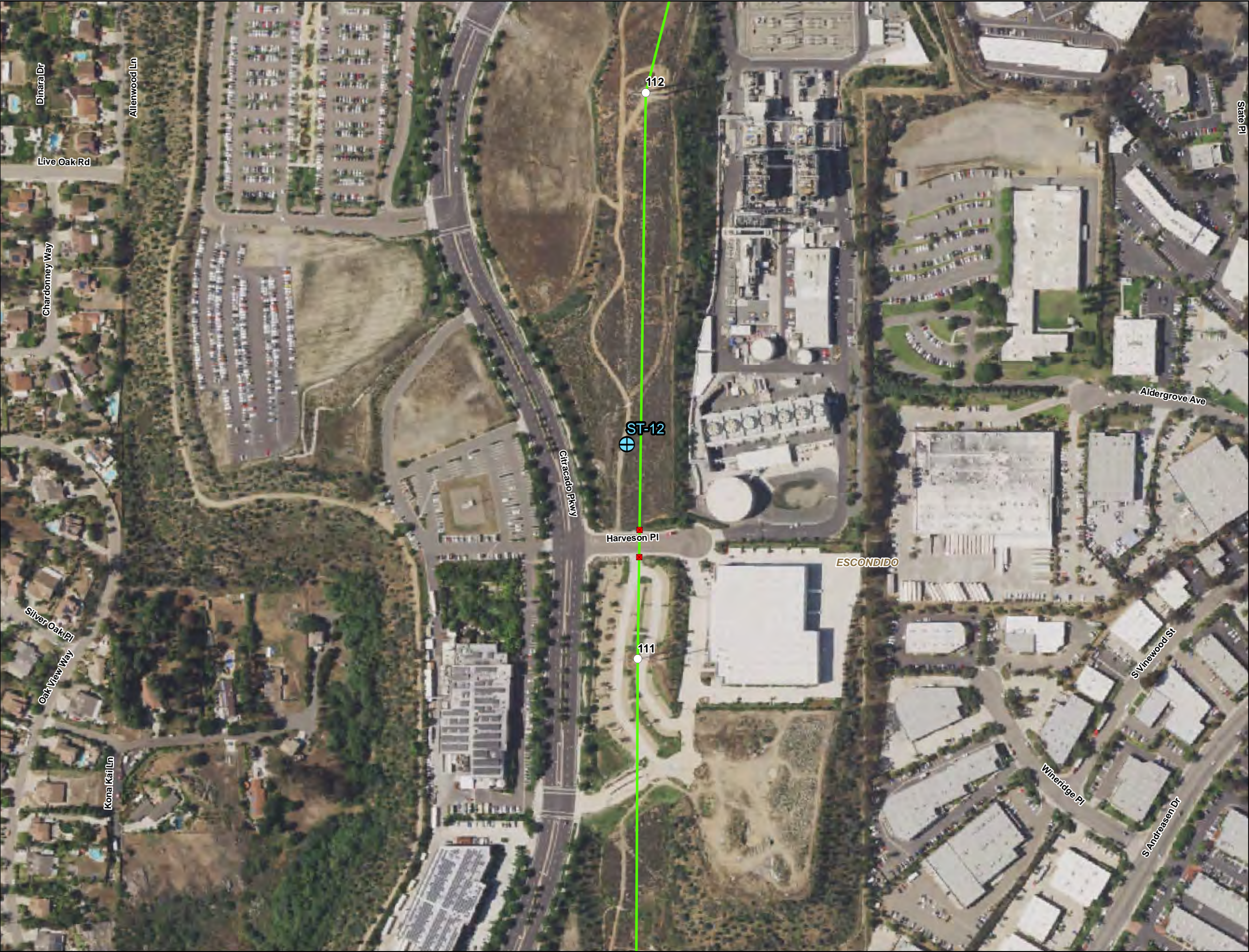
A Semptra Energy utility

Page 9









TL6975 San Marcos to Escondido  
Figure 4.12-1  
Ambient Noise  
Measurement Locations

Legend

Project Structures

Replace existing with pier foundation

New pier foundation

Replace existing with direct bury

New direct bury

Overhead Work

Overhead work / anchor work

Existing structure re-energize conductors

No work / information only

Remove From Service

Rack

Guard Structures

Ambient Noise Measurement Locations

Long-Term Measurement Location

Short-Term Measurement Location

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconductor

Project Features

Existing Access Road

New Access Road

Distribution Trench

Stringing Site

Staging Yard

Survey Area

General Features

Interstate

State Highway

Railroad

Existing Substation

City Boundary

0100200300400

Feet

SDGE

A Sempra Energy utility

Page 10













## Table of Contents

<b>4.13 Paleontological Resources .....</b>	<b>4.13-1</b>
4.13.1 Introduction.....	4.13-1
4.13.2 Methodology .....	4.13-1
4.13.3 Existing Conditions.....	4.13-1
4.13.4 Potential Impacts.....	4.13-6
4.13.5 Applicant-Proposed Measures .....	4.13-8
4.13.6 References.....	4.13-9

## List of Appendices

Appendix 4.13-A: Paleontological Resources Technical Report

Page Intentionally Left Blank



### 4.13 PALEONTOLOGICAL RESOURCES

Would the Project:		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less-than-Significant Impact	No Impact
a.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### 4.13.1 Introduction

This section of the Proponent's Environmental Assessment describes the existing conditions related to paleontological resources within the Proposed Project Area and potential impacts that could result from construction, operation, and maintenance of the Proposed Project. The Proposed Project's potential effects on paleontological resources were evaluated using the significance criteria set forth in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. The analysis concludes that the Proposed Project would result in a *less-than-significant impact* on paleontological resources, with APMs incorporated.

#### 4.13.2 Methodology

##### 4.13.2.1 Paleontological Resources

A thorough literature and record search was conducted by the Department of Paleontology, San Diego Natural History Museum (SDNHM) in March 2017. Relevant published geologic maps and reports, unpublished paleontological reports, and unpublished museum collection locality data were reviewed. The Proposed Project Area and a 1-mile linear radius of the Proposed Project Area were searched for fossil localities. The search of the paleontological records housed at SDNHM revealed 42 documented fossil collection sites located within a 1-mile radius of the Proposed Project. All localities are from the Eocene-age Santiago Formation. The paleontological report for the Proposed Project can be found in Appendix 4.13-A, Paleontological Resources Technical Report.

#### 4.13.3 Existing Conditions

##### 4.13.3.1 Regulatory Setting

###### Federal

###### *Paleontological Resource Preservation Act*

On March 30, 2009, the Paleontological Resources Preservation Act (PRPA) (United States Code, Title 16, Section 470aaa) became law. This act requires the Secretaries of the Interior and Agriculture to manage and protect paleontological resources on Federal lands using scientific

principles and expertise. New policies from these agencies regarding paleontological resources are in progress.

## State

### *California Environmental Quality Act*

Paleontological resources are limited, non-renewable resources of scientific, cultural, and educational value that are protected under CEQA (Public Resources Code [PRC] Section 21000 et seq.). CEQA governs the preservation and protection of these resources, as does PRC Section 5097 et seq., for projects on state lands.

### *California Public Resources Code*

Several sections of the California PRC protect paleontological resources. Section 5097.5 prohibits “knowing and willful” excavation, removal, destruction, injury, and defacement of any paleontological feature on public lands (lands under state, county, city, district, or public authority jurisdiction, or the jurisdiction of a public corporation), except where the agency with jurisdiction has granted or expressed permission. Section 30244 requires reasonable mitigation for impacts on paleontological resources that occur as a result of development on public lands.

## Local

The Proposed Project is not subject to local discretionary regulations because the California Public Utilities Commission (CPUC) has exclusive jurisdiction over the siting, design, and construction of the Proposed Project. There are no local regulations related to paleontological resources that are relevant for Proposed Project impact analysis. The following summary of local regulations relating to utilities and service systems is provided for informational purposes.

### *County of San Diego*

The *County of San Diego Guidelines for Determining Significance for Paleontological Resources* are used by County staff for the review of discretionary projects and environmental documents pursuant to CEQA. The County’s guidelines present a range of quantitative, qualitative, and performance levels for particular environmental effects.

The *County of San Diego General Plan* (2011) also provides the following paleontological goals and policies:

**Goal COS-9: Educational and Scientific Uses.** Paleontological resources and unique geologic features conserved for educational and/or scientific purposes.

**Policy COS-9.1: Preservation.** Require the salvage and preservation of unique paleontological resources when exposed to the elements during excavation or grading activities or other development processes.

**Policy COS-9.2: Impacts of Development.** Require development to minimize impacts on unique geological features from human related destruction, damage, or loss.

*City of Escondido*

The *City of Escondido General Plan* (2012) provides two policies in regard to paleontological resources:

**Cultural Resources Policy 5.2:** Preserve significant cultural and paleontological resources listed on the national, State, or local registers through: maintenance or development of appropriate ordinances that protect, enhance, and perpetuate resources; incentive programs; and/or the development review process.

**Cultural Resources Policy 5.3:** Consult with appropriate organizations and individuals (e.g., South Coastal Information Center of the California Historical Resources Information System, Native American Heritage Commission, Native American groups and individuals, and San Diego Natural History Museum) early in the development process to minimize potential impacts on cultural and paleontological resources.

*City of Carlsbad*

The City of Carlsbad Municipal Code 22.02.050 provides for review of environmental documents, including projects that might affect paleontological resources:

As part of the environmental review of development projects affecting historic structures, archeological or paleontological sites, as shown on the historic resources inventory or as identified in the environment study, the environment documents shall be referred to the historic preservation commission for review. The commission may review and comment upon the environment documents of the referral. The commission shall comment within the public review time limits established by the California Environmental Quality Act. (Ord. NS-433 § 2, 1997; Ord. NS-141 § 2, 1991; Ord. 9776 § 1, 1985.)

*City of San Marcos*

Neither the *City of San Marcos General Plan* (2013) nor the City's municipal code contains goals or policies related to the preservation of paleontological resources.

*City of Vista*

The *City of Vista General Plan* (2012) Resource Conservation & Sustainability Element contains goals pertaining to the preservation of paleontological resources.

**RCS Goal 13:** Recognize the potential for paleontological resources and provide for mitigation programs to ensure collection and salvage of fossil materials.

**RCS Policy 13.1:** Adopt procedures to provide pre-construction mitigation.

**RCS Policy 13.2:** Adopt procedures to mitigate impacts during construction, including requiring monitoring of excavation operations and salvage programs.



#### 4.13.3.2 Paleontological Setting

##### Geological Setting

The Proposed Project is situated along the boundary between the San Diego Coastal Plain and the Peninsular Ranges. Along the coastal plain, the Mesozoic basement rocks of the Jurassic-Cretaceous Santiago Peak Volcanics and the Cretaceous Peninsular Ranges Batholith are nonconformably overlain by a layered sequence of sedimentary rocks of late Cretaceous Eocene, Oligocene, Miocene, Pliocene, and Pleistocene age.

##### *Geologic Units*

Four geologic units were identified within the Proposed Project: Holocene Alluvial Floodplain Deposits (Qya), Santiago Formation (Tsa), Cretaceous Intrusive Igneous rocks (Kx), and Metasedimentary and metavolcanic rocks (Mzu).

##### *Alluvial Floodplain Deposits (Qya)*

A small portion of the Proposed Project is underlain by Holocene-age young alluvial floodplain deposits, which are exposed in a low-lying area within the City of San Marcos and are likely derived from stream erosion. Holocene alluvial floodplain deposits are generally less than 10,000 years old. No fossils are currently known from these deposits within the Proposed Project vicinity, which is primarily due to the relatively young age of these deposits.

##### *Santiago Formation (Tsa)*

Much of the northwest portion of the Proposed Project is underlain by the Santiago Formation. Three distinct members of the middle Eocene-age (approximately 40 to 49 million years old) Santiago Formation have been recognized in the Encinitas-Carlsbad-Vista area, and are referred to as members “A,” “B,” and “C.” The lowest—member “A” of the Santiago Formation—is generally restricted in exposure to the Cerro de la Calavera area in Carlsbad and near Guajome Lake in Oceanside, and is therefore not expected to be encountered in the Proposed Project vicinity. However, both members “B” and “C” of the Santiago Formation may be impacted by the Proposed Project, and both have produced scientifically important marine and estuarine invertebrate fossil remains, as well as terrestrial vertebrate fossil remains. Several localities discovered from deposits of member “B” in Carlsbad and Oceanside have produced well-preserved vertebrate fossils, including fossil reptiles (e.g., turtles, snakes, lizards, crocodiles), birds, and mammals (e.g., opossums, insectivores, primates, miacid carnivores, rodents, brontotheres, rhinoceros, uimatheres, tapirs, protoreodonts, and other early artiodactyls). Remains of estuarine invertebrates and terrestrial land plants are also known from the Santiago Formation.

##### *Cretaceous Intrusive Igneous Rocks (Kx)*

The Cretaceous intrusive igneous rocks of San Diego County comprise part of the northern end of the Peninsular Ranges Batholith that extends for several hundred miles south into Baja California, Mexico. This complex mixture of plutonic igneous rocks in San Diego County ranges in composition from granite to gabbro, and was formed during the Cretaceous Period (about 125 to 95 million years ago). Most of the eastern portion of the Proposed Project, including Segment 3 and Escondido Substation, as well as some portions of Segment 2, are

underlain by these intrusive igneous mixtures. Plutonic igneous rocks do not preserve fossils because they crystallize at extremely high temperatures and pressures several miles below the Earth's surface, in conditions that do not support complex life. The Cretaceous intrusive igneous rocks within the Proposed Project area have no paleontological potential.

#### *Metasedimentary and Metavolcanic Rocks (Mzu)*

The Proposed Project is underlain by Mesozoic metasedimentary and metavolcanic rocks, undivided, throughout the central portion of Segment 3 and the southern portion of Segment 2. Crystalline basement rocks of late Jurassic to early Cretaceous age (about 140 to 125 million years old) in western San Diego County consist of low-grade metasedimentary rocks (derived from marine siltstones, sandstones, and conglomerates) that are intermixed with metavolcanic flows, tuffs, and volcanoclastic breccias. Prior to metamorphism, the sedimentary rocks had been deposited on a broad, shallow, continental shelf that received sediments from a source to the east. These marine strata became interbedded with volcanic rocks when occasional eruptions from a chain of volcanic islands located to the west produced dike and sill intrusions, pyroclastic flows, and basalt flows. While the volcanoclastic breccias near Mira Mesa and Rancho Santa Fe have produced petrified wood and marine fossils, there are no known fossil localities representing either lithology from the Proposed Project Area. The remaining metavolcanic portions of this unit rarely preserve fossils due to the high temperatures associated with their formation. The SDNHM does not have any fossil localities from these deposits within a 1-mile radius of the alignment. Given the lack of known fossil localities in the vicinity of the alignment and published mapping, these deposits are assigned low paleontological potential.

#### **Paleontological Resources Records Search Results**

Numerous fossil collecting localities are documented in paleontological records housed at the SDNHM. The SDNHM has 42 recorded fossil localities from estuarine, lagoonal, and shallow marine deposits of the Santiago Formation within a 1-mile radius of the Proposed Project alignment. Most of these have been correlated to member "B" of the Santiago Formation. The localities produced trace fossils (e.g., sponge borings, worm burrows, and coprolites) and fossilized impressions or remains of plants (e.g., flowering plants and horsetails), shells of marine invertebrates (e.g., bryozoans, ostracods, snails, mussels, oysters, clams, tusk shells, barnacles, crabs, and sea urchins), and teeth and bones of marine vertebrates (e.g., sharks, rays, and bony fish) and terrestrial vertebrates (e.g., softshell turtles and crocodiles). The abundant SDNHM fossil localities known from the Santiago Formation close to Proposed Project components, along with the important terrestrial vertebrate faunas recovered from deposits of the Santiago Formation elsewhere in San Diego County, demonstrate the high paleontological potential of this geologic unit.

Some pole locations and excavation activities are within the Santiago Formation, which could potentially yield fossils. Excavation activities potentially impacting the Santiago Formation along the Proposed Project are expected to include wood-to-steel pole replacements west of San Marcos Substation, removal and replacement of at least one pole with a new drilled pier foundation pole, installation of new steel poles within the existing SDG&E electric utility corridor in Segment 2, and construction of a new access road and access/maintenance pads south

of Palomar Airport Road to approximately the intersection of White Sands Drive and Sea Island Place.

#### **4.13.4 Potential Impacts**

The Proposed Project includes removal of existing wood pole structures, installation of new steel pole structures, and reconductoring for the existing TL 680C power lines; construction of a new power line segment; and converting a de-energized line to a 69 kV power line. The operation and maintenance activities required for the power lines would not change from those currently required for the existing system. The new steel poles would require less maintenance and repair than the existing wood poles; however, due to the additional structures and hardware in Segment 2, there would be a slight increase in frequency of maintenance. Because the increase in the frequency would be slight, effects from the operations and maintenance of the Proposed Project on the environment would be negligible. Therefore, the impact analysis is focused on construction activities that are required to install the new conductor, remove existing wood pole structures, install new steel pole structures, and establish temporary work areas, as described in Chapter 3, Project Description.

##### **4.13.4.1 Significance Criteria**

According to Section 15002(g) of the CEQA Guidelines, “a significant effect on the environment is defined as a substantial adverse change in the physical conditions which exist in the area affected by the proposed project.” As stated in Section 15064(b) of the CEQA Guidelines, the significance of an activity may vary with the setting. The potential significance of project-related impacts on paleontological resources were evaluated for the applicable criteria from Appendix G of the CEQA Guidelines, as discussed in the following sections.

##### **a) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?**

If the Proposed Project would directly or indirectly destroy a unique paleontological resource or geologic feature, the impacts on paleontological resources would be considered significant. CEQA does not define “a unique paleontological resource or site.” Paleontologists generally use existing fossil and geological data to determine areas of potential significance, and a resource is deemed unique or important if it meets all of the following criteria:

- The particular geologic unit has previously recovered fossils.
- The geologic units that occur within the project area have recorded fossil localities.
- The fossil material recovered from the geologic unit is considered unique or important.

A fossil is defined as the remains of a prehistoric plant or animal. Fossils are considered to be non-renewable. Paleontological sensitivity is defined as the potential for a geologic unit to produce scientifically significant fossils. The sensitivity is based upon fossil data collected from the entire geologic unit, not just from a specific location or survey. Impacts on paleontological resources are categorized from high to zero. The specific criteria are defined as follows:



- **High Potential Rating:** Rock units with a high potential to contain significant paleontological resources are those known to have yielded vertebrate fossils within the Proposed Project Area or region. This does not necessarily imply that vertebrate fossils would always be recovered from rock units with a high potential rating, but only that there are recorded occurrences within the unit.
- **Moderate Potential Rating:** Rock units with a moderate potential rating possess some degree of potential to contain significant paleontological resources, such as favorable depositional environment for resource preservation or lithologically similar rock units in the region that have yielded vertebrate fossils.
- **Low Potential Rating:** Rock units containing lithologies that do not commonly preserve significant fossil resources—such as sediments of Holocene, sub-Holocene or Recent age—are usually considered too young (less than 10,000 years old) in geologic time to preserve fossils.
- **Zero Potential Rating:** This rating is assigned to geologic formations that are igneous in origin, and therefore, have no potential to produce fossil remains. This also includes artificial fill, as well as any non-fossiliferous metamorphic rock units.

#### **Construction – Less-than-Significant Impact with Mitigation Incorporated**

Some pole locations are within sedimentary rock formations that could potentially yield fossils. The type of pole replacement and their associated foundations would need to be considered for impacts. A small borehole diameter for a micropile installation (between 4 and 16 inches) for a single utility pole will typically pulverize subsurface deposits, including any fossil remains. In contrast, larger pole diameters for concrete piers (6 to 10 feet), or excavations for deep utility trenches could result in the potential for the recovery of buried fossil remains. Final engineering will determine the installation method (micropile versus concrete pier), but at this time, all pole foundations are assumed to be constructed using the concrete pier method.

There is potential for impacts on paleontological resources to occur when earthwork activities are performed, such as grading operations and excavation that cuts into the geological deposits (formations) within which fossils may be buried. The potential for impacts is especially high when the excavations go below 3 feet. Any possible potential impacts would remain less-than-significant with the implementation of APMs Paleo-1 through Paleo-5.

Per the recommendations found in the Paleontological Resources Technical Report, the following segments or portions of segments would require the implementation of APM Paleo-3:

- Wood-to-steel pole replacements are planned along Segment 1 of the Proposed Project, and are underlain by Holocene-age young alluvial floodplain deposits, which may overlie the high sensitivity Santiago Formation in this area. Excavation should be monitored by a qualified paleontological monitor under the direction of a qualified paleontologist in areas where the contact between these deposits is relatively shallow (<10 feet below existing grade).
- Wood-to-steel pole replacements west of the San Marcos Substation, and installation of new steel poles in Segment 2, and construction of a new access road south of Palomar Airport

Road, would involve excavation activities impacting the Santiago Formation. Monitoring is recommended during excavations for these Proposed Project components.

The eastern portion of Segment 3 and Escondido Substation as well as portions of Segment 2 are underlain by Cretaceous intrusive igneous rocks that have no paleontological potential; thus, monitoring is not recommended at these components.

The southern portion of Segment 2 and the central portion of Segment 3 are underlain by Mesozoic metasedimentary and metavolcanic rocks, which are assigned low paleontological potential; therefore, monitoring is not recommended for these components.

### **Operation and Maintenance – No Impact**

SDG&E currently maintains and operates existing electric power, distribution, and substation facilities throughout the Proposed Project Area. The new steel poles would require less maintenance than the existing wood poles; however, the new structures and hardware in Segment 2 would require an increase in the frequency of maintenance trips. This increase would be so slight it would result in a negligible impact. The existing operation and maintenance activities are incorporated into the existing environmental setting and baseline for assessing impacts. Moreover, SDG&E already has standard internal programs and practices that avoid impacts on paleontological resources, and those programs and practices would not change as a result of the Proposed Project. Any ground-disturbing activities associated with Proposed Project operation and maintenance would be performed at locations already disturbed for Proposed Project construction. Therefore, no impacts on paleontological resources are anticipated during operation and maintenance following construction of the Proposed Project.

### **4.13.5 Applicant-Proposed Measures**

With implementation of the following APMs, Proposed Project impacts on paleontological resources would remain less-than-significant:

**APM Paleo-1:** Prior to the initiation of construction or ground-disturbing activities, all SDG&E contractor, and subcontractor personnel will receive training regarding the appropriate work practices necessary to effectively implement the APMs and to comply with the applicable environmental laws and regulations. The training will address the potential for exposing paleontological resources and procedures to be followed upon discovery or suspected discovery.

**APM Paleo-2:** A qualified Project paleontologist (or qualified paleontological monitor working under the direction of a qualified Project paleontologist) will attend a preconstruction meeting, as needed, to consult with the excavation contractor concerning excavation schedules, paleontological field techniques, and safety.

**APM Paleo-3:** A qualified paleontological monitor will work under the direction of the qualified Project paleontologist and will be on site to observe excavation operations that involve the original cutting of previously undisturbed deposits with high or moderate paleontological resource sensitivity.

Because high- or moderate-sensitivity deposits may be locally covered by low or zero sensitivity deposits of unknown thickness, careful monitoring of excavations of the contact between deposits will be necessary to ensure that overall monitoring of the high-sensitivity deposits is as complete as possible. The Project paleontological monitor will determine the level of monitoring required to observe excavation operations that involve the original cutting of previously undisturbed deposits of moderate paleontological resource sensitivity. The requirements for paleontological monitoring will be noted in the preconstruction training and reiterated at construction tailboards, as appropriate.

**APM Paleo-4:** Prior to construction, a paleontological resource consultant will be retained by SDG&E to complete an analysis and assessment of the potential to disturb resources from major ground-disturbing activities, such as facility pad grading, trenching, or new access road grading.

**APM Paleo-5:** In the event that fossils are encountered, the Project paleontological monitor will have the authority to divert or temporarily halt construction activities in the area of discovery to allow recovery of fossil remains in a timely fashion. The Project paleontological monitor shall contact SDG&E's Cultural Resource Specialist at the time of discovery. The paleontologist, in consultation with SDG&E's Cultural Resource Specialist, will determine the significance of the discovered resources. SDG&E's Cultural Resource Specialist must concur with the evaluation procedures to be performed before construction activities are allowed to resume. If the resource is determined to be significant, it may be necessary to set up a screen washing operation on site because of the potential for small fossil remains. If fossils are discovered, the paleontologist (or paleontological monitor) will recover them along with pertinent stratigraphic data. Because of the potential for recovery of small fossil remains, such as isolated mammal teeth, recovery of bulk-sedimentary-matrix samples for offsite wet screening from specific strata may be necessary, as determined in the field. Fossil remains collected during monitoring and salvage will be cleaned, repaired, sorted, cataloged, and deposited in a scientific institution with permanent paleontological collections. A final monitoring report will be completed that outlines the results of the mitigation. The report will discuss the methods used, stratigraphic section(s) exposed, fossils collected, and significance of recovered fossils.

#### 4.13.6 References

City of Carlsbad. 2015. *General Plan*. September.

City of Escondido. 2012. *General Plan*. May.

City of San Marcos. 2013. *General Plan*. As amended through May 7, 2002.

City of Vista. 2012. *General Plan*. December 2011.

San Diego County. 2011. *General Plan*. As amended through December 14, 2016.



San Diego Natural History Museum. 2017. *Paleontological Assessment San Diego Gas and Electric Company TL 6975 Escondido to San Marcos New 69 kV Transmission Line, San Diego County, California*. March 7.

## Table of Contents

<b>4.14 Population and Housing .....</b>	<b>4.14-1</b>
4.14.1 Introduction.....	4.14-1
4.14.2 Methodology .....	4.14-1
4.14.3 Existing Conditions.....	4.14-1
4.14.4 Potential Impacts.....	4.14-3
4.14.5 Applicant-Proposed Measures .....	4.14-5
4.14.6 References.....	4.14-5

## List of Tables

Table 4.14-1: Population Totals and Trends.....	4.14-2
Table 4.14-2: Housing Units and Vacancy Rate (2010).....	4.14-3

## **Acronyms and Abbreviations**

CEQA	California Environmental Quality Act
kV	kilovolt
ROW	right-of way
SANDAG	San Diego Association of Governments
SDG&E	San Diego Gas & Electric Company



## 4.14 POPULATION AND HOUSING

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a.	Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 4.14.1 Introduction

This section of the Proponent's Environmental Assessment describes existing population and housing trends in the vicinity of the Proposed Project and potential impacts that could result from construction, operation, and maintenance of the Proposed Project. The Proposed Project's potential effects on population and housing were evaluated using the significance criteria set forth in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. The analysis concludes that the Proposed Project would have *no impact* on population and housing.

### 4.14.2 Methodology

Data used to conduct demographic and economic analyses were obtained primarily from statistical reports published by the United States Census Bureau and the California Department of Finance. A literature search was also conducted, which included City of Escondido, City of San Marcos, City of Carlsbad, City of Vista, and County of San Diego's publications, supplemented by internet searches of relevant websites, including that of the San Diego Association of Governments (SANDAG).

### 4.14.3 Existing Conditions

#### 4.14.3.1 Regulatory Setting

##### Federal and State

No federal or state regulatory background information is relevant to addressing Proposed Project impacts on population and housing.

## Local

The Proposed Project is not subject to local discretionary regulations because the California Public Utilities Commission has exclusive jurisdiction over the siting, design, and construction of the Proposed Project. Construction of new substation and/or transmission line facilities are intended to meet growth projections that have been previously identified in general plans or other regional plans. Construction of these facilities does not create new growth that has not previously been identified by the local jurisdiction.

### 4.14.3.2 Population

The Proposed Project is located in portions of the cities of Carlsbad, Escondido, San Marcos, and Vista as well as in unincorporated San Diego County.

The 2010 population of the County was 3,095,313, making it the second most populated county in the state (California Department of Finance 2016). By 2016, the County's population had grown to an estimated 3,288,612 (California Department of Finance 2016). A breakdown of the population in the year 2010 and 2016, and the projected population for 2020, is provided in Table 4.14-1: Population Totals and Trends. According to SANDAG, estimates of population for the City of Carlsbad, City of Escondido, City of San Marcos, City of Vista and unincorporated San Diego County in 2016 are 112,930, 150,760, 93,295, 98,896, and 511,119, respectively. From 2010 to 2020, the population of the City of Carlsbad is projected to grow by approximately 7.2 percent, the City of Escondido by approximately 7.5 percent, the City of San Marcos by approximately 8.4 percent, the City of Vista by approximately 6.2 percent, and unincorporated San Diego County by approximately 2.1 percent. This compares to San Diego County (as a whole), where population is forecasted to grow by 14.2 percent for the period.

**Table 4.14-1: Population Totals and Trends**

Affected Area	Year 2010 Census Total <sup>1</sup>	Year 2016 Census Total <sup>2</sup>	Percent Change between Year 2010 and Year 2020	Year 2020 Projected Population <sup>3</sup>
City of Carlsbad	105,328	112,930	7.2	117,667
City of Escondido	143,911	150,760	7.5	154,635
City of San Marcos	83,781	93,295	8.4	90,794
City of Vista	93,717	98,896	6.2	99,985
Unincorporated San Diego County	486,604	511,119	2.1	545,409
San Diego County	3,095,313	3,288,612	14.2	3,535,000

Source: (1) U.S. Census Bureau 2017a, b, c; (2) California Department of Finance 2016; (3) SANDAG 2011a, b, c, d, e

## Housing

Table 4.14-2: Housing Units and Vacancy Rate (2010) identifies data for the City of Carlsbad, City of Escondido, City of San Marcos, City of Vista and County of San Diego, with regard to the number of housing units and associated vacancy rates. In 2010, SANDAG estimated that the County had 1,158,053 housing units with a vacancy rate of 6 percent. In 2010, the City of Carlsbad had an estimated 44,422 housing units with a vacancy rate of 7 percent. The City of Escondido had an estimated 47,979 housing units with a vacancy rate of 5 percent. In 2010, the City of San Marcos had an estimated 28,171 housing units with a vacancy rate of 3 percent, and the City of Vista had an estimated 30,874 housing units with a 5 percent vacancy rate.

**Table 4.14-2: Housing Units and Vacancy Rate (2010)**

Affected Area	Housing Units	Vacancy Rate (percent)
City of Carlsbad <sup>1</sup>	44,422	7
City of Escondido <sup>2</sup>	47,979	5
City of San Marcos <sup>3</sup>	28,171	3
City of Vista <sup>4</sup>	30,874	5
County of San Diego <sup>5</sup>	1,158,053	6
Sources: (1) SANDAG (2010a), (2) SANDAG (2010b), (3) SANDAG (2010c), (4) SANDAG (2010d), (5) SANDAG (2010e).		

### 4.14.3.3 Temporary Housing

The greater Proposed Project Area is located near various visitor accommodations. In 2016, the San Diego Convention and Visitors Bureau reported that there were approximately 60,800 hotel rooms or housing units available through various motels, hotels, and bed and breakfast establishments within San Diego County. These lodging establishments had a total annual occupancy rate of approximately 77.1 percent.

### 4.14.4 Potential Impacts

The Proposed Project includes removing existing wood pole structures, installing new steel pole structures, and reconductoring for the existing TL 680C power lines; constructing a new power line segment; and converting a de-energized line to a 69 kV power line. The operation and maintenance activities required for the power lines would not change from those currently required for the existing system. The new steel poles in Segment 1 would require less maintenance and repair than the existing wood poles; however, due to the additional structures and hardware in Segment 2, there would be a slight increase in frequency of maintenance. Because the increase in the frequency would be slight, effects from the operation and maintenance of the Proposed Project on the environment would be negligible. Therefore, the impact analysis is focused on construction activities that are required to install the new conductor, remove existing wood pole structures, install new steel pole structures, and establish temporary work areas, as described in Chapter 3, Project Description.



#### 4.14.4.1 Significance Criteria

According to Section 15002(g) of the CEQA Guidelines, “a significant effect on the environment is defined as a substantial adverse change in the physical conditions which exist in the area affected by the proposed project.” As stated in Section 15064(b) of the CEQA Guidelines, the significance of an activity may vary with the setting. The potential significance of Proposed Project-related impacts on population and housing were evaluated for the applicable criteria from Appendix G of the CEQA Guidelines, as discussed in the following sections.

**Would the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**

##### **Construction – No Impact**

Construction activities are expected to take approximately 10 months with 2 months of pre-construction activity and would employ up to 80 individuals, which would consist of San Diego Gas & Electric Company (SDG&E) employees and/or construction workers who are anticipated to reside in the County of San Diego. It is not anticipated that workers would need to reside temporarily at local lodging establishments or relocate to the Proposed Project Area. Due to the scope of the Proposed Project, construction is not expected to increase the desirability or affordability of the area, or cause a significant increase in permanent population within the local community or otherwise. Construction of the Proposed Project would not result in any indirect increases in population as the Proposed Project would not provide access to previously inaccessible areas, extend public services to previously unserved areas, or cause new development elsewhere. As a result, no impact on population growth from construction of the Proposed Project would occur.

##### **Operation and Maintenance – No Impact**

Because operation and maintenance activities would be similar to existing conditions, there would be no effect on population as there would be no need for additional workers compared to current conditions. Operation and maintenance activities of the Proposed Project would be performed by current SDG&E personnel; no new jobs would be created. The Proposed Project would not extend service into new areas, but would instead improve the current service in the area. As a result, the Proposed Project would not induce population growth directly or indirectly. Therefore, no impact would occur.

**Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?**

##### **Construction – No Impact**

The Proposed Project would be constructed almost entirely within existing SDG&E rights-of-way (ROW), and the new ROW required would not result in the displacement of any housing units. Thus, no housing displacement would occur due to construction, and no impact would occur.

### **Operation and Maintenance – No Impact**

Operation of the Proposed Project would be primarily unmanned, and routine maintenance would not displace any nearby residences. The Proposed Project would not displace any housing and, as a result, would have no impact.

### **Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?**

### **Construction, Operation and Maintenance – No Impact**

The Proposed Project would be constructed, operated, and maintained mainly within land uses identified as residential neighborhoods, industrial facilities, open space, parks and preserves, commercial, and undeveloped and vacant lands, all within the City of Carlsbad, City of Escondido, City of San Marcos, City of Vista, and unincorporated areas of San Diego County. The Proposed Project runs along main roads, existing power lines, existing access roads, lands owned by SDG&E, proposed new ROW in Segment 1, and within existing ROW. Therefore, construction, and operation and maintenance of all components of the Proposed Project would not displace any existing housing units, as discussed previously in the response to Threshold (b). As such, no people would be displaced with implementation of the Proposed Project. Therefore, there would be no impact from construction or operation and maintenance of the Proposed Project.

### **4.14.5 Applicant-Proposed Measures**

The Proposed Project would not result in any potentially significant impacts on population and housing; therefore, no Applicant-Proposed Measures are proposed.

### **4.14.6 References**

California Department of Finance. 2016. *E-4 Population Estimates for Cities, Counties, and the State, 2011–2016, with 2010 Census Benchmark*. Online: <http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-4/2011-20/>. Site visited on February 8, 2017.

San Diego Association of Governments (SANDAG). 2010a. *Data Surfer – Carlsbad*. Online: [http://datasurfer.sandag.org/download/sandag\\_census\\_2010\\_jurisdiction\\_carlsbad.pdf](http://datasurfer.sandag.org/download/sandag_census_2010_jurisdiction_carlsbad.pdf). Site visited on May 7, 2017.

———. 2010b. *Data Surfer – Escondido*. Online: [http://datasurfer.sandag.org/download/sandag\\_census\\_2010\\_jurisdiction\\_escondido.pdf](http://datasurfer.sandag.org/download/sandag_census_2010_jurisdiction_escondido.pdf). Site visited on May 7, 2017.

———. 2010c. *Data Surfer – San Marcos*. Online: [http://datasurfer.sandag.org/download/sandag\\_census\\_2010\\_jurisdiction\\_san-marcos.pdf](http://datasurfer.sandag.org/download/sandag_census_2010_jurisdiction_san-marcos.pdf). Site visited on May 7, 2017.

- . 2010d. *Data Surfer – Vista*. Online: <http://datasurfer.sandag.org/dataoverview>. Site visited on August 3, 2017.
- . 2010e. *Data Surfer – County of San Diego*. Online: [http://datasurfer.sandag.org/download/sandag\\_census\\_2010\\_region\\_san-diego.pdf](http://datasurfer.sandag.org/download/sandag_census_2010_region_san-diego.pdf). Site visited on May 7, 2017.
- . 2011a. *Fast Fact – Carlsbad*. Online: [http://www.sandag.org/resources/demographics\\_and\\_other\\_data/demographics/fastfacts/carl.htm](http://www.sandag.org/resources/demographics_and_other_data/demographics/fastfacts/carl.htm). Site visited on May 7, 2017.
- . 2011b. *Fast Fact – Escondido*. Online: [http://www.sandag.org/resources/demographics\\_and\\_other\\_data/demographics/fastfacts/esco.htm](http://www.sandag.org/resources/demographics_and_other_data/demographics/fastfacts/esco.htm). Site visited on February 8, 2017.
- . 2011c. *Fast Fact – San Marcos*. Online: [http://www.sandag.org/resources/demographics\\_and\\_other\\_data/demographics/fastfacts/sanm.htm](http://www.sandag.org/resources/demographics_and_other_data/demographics/fastfacts/sanm.htm). Site visited on February 8, 2017.
- . 2011d. *Fast Fact – San Diego Region*. Online: [http://www.sandag.org/resources/demographics\\_and\\_other\\_data/demographics/fastfacts/region.htm](http://www.sandag.org/resources/demographics_and_other_data/demographics/fastfacts/region.htm). Site visited on February 8, 2017.
- . 2011e. *Fast Fact – Vista*. Online: [http://www.sandag.org/resources/demographics\\_and\\_other\\_data/demographics/fastfacts/vist.htm](http://www.sandag.org/resources/demographics_and_other_data/demographics/fastfacts/vist.htm). Site visited August 3, 2017.
- San Diego Visitor Industry Summary. 2017. *San Diego Industry Research*. Online: <https://www.sandiego.org/about/industry-research.aspx>. Site visited on May 8, 2017.
- San Marcos Chamber of Commerce. 2017. *Hotels, Motels, Lodging – Find Local Business, Professional & Home Services*. Online: <http://www.sanmarcoschamber.com/list/category/hotels-motels-lodging-1471>. Site visited on February 8, 2017.
- San Marcos City Hall. 2017. *Visitor Information*. Online: <http://www.san-marcos.net/about-us/visitors-information>. Site visited on March 7, 2017.
- United States Census Bureau. 2017a. *State and County QuickFacts – City of San Marcos*. Online: <http://quickfacts.census.gov/qfd/states/06/0666000.html>. Site visited on February 8, 2017.
- . 2017b. *State and County QuickFacts – City of San Marco*. Online: <http://quickfacts.census.gov/qfd/states/06/0666000.html>. Site visited on February 8, 2017.



———. 2017c. *State and County QuickFacts – City of San Marcos*. Online: <http://www.census.gov/quickfacts/table/HSG030210/0668196>. Site visited on February 8, 2017.

Visit Carlsbad. 2017. *Hotels*. Online: <https://visitcarlsbad.com/hotels/>. Site visited on April 12, 2017.

———. 2017. *Rentals & Villas*. Online: <https://visitcarlsbad.com/rentals-villas/>. Site visited on April 12, 2017.

———. 2017. *Stay*. Online: <https://visitcarlsbad.com/stay/>. Site visited on April 12, 2017.

Visit Escondido. 2017. *Accommodations and Lodging*. Online: <http://visitescondido.com/things-to-do-escondido/accommodations/>. Site visited on February 8, 2017.

Page Intentionally Left Blank

## Table of Contents

<b>4.15 Public Services.....</b>	<b>4.15-1</b>
4.15.1 Introduction.....	4.15-1
4.15.2 Methodology .....	4.15-1
4.15.3 Existing Conditions.....	4.15-2
4.15.4 Potential Impacts.....	4.15-8
4.15.5 Applicant-Proposed Measures .....	4.15-12
4.15.6 References.....	4.15-12

## List of Figures

Figure 4.15-1: Public Services.....	4.15-15
-------------------------------------	---------

## List of Tables

Table 4.15-1: Firestations Near the Proposed Project Area.....	4.15-3
Table 4.15-2: Schools Within 0.25 Mile of the Proposed Project Area .....	4.15-6



## Acronyms and Abbreviations

APMs	Applicant-Proposed Measures
CAL FIRE	California Department of Forestry and Fire Protection
CEQA	California Environmental Quality Act
CFD	City of Carlsbad Fire Department
CSUSM	California State University San Marcos
CUSD	Carlsbad Unified School District
DPR	Department of Parks and Recreation
EFD	City of Escondido Fire Department
EFHRD	Elfin Forest Harmony Grove Fire Department
GIS	geographic information system
RSFSD	Rancho Santa Fe School District
SMFD	San Marcos Fire Department
VFD	Vista Fire Department
VUSD	Vista Unified School District

## 4.15 PUBLIC SERVICES

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a.	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or the need for new or physically altered governmental facilities (the construction of which could cause significant environmental impacts), in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
	Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Parks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 4.15.1 Introduction

This section of the Proponent’s Environmental Assessment describes local public services in the vicinity of the Proposed Project. Fire and police protection, public parks, schools, and other public facilities—such as hospitals—are addressed, and the potential effects that would result from Proposed Project construction, operation, and maintenance are evaluated. The Proposed Project’s potential effects on public services were evaluated using the significance criteria set forth in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. It is anticipated that some existing parks and recreational facilities would be temporarily impacted as a result of construction of the Proposed Project, but that impact would be *less than significant with incorporation of Applicant-Proposed Measures* (APMs) PS-1 through PS-4. For all other public facilities there would be a *less-than-significant impact or no impact*.

### 4.15.2 Methodology

Public services, utilities, and service systems data were obtained from searches of local government websites and other local service informational resources. The review also included Google Earth maps, aerial photographs of the Proposed Project Area, geographic information system (GIS) data, and online maps. Anticipated construction schedules, temporary (construction) impact areas, and permanent (operation and maintenance) impact areas were reviewed where project-related activities would occur within existing public parks.

### **4.15.3 Existing Conditions**

#### **4.15.3.1 Regulatory Setting**

No regulatory background information for public services is relevant to the Proposed Project.

#### **4.15.3.2 Public Services Setting**

##### **Fire and Emergency Services**

The Proposed Project spans several jurisdictions, including the Cities of Carlsbad, San Marcos, Vista, and Escondido, and the County of San Diego; therefore, it would be served by several different fire protection and emergency agencies.

The San Marcos Fire Department (SMFD) provides the City of San Marcos and the San Marcos Fire Protection District with fire and life-saving services, including fire protection, emergency medical services, rescue, vegetation management, public education, emergency preparedness, and trauma support. The SMFD serves a population of approximately 95,000 and a service area of approximately 33 square miles. The SMFD operates 4 stations daily with 4 paramedic fire engines and 4 paramedic ambulances. Approximately 72 uniformed personnel and 15 senior volunteers work for SMFD. SMFD would respond to emergency situations in Segments 1 and 2, and the San Marcos Substation. SMFD also cross-staffs three wildland fire engines (City of San Marcos 2017a). The California Department of Forestry and Fire Protection (CAL FIRE), part of the San Diego County Fire Authority, assists the City of San Marcos and more than 1.5 million acres of the unincorporated county year-round, that previously had either limited, or part-time “on-call” service. The San Marcos Fire Protection District is jointly covered by SMFD and CAL FIRE. CAL FIRE also covers approximately 47 miles north of Escondido serving more than 13,000 residents. The San Marcos location serves the communities of Deer Springs, North Broadway, Jesmond Dene, and a large portion of Interstate 15 (San Diego County Fire Authority 2017). CAL FIRE would primarily respond to wildfires but could also respond to emergency situations in all three Segments of the Proposed Project.

The City of Escondido Fire Department (EFD) also serves the Proposed Project Area, and would be the agency to respond to emergency situations in the northern portion of Segment 3 and the Escondido Substation. The EFD provides fire protection and emergency medical services to the City of Escondido and the Rincon Del Diablo (water) Fire Protection District. The EFD operates 7 stations with 93 full-time safety staff, 18 full-time non-safety staff, 13 administration staff, and 27 senior volunteers. The EFD stations house 7 paramedic fire engines, 1 truck company, 4 brush engines, 1 wildland brush engine, and 4 paramedic ambulances daily. The EFD serves a population of more than 153,000 and a service area of approximately 50 square miles in northern San Diego County (City of Escondido 2017a). Within the City of Escondido, 35 volunteer firefighter and 1 paid full-time firefighter make up the Elfin Forest Harmony Grove Fire Department (EFHRD). The EFHRD serves 11 square miles of two unincorporated communities with a population of more than 2,000 residents. The EFHRD has 1 station with 2 fire engines, 2 wildland brush engines, 1 rescue ambulance, and 1 water tender (Elfin Forest Harmony Grove 2017).



West of San Marcos, the City of Carlsbad Fire Department (CFD) provides fire protection and emergency medical and rescue services to over 109,000 people in a 39-square-mile area. The CFD also includes a Fire Prevention Division and citywide Emergency Preparedness functions, including Community Emergency Response Team and Hazard Mitigation Programs. The CFD has 5 fire engines, 1 ladder truck, 2 brush engines, and 3 paramedic ambulances and is staffed by 25 personnel each shift housed within 6 stations (City of Carlsbad 2017a). The CFD would only respond to emergency situations at Poles 54.2 and 54.3, the Carlsbad Business Park staging yard, the Lionshead Avenue #5 staging yard, and the Eagle Drive #2 staging yard.

The City of Vista operates the Vista Fire Department (VFD), serving the residents of the City of Vista, which covers 19 square miles, and the Vista Fire Protection District, which covers an additional 17.5 square miles (City of Vista 2017a). The VFD serves a population of 115,469 residents from six strategically located fire stations. The services provided by the VFD include fire fighting, rescue, hazardous materials incident responses, emergency medical services, and community disaster preparedness. Approximately 86 personnel are employed by the VFD, which has approximately 6.5 firefighters per 1,000 residents (City of Vista 2015). The VFD operates five fire engines, one Sutphen platform truck, three brush engines, three paramedic units, one battalion command vehicle, one state of California Office of Emergency Services Type 1 Engine, one training chief support vehicle, and six command & prevention staff vehicles. The Vista Fire Department would respond to emergency situations at Poles 38, 41, 44, 46, 48, and 50.

Within the vicinity of the Proposed Project, there are 9 full-time fire stations, 1 volunteer fire station, and 1 seasonal fire station in the following locations:

**Table 4.15-1: Fire Stations Near the Proposed Project Area**

Fire Station Name	Location	Distance from Proposed Project
<b>Segment 1 –Rebuild Out of San Marcos Substation</b>		
San Marcos Fire Station 2	1250 S. Rancho Santa Fe Road, San Marcos, California 92069	Approximately 0.4 mile south of the Segment 1
San Marcos Fire Station 1	180 W. Mission Road, San Marcos, California 92069	Approximately 2.2 miles northeast of Segment 1
Carlsbad Fire Station 5	2540 Orion Way, Carlsbad, California 92010	Approximately 2 miles west from Segment 1
Vista Station 5	2009 South Melrose Drive, Vista, California 92081	Approximately 1.65 miles north of Segment 1
<b>Segment 2 –New Build</b>		
Carlsbad Fire Station 6	7201 Rancho Santa Fe Rd, Carlsbad, California 92009	Approximately 1 mile west from Segment 2.
<b>Segment 3 –Reconductoring/Re-energizing to Escondido Substation</b>		
San Marcos Fire Station 4	204 San Elijo Road, San Marcos, California 92078	Approximately 0.9 mile north of Segment 3
Escondido Fire Station 6	1735 Del Dios Road, Escondido, California 92029	Approximately 1 mile southeast from Segment 3

Fire Station Name	Location	Distance from Proposed Project
Elfin Forest/Harmony Gove Volunteer Fire Station	20223 Elfin Forest Road, Escondido, California 92029	Approximately 1.1 miles south from Segment 3
Escondido Fire Station 1	310 North Quince, Escondido, California 92025	Approximately 1.6 miles east from Segment 3
San Marcos Fire Station 3	404 Woodland Parkway, San Marcos, California 92069	Approximately 1.7 miles northwest of Segment 3
Escondido Fire Station 3	1808 Nutmeg Street, Escondido, California 92026	Approximately 1.8 miles north from Segment 3
CDF San Marcos (CAL FIRE)	1321 Deer Springs Road, San Marcos, California 92069	Approximately 2.1 miles northeast from Segment 3

## Law Enforcement

The Proposed Project would be served by several different law enforcement agencies, due to its location in several city and county jurisdictions. The San Diego County Sheriff's Department, California State University San Marcos (CSUSM) Police, Palomar College Police, Carlsbad Police, and the Escondido Police all serve the Proposed Project Area. The San Diego County Sheriff's Department has nearly 4,000 employees and covers approximately 4,200 square miles of San Diego County, including many incorporated cities in addition to the unincorporated areas. One sheriff's department facility—the San Marcos Station—is located near the Proposed Project Area. The San Marcos Station is located at 182 Santar Place, San Marcos, California 92069, which is approximately 2 miles northwest from Segment 3 of the Proposed Project north of the 78 freeway. A staff of over 100 sheriff's deputies, volunteers, and professional staff members at the San Marcos Station serve more than 111,000 residents and patrol approximately 100 square miles (San Diego County Sheriff's Department 2017). The San Marcos Station oversees the communities of San Marcos, Lake San Marcos, Elfin Forest, Harmony Grove, Hidden Meadows, Ivy Del, Del Rios, Lake Hodges, and the San Pasqual Valley. The San Diego County Sheriff's Department would respond to emergency situations in the unincorporated areas of the Proposed Project, which include the central portion of Segment 2 and the majority of Segment 3, except for the most northern and western portions.

The CSUSM Police station, located at 441 La Moree Road, San Marcos, California 92078, is approximately 1.8 miles from the Proposed Project. The CSUSM Police patrol the immediate area surrounding the campus with their focus being mainly on campus housing and more than 12,700 students. Palomar College Campus Police, located at 1140 W. Mission Road, San Marcos, California 92069, is approximately 1.5 miles from the Proposed Project, and serves only the college campus.

The Escondido Police Department and Fire Headquarters is located at 1163 North Centre City Parkway, Escondido, California 92026, which is approximately 1.5 miles northeast of Segment 3 of the Proposed Project. The Escondido Police Department would respond to emergencies that occur in the northern portion of Segment 3, and Escondido Substation. The Escondido Police Station has a staff of over 170 sworn police personnel and 69 non-sworn support personnel who

serve more than 140,000 residents and patrol approximately 37 square miles (City of Escondido 2017b).

The City of Carlsbad Police Department, which patrols the coastal north county, is located at 2560 Orion Way, Carlsbad, California 92010, and is approximately 2 miles west from Segment 1 of the Proposed Project. The Carlsbad Police Department has 114 sworn police personnel and 48 civilian personnel who serve over 109,000 residents (City of Carlsbad 2017b).

The City of Vista has a contract with the San Diego Sheriff's Department to provide law enforcement (City of Vista 2017b). The Vista Sheriff's Department has a station, a substation and a storefront office within the City. The Vista Sheriff's Department provides general patrol, investigations, narcotics and gang investigations, crime prevention, juvenile intervention, community policing, and administration services. The Vista Sheriff's Station is located at 325 South Melrose Drive, approximately 4.15 miles north-northwest of the Proposed Project. The Vista Sheriff's Station has over 150 sworn, professional, and volunteer staff members serving the City of Vista and the surrounding unincorporated areas.

### **Schools**

The City of San Marcos has one public school district enrolling over 20,000 students. The San Marcos Unified School District includes 11 elementary schools, 3 middle schools, 1 K–8, and 4 high schools (San Marcos Unified School District 2017). There are 3 private schools in San Marcos enrolling approximately 490 students and one charter school district, High Tech High, which includes an elementary, middle, and high school enrolling over 5,300 students (High Tech High 2017).

The Carlsbad Unified School District (CUSD) has jurisdiction in the City of Carlsbad. CUSD operates nine elementary schools, three middle schools, and two high schools (CUSD 2017). None of the CUSD schools are located within the Proposed Project vicinity.

The City of Escondido has two school districts. The Escondido Union School District contains 18 elementary schools and 6 middle schools enrolling approximately 17,000 students (Escondido Union School District 2017). The Escondido Union High School District contains 5 high schools and 1 adult school, which enroll more than 8,500 students a year. There are 12 private schools in Escondido enrolling over 2,600 students (Escondido Union High School District 2017).

The Vista Unified School District (VUSD) runs 29 schools in the City of Vista. The VUSD serves nearly 22,000 students from preschool to 12<sup>th</sup> grade. The district covers 39 square miles and includes the City of Vista, a portion of eastern Oceanside, some unincorporated areas, and small portions of Carlsbad and San Marcos. VUSD operates 16 elementary schools, 5 middle schools, 3 comprehensive high schools, 2 alternative high schools, 1 blended learning/independent study middle/high school, 5 independent charter schools, and 1 adult school.

The students in the unincorporated areas in San Diego County would attend Rancho Santa Fe School District (RSFSD), or the previously mentioned Escondido Union School District or the



San Marcos Unified School District. The Rancho Santa Fe School District operates two schools, an elementary school and a middle school, both located at 5927 La Granada, Rancho Santa Fe, which is approximately 5 miles south of Segment 3 (RSFSD 2017).

**Table 4.15-2: Schools Within 0.25 Mile of the Proposed Project Area**

School	Location	Distance from Proposed Project
<b>Segment 1 – Rebuild Out of San Marcos Substation</b>		
Valley Christian School	1350 Discovery Street, San Marcos, California 92078	Approximately 90 feet
San Marcos High School	1615 San Marcos Boulevard, San Marcos, California 92078	Approximately 10 feet
High Tech Elementary School	1480 West San Marcos Boulevard, San Marcos, California 92078	Approximately 936 feet
High Tech Middle School	1460 West San Marcos Boulevard, San Marcos, California 92078	Approximately 580 feet
High Tech High School	at 1420 West San Marcos Boulevard, San Marcos, California 92078	Approximately 265 feet
<b>Segment 2 – New Build</b>		
Community Christian School	1645 South Rancho Santa Fe Road, San Marcos, California 92078	Approximately 138 feet
San Elijo Middle School	1600 Schoolhouse Way, San Marcos, California 92078	Approximately 1,146 feet
<b>Segment 3 – Reconductoring/Re-energizing to Escondido Substation</b>		
Note: No schools are located within 0.25 mile of the Proposed Project Area for Segment 3.		

## Parks

The Proposed Project alignment crosses and is located near a variety of parks, open space areas, preserves, and recreation areas, including the following.

- **The Laurels Park** – This park is located in the center of the Laurel Housing Community. The Laurels Park is owned and operated by the City of San Marcos. The park contains an open grass area with a playground. The Proposed Project would run approximately 500 feet north of the park, between Poles 32 and 33.
- **San Elijo Hills Mini Park** – This park is located along San Elijo Road and Schoolhouse Way at 1105 Elfin Forest Road, San Marcos, California 92078, approximately 1,600 feet to the north of the Proposed Project at Poles 80 and 81. This park is owned and operated by the City of San Marcos and has a recreation center, 3 baseball fields, 2 playgrounds, horseshoe pits, picnic areas, trails, a dog park, and a splash pad (City of San Marcos 2017b).
- **Simmons Family Park** – This park is located at 2180 Rocky Point Drive, San Marcos, California 92078. Simmons Family Park is 6 acres of scenic views, basketball courts, picnic areas, and trails owned and operated by the City of San Marcos. The Proposed Project runs

65 feet from the park at Poles 56 through 58, crossing over the trails located at the southwest corner of the park (City of San Marcos 2017b).

- **Sage Hill Preserve** – The 231.5-acre Sage Hill Preserve is located in the Elfin Forest community of unincorporated San Diego County, California, along Elfin Forest Road. The preserve is not open to the public; however, there are existing trails on site. The preserve is a part of the Multiple Species Conservation Program (MSCP) and includes habitat for dozens of endangered and threatened species of plants and animals unique to San Diego and also includes many vernal pool complexes (San Diego County 2017). Segment 3 of the Proposed Project runs through the north edge of the preserve.
- **Escondido Creek** – The Escondido Creek Preserve is an approximately 347-acre open space preserve located southwest of Harmony Grove, west of the City of Escondido, south of the City of San Marcos, and east of the City of Encinitas, within the Elfin Forest community of unincorporated San Diego County, California. The Preserve is owned by the County of San Diego Department of Parks and Recreation (DPR) and is included in the proposed North County MSCP preserve system (San Diego County 2017). Segment 3 of the Proposed Project runs along the northern part of the preserve.
- **Diamond Trail** – This trail is located south of San Marcos Boulevard between Melrose Drive and Rancho Santa Fe, and is a preserve owned by the County of San Diego. The preserve is an open space area between housing developments. The Proposed Project runs 385 feet from the east end of the preserve near Pole 59.
- **Rancho La Costa Preserve** – This preserve is located in the Cities of Carlsbad and San Marcos, and encompasses a total of 1,640 acres. The preserve is managed by the Center for Natural Lands Management, and is used for recreational activities such as hiking and biking. The preserve consists of coastal sage scrub and mixed chaparral habitat, canyons, hills, and ridges.

There are also several hiking and equestrian trails that the Proposed Project would cross. Segment 2 would cross the Rancho El Dorado, Canyon, Carillo, Quarry, Quarry-Morgan Connector, and Old Creek Ranch trails. Additionally, the Proposed Project would cross or be adjacent to several bike trails that are either designated bike lanes (Class II) or shared bikeways for bicycles and vehicles (Class III). Discovery Street, San Marcos Boulevard/Palomar Airport Road, Rancho Santa Fe Road, San Elijo Road, Morgan Trails, Elfin Forest Road, Citracado Parkway, and Auto Parkway are all roads within the Cities of Escondido and San Marcos that contain bike trails in the vicinity of the Proposed Project. There are no parks in the City of Vista that would be in the Proposed Project vicinity.

### Other Public Facilities

There are no libraries within 0.25 mile of the Proposed Project, but there are two medical facilities within 0.25 mile of the Proposed Project. Palomar Medical Center is located at 2195 Citracado Parkway, Escondido, California 92029. The Proposed Project is approximately 425 feet east of the hospital along Citracado Parkway between Poles 112 and 113. Palomar Health Expresscare San Elijo Hills is located at 1571 San Elijo Road S, San Marcos, California 92078.

The Proposed Project is approximately 613 feet south of the urgent care between San Elijo Road and Elfin Forest Road at Poles 80 and 81.

#### **4.15.4 Potential Impacts**

The Proposed Project includes removing existing wood pole structures, installing new steel pole structures, and reconductoring for the existing TL 680C power lines; constructing a new power line segment; and converting a de-energized line to a 69 kV power line. The operation and maintenance activities required for the power lines would not change from those currently required for the existing system. The new steel poles in Segment 1 would require less maintenance and repair than the existing wood poles; however, due to the additional structures and hardware in Segment 2, there would be a slight increase in frequency of maintenance. Because the increase in the frequency would be slight, effects from the operation and maintenance of the Proposed Project on the environment would be negligible. Therefore, the impact analysis is focused on construction activities that are required to install the new conductor, remove existing wood pole structures, install new steel pole structures, and establish temporary work areas, as described in Chapter 3, Project Description.

##### **4.15.4.1 Significance Criteria**

According to Section 15002(g) of the CEQA Guidelines, “a significant effect on the environment is defined as a substantial adverse change in the physical conditions which exist in the area affected by the Proposed Project.” As stated in Section 15064(b) of the CEQA Guidelines, the significance of an activity may vary with the setting. The potential significance of project-related impacts on land use were evaluated for the applicable criteria from Appendix G of the CEQA Guidelines, as discussed in the following sections.

- a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
  - i. Fire protection
  - ii. Police protection
  - iii. Schools
  - iv. Parks
  - v. Other public facilities

#### **a.i and a.ii) Would the project result in substantial adverse physical impacts associated with fire and police protection?**

##### **Construction – Less-than-Significant Impact**

No emergency service providers are located immediately along the Proposed Project alignment or adjacent to the affected substations. While no police stations or fire departments are within



0.25-mile of the Proposed Project, Escondido Police Department and Fire Station is approximately 1.5 miles northeast of Segment 1, San Marcos Fire Station 2 is 0.4-mile south of Segment 1, Vista Fire Station 5 is approximately 1.65 miles north of Segment 3, and San Marcos Fire Station 4 is approximately 0.9 mile north of Segment 3. The Proposed Project would not result in significant temporary or permanent increases in local population, would be short-term, and would not include any new facilities that would require new or expanded police or fire protection services.

Construction activities associated with the Proposed Project would not unduly burden local police or fire services. At the completion of each work day, construction crews would lock up and secure each worksite to prevent theft or vandalism associated with work equipment or supplies. SDG&E would also implement its project-specific fire prevention plan, which will include private fire patrol monitoring as appropriate (see Section 4.8.3.1 in Section 4.8, Hazards and Hazardous Materials, for further discussion of the project-specific fire prevention plan). Furthermore, SDG&E will have private security personnel monitoring construction sites where materials are stored, which may include the substations, staging yards, and right-of-way (ROW).

As discussed in Section 4.17, Traffic and Transportation, traffic control measures associated with overhead power line construction on main streets would be implemented pursuant to all applicable industry standards and applicable local jurisdictional agency review. For the overhead line along San Marcos Boulevard and Discovery Street, SDG&E would coordinate with the appropriate emergency (fire and police) personnel prior to construction to ensure that construction activities and associated lane closures would not substantially affect emergency response vehicles (refer to Section 4.17, Traffic and Transportation).

The Proposed Project would not result in an increase in the local population as a result of the construction activities. Nor would it result in new facilities that would require new or expanded police or fire protection facilities. In addition, the Proposed Project would incorporate a project-specific fire prevention plan and a traffic control plan in order to reduce potential impacts on fire and police services. Therefore, the Proposed Project would result in a less-than-significant impact on fire and police protection services.

### **Operation and Maintenance – No Impact**

SDG&E currently maintains and operates extensive existing electric transmission, distribution, and substation facilities throughout the Proposed Project alignment. SDG&E's existing operation and maintenance activities are included in the baseline against which the impacts of the Proposed Project are evaluated.

The alignment would require slightly more maintenance due to the additional circuit in Segment 2. The increase in maintenance on Segment 2 would not require additional permanent workers nor require workers to move to the Proposed Project Area. As a result, there would be no impact as a result of operation and maintenance.

**a.iii) Would the project result in substantial adverse physical impacts associated with schools?****Construction – Less-than-Significant Impact**

There are seven schools within 0.25 mile of the Proposed Project Area. The Proposed Project would not significantly affect school enrollment as construction of the Proposed Project would be short-term and temporary. The volume of construction workers would be minimal relative to the local population and thus would not be expected to generate new students for the area's schools.

School traffic at San Marcos High School, High Tech High, and Valley Christian School would be impacted during construction because the new double circuit 69 kV power lines would be replacing the old single circuit 69 kV lines, which are located in front of all three campuses. Specific traffic-related impacts are discussed in Section 4.17, Traffic and Transportation, under the response to Significance Criteria 4.17.4.1.b).

No new or physically altered schools would be necessary as a result of the Proposed Project and impacts on schools would be less than significant as a result of construction of the Proposed Project.

**Operation and Maintenance – No Impact**

The new steel poles would required less maintenance and repair than the existing wood poles; however, the alignment would require slightly more maintenance due to the additional circuit in Segment 2. The increase in maintenance on Segment 2 would not require additional permanent workers nor require workers to move to the Proposed Project Area. Therefore, no new schools would be necessary as a result of the Proposed Project, and no impacts on schools would result from operation and maintenance of the Proposed Project.

**a.iv) Would the project result in substantial adverse physical impacts associated with parks?****Construction – Less than Significant with Mitigation Incorporated**

The Proposed Project would cause temporary and short-term restricted access for some of the parks located in proximity to the Proposed Project due to transportation and staging of equipment, presence of workers on the trail, stringing activities occurring in or adjacent to the park or trail, and restricting sections around construction equipment for the safety of the public. Some trails and parking areas within the preserves may have limited access; however, the Proposed Project would not cause the entire preserve or park to be closed from public access.

The Proposed Project would not directly increase the demand for the local public park system as construction activities would be short-term and would not substantially increase the local populations (refer to Section 4.14, Population and Housing). Restricted access to some existing parks may indirectly cause increased demand for other local, non-restricted public parks. Due to the quantity of parks in the Proposed Project Area and relatively short duration of the Proposed Project's construction within local parks, however, these impacts would be less than significant.

One park and four preserves would be potentially impacted by Proposed Project construction. During construction, there would be some minor and temporary disruption to access to Simmons Family Park. Also, because there are some trails that originate at the north end and southwest end of the Simmons Family Park, these trails may be inaccessible for short periods during construction. The Escondido Creek Preserve runs southwest of the Proposed Project. There would be some minor and temporary disruption to access to the Escondido Creek Preserve trails during construction due to the proximity of the overhead power lines. The Proposed Project would cross the northern portion of Rancho La Costa Preserve, and construction activities could temporarily restrict access to several trails. The Diamond Trail is an undeveloped open space area in the vicinity of Segment 3 of the Proposed Project. Segment 3 of the Proposed Project runs along the northern portion of the preserve. Construction may restrict access to this open area although there are no impacted paths or trails. APM PS-1 through APM PS-4 would be implemented to reduce impacts on park and preserve access during construction activities. APM PS-1 and APM PS-3 would ensure the public is aware of the construction activities prior to commencement, as well as alternative park access and parking, if available, in the event the construction temporarily limits park access. APM PS-2 would ensure construction activities near park facilities would be coordinated with the authorized officer prior to commencement. APM PS-4 would ensure that all physical impacts on park facilities would be returned to an approximate preconstruction state. See Section 4.15.5, Applicant-Proposed Measures, for details about each APM.

#### **Operation and Maintenance – No Impact**

SDG&E currently maintains and operates extensive existing electric transmission, distribution, and substation facilities throughout the Proposed Project Area. SDG&E's existing operation and maintenance activities are included in the baseline against which the impacts of the Proposed Project are evaluated.

The increase in maintenance on Segment 2 would not require additional permanent workers nor require workers to move to the Proposed Project Area. Because no new workers are being added for operation and maintenance, the Proposed Project would not create any increased demand on the local public park system. Therefore, no new or expanded parks would be required in order to meet existing demand. No impacts on parks would result from operation and maintenance of the Proposed Project.

#### **a.v) Would the project result in substantial adverse physical impacts associated with other facilities?**

#### **Construction, Operation and Maintenance – No Impact**

No additional need for hospitals, libraries, or other government or public services would be required as a result of the Proposed Project. The Proposed Project neither increases the demand for, nor alters the level of, local public services required because it would not measurably increase local population or housing opportunities and/or requirements. Therefore, the Proposed Project would not create a need for new hospitals or other public services, and there would be no impacts in this regard.



### 4.15.5 Applicant-Proposed Measures

The following public service-related APMs would be implemented for the Proposed Project.

**APM PS-1:** SDG&E will provide the public with advance notification of construction activities. Concerns related to dust, noise, and access restrictions with construction activities will be addressed within this notification.

**APM PS-2:** All construction activities will be coordinated with the authorized officer for each affected park, trail, or recreational facility prior to construction in these areas.

**APM PS-3:** As needed, signs will be posted directing vehicles to alternative park access and parking, if available, in the event construction temporarily affects parking near trailheads.

**APM PS-4:** All parks, trails, and recreational facilities that are physically impacted during construction activities and are not directly associated with the new permanent facilities, will be returned to an approximate pre-construction state, while still allowing for SDG&E to safely operate and maintain the facilities, following the completion of the Proposed Project. SDG&E will replace or repair any damaged or removed public equipment, facilities, and infrastructure in a timely manner.

### 4.15.6 References

Carlsbad Unified School District (CUSD). 2017. *Schools*. Online:

<http://www.carlsbadusd.k12.ca.us/high>. Site visited on April 28, 2017.

City of Carlsbad. 2017a. *City of Carlsbad Fire Department*. Online:

<http://www.carlsbadca.gov/services/depts/fire/>. Site visited on February 18, 2017.

———. 2017b. *City of Carlsbad Police Department*. Online:

<http://www.carlsbadca.gov/services/depts/police/>. Site visited on February 18, 2017.

City of Escondido. 2017a. *City of Escondido Fire Department*. Online:

<https://fire.escondido.org/>. Site visited on February 13, 2017.

———. 2017b. *City of Escondido Police Department*. Online: <https://police.escondido.org/>.

Site visited on February 13, 2017.

City of San Marcos. 2017a. *City of San Marcos Fire Department*. Online: [http://www.san-](http://www.san-marcos.net/departments/public-safety/fire-department)

[marcos.net/departments/public-safety/fire-department](http://www.san-marcos.net/departments/public-safety/fire-department). Site visited on February 13, 2017.

———. 2017b. *City of San Marcos Parks*. Online: [http://www.san-marcos.net/how-do-i-](http://www.san-marcos.net/how-do-i-advanced-components/parks-facilities-directory-list-view/-npage-2)

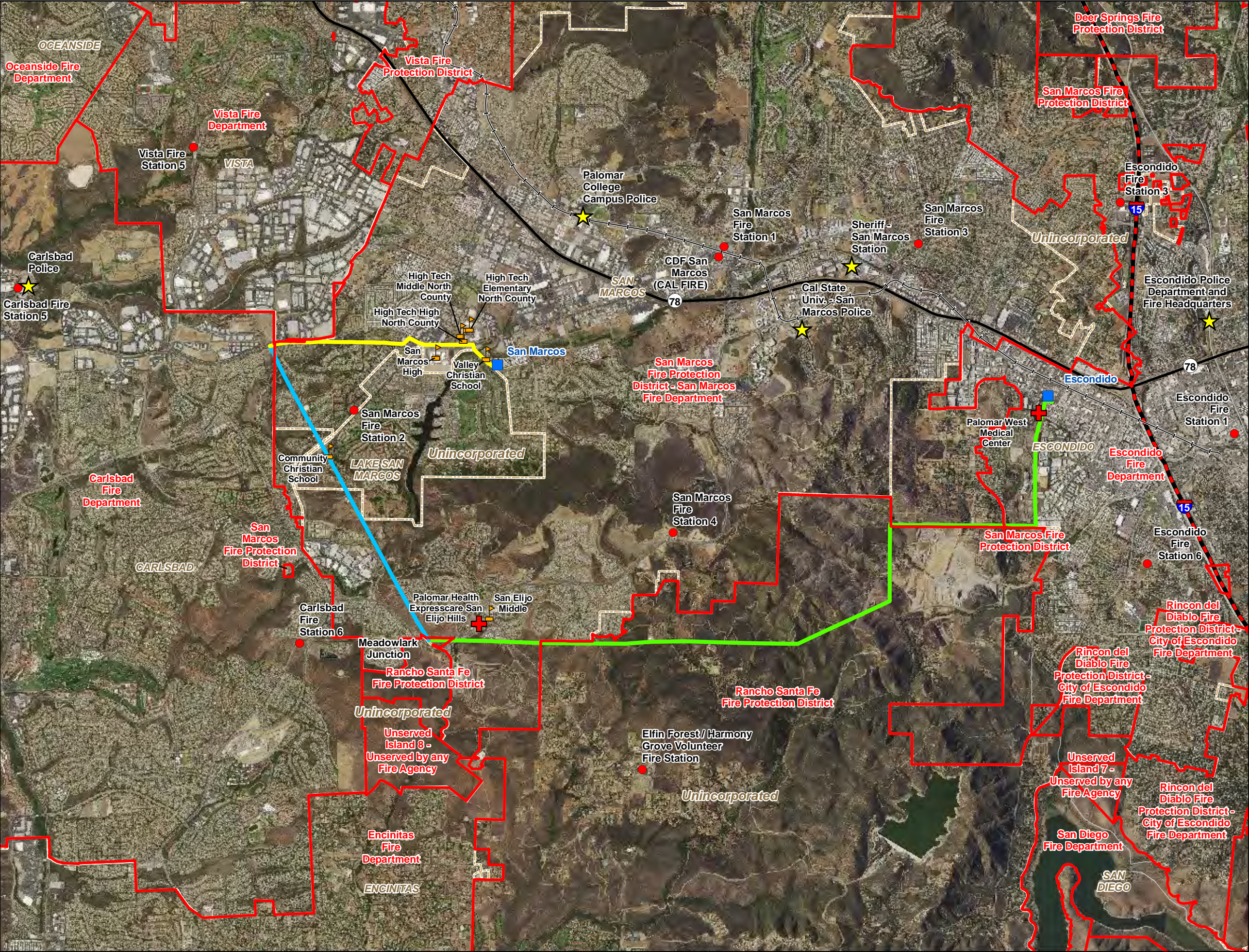
[advanced-components/parks-facilities-directory-list-view/-npage-2](http://www.san-marcos.net/how-do-i-advanced-components/parks-facilities-directory-list-view/-npage-2). Site visited on

February 15, 2017.

- City of Vista. 2015. *City of Vista Fire Department 2015 Annual Report*. Online: <http://www.cityofvista.com/home/showdocument?id=7837>. Site visited on July 19, 2017.
- . 2017a. *City of Vista Fire Department*. Online: <http://www.cityofvista.com/services/city-departments/fire-department>. Site visited on July 19, 2017.
- . 2017b. *City of Vista Law Enforcement*. Online: <http://www.cityofvista.com/residents/law-enforcement>. Site visited on July 19, 2017.
- . 2017c. *GeoVista*. Online: <https://gis.cityofvista.com/GeoVista/>. Site visited on July 19, 2017.
- Deer Springs Fire. 2017. *CAL FIRE- Deer Springs Fire Department*. Online: <http://www.deerspringsfire.org/about.html>. Site visited on February 18, 2017.
- Elfin Forest Harmony Grove. 2017. *Deer Springs Fire Department*. Online: [http://www.sandiegocounty.gov/pds/docs/CP/ELFIN FOR HARM GROVE CP.pdf](http://www.sandiegocounty.gov/pds/docs/CP/ELFIN_FOR_HARM_GROVE_CP.pdf). Site visited on February 18, 2017.
- Escondido Unified School District. 2017. *Escondido Unified School District*. Online: <https://eusd.org/>. Site visited on February 13, 2017.
- High Tech High. 2017. *High Tech High*. Online: <http://www.hightechhigh.org/>. Site visited on February 16, 2017.
- Rancho Santa Fe School District (RSFSD). 2017. *The District*. Online: <http://rsfschool.net/>. Site visited on April 28, 2017.
- San Diego County. 2017. *San Diego County Preserves*. Online: [www.sandiegocounty.gov](http://www.sandiegocounty.gov). Site visited on February 18, 2017.
- San Diego County Fire Authority. 2017. *San Diego County Fire Authority*. Online: <http://www.sandiegocounty.gov/content/sdc/sdcfa.html>. Site visited on March 8, 2017.
- San Diego County Sheriff's Department. 2017. *San Diego County Sheriff's Department*. Online: <https://www.sdsheriff.net/patrolstations/sanmarcos.html>. Site visited on February 13, 2017.
- San Marcos Unified School District. 2017. *San Marcos Unified School District*. Online: <http://www.smusd.org/>. Site visited on February 13, 2017.







TL6975 San Marcos to Escondido  
Figure: 4.15-1  
Public Services

Legend

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconstructor

General Features

Existing Substation

Fire Station

Law Enforcement Facility

School - Within 0.25 Mile

Hospital - Within 0.25 Mile

Interstate

State Highway

Railroad

Fire Agency Boundaries

City Boundary

County Boundary

Orange County

Riverside County

San Diego County

Pacific Ocean

MAP LOCATION

0

0.5

1

1.5

Miles

SDGE

A Semptra Energy utility





## Table of Contents

<b>4.16 Recreation.....</b>	<b>4.16-1</b>
4.16.1 Introduction.....	4.16-1
4.16.2 Methodology .....	4.16-1
4.16.3 Existing Conditions.....	4.16-1
4.16.4 Recreational Setting.....	4.16-2
4.16.5 Potential Impacts.....	4.16-3
4.16.6 Applicant-Proposed Measures .....	4.16-5
4.16.7 References.....	4.16-6



## Acronyms and Abbreviations

APM	Applicant-Proposed Measure
CEQA	California Environmental Quality Act
kV	kilovolt
SDG&E	San Diego Gas & Electric Company

## 4.16 RECREATION

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a.	Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b.	Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 4.16.1 Introduction

This section of the Proponent’s Environmental Assessment describes the existing conditions and potential impacts on recreational areas as a result of construction, operation, and maintenance of the Proposed Project. A recreation area is defined herein as any site or facility that is used for recreational activities, including national, state, county, city, or private parks or trails; open space; cultural centers and museums; campgrounds; and private recreational sites, such as golf courses, amusement parks, and amphitheaters. The Proposed Project’s potential effects on recreational resources were evaluated using the significance criteria set forth in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. The analysis concludes that the Proposed Project impacts on recreation would be *less than significant with mitigation incorporated*.

### 4.16.2 Methodology

The recreation analysis within this section involved a review of various documents, including aerial photographs of the Proposed Project Area; general plans of the City of Escondido, City of Carlsbad, City of San Marcos, City of Vista, and the County of San Diego; other relevant government planning documents; and online sources to identify potential recreation resources within the Proposed Project Area.

### 4.16.3 Existing Conditions

#### 4.16.3.1 Regulatory Setting

##### Federal

The Proposed Project does not cross any federal land; therefore, it is not subject to any federal plans or policies.

**State**

The Proposed Project does not cross any state land; therefore, it is not subject to any state plans or policies.

**Local**

The Proposed Project is not subject to local discretionary regulations because the California Public Utilities Commission has exclusive jurisdiction over the siting, design, and construction of the Proposed Project.

**4.16.4 Recreational Setting****4.16.4.1 Public Parks and Recreation Areas**

Segment 2 would be adjacent to the Simmons Family Park, located at 2180 Rocky Point Drive, San Marcos. The Simmons Family Park covers 6 acres and includes a children's playground, picnic areas, basketball courts, a grassy area, and a trail staging area for entrance to nearby hiking trails.

The Laurels Park is located in the Laurel Housing Community and is owned and operated by the City of San Marcos. The park contains open grass and a playground. Segment 1 is approximately 500 feet north of Laurels Park.

The San Elijo Hills Mini Park is located at 1105 Elfin Forest Road in San Marcos. Segment 3 is approximately 1,600 feet south of the park, and Meadowlark Junction is approximately 2,400 feet southwest of the park. The park contains a recreation center, baseball fields, playgrounds, picnic areas, a dog park, and a splash pad (City of San Marcos 2017b).

**4.16.4.2 Open Spaces and Preserves**

The southern portion of Segment 2 of the Proposed Project would run through the Rancho La Costa Preserve, which is located in the cities of Carlsbad and San Marcos. The Rancho La Costa Preserve is managed by the Center for Natural Lands Management and consists of 1,640 acres of coastal sage scrub and mixed chaparral habitat, canyons, hills, and ridges. Current passive recreation activities include hiking and biking.

The Sage Hill Preserve is located in the Elfin Forest community of unincorporated San Diego County. The preserve is part of a Multiple Species Conservation Program and is not open to the public, although there are existing trails on site (San Diego County 2017). Segment 3 of the Proposed Project runs along the northern portion of the preserve.

The Escondido Creek Preserve is an approximately 347-acre open space preserve in unincorporated San Diego County. The preserve is owned by the County of San Diego Department of Parks and Recreation. Segment 3 of the Proposed Project crosses the northern portion of the preserve.



Diamond Trail Preserve is an open space preserve owned by the County of San Diego. It is located between Melrose Drive and Rancho Santa Fe Road, between housing developments. Segment 2 is approximately 385 feet east of the preserve.

#### **4.16.4.3 Golf Courses**

There is one golf course adjacent to the Proposed Project: the Saint Marks's Golf Course in San Marcos on San Pablo Drive. Saint Mark's Golf Course is located south of Segment 1 and east of Segment 2. The golf course is a traditional styled, semi-private golf course and is open year-round.

#### **4.16.4.4 Equestrian, Bicycle, and Hiking Trails**

The Proposed Project would cross several local bicycle, equestrian, and hiking trails in Escondido, San Marcos, and unincorporated areas of San Diego County. The Proposed Project does not cross any trails in Carlsbad. Segment 2 and 3 of the Proposed Project Area would cross the following hiking and/or equestrian trails: Rancho Dorado, Rancho Santa Fe, Canyon, Carrillo, Quarry, Quarry-Morgan Connector, Morgans, Elfin Forest, Copper Creek, and Old Creek Ranch. Rancho Dorado, Canyon, Carrillo, Quarry, Elfin Forest, Copper Creek, and Old Creek Ranch trails are soft surface trails for hikers and horseback riders. Rancho Santa Fe and Morgans trails are urban trails that are either paved or concrete and do not allow horses. The Quarry-Morgan Connector is a private trail between the Quarry Trail and Morgans Trail.

The Proposed Project would either cross or be adjacent to several bike paths. Bike paths generally are separated into different classifications based on use type. The bike path classifications are as follows: Class I: multi-use trail/bikeway intended for a mix of runners, walkers, bicyclists, roller bladers, etc.; Class II: bike lane/bikeway designated lanes along roadways for the exclusive use of bicycles; and Class III: shared roadway/bikeway, lanes shared with vehicles but, with signed and striped lanes. The bikeways within the Proposed Project Area are Class II and Class III. These bike routes include Discovery Street, San Marcos Boulevard/Palomar Airport Road, Rancho Santa Fe Road, San Elijo Road, Morgans Trail, Elfin Forest Road, Citracado Parkway, and Auto Parkway.

#### **4.16.5 Potential Impacts**

The Proposed Project includes removing existing wood pole structures, installing new steel pole structures, and reconductoring for the existing TL 680C power lines; constructing a new power line segment; and converting a de-energized line to a 69 kV power line. The operation and maintenance activities required for the *power lines* would not change from those currently required for the existing system. The new steel poles in Segment 1 would require less maintenance and repair than the existing wood poles; however, due to the additional structures and hardware in Segment 2, there would be a slight increase in frequency of maintenance. Because the increase in the frequency would be slight, effects from the operation and maintenance of the Proposed Project on the environment would be negligible. Therefore, the impact analysis is focused on construction activities that are required to install the new conductor, remove the existing wood pole structures, install the new steel pole structures, and establish temporary work areas, as described in Chapter 3, Project Description.

#### 4.16.5.1 Significance Criteria

According to Section 15002(g) of the CEQA Guidelines, “a significant effect on the environment is defined as a substantial adverse change in the physical conditions which exist in the area affected by the Proposed Project.” As stated in Section 15064(b) of the CEQA Guidelines, the significance of an activity may vary with the setting. The potential significance of project-related impacts on recreation were evaluated for the applicable criteria from Appendix G of the CEQA Guidelines, as discussed in the following sections.

- a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

##### **Construction – Less than Significant with Mitigation Incorporated**

The Proposed Project, including the rebuild, new build, and recondutored utility facilities, would not result in an increase in population. There would be approximately 80 workers coming to the area during construction; however, this would be temporary and would not result in an increase in visitor use at the existing parks and trails in the vicinity.

During construction it may be necessary to temporarily close off sections of trails to keep the public at safe distances from the construction area. San Diego Gas & Electric Company (SDG&E) anticipates that the trails that would be temporarily closed would be segments of Rancho Dorado, Carrillo, Canyon, Quarry, Quarry-Morgan Connector, and Old Creek Ranch Trails in San Marcos. SDG&E may use guard structures and flaggers to temporarily hold traffic for brief periods of time while the overhead line is installed over the Rancho Dorado, Rancho Santa Fe, Copper Creek, Old Creek Ranch, Elfin Forest and Canyon Trails. Trail access in the Rancho La Costa Preserve would be restricted to protect public safety during construction and stringing activities. The Proposed Project would not impact parks or trails within Carlsbad, Escondido, or Vista.

Though the temporary disruptions in the use of trails and parks may be a short term inconvenience to users of these trails, many other nearby public recreational options would remain available during the access restriction, as well as other portions of Rancho La Costa Preserve and Escondido Creek Preserve. SDG&E would implement the Proposed Project design features and standard construction restrictions. Applicant-Proposed Measure (APM) PS-1 would require SDG&E to provide notification to the public of construction activities prior to commencement. Implementation of APM-PS-2 would ensure all construction activities will be coordinated with the authorized officer for each affected park or trail prior to construction in these areas. APM PS-3 would also be implemented, which would require SDG&E to post signs directing vehicles to alternative park access and parking, if available, in the event construction temporarily affects parking near trailheads. Lastly, APM-PS-4 would ensure that all parks and trails that are physically impacted during construction activities and are not directly associated with the new permanent facilities, will be returned to an approximate preconstruction state, while still allowing for SDG&E to safely operate and maintain the facilities, following the completion of the Proposed Project. SDG&E will replace or repair any damaged or removed public equipment, facilities, and infrastructure in a timely manner.

Restricted access to some existing parks may indirectly cause increased demand for non-restricted public parks in the vicinity of the Proposed Project; however, because of the number of parks in the Proposed Project Area, the relatively short duration of the Proposed Project's construction within local parks, and the construction schedule whereby it is likely that not all of the parks would be restricted simultaneously, these impacts would be negligible.

The Proposed Project would not increase the use of other existing recreational facilities in the vicinity such that physical deterioration would occur due to the quantity of existing local parks and the short construction duration; therefore, impacts would be less than significant.

#### **Operation and Maintenance – No Impact**

The Proposed Project would not create a need for additional housing or create long-term population immigration sufficient to result in a permanent increase in parks or recreational facilities use. No new employees would be hired to operate or maintain the new 69 kV power line segment, which would be operated and maintained by existing SDG&E personnel. Thus, there would be no impact.

#### **b) Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?**

#### **Construction, Operation, and Maintenance – No Impact**

The Proposed Project would not involve the construction of new recreational facilities or the expansion of existing facilities. Therefore, there would be no impact.

#### **4.16.6 Applicant-Proposed Measures**

The following recreation-related Applicant-Proposed Measures (APMs) would be implemented for the Proposed Project.

**APM PS-1:** SDG&E will provide the public with advance notification of construction activities. Concerns related to dust, noise, and access restrictions with construction activities will be addressed within this notification.

**APM PS-2:** All construction activities will be coordinated with the authorized officer for each affected park, trail, or recreational facility prior to construction in these areas.

**APM PS-3:** As needed, signs will be posted directing vehicles to alternative park access and parking, if available, in the event construction temporarily affects parking near trailheads.

**APM PS-4:** All parks, trails, and recreational facilities that are physically impacted during construction activities and are not directly associated with the new permanent facilities, will be returned to an approximate pre-construction state, while still allowing for SDG&E to safely operate and maintain the facilities, following the completion of the Proposed Project. SDG&E will replace or repair any damaged or removed public equipment, facilities, and infrastructure in a timely manner.



### 4.16.7 References

- Center for Natural Lands Management. 2011. *Rancho La Costa Habitat Conservation Area Management Plan*. Online:  
<http://www.carlsbadca.gov/civicax/filebank/blobdload.aspx?BlobID=24355>. Site visited on February 27, 2017.
- City of Carlsbad. 2013. *City of Carlsbad General Plan 2013*. Online:  
<http://www.carlsbadca.gov/services/depts/planning/general.asp>. Site visited on February 27, 2017.
- City of Escondido. 2013. *City of Escondido General Plan*. Adopted May 21. Online:  
<https://www.escondido.org/general-plan.aspx>. Site visited on February 27, 2017.
- City of San Marcos. 2012. *City of San Marcos General Plan*. Adopted February 14. Online:  
<http://www.san-marcos.net/departments/development-services/planning-division/general-plan>. Site visited on October 31, 2013.
- . 2015. *Trail Network Interactive Map*. Online: <http://maps.san-marcos.net/mapgallery/map.html?webmap=638e6645838b41cc8814a78a682bbfef>. Site visited on December 18, 2015.
- . 2017a. *Parks and Recreation – Simmons Family Park*. Online: <http://www.san-marcos.net/Home/Components/FacilityDirectory/FacilityDirectory/158/1126>. Site visited on February 27, 2017.
- . 2017b. *City of San Marcos Parks*. Online: <http://www.san-marcos.net/how-do-i-/advanced-components/parks-facilities-directory-list-view/-npage-2>. Site visited on February 15, 2017.
- City of Vista. 2011. *City of Vista General Plan 2030*. Online:  
<http://www.cityofvista.com/services/city-departments/community-development/building-planning-permits-applications/vista-general-plan-2030>. Site visited on August 3, 2017.
- Icommute. 2016. *Bike Map – Interactive San Diego Regional Bike Map*. Online:  
<http://www.icommutesd.com/Bike/BikeMap.aspx>. Site visited on February 27, 2017.
- San Diego County. 2017. *San Diego County Preserves*. Online: [www.sandiegocounty.gov](http://www.sandiegocounty.gov). Site visited on February 18, 2017.

## Table of Contents

<b>4.17 Transportation and Traffic.....</b>	<b>4.17-1</b>
4.17.1 Introduction.....	4.17-1
4.17.2 Methodology .....	4.17-2
4.17.3 Existing Conditions.....	4.17-2
4.17.4 Potential Impacts.....	4.17-11
4.17.5 Applicant-Proposed Measures .....	4.17-17
4.17.6 References.....	4.17-17

## List of Tables

Table 4.17-1: Level of Service Calculations Values .....	4.17-2
Table 4.17-2: Average Daily Traffic Volumes for Proposed Project Area Major Roadways .....	4.17-8

## Acronyms and Abbreviations

AADT	Annual Average Daily Traffic
ADA	Americans with Disabilities Act
ADT	average daily traffic
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
APM	Applicant-Proposed Measure
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CMP	Congestion Management Plan
FAA	Federal Aviation Administration
I-	Interstate
LOS	level of service
NCTD	North County Transit District
Regional Plan	San Diego Forward: The Regional Plan
ROW	rights-of-way
RTIP	Regional Transportation Improvement Program
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SANDAG	San Diego Association of Governments
SDG&E	San Diego Gas & Electric Company
SR-	State Route
TDM	transportation demand management



**4.17 TRANSPORTATION AND TRAFFIC**

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a.	Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c.	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d.	Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e.	Result in inadequate emergency access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f.	Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**4.17.1 Introduction**

This section of the Proponent's Environmental Assessment describes the existing conditions related to transportation and traffic within the Proposed Project Area and potential impacts that could result from construction, operation, and maintenance of the Proposed Project. The Proposed Project's potential effects on transportation and traffic were evaluated using the significance criteria set forth in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. The analysis concludes that the Proposed Project would have a *less-than-*

significant impact on transportation and traffic with Applicant-Proposed Measures (APMs) incorporated.

### 4.17.2 Methodology

Traffic and roadway data for this analysis was gathered from online searches, transportation elements of the general plans for the cities of Carlsbad, Escondido, Vista, and San Marcos, and the County of San Diego, and the San Diego Association of Governments (SANDAG) Regional Transportation Management Plan. The study includes roadways and bike paths where construction activities would take place and where the Proposed Project would cause an impact on traffic due to construction activities. Existing approximate roadway level of service (LOS) was obtained either from past analysis or planning documents or calculated using traffic count data and stated road capacities. Traffic count data was obtained from published spreadsheets compiled by the SANDAG.

Calculated LOS values were obtained by dividing the existing average daily traffic (ADT) by the roadway capacity to achieve the volume-to-capacity (v/c) value. LOS was then defined as outlined in Table 4.17-1: Level of Service Calculations Values.

**Table 4.17-1: Level of Service Calculations Values**

Level of Service	Volume-to-Capacity
A	0.0 to 0.60
B	0.61 to 0.70
C	0.71 to 0.80
D	0.81 to 0.90
E	0.91-01.00
F	Above 1.0
Source: Transportation Research Board 1985	

### 4.17.3 Existing Conditions

#### 4.17.3.1 Regulatory Setting

Construction projects that cross public transportation corridors are subject to federal, state, and local ministerial encroachment permits. Federal Aviation Administration (FAA) notification and subsequent FAA determination are required for activities that result in the use or obstruction of navigable airspace. The following summarizes transportation and traffic regulations that are typically applicable to the construction of electric facilities, such as the Proposed Project.

## **Federal**

### *Federal Aviation Administration*

The FAA must be notified of any structures located in the airspace of an airport, as defined in 14 Code of Federal Regulations Section 77.9 (b)(1), (2), and (3), or new structures taller than 200 feet in height, to confirm that the proposed structures will not pose a threat to safety. Refer to Section 4.8, Hazards and Hazardous Materials, for more information.

## **State**

The use of California state highways and rights-of-way (ROW) for other than normal transportation purposes may require written authorization or an encroachment permit from the California Department of Transportation (Caltrans). Caltrans has jurisdiction over the state's highway system and is responsible for protecting the public and infrastructure. Caltrans reviews all requests from utility companies that plan to conduct activities within its ROW. Encroachment permits may include conditions or restrictions that limit when construction activities can occur within or above roadways under Caltrans' jurisdiction.

## **Local**

The Proposed Project is not subject to local discretionary regulations because the California Public Utilities Commission has exclusive jurisdiction over the siting, design, and construction of the Proposed Project. The following analysis of local regulations relating to transportation and traffic is provided for informational purposes. San Diego Gas & Electric Company (SDG&E) would obtain any local ministerial encroachment permits for work in public roadways.

### *San Diego Association of Governments*

SANDAG serves as the regional planning agency for all of San Diego County. SANDAG is responsible for planning and allocating local, state, and federal funds for the region's transportation network. State law and the California Transportation Commission require SANDAG to adopt a 20-year regional transportation plan every 4 years, which considers improvements to freeways, state highways, transit, and regional bicycle and pedestrian routes. SANDAG prepares and administers the following planning documents:

- San Diego Forward: The Regional Plan
- Regional Transportation Improvement Program

San Diego Forward: The Regional Plan (Regional Plan) complies with the requirements of the Federal Highway Administration 23 Code of Federal Regulations (CFR) 450.320 by incorporating the regional transportation management process. The Regional Plan, adopted in 2015, serves as a blueprint for how the region will grow, and how SANDAG will invest in transportation infrastructure that will provide more transportation choices. The Regional Plan combines two planning documents: the Regional Comprehensive Plan, adopted in 2004, and the Regional Transportation Plan and its Sustainable Communities Strategy (RTP/SCS), adopted in 2011. A key element of the Regional Plan is transportation demand management (TDM). For example, the Regional Plan establishes SANDAG's priority of investing in mobility hubs and



shared mobility services to increase efficiency of the system. The Regional Plan also addresses parking and connectivity issues in the region.

The Regional Transportation Improvement Program (RTIP) was adopted by SANDAG in 2014. The RTIP covers 5 fiscal years and implements the long-term transportation plan for the San Diego region found in the Regional Plan.

#### *County of San Diego*

The County of San Diego prepares and administers the following key plans that relate to the local transportation infrastructure and planning of unincorporated areas of San Diego County where the Proposed Project is located.

- *San Diego County General Plan*
- *Bicycle Master Plan*

Specifically, the Mobility Element of the *County of San Diego General Plan* discusses the County's transportation network, policies, goals, maintenance, and management for a balanced, multi-modal transportation system. Specific goals and policies within the plan include:

**Policy M-2.1:** Requires development projects to provide associated road improvements necessary to achieve a level of service of "D" or higher on all Mobility Element roads except for those where a failing level of service has been accepted by the County pursuant to the criteria specifically identified.

**Policy M-3.1:** Requires development to dedicate right-of-way for public roads and other transportation routes. It requires the provision of sufficient right-of-way width to adequately accommodate all users, including transit riders, pedestrians, bicyclists, and equestrians.

**Policy M-3.2:** Requires development to contribute its fair share toward financing transportation facilities, including mitigating the associated direct and cumulative traffic impacts caused by their project on both the local and regional road networks.

#### *City of Carlsbad*

Carlsbad prepares and administers the following key plans that relate to local transportation infrastructure and planning with specific plans and policies detailing bicycle and pedestrian transportation.

- *Carlsbad General Plan*
- *Bikeway Master Plan*
- *Pedestrian Master Plan*

The Mobility Element of the *Carlsbad General Plan* discusses specific transportation policies to improve vehicle travel and increase bicycle and public transportation use as well as overall transportation connectivity. Specific policies include:

**Policy 3-P.4:** Maintain an LOS of “D” or higher for all modes of transportations.

**Policy 3-P.32:** Requires developers to improve pedestrian and bicycle connectivity.

The *Pedestrian Master Plan* and *Bikeway Master Plan* expand further on the goals and policies regarding pedestrian and bicycle transportation discussed in the Mobility Element. The *Pedestrian Master Plan* provides a framework for expanding and enhancing the pedestrian network for greater connectivity throughout the City. The plan contains recommendations for future networks and future programs to enhance the pedestrian experience. The *Bikeway Master Plan* provides an analysis of the existing system and provides recommendations for an efficient, safe, and convenient bicycle network.

#### *City of Escondido*

The City of Escondido prepares and administers the following key plans that relate to local transportation infrastructure and planning.

- *Escondido General Plan*
- *Master Bicycle Plan*

These plans are generally used to identify and address current and projected future transportation planning and congestion management through traffic monitoring, transportation system planning, and transportation system management. The Mobility and Infrastructure Element of the *Escondido General Plan* discusses further transportation policies, including:

**Bicycle Network Policy 4.2:** Maintain an acceptable LOS detailed in the Master Bicycle Plan, Transit System Policy

**Transit System Policy 5.1:** Collaborate with the North County Transit District (NCTD) to facilitate effective, convenient, and efficient transit modes to meet the needs of residents and visitors including seniors, disabled persons, and transit-dependent persons.

**Transit System Policy 5.2:** Work alongside the NCTD to increase the use of transit by maintaining services within the city that are timely and cost effective, locating routes and access points effectively, and developing short and long term service plans.

**Transit System Policy 5.8:** Require that new developments incorporate transit-supporting facilities into the project design, where appropriate.

**Street Network Policy 7.3:** Maintain an LOS of “C” or higher throughout the city except for the urban core. Establish LOS “D” as the threshold for determining significant impacts and appropriate mitigation.

**Street Network Policy 7.7:** Require development projects to analyze local traffic impacts and construct and implement the improvements required for that development.

**Street Network Policy 7.8:** Require new development projects to analyze traffic impacts on the regional transportation system, and pay a fair-share contribution to regional transportation improvements.

The *Master Bicycle Plan* is a more comprehensive plan discussing in further detail topics addressed in the Mobility and Infrastructure Elements. The plan serves as an implementation tool for the *Escondido General Plan*. The applicable goals include:

**Goal 1:** Expand and enhance Escondido’s bikeway network and eliminate barriers to bicycling.

**Goal 2:** Plan for the needs of bicyclists.

#### *City of San Marcos*

The City of San Marcos prepares and administers the following key plans that relate to local transportation infrastructure and planning.

- *San Marcos General Plan*
- *Bicycle and Pedestrian Master Plan*

Policies specific to transportation are found in the Mobility Element of the *San Marco General Plan*, including:

**Policy M-1.3:** Requires new development to create a Transportation Demand Management program to minimize generated trips for construction projects.

**Policy M-1.4:** Maintain an LOS of “D” or higher for vehicle and bicycle transportation and an LOS of “C” or higher for pedestrians.

The *Bicycle and Pedestrian Master Plan* is a more comprehensive plan that discusses in further detail topics addressed in the Mobility Element. The plan identifies existing and proposed bikeway facilities in San Marcos and provides goals for the City for future development of bikeways and pathways. These goals include developing the bicycle system to be more destination-oriented, and locally and regionally connected.

#### *City of Vista*

The *City of Vista General Plan 2030* Circulation Element provides a guide for the planning of the future circulation network, and provides goals and policies for the development of the circulation system to best achieve the City’s vision for the planning period. The *City of Vista General Plan 2030* Circulation Element includes the following relevant policies:



**CE Policy 1.10:** Require necessary conditions of approval on development projects to achieve LOS standards prescribed in this element. Develop a checklist for development and redevelopment projects to ensure the inclusion of infrastructure that provides safe travel for all users and enhances project outcomes and community impact.

**CE Policy 1.11:** Require all new development projects to participate in the City's transportation fee programs. These fee programs will be designed to ensure that all development projects fund their fair share of the necessary long-term transportation improvements identified in this Element.

**CE Policy 1.12:** Require all new development projects to either fund or install their fair share of all required feasible transportation improvements necessary to achieve a multi-modal LOS identified in this Element as mitigation for the direct impacts on the circulation network from the proposed project.

**CE Policy 6.2:** Require proposed development to provide bike facilities within the right-of-way for Class II bikeways in the project vicinity on all arterial roadways where deemed appropriate. Where Class II bikeways are not feasible, require Class III bike routes to be provided as a temporary measure.

**CE Policy 6.3:** Require proposed developments, where feasible to dedicate easements for Class I bikeways or hiking trails in the project vicinity where deemed appropriate.

**CE Policy 6.4:** Require proposed developments to install sidewalks and wheelchair ramps that comply with Americans with Disabilities Act (ADA) standards adjacent to all roadways within each development.

#### **4.17.3.2 Local Transportation System Overview**

The major regional vehicular access to the Proposed Project Area is provided via Interstate (I-) 15. State Route (SR-) 78 is also located near the Proposed Project Area and provides additional east/west regional transportation.

Roadway congestion is expressed using a scale that ranges from LOS A (least congested) to LOS F (most congested). In general, the standard minimum acceptable LOS for roadways within the City of Escondido is C, and in the cities of Carlsbad and San Marcos as well as in unincorporated San Diego County it is D. An LOS of E or F is generally not acceptable unless exempted from these LOS requirements. LOS E and F represent situations where the roadway capacity approximately equals the traffic volume (LOS approaches 1.0). For freeways and highways, the minimum acceptable LOS is typically LOS E.

The roadway system is classified by hierarchical roadway designations. For the purposes of this analysis, roadway classifications have been simplified to the following:

- Freeways and highways
- Arterial roadways

- Collector streets

The general size and function of each of these classifications is further described in the following paragraphs. Table 4.17-2: Average Daily Traffic Volumes for Proposed Project Area Major Roadways, outlines traffic counts for freeways and highways, arterial roadways, and large collector streets affected by the Proposed Project, and outlines calculated or published ADT and LOS values for each of these roadways. Existing traffic count data and published LOS values were obtained from SANDAG.<sup>1</sup> Where LOS was calculated from ADT, roadway capacities were derived from the general plans of the cities of Carlsbad, Escondido, and San Marcos, and the County of San Diego. Table 4.17-2: Average Daily Traffic Volumes for Proposed Project Area Major Roadways, includes freeways and highways, and arterial roadways that are anticipated to be utilized for construction traffic or subject to project-related traffic control during construction activities.

**Table 4.17-2: Average Daily Traffic Volumes for Proposed Project Area Major Roadways**

Roadway (Cross Street)	General Classification	Number of Lanes	Jurisdiction/ Location	AADT <sup>1</sup>	Published or Calculated Existing LOS <sup>2</sup>
I-15 (SR-78)	CMP Freeway	12	Caltrans	226,000	N/A
SR-78 (I-15)	Highway	8	Caltrans	162,000	N/A
Discovery St (San Marcos Blvd)	Arterial	4	City of San Marcos	9,900	A
San Marcos Blvd/ Palomar Airport Rd (Rancho Santa Fe Rd)	Arterial	6	City of San Marcos	42,100	C
Rancho Santa Fe Rd (San Marcos Blvd)	Arterial	6	City of San Marcos	33,100	B
San Elijo Rd (Rancho Santa Fe Rd)	Arterial	4	City of San Marcos	22,500	B
Elfin Forest Rd	Collector	2	Unincorporated	2,200	A
Country Club Dr (Citracado Pkwy)	Local Collector	2	City of Escondido	3,400	B
Harmony Grove Rd (Enterprise St)	Local Collector	2	City of Escondido	9,000	C
Auto Parkway (Hale Ave)	Collector	2	City of Escondido	250,000	E

<sup>1</sup> Annual Average Daily Traffic (AADT) values given are the most current year (2013) and correspond with each listed roadway.  
<sup>2</sup> Where AADT values were available for multiple segments for a given roadway, AADT values are given for those segments closest to the Proposed Project.  
Source: SANDAG 2013, Caltrans 2014.  
CMP = Congestion Management Program

<sup>1</sup> SANDAG published values sourced from other entities, such as Caltrans and the cities of Escondido and San Marcos.

### 4.17.3.3 Freeways and State Routes

Freeways and highways are designed to carry the highest volume of traffic, and typically connect large populated areas, including cities, utilizing design that completely separates the freeway or highway from lower designated streets and roads through utilization of grade separation and on-and-off-ramps. Freeways and highways allow for continuous movement and do not utilize stop lights or signs.

Regional access to the Proposed Project is primarily provided by SR-78 and I-15. SR-78 is an eight-lane freeway located to the north of the Proposed Project that runs east-west, while I-15 is a 12-lane freeway located to the east of the Proposed Project that runs north-south. SR-78 starts to the west at I-5 in Carlsbad, then travels east, through San Marcos and Escondido, and then heads east to the City of Julian. I-15 starts in San Diego, travels through Escondido, and continues north into southwestern California.

### 4.17.3.4 Arterial Roads

An arterial road is a major or main route with traffic capacity just below that of highways. Arterial roads are designed to transfer traffic between neighborhoods, communities, and even cities, and have intersections with collector and other arterial roads.

Rancho Santa Fe Road, San Marcos Boulevard (which turns into Palomar Airport Road west of Business Park Drive), and San Elijo Road are classified as arterial roads under the *San Marcos General Plan's* Mobility Element. Rancho Santa Fe Road and San Marcos Road are paved, six-lane roads, the former running southwest-northeast and the latter running east-west. San Elijo Road is a paved four-lane road, running east-west. Rancho Santa Fe Road and San Marcos Boulevard are located at the northern end of the Proposed Project Area, while San Elijo Road is located at the southern end of the Proposed Project Area.

The Proposed Project would cross Palomar Airport Road adjacent to the boundary between the Cities of San Marcos, Vista, and Carlsbad. Palomar Airport Road is considered an Arterial Street in the City of Carlsbad (City of Carlsbad 2012).

In the City of Escondido and in the unincorporated areas of San Diego County, the Proposed Project would not cross or be located adjacent to any arterial roads.

### 4.17.3.5 Collector Roads

A collector road has a lower traffic capacity than any other type of road, with the exception of local roads. Collector roads function as connecting road links between arterial roads and local roads to lead traffic throughout communities and occasionally to freeways. Local streets generally connect collector roads with adjacent parcels. Refer to Table 4.17-2: Average Daily Traffic Volumes for Proposed Project Area Major Roadways, for a list of roads that either intersect the Proposed Project alignment or that could be utilized by Proposed Project traffic.



In the City of Escondido, the Proposed Project would cross two Local Collector roads: Country Club Road and Kauana Loa Road. The Local Collector road, as defined in the City of Escondido General Plan Mobility and Infrastructure Element, is a road with two travel lanes with parking, except when parking is removed for turn lanes; they provide access between neighborhoods and Collector streets. The Proposed Project would cross one Collector road, Auto Parkway. Collector streets are defined as having four travel lanes, controlled access, and no parking or parking is restricted to areas where turn pockets or continuous turn lanes are provided (City of Escondido 2012). Escondido Substation is located approximately 440 feet northeast of Auto Parkway.

In the City of San Marcos, San Marcos Substation and a portion of Segment 1 are located adjacent to Discovery Street, a two-lane Collector road.

The Proposed Project would cross several Collector roads in the unincorporated portions of San Diego County. The portion of Segment 3 near Meadowlark Junction would cross San Elijo Road, identified as a Collector road. Segment 3 would also cross Elfin Forest Road and Harmony Grove Road, identified as Light Collector roads. All of these Collector roads are two-lane roads.

The Proposed Project would not cross or be located adjacent to any Collector roads in the City of Carlsbad or the City of Vista.

#### **4.17.3.6 Airports**

The McClellan-Palomar Airport is approximately 2.2 miles from the farthest western point of the Proposed Project in Carlsbad. The McClellan-Palomar Airport was completed and opened in 1959 to replace the Del Mar Airport. The Proposed Project falls within Airport Influence Area Review Area 2 and within the FAA Height Notification Boundary as identified in the McClellan-Palomar Airport Land Use Compatibility Plan (ALUCP).

#### **4.17.3.7 Public Transportation**

##### **Bus**

The NCTD operates within the Proposed Project Area, providing BREEZE, the main bus system serving Escondido, San Marcos, and other cities in north San Diego County. The following bus lines are located near the Proposed Project Area, and travel along portions of the following streets.

- 304 – Rancho Santa Fe Road
- 353 – Citracado Parkway and Auto Parkway
- 445 – San Marcos Boulevard/Palomar Airport Road

## **Rail**

NCTD Sprinter is a light rail running east-west along the SR-78 corridor and traverses both Escondido and San Marcos. The closest stop to the Proposed Project is Nordahl Road Station in Escondido, within 1 mile of the Escondido Substation end of the Proposed Project.

### **4.17.3.8 Bicycle Facilities**

The cities of Carlsbad, Escondido, and San Marcos have individual master bicycle plans to address design, policy, program, and infrastructure needs pertaining to this specific mode of transportation. Additionally, the County of San Diego has a detailed bicycle plan, certain community bicycle plans, and priority projects within the county (see Section 4.17.3.1, Regulatory Setting). Both the county and mentioned cities have designated three levels of paved bike paths, as follows.

- Class I: Provides a paved path physically separated from vehicle roadways designated for non-motorized use.
- Class II: Provides a striped lane for one-way bike travel on a street or highway.
- Class III: Provides for shared use with pedestrian or motor vehicle traffic.

No Class I bike routes would be affected by the Proposed Project. There are Class II and III bike routes on Discovery Street, San Marcos Boulevard/Palomar Airport Road, Rancho Santa Fe Road, San Elijo Road, Morgan Trails, Elfin Forest Road, Citracado Parkway, and Auto Parkway within the Proposed Project Area. Trails with designated bike use near the Proposed Project Area are discussed in further detail in Section 4.16, Recreation.

### **4.17.4 Potential Impacts**

The Proposed Project includes reconductoring, removal of existing wood pole structures, and installation of new steel pole structures for the existing TL 680C power lines; construction of a new power line segment; and converting a de-energized line to a 69 kV power line. The types of operation and maintenance activities required for the power lines would not change from those currently required for the existing system. The new steel poles would require less maintenance and repair than the existing wood poles; however, due to the additional structures and hardware in Segment 2, there would be a slight increase in frequency of maintenance. Because the increase in the frequency would be slight, effects from the operation and maintenance of the Proposed Project on the environment would be negligible. Therefore, the impact analysis is focused on construction activities that are required to install the new conductor, remove the existing wood pole structures, install the new steel pole structures, and establish temporary work areas, as described in Chapter 3, Project Description.

#### **4.17.4.1 Significance Criteria**

According to Section 15002(g) of the CEQA Guidelines, “a significant effect on the environment is defined as a substantial adverse change in the physical conditions which exist in the area

affected by the proposed project.” As stated in Section 15064(b) of the CEQA Guidelines, the significance of an activity may vary with the setting. The potential significance of Proposed Project-related impacts on transportation and traffic were evaluated for the applicable criteria from Appendix G of the CEQA Guidelines, as discussed in the following sections.

- a) **Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?**

#### **Construction – No Impact**

Construction of the Proposed Project would not result in a conflict with relevant circulation plans or policies establishing measures of effectiveness for the performance of the circulation system. The Proposed Project would require construction to occur within roadways and could potentially impact the LOS of these roadways. However, the construction activities would be temporary, and would not result in a permanent impact on the road LOS. Therefore, the Proposed Project would not conflict with the policies of the SANDAG Congestion Management Plan (CMP), and the Proposed Project would not result in an adjacent road or highway failing to meet the minimum LOS.

The Proposed Project would comply with the policies and goals identified in the general plan mobility elements of the cities of Vista, San Marcos, Carlsbad, and Escondido, and the County of San Diego, as mentioned above. The Proposed Project does not include residential development, nor commercial or other services, which would induce additional vehicle trips to or from the Proposed Project Area. SDG&E has identified 16 locations along Segment 1, 10 locations along Segment 2, and 9 locations along Segment 3 that would require road crossings. SDG&E has identified which of these crossings would require a guard pole or boom truck and which would have a specific traffic plan for either guard poles or boom trucks at each specific pole or stringing site. Implementation of these traffic plans would address circulation of motor vehicles, bicycles, and pedestrians, and would maintain the flow of traffic around the construction area. Therefore, the Proposed Project would not conflict with general plan element goals and policies that address current and future LOS and efficiency of roadways and transit systems. Due to the nature of the work, the Proposed Project would not be subject to local government policies that require development projects to include infrastructure for public multi-modal transportation. Additionally, such policies are primarily intended for new residential and commercial development. Therefore, the Proposed Project would not conflict with general plan policies.

The Proposed Project would not conflict with goals or policies of the bicycle and/or pedestrian master plans developed by each of the jurisdictions in the Proposed Project Area. The construction activities could temporarily close Class II and III bike lanes in roadways adjacent to the Proposed Project, or where the power line crosses roads containing bike paths. This would temporarily affect the LOS of the bike path. Detours would be implemented where appropriate, consistent with the Proposed Project-specific Traffic Control Plan. Similarly, sidewalks may be



temporarily closed near construction activities to protect the safety of the public. Alternative pedestrian routes would be implemented where appropriate. The Proposed Project construction would be located primarily within the existing SDG&E ROW and minimal new ROW in Segment 1, and would not conflict with future plans for bikeway connectivity either locally or regionally. Therefore, there would be no impact.

### **Operation and Maintenance – No Impact**

The new steel poles in Segment 1 would require slightly less maintenance and repair than the existing wood poles. Routine maintenance would increase in Segment 2 due to the installment of new structures. This maintenance would increase average light duty truck trips from the existing 156 miles per month to 168 miles per month. Maintenance in Segment 3 would decrease because insulator washing, typically done on de-energized lines, would no longer be required once the line is re-energized. This would result in a decrease of heavy duty truck miles from 91 miles per month to 84 miles per month. The overall miles required for maintenance would slightly increase from 247 miles per month to 252 miles per month. However, this is such a small increase it would not be likely to significantly impact the level of service of the surrounding roads and would not conflict with the policies designed to establish measures of effectiveness of the road system. No alternative modes of transportation such as rail, bus, or bicycle traffic or pedestrian circulation patterns would be altered or adversely affected by long-term operation and maintenance activities. As a result, no impact would occur.

- b) Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?**

### **Construction – Less-than-Significant Impact**

Construction would lead to a temporary increase in traffic throughout the local area, which may lower the LOS standards during construction. Currently, the acceptable LOS standard for the cities of San Marcos and Carlsbad and the County of San Diego are “D” or above. The LOS standard for the City of Escondido is “C” and above, with the urban core being exempt. It is anticipated that up to 80 workers would be employed throughout the entire construction phase, with a maximum of 10 workers being employed per scheduled construction activity.

Construction workers’ daily transportation is not expected to cause a significant impact because Proposed Project-generated traffic would be minimal and would occur over the course of the day.

Vehicle trips generated by construction personnel would generally occur with workers arriving at the site in the morning and leaving the site at the end of the day, with limited worker-related trips to or from the worksite during the course of the day. The maximum amount of possible trips generated during the peak of the construction phase would produce 100 trips to and from the Proposed Project. To reduce the potential number of daily worker-related vehicle trips to and from the sites, SDG&E would encourage carpooling to the greatest extent possible. Deliveries of construction items and equipment would also generate vehicle trips to and from the Proposed Project.

Disruption to traffic flow may occur when construction work is located adjacent to a road. However, such events would be periodic and temporary. These disruptions may include temporary lane or road closures, which can affect vehicle, bicycle, and pedestrian flow. As needed, signage or flagmen may be utilized to reduce potential disruptions to traffic flow and to maintain public safety during construction.

The construction activities and the resulting increase in vehicle trips would not conflict with the goals of the Regional Plan or the RTIP. The construction activities would not prevent the implementation of future efficiency or expansion projects in the Proposed Project Area to improve LOS. The low number of vehicle trips generated by the Proposed Project would not result in a significant impact on the level of service of the local and regional roads managed by the Regional Plan. Therefore, impacts as a result of conflicts with such programs would be less than significant.

### **Operation and Maintenance – Less-than-Significant Impact**

As described in the response to question (a), some maintenance would increase due to the new structures, which would increase the overall miles traveled per month to the Proposed Project. However, vehicle trips associated with operation and maintenance activities would constitute a negligible increase in traffic in the area and would not affect roadway LOS or result in conflicts with other congestion management plans or policies. The limited vehicle trips would not conflict with congestion management projects in the area. As a result, there would be a less-than-significant impact.

### **c) Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?**

#### **Construction – Less-than-Significant Impact**

The Proposed Project falls within Airport Influence Area Review Area 2 and within the FAA Height Notification Boundary as identified in the McClellan-Palomar ALUCP. SDG&E will consult with the Airport Land Use Commission (ALUC) and the FAA in order to comply with the ALUCP.

Construction activities for the Proposed Project would require helicopter use for the stringing of overhead power line and other potential construction activities. Helicopter flights would occur within designated flight paths to and from local airports to the construction areas associated with the Proposed Project. One helicopter would be used for the construction phase for Segment 2 of the Proposed Project for a total of 12 hours. Helicopter use for power line construction would temporarily increase air traffic and encroach on navigable air space in the area. To reduce impacts, SDG&E or its contractor would coordinate flight patterns with local air traffic control (airports) and the FAA (Notice to Airman) prior to and during construction to prevent any adverse impacts due to the slight increase in air traffic. In addition, helicopter utilization would be compliant with applicable usage permits, including a requirement for preparation of a Congested Area Plan in compliance with FAA requirements (refer to Section 3, Project Description). It is anticipated that helicopters utilized for the Proposed Project would be staged out of McClellan-Palomar, the closest public airport to the Proposed Project, located

approximately 2.2 miles to the west. A less-than-significant impact on air traffic is anticipated from the Proposed Project's helicopter use.

### **Operation and Maintenance – No Impact**

Operation and maintenance activities would include routine inspections, ongoing maintenance, and repairs necessary to ensure that integrity of the system is maintained over the long-term. Inspections may occur in the form of aerial patrol through the use of helicopters, or through ground patrols visiting the facilities. Consistent with the approach toward other facilities in the area, if helicopters are used to assist with operation and maintenance activities, SDG&E will notify the FAA, prior to conducting maintenance activities requiring a helicopter. Therefore, no impact would occur.

### **d) Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**

### **Construction – Less than Significant with Mitigation Incorporated**

Construction of the Proposed Project would not result in any permanent modification to existing public roadways or other transportation infrastructure. Proposed Project work in public road ROWs could increase hazards if appropriate safety measures are not in place, such as guard structures, proper signage, safety cones, flaggers, and other traffic control measures. However, SDG&E always utilizes guard structures for conductor stringing over roadways. In addition, SDG&E would be required to obtain encroachment permits in order to complete work within or over roadways. The encroachment permits would include traffic control plans that would ensure work is completed in a safe manner, in accordance with applicable local regulations, including proper signage, safety cones, flaggers, and other traffic control measures as necessary. With traffic control plans meeting jurisdictional requirements for traffic safety, the work would not be incompatible with traffic or substantially increase traffic hazards. APM TRA-1 would be implemented to reduce hazards that may occur during lane or road closures, such as guard structures, proper signage, safety cones, flaggers, and other traffic control measures. With these measures, construction activities for the Proposed Project would have a less-than-significant impact on hazards due to design features.

### **Operation and Maintenance – Less than Significant with Mitigation Incorporated**

Routine operation and maintenance may cause temporary road or lane closures if maintenance work is located adjacent to a public ROW. However, the road and lane closures would be minimal, as few areas of the Proposed Project would be located along public ROWs. APM TRA-1 would be implemented when necessary, and would include measures such as the use of guard structures, proper signage, safety cones, flaggers, and other traffic control measures. The Proposed Project would be within existing SDG&E ROW and operations would not conflict with transportation routes. Therefore, the Proposed Project's operation and maintenance would have a less-than-significant impact on hazards due to design features or incompatible uses.



**e) Would the project result in inadequate emergency access?****Construction – Less than Significant with Mitigation Incorporated**

Increased vehicle trips during construction and temporary road/lane closures would occur during construction. The Proposed Project would not directly impact emergency access because all streets would remain open to emergency vehicles during construction. Although construction activities could impact emergency access, the increase in vehicle trips during construction would be minor and would not be expected to significantly affect response times. Construction within public roadways would be conducted pursuant to the Proposed Project-specific Traffic Control Plan that would ensure emergency vehicle access is preserved during construction activities. In addition, to ensure that emergency response access is maintained, SDG&E would coordinate with all of the local emergency response agencies during all construction within roadways (APM TRA -2). Thus, impacts would be less than significant with implementation of mitigation.

**Operation and Maintenance – No Impact**

Operation and maintenance activities associated with the Proposed Project would generate additional vehicle trips on area roadways, but would result in negligible impacts on local road conditions. In addition, emergency vehicle access would always be available during operation and maintenance activities. As such, no impacts on emergency vehicle access would occur during operation and maintenance activities for the Proposed Project.

**f) Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities supporting alternative transportation (e.g., bus turnouts, bicycle racks)?****Construction – Less-than-Significant Impact**

The majority of Proposed Project construction would take place away from roads, rail, sidewalks, or bike lanes with few instances where the Proposed Project alignment is located adjacent to, or crosses over, alternative transportation facilities (see Section 4.16, Recreation).

Construction of the Proposed Project would have minimal impact on policies related to mass transit providers, as identified above in Section 4.17.3.1, Regulatory Setting. The NCTD bus services, public sidewalks, and bike lanes provided to the cities of San Marcos, Carlsbad, and Escondido, and the County of San Diego may be temporarily affected as a result of construction activities such as reconductoring. The Proposed Project is not located near the Sprinter, the NCTD rail system, and thus the Proposed Project would not adversely affect the Sprinter. As discussed in the response to threshold (a), the Proposed Project would temporarily limit or prevent access to bike paths and sidewalks; however, the Proposed Project would implement detours or alternative pedestrian routes per the Proposed Project-specific Traffic Plan and would not impact these routes permanently. As a common SDG&E practice, the Proposed Project would comply with all requirements of applicable encroachment permits and approvals; therefore, impacts from conflicts with applicable plans and policies would be less than significant.

### Operation and Maintenance – Less-than-Significant Impact

The Proposed Project's operation and maintenance may cause temporary changes to alternative transportation routes. However, the majority of the Proposed Project alignment is located away from roads, rail, sidewalks, or bike lanes. Bicycle and bus routes would be the primary modes of alternative transportation affected due to the Proposed Project's proximity to roads sharing these modes of transportation. The implementation of safety measures, such as guard structures, proper signage, safety cones, flaggers, and other traffic controls, would ensure that only minimal and temporary impacts on alternative transportation facilities would occur during operation and maintenance activities. The operation of the Proposed Project alignment would be passive and would not conflict with policies and plans related to maintaining and improving alternative transportation routes and systems. Therefore, impacts would be less than significant.

#### 4.17.5 Applicant-Proposed Measures

The following transportation-specific APMs would be implemented for the Proposed Project.

**APM TRA-1:** If construction requires lane closures, traffic delays, or other encroachment of construction activities within public travelways, SDG&E will adhere to local traffic control regulations and establish a traffic control plan as needed to comply with local ordinances. Traffic control plans will describe signage, flaggers, or other controls to be used to regulate traffic where necessary and to maintain a safe transportation corridor during construction.

**APM TRA-2:** SDG&E will coordinate with local emergency response agencies during construction within existing public roadways to allow safe passage and access by emergency vehicles and equipment.

#### 4.17.6 References

California Department of Transportation (Caltrans). 2014. *2014 Traffic Volumes Book on California State Highways*. Online:

[http://www.dot.ca.gov/trafficops/census/docs/2014\\_aadt\\_volumes.pdf](http://www.dot.ca.gov/trafficops/census/docs/2014_aadt_volumes.pdf). Site visited on May 7, 2017.

City of Carlsbad. 2008. *Pedestrian Master Plan*. August 25. Online:

<http://www.carlsbadca.gov/civicax/filebank/blobdload.aspx?BlobID=27485>. Site visited on April 12, 2017.

———. 2012. *Carlsbad General Plan – Mobility Element*. Online:

<http://www.carlsbadca.gov/civicax/filebank/blobdload.aspx?BlobID=24065>. Site visited on April 12, 2017.

———. 2017. *Carlsbad Bikeways Master Plan*. Online:

<http://www.carlsbadca.gov/civicax/filebank/blobdload.aspx?BlobID=27544f>. Site visited on April 12, 2017.

City of Escondido. 2010. *General Plan*. May 23. As amended through March 10, 2017.

- . 2012. *Bicycle Master Plan*. May 23. Online: <https://www.escondido.org/Data/Sites/1/media/PDFs/Planning/DraftBicycleMasterPlan.pdf>. Site visited on March 10, 2017.
- City of San Marcos. 2006. *Level of Service Thresholds for Roadway Segments*. Online: <http://www.san-marcos.net/Home/ShowDocument?id=1236>. Site visited on March 10, 2017.
- North County Transit District. 2016. NCDT System Map August 2016. Online: <http://www.gonctd.com/wp-content/uploads/Schedules/NCTDSysMap.pdf>. Site visited on March 10, 2017.
- . 2012. *General Plan*. February 14. As amended through March 10, 2017.
- . 2015. *Bicycle and Pedestrian Master Plan*. May.
- . 2017. *Schedules & Maps: Sprinter*. Online: <http://www.gonctd.com/sprinter/>. Site visited on March 10, 2017.
- San Diego Association of Governments (SANDAG). 2014. *Regional Transportation Improvement Program*.
- . 2011. *2050 Regional Transportation Plan*. Online: <http://www.sandag.org/index.asp?projectid=349&fuseaction=projects.detail>. Site visited on March 2017.
- . 2013. Average Traffic Volumes – Local Jurisdictions. Online: [http://www.sandag.org/resources/demographics\\_and\\_other\\_data/transportation/adtv/index.asp](http://www.sandag.org/resources/demographics_and_other_data/transportation/adtv/index.asp). Site visited May 5, 2017.
- . 2015. San Diego Forward: The Regional Plan. Online: [http://www.sdforward.com/pdfs/RP\\_final/The%20Plan%20-%20combined.pdf](http://www.sdforward.com/pdfs/RP_final/The%20Plan%20-%20combined.pdf). Site visited: May 4, 2017.
- San Diego County. 2006. *Traffic Study for Lago De San Marcos (TM 5388) in the County of San Diego*. Online: <http://www.sandiegocounty.gov/dplu/docs/0408032-traffic.pdf>. Site visited on March 10, 2017.
- . 2011. *San Diego County General Plan*. Online: <http://www.sandiegocounty.gov/content/dam/sdc/pds/gpupdate/docs/GP/MobilityElement.pdf>. Site visited on April 2017.
- San Diego County Department of Public Works. 2017a. *Airport's History*. Online: [http://www.sandiegocounty.gov/content/sdc/dpw/airports/airportsmain/history.html#par\\_image\\_3](http://www.sandiegocounty.gov/content/sdc/dpw/airports/airportsmain/history.html#par_image_3). Site visited on March 2017.



———. 2017b. *McClellan-Palomar Airport*. Online:  
<http://www.sandiegocounty.gov/dpw/airports/palomar.html>. Site visited on March 2017.

State of California. 2003. *General Plan Guidelines*. Online:  
[https://www.opr.ca.gov/docs/General\\_Plan\\_Guidelines\\_2003.pdf](https://www.opr.ca.gov/docs/General_Plan_Guidelines_2003.pdf). Site visited on March 10, 2017.

Transportation Research Board. 1985. *Highway Capacity Manual*.

This Page Intentionally Left Blank

## Table of Contents

<b>4.18 Utilities and Service Systems.....</b>	<b>4.18-1</b>
4.18.1 Introduction.....	4.18-1
4.18.2 Methodology .....	4.18-1
4.18.3 Existing Conditions.....	4.18-2
4.18.4 Potential Impacts.....	4.18-8
4.18.5 Applicant-Proposed Measures .....	4.18-12
4.18.6 References.....	4.18-13



## Acronyms and Abbreviations

BMP	best management practices
CEQA	California Environmental Quality Act
kV	kilovolt
LWD	Leucadia Wastewater District
MS4	Municipal Separate Storm Sewer System
MWD	Metropolitan Water District
NPDES	National Pollutant Discharge Elimination System
OMWD	Olivenhain Municipal Water District
PRC	Public Resources Code
RWQCB	Regional Water Quality Control Board
SDG&E	San Diego Gas & Electric Company
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
SDCWA	San Diego County Water Authority
VWD	Vallecitos Water District
WP	Water Purveyors

## 4.18 UTILITIES AND SERVICE SYSTEMS

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a.	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e.	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f.	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g.	Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 4.18.1 Introduction

This section of the Proponent's Environmental Assessment describes the existing conditions and potential impacts on utilities and service systems that could result from construction, operation, and maintenance of the Proposed Project. Utilities and service systems include water infrastructure and supply, wastewater, and solid waste disposal. The Proposed Project's potential effects on utilities and service systems were evaluated using the significance criteria set forth in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. The analysis concludes that the Proposed Project would have a *less-than-significant* impact on utilities and service systems.

### 4.18.2 Methodology

Information regarding local municipal water, stormwater, and sewer utilities was obtained from the City of Carlsbad, City of Escondido, City of San Marcos, City of Vista, and the County of San Diego General Plans. Internet searches were also conducted to gather information regarding possible landfills and their capacity as well as the telephone and cable providers within the vicinity of the Proposed Project.

### 4.18.3 Existing Conditions

#### 4.18.3.1 Regulatory Setting

##### Federal

No federal regulatory requirements related to utilities and service systems are relevant to the assessment of Proposed Project impacts.

##### State

###### *California Integrated Waste Management Board*

The Integrated Waste Management Act of 1989 (Public Resources Code [PRC] 40050 et seq.), administered by the California Department of Resources Recycling and Recovery, requires all local and county governments to adopt a Source Reduction and Recycling Element to identify means of reducing the amount of solid waste sent to landfills. This law set reduction targets at 25 percent by the year 1995 and 50 percent by the year 2000. Senate Bill 1016 (2007) builds on Assembly Bill 939 by implementing simplified measures of performance toward meeting solid waste reduction goals.

Refer to Section 4.9, Hydrology and Water Quality, for state regulations pertaining to the use of recycled water.

##### Local

The Proposed Project is not subject to local discretionary regulations because the California Public Utilities Commission has exclusive jurisdiction over the siting, design, and construction of the Proposed Project. The following summary of local regulations related to utilities and service systems is provided for informational purposes.

###### *San Diego County General Plan*

Portions of the Proposed Project are located in unincorporated San Diego County; the growth and development of this land is generally governed by the *San Diego County General Plan*. With specific regard to the General Plan, the following goals and policies apply to coordination and planning for utilities within the Proposed Project Area:

**Goal LU-4: Inter-Jurisdictional Coordination.** Coordination with the plans and activities of other agencies and tribal governments that relate to issues such as land use, community character, transportation, energy, other infrastructure, public safety, and resource conservation and management in the unincorporated County and the region.

**Policy LU-4.6: Planning for Adequate Energy Facilities.** Participate in the planning of regional energy infrastructure with applicable utility providers to ensure plans are consistent with the County's General Plan and Community Plans and minimize adverse impacts to the unincorporated County.



*City of Carlsbad General Plan*

The *City of Carlsbad General Plan* does not contain goals or policies that would pertain to utility work within the City.

*City of Carlsbad Growth Management Plan*

The citywide Growth Management Plan established the following standards for sewer collection and wastewater treatment:

**Sewer Collection System Performance Standard** – Trunk line capacity to meet demands as determined by the appropriate sewer district must be provided concurrent with development.

**Wastewater Treatment Capacity Performance Standard** – Sewer plant capacity is adequate for at least a 5-year period.

As part of the Growth Management Plan, Carlsbad was partitioned into 25 separate planning areas, which are identified as Local Facility Management Zones. The Proposed Project would fall within Zone 18 (City of Carlsbad 2001). The Zone 18 Local Facility Management Plan contains the following specific policies that pertain to utility work within the planning area:

**Drainage Facilities; Special Conditions, A:** All future development in Zone 18 will be required to construct any future Zone 18 storm drain facilities identified in the current Drainage Master Plan and revised Drainage Master Plan as determined by the City Engineer. Any facilities necessary to accommodate future development must be guaranteed prior to the recordation of any final map, issuance of a grading permit or building permit, for any development requiring future storm drain facilities in Zone 18.

**Drainage Facilities; Special Conditions, B:** Prior to the recordation of any final map, issuance of grading permit or building permit, whichever occurs first for any specific watershed within Zone 18, the developer of that project is required to:

1. Pay the required drainage area fees established in the current Drainage Master Plan, and;
2. Execute an agreement to Pay any drainage area fees established in the forthcoming revised Drainage Master Plan.

**Drainage Facilities; Special Conditions, D:** Watershed H.

1. Drainage facilities will be provided at the time of development to the satisfaction of the City Engineer.
2. Prior to the recordation of the first final map, issuance of grading permit or building permit, whichever occurs first, within Watershed H of Zone 18, the developers are required to financially guarantee the construction of the proposed detention basin east of future Melrose Drive as required by the City Engineer to achieve runoff flow

reductions consistent with the hydrology analysis prepared for the City of Carlsbad by Rick Engineering titled "Rancho Carlsbad Channel and Basin Project".

3. Prior to issuance of any building permits for projects draining south into Agua Hedionda Creek within Watershed H of Zone 18, the detention basin east of Melrose Drive shall be constructed.
4. Future development within this zone shall provide facilities to comply with existing and future National Pollution Discharge Elimination System (NPDES) standard. These facilities could include, but not be limited to, one or more of the following: vegetated swales, fossil filter system, oil/water separator or drainage basin.

#### *City of Escondido General Plan*

The *City of Escondido General Plan* Mobility and Infrastructure Element establishes goals and policies for the appropriate development of the circulation system, and water, wastewater, and sewer systems to best meet the needs of increased development and a growing population. The following policies pertain to wastewater and stormwater:

**Water System Policy 12.5:** Require new development to provide adequate water facilities and/or finance the costs of improvements necessary to serve the demands created by the development and/or anticipated growth determined by the city, as appropriate. Establish a system for the reimbursement of construction costs for backbone water system improvements in master planned development projects involving multiple phases and developers.

**Wastewater System Policy 13.5:** Require new development to provide adequate wastewater facilities and finance the costs of improvements necessary to serve the additional demands created by the development and/or anticipated growth determined by the city, as appropriate. Establish a system for the reimbursement of construction costs for backbone wastewater system improvements in master planned development projects involving multiple phases and developers.

**Storm Drainage Policy 14.4:** Require new development to create a mechanism to finance and fund ongoing maintenance of stormwater facilities.

**Storm Drainage Policy 14.5:** Require new development to prepare drainage studies and improvement plans that demonstrate no net increase in stormwater runoff and compliance with adopted stormwater plans.

**Storm Drainage Policy 14.7:** Require new development and redevelopment to minimize storm water runoff and contaminants entering drainage facilities by incorporating low impact development measures and other on-site design features such as bio-swales, retention ponds, and cisterns for storage and infiltration, treatment of flows, and appropriate best management practices (BMP) consistent with the National Pollutant Discharge Elimination System (NPDES).

*City of San Marcos General Plan*

The *City of San Marcos General Plan* Land Use and Community Design Element describes the desired future physical composition of the planning area and the planned relationship of uses. The main objective of the element is to determine the future location, type, and intensity of new development, as well as water, wastewater, and sewer systems to best meet the needs of increased development. The following policies pertain to various utility work in San Marcos:

**Policy LU-13.1:** Work closely with local and regional water providers to ensure high quality water supplies are available for the community.

**Policy LU-13.2:** Actively promote water conservation programs aimed at reducing demand.

**Policy LU-13.3:** Encourage exploration and use of deep underground wells to reduce reliance on treatable water.

**Policy LU-14.1:** Work closely with local service providers to ensure an adequate wastewater system for existing and future development is in place.

**Policy LU-14.2:** Ensure development approval is directly tied to commitments for the construction or improvement of primary water, wastewater, and circulation systems.

**Policy LU-15.4:** Retain drainage courses in their natural condition, to the extent possible. Consider smaller-scale drainage improvements to protect the environment and avoid disturbing natural drainage courses; consider detention areas and raised building pads.

**Policy LU-16.1:** Work closely with local service providers to ensure adequate solid waste disposal, collection, and recycling services.

**Policy LU-16.2:** Increase recycling, composting, source reduction, and education efforts throughout the city to reduce the amount of solid waste requiring disposal at landfills.

**Policy LU-17.1:** Coordinate with all communications and utility companies (electrical, gas, telephone, cable, satellite and future utilities) in the provision of services throughout the community and the installation and maintenance of facilities in their respective franchise areas.

**Policy LU-17.3:** The City shall prohibit above ground utility equipment within any of the pedestrian pathway and street frontage areas. All above ground utilities shall be placed either within; “wet closets” within the buildings, underground vaults, or behind buildings where they are not visible.

The developer shall be responsible to contact the applicable utility agencies in advance to coordinate utilities prior to approval of the final street improvement plans for both public and private street frontages and prior to submittal of building permits.



*City of Vista General Plan*

The *City of Vista General Plan* Public Safety, Facilities, and Services Element describes the manner in which the City of Vista will protect the people and facilities of the city from natural and human-made hazards. This element states that Vista is almost completely built out, so it will not require the expansion of utilities; however, the intensification of density planned for the city will require improvements to water, sewer, and stormwater facilities. The following goals and policies pertain to various utility work in Vista.

**PSFS Goal 9:** Continue to provide sanitary sewer facilities to accommodate the safe, efficient, and cost-effective disposal of waste, commensurate with existing and proposed development.

**PSFS Goal 10:** Continue to provide drainage facilities to adequately collect surface runoff to mitigate flooding and improve water quality.

**PSFS Goal 11:** Continue to ensure that the City has an adequate, safe, and reliable water supply to meet the existing and planned needs of the community.

**PSFS Goal 16:** Provide and maintain public infrastructure and utilities that support existing and planned land uses and development in a cost-effective and responsible manner.

**PSFS Policy 16.1:** Determine public infrastructure and utility needs to implement the General Plan and prioritize them through the City's CIP.

**PSFS Policy 16.2:** Evaluate existing public infrastructure and utilities to determine deficiencies and identify ongoing maintenance and/or replacement needs, and prioritize and implement them through the CIP and O&M investment.

**San Diego Gas & Electric Company Plans***Construction Water Sourcing Investigation*

The plan provides an overview of all potential water sources available within the San Diego Gas & Electric Company (SDG&E) service territory and is utilized to determine the most appropriate source(s) of water for project construction and operations phases. The plan outlines the regulatory requirements for sourcing, procuring and using water from various sources (e.g., water districts, surface water diversions, groundwater wells, etc.). The plan is an internal reference document used to assist SDG&E in conserving potable water resources and selecting alternative water sources (e.g., recycled water) whenever feasible for both construction and operations components of projects.

**4.18.3.2 Water**

The Proposed Project crosses through Carlsbad, Escondido, San Marcos, Vista, and unincorporated San Diego County. Carlsbad's water needs are served by three water districts (Olivenhain Municipal Water District (OMWD), Leucadia Wastewater District (LWD), and Vallecitos Water District (VWD). The City of Escondido provides water to its customers

through its internal Water Division, using watersheds and well fields near Lake Henshaw, and through the San Diego County Water Authority. San Marcos is provided water through the independent VWD, which imports water from Northern California and the Colorado River. Vista is provided municipal water by the Vista Irrigation District, which also supplies water to portions of San Marcos, Escondido, and unincorporated areas. The Vista Irrigation District has historically received approximately 30 percent of its water from Lake Henshaw and 70 percent from the Colorado River and Northern California. In 2015, the Vista Irrigation District also began distributing water from the Claude “Bud” Lewis Carlsbad Desalination Plant. The portion of the Proposed Project that crosses unincorporated San Diego County is provided water through the San Diego County Water Authority (SDCWA), which imports approximately 84 percent of San Diego County’s water supply. Roughly 64 percent of this water is supplied from the Colorado River and 20 percent from the Bay Delta in Northern California. The remaining 16 percent relies on local sources.

The majority of the Proposed Project would be within the VWD. The VWD receives all of its water supply from the SDCWA, which receives all of its water supply from the Metropolitan Water District of Southern California (MWD) (VWD 2016). VWD has demand for water supply which would exceed supply in normal, single dry-year, and multiple dry-year scenarios (VWD 2016). If these predicted shortfalls occur, conservation measures would be necessary to reduce demand. The SDCWA has indicated it anticipates meeting future water demands for all member agencies including normal and single dry-year scenarios; however, some level of shortage could occur during multiple dry-year scenarios (SDCWA 2015). Based on the information provided by the SDCWA, the water supplied to VWD is considered to be reliable.

#### **4.18.3.3 Sewer**

The City of Carlsbad provides sewer collection services through 264 miles of sewer pipes, delivering the wastewater to Encina Water Pollution Control Facility. The City of Escondido sewage collection system consists of approximately 380 miles of pipeline, with 14 pump stations and the Hale Avenue Resources Recovery Facility. The City of San Marcos sewer system is maintained and operated by VWD, which has 270 miles of pipeline, and ties into the Meadowlark Water Reclamation Facility and the Encina Water Pollution Control Facility. The City of Vista owns and operates over 215 miles of sewer collection pipelines and one small capacity pump station. The Buena Sanitation District, an entity of the City of Vista, owns and operates 101 miles of pipeline and one large capacity pump station. The City of Vista jointly owns two additional large capacity pump stations with the City of Carlsbad. All collection systems convey sewage to the Encina Water Pollution Control Facility in Carlsbad. The majority of sewage treatment and disposal in unincorporated San Diego County is handled either by regional systems maintained by public water or sewer districts, small wastewater treatment facilities operated by independent districts or the County, or onsite underground sewage disposal systems (septic tanks).

#### **4.18.3.4 Solid Waste**

Solid waste disposal for all the jurisdictions within San Diego County are accommodated through the operation of five landfills and 14 rural bin sites and transfer stations. The nearest

landfill to the Proposed Project is the Otay Landfill in Chula Vista (located at 1700 Maxwell Road, approximately 20 miles to the south). As of 2016, Otay Landfill had approximately 24,514,904 cubic yards of remaining capacity, or approximately 40 percent of its total capacity remaining. The Otay Landfill is expected to reach capacity by 2028.

#### **4.18.4 Potential Impacts**

The Proposed Project includes removing existing wood pole structures, installing new steel pole structures, and reconductoring for the existing TL 680C power lines; constructing a new power line segment; and converting a de-energized line to a 69 kV power line. The operation and maintenance activities required for the power lines would not change from those currently required for the existing system. The new steel poles would require less maintenance and repair than the existing wood poles; however, because of the additional structures and hardware in Segment 2, there would be a slight increase in the frequency of maintenance. Because the increase in the frequency would be slight, effects from the operation and maintenance of the Proposed Project on the environment would be negligible. Therefore, the impact analysis is focused on construction activities that are required to install the new conductor, remove existing wood pole structures, install new steel pole structures, and establish temporary work areas, as described in Chapter 3, Project Description.

##### **4.18.4.1 Significance Criteria**

According to Section 15002(g) of the CEQA Guidelines, “a significant effect on the environment is defined as a substantial adverse change in the physical conditions which exist in the area affected by the Proposed Project.” As stated in Section 15064(b) of the CEQA Guidelines, the significance of an activity may vary with the setting. The potential significance of project-related impacts on utilities and service systems were evaluated for the applicable criteria from Appendix G of the CEQA Guidelines, as discussed in the following sections.

In addition to the guidelines specified in Appendix G, the Proposed Project would have significant adverse impacts on public utilities and service systems if it would result in the disruption of existing utility systems.

##### **a) Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?**

##### **Construction – No Impact**

Wastewater generation during construction of the Proposed Project is not anticipated to require direct support from the local wastewater treatment system. Construction activities would be served by portable sanitary systems at the staging areas and Proposed Project sites if necessary; they would not be connected to the local wastewater system. The portable toilets would be maintained by a licensed sanitation contractor that would dispose of the waste at an offsite location and in compliance with standards established by the Regional Water Quality Control Board (RWQCB).

During excavation activities, dewatering may be necessary in some locations during pole installation and removal, structure foundation construction, and/or the trenching that would occur for new cable pole positions. Construction dewatering procedures that would be implemented during construction are outlined in Chapter 3, Project Description. Prior to construction, SDG&E would acquire an NPDES permit under the General Construction Permit from the State Water Resources Control Board (SWRCB) and prepare a Stormwater Pollution Prevention Plan (SWPPP). If trench water is encountered, trenches would be dewatered using a portable pump and disposed in accordance with acquired permits. As a result, wastewater discharge from the Proposed Project would not require treatment at a wastewater facility. Therefore, no impacts as a result of exceedance of wastewater treatment requirements would occur.

#### **Operation and Maintenance – No Impact**

Long-term maintenance activities associated with the Proposed Project would not generate wastewater. Therefore, the Proposed Project is not anticipated to exceed applicable wastewater treatment requirements; therefore, no impact would occur.

#### **b) Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

#### **Construction – No Impact**

Water would be utilized during construction of the Proposed Project to control dust on access roads and prepare concrete for foundations, site development, work areas, and grading for new access roads/maintenance pads in Segment 2 for the proposed new 69 kV power line into Meadowlark Junction. SDG&E received a Will Serve Letter from VWD dated October 19, 2017 (see Appendix 3-D: Agency Correspondence). The letter confirms water availability for the Proposed Project. The VWD has indicated it would be likely to supply potable water to the Proposed Project due to the nonavailability of recycled water supplies within the VWD. Because this water would be dispersed on site and would either evaporate or be absorbed into the ground, no wastewater is anticipated. In addition, during excavation activities, dewatering may be necessary. As previously described, the Proposed Project includes procedures that would be implemented during construction and the water would be discharged in accordance with the Cities of Carlsbad, Escondido, San Marcos, and Vista, and the County of San Diego RWQCB requirements (refer to Section 4.9, Hydrology and Water Quality). There would not be any need for new or expanded water or wastewater treatment facilities because the construction wastewater treatment needs would be minimal; therefore, no impact would occur.

#### **Operation and Maintenance – No Impact**

No wastewater would be generated by long-term operation and maintenance of the Proposed Project. No sanitation facilities would be located on site, and, therefore, no impact would occur.



- c) Would the project require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

**Construction – No Impact**

The Proposed Project would not generate a substantial amount of additional stormwater runoff because the amount of impervious surfaces within the Proposed Project Area would not be substantially altered. Construction-related activities could result in minor deviations to the existing drainage patterns on site, due to grading for new access roads and work sites that would have the potential to temporarily contribute additional runoff water to existing or planned stormwater drainage systems during construction. Construction sites within the Proposed Project Area would be graded similar to the existing slopes found on site. Therefore, such changes would not substantially increase the existing velocity or volume of stormwater flows either on site or in offsite areas. The Proposed Project is required to obtain coverage under the General Construction Permit through the SWRCB, which requires the development and implementation of a SWPPP. To reduce impacts on water quality from runoff during construction activities, SDG&E would implement measures and requirements in the SWPPP, including the use of BMPs. The Proposed Project would not result in the construction of new stormwater drainage facilities or expansion of existing facilities; therefore, there would be no impacts on stormwater drainage facilities.

**Operation and Maintenance – No Impact**

Onsite drainage patterns established during construction would generally remain unchanged with long-term operation and maintenance of the Proposed Project. SDG&E use of new access roads and sites is not anticipated to result in impacts from increased on- or offsite erosion or siltation. As such, no impacts on drainage facilities would result.

- d) Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?**

**Construction – Less-than-Significant Impact**

Water is anticipated to be the primary means for dust control during construction. The water used for dust control would either evaporate or be absorbed into the ground. Water would be brought to the site in trucks specially equipped to allow for the dispersal of water onto access roads or where routine movement of construction vehicles or helicopter use occurs. Water would be used to wet the disturbed soils to reduce the potential for dust particles to enter the air. Water would be used during trenching, pole replacement, and work pad grading, and to prepare concrete for foundation work. Water would also be used during grading for new access roads and sites. Approximately 3,076,021 gallons of water would be required for construction activities. SDG&E would source potable water from VWD for construction activities, and would not pursue the use of recycled water at this time as VWD does not have available recycled water supplies available.

SDG&E received a Will Serve Letter documenting the availability of the water from the VWD, which would serve the majority of the Proposed Project Area. Other water districts would not be

able to provide water in the VWD service area. The potable water would be supplied via a secure hydrant and construction meter affixed by the VWD to their hydrants. Given the proximity of the water source to the Proposed Project alignment, the potable water will be utilized for direct use or will be loaded into tanker trucks to be transported to a central staging location and stored in drop tanks. The VWD obtains its water supply primarily from the Colorado River and the State Water Project so the minor short-term use of potable water where needed would not deplete ground water supplies. Therefore, impacts would be less than significant.

#### **Operation and Maintenance – No Impact**

There would be no change in SDG&E's operation and maintenance protocols and procedures as part of the Proposed Project, and while the frequency of maintenance would increase slightly due to the additional hardware and structures in Segment 2, this increase would be so small that any increase in water usage would be negligible. Water use would be limited to standard SDG&E operation and maintenance activities such as fire prevention and dust control during road maintenance. This small quantity of water would be obtained from municipal sources that have adequate supply, as discussed above. As a result, no impact would occur.

- e) Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?**

#### **Construction – No Impact**

As previously analyzed in responses to Thresholds (a) and (b), wastewater generation during construction is not anticipated to require direct support from the local wastewater treatment system. Construction activities would be served by portable sanitary systems that would not be connected to the local wastewater system. The licensed portable sanitary system contractor would dispose of the waste at an offsite location and in compliance with standards established by the RWQCB. If dewatering is necessary during trenching or foundation activities, the water would be discharged in accordance with the General Construction Permit and would not require treatment at a wastewater facility. Stormwater runoff during construction activities would be managed through compliance with the SWPPP and would not require additional commitment from the local wastewater provider. Therefore, no impacts on wastewater treatment providers would occur.

#### **Operation & Maintenance – No Impact**

As described previously under Thresholds (a) and (b), operation and maintenance of the Proposed Project would not generate wastewater. Therefore, no impact would occur.

- f) Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?**

#### **Construction – Less-than-Significant Impact**

Some waste would be generated due to the Proposed Project's general construction activities (i.e., personal waste generated by workers and personnel). If a SDG&E qualified hazardous

materials specialist determines that the material is non-hazardous and qualifies as non-impacted, the contractor would handle the waste in accordance with federal, state, and local regulations and dispose of the waste for recycling or permanent disposal at a nearby licensed landfill. Treated wood products and all conductors, insulators, and other pole hardware would be recycled or disposed of as appropriate. The insulators and non-reusable treated wood poles would be transported to Otay Landfill, located in Chula Vista, California, approximately 20 miles south of the Proposed Project. The conductors and hardware would be sent to a metal recycler. Excess soil from excavation of trenches or new pole installations may also be transported to a local recycling or appropriately permitted waste disposal facility if the soil is not re-used on site or otherwise recycled. Excess soil would be re-used on site wherever possible and only transported off site as a final option.

The Otay Landfill is a private facility with permitted capacity of approximately 61,154 cubic yards. The landfill had approximately 24,514,904 cubic yards of capacity remaining as of March 2012, and is expected to be active until 2028. This landfill has adequate capacity to handle the minimal amount of unrecyclable waste that may be generated by Proposed Project construction. Therefore, impacts would be less than significant.

#### **Operation and Maintenance – Less-than-Significant Impact**

The operation and maintenance of the Proposed Project would generate a limited amount of solid waste. The only waste generated would be associated with operational equipment maintenance, construction crew waste, and packaging material associated with replacement parts. Excess material or waste resulting from the repair or replacement of a structure or equipment (e.g., replacement of an insulator) would be taken to an existing SDG&E maintenance yard and would either be reused, recycled, or disposed of in accordance with federal, state, and local statutes and regulations. Therefore, impacts would be less than significant.

#### **g) Would the project comply with federal, state, and local statutes and regulations related to solid waste?**

##### **Construction – No Impact**

Construction of the Proposed Project is not anticipated to generate a substantial amount of solid waste. As previously discussed under the response to Threshold (f), solid waste produced during construction would be disposed of at a nearby licensed landfill. Management and disposal of solid waste would comply with all applicable federal, state, and local statutes and regulations. Thus, the Proposed Project would not violate any solid waste statutes or regulations, and no impact would occur.

##### **Operation and Maintenance – No Impact**

Handling and disposal of all waste products associated with operation and maintenance activities would comply with all applicable statutes and regulations. Therefore, no impact would occur.

#### **4.18.5 Applicant-Proposed Measures**

The Proposed Project would have no potentially significant impacts related to utilities; therefore,

no Applicant-Proposed Measures are proposed.

#### 4.18.6 References

- Cal Recycle. 2012. *Solid Waste Information System (SWIS)*. Online: <http://www.calrecycle.ca.gov/SWFacilities/Directory/SearchList/List>. Site visited on April 21, 2017.
- City of Carlsbad. 2017. *Growth Management Plan*. Online: <http://www.carlsbadca.gov/news/growth/default.asp>. Site visited on April 21, 2017.
- City of Carlsbad. 2001. *Local Facilities Management Plan Amendment LFMP 87-18(b)*. Published December 4, 2001.
- City of Escondido. 2012. *General Plan*. Online: <https://www.escondido.org/Data/Sites/1/media/PDFs/Planning/GPUupdate/GeneralPlanChapterIII.pdf>. Site visited on April 21, 2017.
- . 2016. Utilities Water Division. *Urban Water Management Plan*. June 15, 2016. Online: <https://www.escondido.org/urban-water-management-plans.aspx>. Site visited on July 27, 2017.
- City of San Marcos. 2013. *General Plan*. Online: <http://www.san-marcos.net/home/showdocument?id=8480>. Site visited on April 21, 2017.
- City of Vista. 2012. *General Plan*. Online: <http://records.cityofvista.com/WebLink/DocView.aspx?dbid=0&id=712586>. Site visited on July 27, 2017.
- Olivenhain Municipal Water District. 2016. *2015 Urban Water Management Plan*. June 2016. Online: <https://www.olivenhain.com/about-us/bids-planning/urban-water-management-plan/>. Site visited on July 27, 2017.
- San Diego County. 2011a. *General Plan*. Online: <http://www.sdcounty.ca.gov/pds/generalplan.html>. Site visited on April 21, 2017.
- . 2011b. *General Plan Update Ramona Community Plan*. Online: [http://www.sdcounty.ca.gov/pds/docs/CP/Ramona\\_CP.pdf](http://www.sdcounty.ca.gov/pds/docs/CP/Ramona_CP.pdf). Site visited on April 21, 2017.
- San Diego County Water Authority. 2015. Home Page. Online: <http://www.sdcwa.org/san-diego-county-water-sources>. Site visited on April 21, 2017.
- Vallecitos Water District. 2016. *2015 Urban Water Management District*. June 1, 2016. Online: <http://www.vwd.org/departments/engineering/capital-facilities/urban-water-management-plan-uwmp-copy>. Site visited on July 27, 2017.



Vista Irrigation District. 2016. *2015 Urban Water Management Plan*. June 22, 2016. Online: <https://www.vidwater.org/planning-documents>. Site visited on July 27, 2017.

———. 2017. *Our Water*. Online: <https://www.vidwater.org/our-water>. Site visited on July 27, 2017.

## Table of Contents

<b>4.19 Cumulative Analysis .....</b>	<b>4.19-1</b>
4.19.1 Introduction.....	4.19-1
4.19.2 Significance Criteria .....	4.19-1
4.19.3 Area of Analysis .....	4.19-2
4.19.4 Methodology .....	4.19-2
4.19.5 Existing/Operating Projects .....	4.19-2
4.19.6 Foreseeable Projects Inventory .....	4.19-3
4.19.7 Potential Cumulative Impacts .....	4.19-10
4.19.8 Applicant-Proposed Measures .....	4.19-29
4.19.9 References.....	4.19-30

## List of Figures

Figure 4.19-1: Foreseeable Projects Map .....	4.19-33
---	---------

## List of Tables

Table 4.19-1: Planned and Proposed Projects Near the Proposed Project Area.....	4.19-4
---	--------

## Acronyms and Abbreviations

APM	Applicant Proposed Measure
BMPs	best management practices
CEQA	California Environmental Quality Act
CRHR	California Register of Historical Resources
FAA	Federal Aviation Administration
GHG	greenhouse gases
kV	kilovolt
LOS	level-of-service
MHCP	Multi-Habitat Conservation Plan
NCCP	Natural Community Conservation Plan
NERC	North American Electric Reliability Corporation
NRHP	National Register of Historic Places
PEA	Proponent’s Environmental Assessment
ROW	right-of-way
SCAQMD	South Coast Air Quality Management District
SDAPCD	San Diego Air Pollution Control District
SDG&E	San Diego Gas & Electric Company
SWPPP	stormwater pollution prevention plan
TL	Tie-Line

## **4.19 CUMULATIVE ANALYSIS**

### **4.19.1 Introduction**

This section discusses potential cumulative impacts related to construction and operation of the Proposed Project. The purpose of the Proposed Project is to eliminate a North American Electric Reliability Corporation (NERC) Category P0 and Category P1 violations on Tie-Line (TL) 684 (Escondido to San Marcos) and TL 680C (San Marcos–Melrose Tap), meet mandatory NERC reliability criteria in the Escondido Area Load Pocket, and alleviate the existing 69 kilovolt (kV) congestion at Escondido/San Marcos Substations, as described further in Chapter 2, Project Purpose and Need. Implementation of the Proposed Project would not result in a significant cumulative environmental impact in any of the resource areas evaluated under the California Environmental Quality Act (CEQA). Furthermore, the Proposed Project would not contribute to any cumulative significant impacts during operation and maintenance activities in any of the resource areas evaluated under CEQA.

### **4.19.2 Significance Criteria**

Section 15130(a)(1) of the CEQA Guidelines defines a cumulative impact as one that “is created as a result of the combination of the project...together with other [past, present, and future] projects causing related impacts” (see also CEQA Guideline Section 15355). Impacts would be considered significant if they were to exceed the individual criteria from Appendix G of the CEQA Guidelines, as established for each resource area and described in Sections 4.1 through 4.17; if this occurs, the Proposed Project’s contribution would be analyzed to determine whether it is cumulatively considerable (CEQA Guidelines Section 15064[h][4]). Section 15064(h)(1) of the CEQA Guidelines further explains that “when assessing whether a cumulative effect requires an environmental impact report, the lead agency shall consider whether the cumulative impact is significant and whether the effects of the project are cumulatively considerable.”

#### **4.19.2.1 Timeframe of Analysis**

For the purpose of this cumulative impacts analysis, the Proposed Project is defined in terms of construction duration and post-construction operation and maintenance. San Diego Gas & Electric Company (SDG&E) anticipates that construction of the Proposed Project would take a total of approximately 10 months, with 2 months of pre-construction activity. Construction of the Proposed Project is anticipated to begin in December 2019 and be completed in November 2020 (refer to Section 3.6.14 in Chapter 3, Project Description, for more detailed schedule information). Post-construction restoration would occur as needed following the completion of construction and be expected to take approximately 1 month.

Operation and maintenance of the Proposed Project would occur for the foreseeable future following the completion of construction.



### 4.19.3 Area of Analysis

A list of past, present, and planned future projects has been developed in accordance with CEQA Guidelines Section 15130(b) to identify any projects that may create a cumulatively considerable effect when combined with the Proposed Project. The analysis of potential cumulative impacts considers the geographic extent to which the Proposed Project may considerably contribute to a cumulative impact. The specific area of topic analysis can differ for each resource area and has therefore been further defined in Section 4.19.7, Potential Cumulative Impacts.

### 4.19.4 Methodology

Existing conditions and reasonably foreseeable future projects were identified in the vicinity of each Proposed Project component with consideration to the area of analysis discussed in Section 4.19.3, Area of Analysis. Research was conducted on local planning department and state agency websites. Additionally, correspondence with key agency personnel was conducted to gather further information. The websites of the following entities were reviewed and/or the agencies were contacted regarding capital improvement projects, development projects, and road and utility improvement projects:

- Jason Dawson, Senior Planner, City of Carlsbad
- Mike Strong, Assistant Planning Director, City of Escondido
- Susan Vandrew Rodriguez, Associate Planner, City of San Marcos
- Greg Kazmer, Planning and Development Services Department, San Diego County
- City of Vista Planning Projects Pipeline website

### 4.19.5 Existing/Operating Projects

The Proposed Project begins at San Marcos Substation and travels west along San Marcos Boulevard. San Marcos Boulevard turns into Palomar Airport Road at which point the Proposed Project route begins traveling to the southeast towards Meadowlark Junction. From Meadowlark Junction, the Proposed Project route travels to the east through unincorporated areas of the County and finally northeast ending at Escondido Substation. The areas in and around the Proposed Project include land use designations such as residential, commercial, industrial, open space/park/recreation, agriculture, undeveloped/vacant land, communication utility, and mixed use. Although the Proposed Project is located within existing SDG&E right-of-way (ROW) for TL 684 and TL 680C, a minimal amount of new right-of-way will need to be acquired. Section 4.10, Land Use and Planning, outlines all the specific existing land uses for the entire Proposed Project vicinity.

#### 4.19.6 Foreseeable Projects Inventory

For the purposes of this document, “reasonably foreseeable” refers to projects that federal, state, or local agency representatives have knowledge of as a result of a formal application process. Although all of the projects in the vicinity of the Proposed Project were considered, only 17 projects (within approximately 1 mile of the Proposed Project) are described in further detail. These 17 projects may have the potential to result in cumulative impacts.

Table 4.19-1: Planned and Proposed Projects Near the Proposed Project Area, details the 17 known projects that may have the potential to create cumulative impacts and are located within 1 mile of Proposed Project facilities.

Figure 4.19-1: Foreseeable Projects Map, illustrates the locations of each project with respect to Proposed Project components. When all 17 projects are combined, the result may include potential cumulative effects.

Projects that would *not* create incremental environmental impacts (when added to the impacts from the Proposed Project) may still result in a cumulatively significant impact. These projects include minor, small-scale discretionary projects, such as:

- Usage permit projects (e.g., liquor license applications);
- Projects that are internal to an existing building or development and have no potentially significant impacts on the environment;
- Modifications to individual homes or businesses that do not result in any increases in noise, traffic, air emissions, etc. (i.e., architectural modifications to existing structures such as patios, decks, fences, and awnings); and
- Site-specific residential developments, including swimming pools, backyard renovations, and second-story additions.

**Table 4.19-1: Planned and Proposed Projects Near the Proposed Project Area**

<b>Map ID and Project Name</b>	<b>Project Location</b>	<b>Approx. Distance from the Proposed Project</b>	<b>Project Description/Size</b>	<b>Status</b>
1. Escondido Research and Technology Center Medical Office (EAST)	Citracado Parkway, 200 feet south of Auto Park Way intersection, Escondido	150 feet	Addition of a new 74,000-square-foot medical office, part of the Escondido Research and Technology Center plan along Citracado Parkway. The project is in progress; construction for a parking lot started with grading of the site.	In Progress
2. Escondido Research and Technology Center Kidney Dialysis Center	Citracado Parkway, 1,000 feet north of Andreasen Drive intersection, Escondido	500 feet	Addition of a new 12,000-square-foot medical office and dialysis center, part of the Escondido Research and Technology Center plan along Citracado Parkway.	Under Review
3. Stone Brewery Hotel	Citracado Parkway, 400 feet south of Harveson Place, Escondido	175 feet	Construction of a 100,000-square-foot, 99-room boutique hotel.	On Hold
4. Harmony Grove Village	Harmony Grove Road and Citracado Parkway, Unincorporated San Diego County	Crosses alignment	A 468-acre master-planned community within San Diego County. The development would include 742 residential units (including some work-live units), recreational spaces, public and private equestrian facilities, and a water reclamation facility.	In Progress
5. Harmony Grove Village South	Harmony Grove Village, Escondido	0.5 mile	A 111-acre project plan area, including 433 residential units, limited retail/commercial/civic, utility/institutional, and open space/recreation uses.	Under Review

<b>Map ID and Project Name</b>	<b>Project Location</b>	<b>Approx. Distance from the Proposed Project</b>	<b>Project Description/Size</b>	<b>Status</b>
6. Valiano	2 miles north of Harmony Grove Village Project	0.9 mile	Residential development of 362 units on approximately 238 acres in northern San Diego County.	Under Review
7. Main Square	Southeast corner of San Marcos Boulevard and McMahr Drive	0.4 mile	Mixed-use development that would include 66,450 square feet of commercial space, 428 apartments, and 53,700 square feet of mixed-use space.	Proposed
8. San Elijo Hills	San Elijo Road	0.5 mile	Final development build-out of the San Elijo Hills Specific Plan that would include 150 single-family homes.	Approved
9. Pacific Commercial	Northeast Corner of Grand Avenue and Pacific Street, San Marcos	1 mile	Development of a 29,236-square-foot commercial center that would include three buildings on a 1.49-acre lot.	Approved
10. Pacific Industrial	Pacific Street	1 mile	Development of 22,160-square-foot industrial building on a 1.49-acre lot.	Approved



<b>Map ID and Project Name</b>	<b>Project Location</b>	<b>Approx. Distance from the Proposed Project</b>	<b>Project Description/Size</b>	<b>Status</b>
11. Meadowlark Canyon	San Marcos Boulevard	50 feet	Development of 33 single-family residential homes on approximately 17 acres.	Approved
12. Copper Hills Specific Plan	San Elijo Road	0.25 mile	Development of 189 residential apartments, 120 attached condominiums, 42 detached condominiums, and 138,710 square feet of commercial and light industrial buildings on 49 acres and 20 acres of preserved open space. Application includes annexation into San Marcos.	Under Review
13. Fenton South	Future Discovery Street	1 mile	Development of 250 single-family residential homes on approximately 38 acres.	Proposed
14. San Elijo Hills Town Center	San Elijo Road and Elfin Forest Road	800 feet	Mixed-use development of commercial buildings and attached condominiums on approximately 70 acres.	Proposed
15. MacDonald Group	San Marcos Boulevard	0.3 mile	Mixed-use development on the former Sears Department Store site. The project may include 120 units with up to approximately 5,000 square feet of commercial use on the first floor.	Proposed
16. Lago de San Marcos Condominiums	Southern corner of intersection of Lake San Marcos Drive/Rancho Santa Fe Road	0.3 mile	42-unit condominium complex.	In Progress

<b>Map ID and Project Name</b>	<b>Project Location</b>	<b>Approx. Distance from the Proposed Project</b>	<b>Project Description/Size</b>	<b>Status</b>
17. Anderson TM	20253 Elfin Forest Road	0.9 mile	5 single-family residences; site currently contains offices, greenhouses, sheds, warehouse, and modular home to remain; site also contains a greenhouse and farm employee housing to be removed.	Approved
18. Shane Park Plaza	200–300 block of Rancho Santa Fe Road, San Marcos	0.9 mile	19 apartments and 6,138 square feet of retail.	In Progress
19. Citywide Channel Maintenance Programmatic Permit	Throughout San Marcos	< 1 mile	Channel maintenance activities at 64 locations.	In Progress
20. San Marcos Creek Specific Plan and Floodway Improvement Project	~ Between Discovery Street and San Marcos Boulevard along San Marcos Creek from La Sombra Drive to Johnston Lane, San Marcos	0.7 mile	Up to 2,300 du, 1,265,000 square feet of retail, 589,000 square feet of office space, 19.9 acres of park land, 77.0 acres of open space and 38.47 acres of right-of-way; includes flood control, road, and infrastructure improvements.	Under Review
21. University Commons/Old Creek Ranch Specific Plan	San Elijo Road and east of Rancho Santa Fe Road, San Marcos	0.5 mile	Light industrial on the north side of San Elijo Road adjacent to Carlsbad.	Proposed

<b>Map ID and Project Name</b>	<b>Project Location</b>	<b>Approx. Distance from the Proposed Project</b>	<b>Project Description/Size</b>	<b>Status</b>
22. Kenny Ray Harmony Grove	Southeast of the intersection of Kauana Loa/ Harmony Grove Road/future Citracado Parkway, Escondido	500 feet	10 lots to be developed individually as a business park and 1 open space lot.	Proposed
23. Citracado Parkway Extension	West Valley Parkway to Andreasen Drive, Escondido	0.4 mile	Improvements and extension of Citracado Parkway from West Valley Parkway to Andreasen Drive.	Approved
24. Montiel Heights/ Montiel Road Townhomes	1310 Montiel Road	0.5 mile	70 condominiums; 1 existing single-family residence to be removed.	Under Review
25. Vista Palomar	2100 W. San Marcos Boulevard, Vista, CA	50 feet	General Plan Amendment, zone change, special use permit, and site development plan for 191 condominium units and a 100-room hotel on 17.2 acres of land.	Approved
26. Keystone Victory Industrial Park	Western terminus of Keystone Way, Vista, CA	980 feet	Plot Plan for two industrial buildings totaling 77,850 square feet on a 10.3 acre parcel.	Approved

<b>Map ID and Project Name</b>	<b>Project Location</b>	<b>Approx. Distance from the Proposed Project</b>	<b>Project Description/Size</b>	<b>Status</b>
27. Green Oak Ranch	West end of Green Oak Road, west of Sycamore Ave, Vista, CA	1.4 mile	Proposed demolition of up to 15 existing structures and construction of a 14,750 multi-purpose building and three 5,040 square-foot residential buildings.	Pending Review
28. Green Oak Villas	Northeast corner of Sycamore Ave and Green Oak Road, Vista, CA	1.7 mile	The project includes a site development plan, condominium housing permit, and vesting tentative subdivision map to construct 107 condominium units on a 7.8 acre site.	Pending Review



#### 4.19.7 Potential Cumulative Impacts

This section of the Proponent's Environmental Assessment (PEA) discusses potential cumulative impacts associated with the Proposed Project. As discussed in Section 4.19.2, Significance Criteria, cumulative impacts result from a combination of the Proposed Project and other past, present, planned, approved, or otherwise probable future projects. For cumulatively significant impacts to result, the Proposed Project must contribute to a significant cumulative impact and the Proposed Project's contribution must be determined to be considerable. Cumulative projects must occur within a geographic area where they can contribute to a cumulative impact and must also occur within a time period where they would contribute to the same impact.

Potential cumulative impacts are analyzed for the following resource areas:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gases
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Mineral Resources
- Noise
- Public Services
- Recreation
- Transportation/Traffic
- Utilities and Service Systems

For each of these resource areas, the cumulative impact analysis addresses only the specific CEQA Appendix G criteria for which a potential impact was identified in Chapter 4, Environmental Impact Assessment, as detailed below (i.e., no cumulative effects are possible for criteria that have no impacts).

No impacts were identified related to the following CEQA Appendix G resource areas; therefore, a discussion of potential cumulative impacts in these resources area is not included because they would have no contribution to cumulative impacts in the area:

- Agriculture and Forestry Resources
- Land Use and Planning
- Mineral Resources
- Population and Housing

Additionally, SDG&E operation and maintenance of the Proposed Project would be comparable to existing operation and maintenance activities. Significant cumulative impacts from operation and maintenance of the Proposed Project are not expected and therefore are not analyzed.

#### **4.19.7.1 Aesthetics**

The Proposed Project would not have any impacts associated with the following CEQA Appendix G significance criteria related to aesthetics or visual resources during construction or operation and maintenance:

- Substantial Adverse Effect on a Scenic Vista (Question a), and
- Substantial Damage to Scenic Resources (Question b).

There would be no potential for cumulatively considerable impacts associated with these significance criteria, and the above-listed criteria are not discussed further herein. The remaining aesthetics-related impacts are discussed below for the Proposed Project.

#### **Temporary**

Temporary cumulative impacts on visual resources could occur where Proposed Project construction equipment would be viewed in combination with other past, future, and present projects within the same viewsheds. The significance of an impact is determined by the degree to which the viewshed would be altered, and the level of direct impacts on visual resources. If the construction schedules of more than one project in the project vicinity overlap, a potential cumulative impact could result. The viewshed could be altered by the presence of construction equipment (such as a forklift, boom truck, or drilling rig), materials, staging areas, and construction personnel. Due to the limited duration of time construction equipment will be located at each location along the Proposed Project route, and the temporary nature of the visual impacts from construction activities, the Proposed Project would not be likely to result in a considerable contribution to potential cumulative impacts. Additionally, these types of construction-related impacts are generally temporary and accepted by the public. Therefore, while these impacts related to construction equipment and materials could be cumulative, they would not be significant.

#### **Permanent**

Potential permanent cumulative impacts on the viewshed and the aesthetic character could result from the operation of the Proposed Project and the projects in the vicinity. Projects within the vicinity of the Proposed Project include single- and multi-family residential developments, commercial development, and mixed-use development. These projects and the Proposed Project would alter the viewsheds and aesthetic character of the Proposed Project Area; however, the existing aesthetic character of the vicinity consists mainly of residential, commercial, and industrial development, as well as open undeveloped land.

Given the developed, urban nature of the viewshed the Proposed Project would be consistent with the existing surrounding visual features. Proposed Project components are not expected to contribute considerably to the aesthetic impact. The Proposed Project would be constructed

primarily in existing SDG&E ROW, either rebuilding or reconductoring existing power lines, or constructing a new power line adjacent to an existing electric utility facilities, which would not result in a noticeable change from the existing viewshed. Therefore, although the Proposed Project could result in permanent visual impacts, it would not considerably contribute to the cumulative impacts on viewsheds and visual character.

#### **4.19.7.2 Air Quality**

As outlined in Section 4.3, Air Quality, there is no potential for impacts during operation and maintenance of the Proposed Project associated with the following CEQA Appendix G significance criteria:

- Compliance with Applicable Air Quality Plan (Question a),
- Violate Air Quality Standards (Question b),
- Cumulatively Considerable Net Increase in Any Criteria Pollutant (Question c),
- Exposure of Sensitive Receptors (Question d), and
- Objectionable Odors (Question e).

There would be no potential for cumulatively considerable impacts associated with these significance criteria. The remaining air quality impacts are discussed below for construction of the Proposed Project.

#### **Temporary**

The potential temporary cumulative impacts from the planned projects in the vicinity of the Proposed Project would be due to emissions during construction activities. It is not feasible to measure the specific contribution of each project to the air basin within which it is located, therefore general air quality, including fugitive dust, exposure of sensitive receptors, and objectionable odors, are considered to be cumulative. In addition, several project construction schedules could overlap, which could result in potentially cumulative impacts on air quality. In general, construction emissions thresholds are developed with respect to existing air basin air quality and the fact that emissions can be cumulatively considerable throughout a given air basin. The San Diego Air Pollution Control District (SDAPCD) emissions budget anticipated the effects of future construction and assumed that all construction projects would comply with the applicable rules and regulations to attain and maintain air quality standards. Accordingly, it is reasonable to expect that the projects outlined in Table 4.19-1: Planned and Proposed Projects Near the Proposed Project Area, would comply with all applicable air quality rules and regulations. Typical odor nuisances include emissions of substances such as hydrogen sulfide, ammonia, chlorine, and other sulfide-related compounds. None of the 17 projects identified in Table 4.19-1: Planned and Proposed Projects Near the Proposed Project Area, are likely to result in the emission of any of these substances during construction or operation, because none of them is the type of project that typically uses these strong odor-producing compounds. The planned projects may result in trace pollutants that could be considered to have objectionable odors, such as diesel exhaust; however, these odors would be temporary, limited in nature, and localized in effect.

Because construction emissions thresholds are developed to account, in part, for the possibility of other simultaneous projects, and because it is assumed the planned projects in the vicinity of the Proposed Project would be required to comply with the same air quality standards and applicable air quality plans as the Proposed Project, the potential for temporary cumulative impacts would be less than significant.

The Proposed Project is anticipated to result in less-than-significant temporary impacts on air quality standards, exposure to sensitive receptors, and objectionable odors. The Proposed Project would incorporate SDG&E standard construction practices, including fugitive dust control measures and air emissions controls for construction equipment emissions. The Proposed Project would also comply with air quality plans. In addition, construction would not occur along the entire Proposed Project route throughout the construction duration, but would be isolated to a few locations at a time. The maximum daily emissions for the Proposed Project (i.e., from simultaneous construction along all four Proposed Project segments) are anticipated to be well below established significance thresholds (refer to Section 4.3, Air Quality). Although sensitive receptors were identified near the Proposed Project, impacts on these receptors would be less than significant with implementation of these standards and protocols. Construction equipment and construction operations for the Proposed Project and the cumulative projects would emit trace pollutants that could be considered to have objectionable odors, such as diesel exhaust; however, these odors would be temporary, limited in nature, and localized in effect, even where construction of the Proposed Project would occur simultaneously with other projects. Therefore, the Proposed Project would not result in a considerable contribution to temporary cumulative impacts on air quality.

### **Permanent**

Air quality impacts are primarily associated with construction activities. Based on the type of planned projects identified in Table 4.19-1: Planned and Proposed Projects Near the Proposed Project Area, it is unlikely the planned projects in the vicinity would result in cumulative impacts on air quality during operation and maintenance. Similarly, the Proposed Project would result in a negligible increase in maintenance frequency compared to the existing conditions; therefore, it would not result in significant impacts on air quality during operation and maintenance. Thus, the Proposed Project would not contribute considerably to potential permanent cumulative impacts. The potential permanent cumulative impact would be less than significant.

#### **4.19.7.3 Biological Resources**

### **Temporary**

Temporary cumulative impacts on biological resources would occur as a result of the Proposed Project and other planned projects in the vicinity of the Proposed Project. The cumulative construction activities could result in impacts on sensitive vegetation communities, special-status plant and wildlife species, and preserve areas. The projects in the vicinity which would be mostly likely to contribute a substantial impact on biological resources would be Harmony Grove Village, Harmony Grove Village South, and Valiano, which are large, master-planned residential and mixed-use development within unincorporated San Diego County, in areas that have not been previously developed. These projects would also be more likely to disrupt areas



that serve as wildlife corridors, due to the location of construction equipment and materials, the increase in vehicle traffic, human presence, and noise levels due to construction activities. There are a number of preserve areas in the Proposed Project vicinity, including San Elijo Hills Open Space, University Commons Preserve, Rancho Dorado Homeowners Association Preserve, Carrillo Ranch Reserve, and Carlsbad Raceway Open Space Preserve. The remainder of the projects occur within urban and suburban developed areas and thus would not be likely to contribute significantly to cumulative impacts on biological resources.

The Proposed Project would result in 79.4 acres of total temporary impacts; however, 78.4 acres of this impact would be to disturbed habitat, including urban/developed land and orchards or vineyards. The Proposed Project would result in one acre of impacts on sensitive vegetation communities. The impacts on sensitive vegetation can be mitigated by site remediation strategies such as using matting, limiting the construction footprint (if feasible) and hydroseeding for erosion control. The Proposed Project would intersect with several preserve areas. In these areas, the Proposed Project would use existing roads within the preserves and all permanent features would be installed in locations that would not impact drainages, topography, jurisdictional features, or wildlife corridors. In addition, temporary impacts would be restored after construction is completed. The Proposed Project would not temporarily impact federally protected wetlands. With the implementation of Applicant Proposed Measure (APM) BIO-1 through APM BIO-9, the Proposed Project would reduce all of the potentially significant temporary impacts to a less-than-significant level. Therefore, the Proposed Project is not likely to considerably contribute to the cumulative temporary impact on biological resources.

### **Permanent**

Planned projects in the vicinity of the Proposed Project have the potential to result in cumulative permanent impacts on biological resources. The planned projects that are located within previously undeveloped areas could result in a loss of habitat or sensitive vegetation communities. These projects are located within the planning areas for the Carlsbad Multi-Habitat Conservation Plan (MHCP) Subarea Plan, City of San Marcos MHCP Subarea Plan, City of Escondido MHCP Subarea Plan, and the draft County of San Diego North County Multi-Species Conservation Plan. The planned projects would have to comply with the policies of the applicable conservation plan, in addition to the applicable regulations of the state and federal agencies which regulate the potentially impacted biological resources, such as the California Department of Fish and Wildlife and the Clean Water Act. There still may be significant impacts on biological resources due to development of these projects.

The Proposed Project would result in a total of 2 acres of permanent impacts on vegetation communities protected by the SDG&E Natural Community Conservation Plan (NCCP). The Proposed Project would comply with the operational protocols and implement the mitigation banking as described in the NCCP to reduce permanent impacts to a less-than-significant level. The SDG&E NCCP provides operational protocols to be implemented to avoid potential impacts on sensitive habitats, special-status species, and jurisdictional features. The Proposed Project would also incorporate APM BIO-1 through APM BIO-9 in order to reduce permanent impacts to a less-than-significant level. Operation and maintenance activities would not materially

increase in frequency or intensity from baseline conditions; therefore, the potential for the Proposed Project to contribute considerably to permanent cumulative impacts on biological resources would be less than significant.

#### **4.19.7.4 Cultural Resources**

##### **Temporary**

The planned projects in combination with the Proposed Project could have the potential to result in cumulative impacts on cultural resources. Historical, paleontological and tribal resources have been identified in the Proposed Project vicinity including several resources that could be eligible for the National Register of Historic Places (NRHP)/California Register of Historical Resources (CRHR). Construction projects that occur within undisturbed soil units have the potential to result in significant impacts on buried cultural resources. Most of these projects would involve excavation, grading, or ground-moving activities, which could disturb resources; however, impacts on cultural resources are generally site-specific, and are therefore not expected to combine with other projects to result in cumulative impacts on historic or archaeological resources. Typically, impacts on cultural resources are evaluated and mitigated on a case-by-case basis. The planned projects in the vicinity would evaluate impacts on cultural resources within the area of study for each project.

Eighteen cultural resources were identified within or adjacent to the Proposed Project Area. Three of these cultural resources are historical resources, and 15 are archaeological sites or isolates. One of the historical resources has been deemed not eligible for the NRHP/CRHR, and the remaining two resources have not been evaluated for historical significance and may qualify as historical resources, as identified in State CEQA guidelines Section 15064.5 (a). For the purpose of the Proposed Project, these are assumed to qualify as “historical resources” as defined by CEQA. The current design places the Proposed Project far enough from intact historical resource locations so that no direct impacts should occur with implementation of APMs CUL-1 through CUL-9.

Nine of the archaeological resources were deemed not eligible for the CRHR, four resources were recommended as eligible for the CRHR, and two resources had not been evaluated for their potential eligibility for the CRHR. APMs CUL-1 through CUL-9 would be implemented to reduce any potential impacts to less-than-significant impacts. The majority of these sites are far enough from the Proposed Project components to avoid direct impacts with only minimal avoidance measures. Some sites, or portions of sites, are directly within an existing facility footprint or within the footprint of another non-SDG&E facility, and have most likely been destroyed by the construction of that facility; in these cases, no further action is required. With the implementation of APM CUL-1 through APM CUL-9 and cultural resources project design features, potential impacts on cultural resources would be reduced to a less-than-significant level. Therefore, the Proposed Project is unlikely to considerably contribute to potential cumulative impacts.

##### **Permanent**

Operation and maintenance of the planned projects would occur above ground and would be unlikely to impact buried cultural resources. The Proposed Project’s operation and maintenance

activities would generally occur in areas previously disturbed by construction-related activities; however, there are areas that have not previously been surveyed within the Proposed Project vicinity. If these areas are surveyed, and cultural resources are present, potential impacts on these resources would need to be evaluated in separate documentation.

Not all areas of the Proposed Project have previously been surveyed, due to lack of access. If they are surveyed in the future, and cultural resources are identified, the potential impacts on these resources would be addressed in separate documentation; however, any potential impacts would be less than significant with the implementation of standard operating procedures and the aforementioned APMs. Therefore, the Proposed Project would not contribute to any potential cumulative impacts. The cumulative impacts on cultural resources would be less than significant.

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

##### **Construction, Operation and Maintenance**

The Proposed Project would not have significant impacts associated with the following CEQA Appendix G significance criterion during construction and operation and maintenance:

- Expose people or structures to potential substantial adverse effects, including risk of loss, injury, or death involving rupture of a known earthquake fault (question a.i).
- Have soils incapable of adequately supporting the use of septic tanks or other wastewater disposal systems (question e).

As outlined in Section 4.6, Geology and Soils, there is no potential for impacts during operation and maintenance of the Proposed Project associated with the following CEQA Appendix G significance criterion:

- Expose people or structures to potential substantial adverse effects including the risk of loss, injury, or death involving landslides (question a.iv).
- Result in substantial soil erosion or the loss of topsoil (question b).
- Located on a geologic unit that is unstable, or that would become unstable as a result of the project, and potentially result in on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse (question c).
- Located on expansive soil, as defined by article 1803.5 of the CBC, creating substantial risk to life or property (question d).

There would be no potential for cumulatively considerable impacts associated with these significance criteria, and the above-listed criteria with no impacts are not further discussed herein. The remaining geology and soil-related impacts are discussed below for construction, and operation and maintenance.

##### **Temporary**

The planned projects may be located within areas of known geological hazard. The planned projects could temporarily expose people or structures to seismic shaking, adverse effects from

earthquake faults, or liquefaction during construction activities. No portion of the Proposed Project is located within an Alquist-Priolo Act Earthquake Fault Zone or any potential active faults, a location susceptible to liquefaction, any landslide hazard zones, or area at risk for lateral spreading; however, these hazards do occur throughout the San Diego County region. Proposed Project construction would be short term, thus the risk of personnel being exposed to earthquake activity, ground shaking, or earthquake induced liquefaction would be less-than-significant. Proposed Project design features account for pole foundations where liquefaction could occur that have been designed to reduce the risk of damage to construction facilities to less-than-significant levels. The Proposed Project would not result in, or create, any new landslide hazards. Therefore, the Proposed Project would not considerably contribute to temporary cumulative impacts from geological and soil-related hazards.

### **Permanent**

The planned projects could potentially permanently expose people and structures to geological hazards. Several of the planned projects are residential developments; if they are located within geological hazardous areas, they could expose the structures and residents to risk of loss, injury or death. The Proposed Project would not include any structures meant for inhabitation. Operation and maintenance would require small crews to intermittently work along the Proposed Project alignment. Due to the lack of permanent structures and the temporary nature of operation and maintenance work on the Proposed Project, the Proposed Project would not considerably contribute to the permanent cumulative impacts, and the impacts would be less than significant.

#### **4.19.7.6 Greenhouse Gases**

The Proposed Project would not have significant impacts associated with the following CEQA Appendix G significance criterion during operation and maintenance:

- Generate greenhouse gases (GHG) emissions, either directly or indirectly (Question a).

As outlined in Section 4.7, Greenhouse Gases, there is no potential for impacts during operation and maintenance of the Proposed Project associated with the following CEQA Appendix G significance criterion:

- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs (Question b).

There would be no potential for cumulatively considerable impacts associated with these significance criteria, and the above-listed criteria with no impacts are not further discussed herein. The remaining GHG-related impacts are discussed below for construction, operation, and maintenance of the Proposed Project.

### **Temporary**

GHG emissions are cumulative in nature. Construction emissions thresholds are developed with respect to cumulative emissions within an air basin. The construction thresholds are developed to account for the possibility of other simultaneous projects and because precise evaluation of all construction emissions throughout a given air basin is not feasible. The construction emissions



from the planned projects and the Proposed Project could combine in the air basin to result in cumulatively considerable impacts; however, all planned projects would be required to meet the applicable thresholds and thus are unlikely to cumulatively exceed the state-wide thresholds or substantially hinder the long-term reduction of GHG emissions within the state of California. Therefore, the potential cumulative impacts would be less than significant.

The Proposed Project would have GHG emissions associated with the combustion of fossil fuels during construction activities. GHG emissions for construction were calculated using the same approach as criteria pollutant emissions for overall construction emissions (refer to Section 4.7, Greenhouse Gas Emissions). Estimated GHG emissions would be below the County's and the South Coast Air Quality Management District's (SCAQMD's) threshold of 10,000 metric tons of carbon dioxide equivalent annually for industrial projects. Therefore, the Proposed Project would not considerably contribute to temporary cumulative impacts on GHG emissions.

### **Permanent**

The planned projects within the vicinity would result in a permanent cumulative impact on GHG emissions. Several of the planned projects are residential developments, which would induce population growth in the region, and would result in more GHG emissions from energy consumption and vehicle travel. The mixed-use and commercial development planned for the project vicinity would also result in an increase in permanent cumulative impacts on GHG emissions due to the additional vehicle miles traveled.

Operation and maintenance activities would generate a minor amount of GHG emissions from vehicles and/or equipment used to inspect and maintain the facilities; however, this effect would be similar to current conditions. The majority of the Proposed Project alignment is already operated and maintained by existing SDG&E employees and equipment. The amortized Proposed Project emissions were calculated to be well below SCAQMD's GHG significance threshold for industrial projects. Additionally, the Proposed Project would comply with applicable rules and regulations, including following SDG&E's design and operational features to decrease GHG emissions. Therefore, the Proposed Project would not considerably contribute to the permanent cumulative impacts, and the impacts would be less than significant.

#### **4.19.7.7 Hazards and Hazardous Materials**

The Proposed Project would not have any impacts associated with the following CEQA significance criterion related to hazards and hazardous materials during construction or operation and maintenance:

- Private airstrip safety hazards (Question f).

In addition, as outlined in Section 4.8, Hazards and Hazardous Materials, there is no potential for impacts during operation and maintenance of the Proposed Project associated with the following CEQA Appendix G significance criteria:

- Public airport land use (Question e), and

- Interference with an adopted emergency response plan or emergency evacuation plan (Question g).

There would be no potential for cumulatively considerable impacts associated with these significance criteria, and the above-listed criteria are not further discussed herein. The remaining hazards and hazardous materials–related impacts are discussed below for construction, operation, and maintenance of the Proposed Project.

### **Temporary**

Construction of the planned projects in the vicinity of the Proposed Project would have the potential to result in temporary cumulative impacts related to handling, transporting, or storing hazardous materials. These hazardous materials are typical materials used for construction activities or equipment, such as oils, paints, solvents, lubricants, hydraulic fluids, or fuel. The planned projects would adhere to existing local, state, and federal regulations when using and transporting potentially hazardous materials, which would minimize the potential temporary impacts. None of the projects outlined within Table 4.19-1: Planned and Proposed Projects Near the Proposed Project Area, are likely to involve large-scale utilization of hazardous or acutely hazardous substances (e.g., usage at chemical plants, refineries, or heavy manufacturing facilities). Therefore, the possibility of a cumulative temporary impact from the transport or use of hazardous materials, or from reasonably foreseeable accident or upset conditions involving hazardous materials, is considered to be less than significant.

The projects outlined within Table 4.19-1: Planned and Proposed Projects Near the Proposed Project Area, are development projects that have the potential to create cumulatively considerable adverse effects with respect to hazardous emissions within 0.25 mile of a school. Project 14, The San Elijo Hills Town Center project, would be located approximately 0.08 miles southwest of San Elijo Middle School. Segment 3 of the Proposed Project is approximately 0.25 miles south of San Elijo Middle School; however, The San Elijo Hills Town Center has been proposed, but not yet approved. Therefore, the Proposed Project construction schedule is not anticipated to overlap with this project, and there would not be a substantial threat of cumulative hazardous materials emissions at or near the school site.

It is possible the planned projects are located on sites included on a list of hazardous materials, which could create a significant hazard to the public or the environment. The identified planned projects listed in Table 4.19-1: Planned and Proposed Projects Near the Proposed Project Area, are not within 2 miles of an airport; however, some may fall within the Airport Influence Area or Federal Aviation Administration (FAA) Notification Boundary for the McClellan-Palomar Airport. If the planned projects meet the height limits, their proponents would notify the FAA and coordinate with the Airport Land Use Commission.

The Proposed Project would result in less-than-significant impacts associated with the routine handling and transport of hazardous materials as well as for potential accident or upset conditions. The Proposed Project would adhere to all existing regulations regarding the transport, use, and storage of potentially hazardous materials, as well as FAA height notification requirements, and emergency access requirements, associated with construction activities. In addition, the Proposed Project would implement APM HAZ-4, developing and implementing a

Health and Safety Plan during construction. The Health and Safety Plan would identify potential hazards and provide appropriate procedures for handling potential hazardous materials and responding to accidental situations. The Proposed Project is not listed on a database pursuant to Government Code Section 65962.5; however, San Marcos Substation is listed on three other databases which maintain lists of sites containing hazardous materials. San Marcos Substation has not had any recorded violations or spills. The hazardous materials would be stored according to appropriate operating procedures. Therefore, it is unlikely the Proposed Project would considerably contribute to potential temporary cumulative impacts from hazardous materials.

### **Permanent**

The planned projects in the vicinity of the Proposed Project are not anticipated to require the use of large quantities of hazardous materials. The majority of the planned projects are large-scale residential, mixed-use, or commercial developments which would not require the use of significant amounts of hazardous materials for maintenance. None of the projects outlined in Table 4.19-1: Planned and Proposed Projects Near the Proposed Project Area, are likely to involve large-scale utilization of hazardous or acutely hazardous substances (e.g., usage at chemical plants, refineries, or heavy manufacturing facilities); therefore, they would not emit significant amounts of hazardous materials.

The operation and maintenance activities for the Proposed Project would not change from the existing facilities; the frequency of the required activities would increase slightly, but would still be relatively infrequent. The use of hazardous materials during these operation and maintenance activities would comply with the applicable regulations. Operation and maintenance is not expected to interfere with emergency access or emergency response plans. Therefore, the Proposed Project is not anticipated to have a considerable contribution to potential permanent cumulative impacts due to hazardous materials, and the impacts would be less than significant.

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

The Proposed Project would have no potential for impacts associated with the following CEQA significance criteria related to hydrology and water quality during construction or operation and maintenance:

- Substantial depletion of groundwater (Question b), and
- Placement of housing within 100-year flood hazard area (Question g).

In addition, as outlined in Section 4.9, Hydrology and Water Quality, there is no potential for impacts during operation and maintenance of the Proposed Project associated with the following CEQA Appendix G significance criteria:

- Effects on existing drainage patterns (Question c and d), and
- Runoff water (Question 8e).

There would be no potential for cumulatively considerable impacts associated with these significance criteria or with operation and maintenance of the Proposed Project. The remaining

hydrology and water quality-related impacts are discussed below for construction of the Proposed Project.

### **Temporary**

The planned projects in the Proposed Project vicinity have the potential to impact water quality and drainage patterns in the Proposed Project Area. Two large planned projects in the vicinity would construct residential developments in formerly undeveloped areas, which could alter drainage patterns or be located within the dam inundation zone. Construction activities, including grading, could alter landforms and drainage patterns, as well as increase sediment disposal and erosion; however, the projects listed in Table 4.19-1: Planned and Proposed Projects Near the Proposed Project Area, would be required to comply with existing water quality and stormwater regulations, such as the Construction General Permit, which would require the use of site-specific best management practices (BMPs). None of the projects outlined in Table 4.19-1: Planned and Proposed Projects Near the Proposed Project Area, which may occur concurrently with the Proposed Project, would be likely to involve direct discharges to surface waters that could result in significant adverse effects on surface water quality. Structures located within the 100-year flood hazard zone would be designed to withstand potential flood inundation without damage to structures.

The Proposed Project would result in less-than-significant impacts on water quality, erosion, and drainage patterns. The construction of the Proposed Project would include some grading and earthmoving activities; however, the Proposed Project would comply with both the project-specific stormwater pollution prevention plan (SWPPP) and the Construction General Permit (Order No. 2009-0009), which require the implementation of BMPs to prevent degradation of water quality from stormwater runoff and other non-stormwater-permitted discharges. No other discharges to surface or groundwater are anticipated during construction. The Proposed Project would result in grading that would not substantially alter any existing drainage patterns or alter the course of any stream or river. Limited grading and earthmoving activities during construction would be designed to return runoff to existing drainages without increasing runoff. No grading within creeks or drainages would occur that could alter flows. The Proposed Project does not include placement of any fill or structures within the 100-year flood hazard area, except for Pole Nos. 5, 6, 7, and 9.1 and two guard structures. No grading is proposed at these locations, and the poles would not impede or redirect floodflows if inundated because of their small cross-sectional area. In addition, these structures are not meant for human occupancy and thus would not expose people to potential flooding. Therefore, the Proposed Project would not result in a considerable contribution to potential temporary cumulative impacts on water quality, and the potential cumulative impacts would be less than significant.

### **Permanent**

The Proposed Project and the planned projects in the vicinity could result in permanent impacts on water quality in the Proposed Project Area. Several of the planned projects involve grading existing land for the construction of large residential or mixed-use developments. The installation of residential units, driveways, roads, and sidewalks would result in an increase in impervious surfaces in the Proposed Project Area. Impervious surfaces would result in an



increase in stormwater runoff which could result in impacts on surface water quality. No planned projects are located within the 100-year flood zone; however, some planned projects could be located within the dam inundation zone for the South Lake Dam. The planned projects would not be likely to impede or redirect floodflows. Several of the planned projects in the dam inundation zone are residential developments. These projects would potentially expose people to flooding from dam inundation; however, the structures would be designed to withstand potential flood inundation without damage to structures. In addition, they are located within urban, built-out areas, where many other structures are already built in the inundation area.

The Proposed Project would result in a negligible increase in the frequency of operation and maintenance required compared to existing conditions. Throughout operation and maintenance of the Proposed Project, SDG&E would continue to implement BMPs consistent with its BMP Manual and the SDG&E Subregional NCCP. SDG&E would comply with the regulatory requirements for protection of water quality, including implementation of the SWPPP and BMPs (e.g., BMPs in the BMP Manual and SDG&E Subregional NCCP). The Proposed Project structures located within the 100-year flood zone would have a small footprint and therefore would not be likely to impede floodwaters in the case of a flood. The Proposed Project would not expose people to potential flood conditions. Therefore, the Proposed Project would not contribute considerably to potential permanent cumulative impacts on water quality and hydrology.

#### **4.19.7.9 Noise**

The Proposed Project would not have any impacts associated with the following CEQA Appendix G significance criteria related to noise during construction or operation and maintenance:

- Effects associated with public airports (Question e), and
- Effects associated with private airports (Question f).

The Proposed Project would not have any impacts associated with the following CEQA Appendix G significance criterion related to noise during construction:

- Substantial permanent increase in ambient noise (Question c).

In addition, as outlined in Section 4.12, Noise, there is no potential for impacts during operation and maintenance of the Proposed Project associated with the following CEQA Appendix G significance criteria:

- Exposure to excessive ground-borne vibration or noise (Question b), and
- Temporary or periodic increase in ambient noise levels (Question d).

There is no potential for cumulative impacts associated with these significance criteria. The remaining noise-related impacts are discussed below for construction, operation, and maintenance of the Proposed Project.

## Temporary

The planned projects identified in Table 4.19-1: Planned and Proposed Projects Near the Proposed Project Area, would contribute to the ambient noise levels and ground-borne vibration in the Proposed Project Area. There is the potential for construction-generated noise and vibrations of more than one project in a given area to combine to increase noise or vibration levels; however, most of the projects outlined in Table 4.19-1: Planned and Proposed Projects Near the Proposed Project Area are not located in the immediate vicinity of the Proposed Project and are therefore unlikely to combine to generate noise or vibration levels in excess of applicable standards. In addition, all planned projects would be required to comply with the municipal codes and regulations of the applicable jurisdictions. This includes construction activities occurring during the appropriate time frames so as not to exceed established limits.

The Proposed Project could generate noise and ground-borne vibrations during construction activities; however, the construction activities would be restricted to certain locations; construction would not occur along the entire route during the duration of the construction period. SDG&E will comply with the City of Carlsbad, City of Escondido, City of San Marcos, City of Vista, and San Diego County municipal codes and regulations to minimize exposure times and limits; however, even if construction of the Proposed Project were to combine with construction of one of the other projects listed in Table 4.19-1: Planned and Proposed Projects Near the Proposed Project Area, construction activities would be sporadic and would occur only during allowable construction hours when the potential adverse effects of noise would be minimized (refer to Section 4.12, Noise). Additionally, coordination with the cities would limit overlapping construction of projects at the same location, reducing potential cumulative noise effects. Therefore, although there would be potential for cumulatively considerable adverse noise effects where construction of the Proposed Project would overlap with construction of other projects in the immediate vicinity, impacts would be less than significant.

## Permanent

The planned projects are primarily commercial, residential, and mixed-use development. These uses are not generally large noise-generators (compared to uses such as industrial uses). The planned projects are not likely to combine to result in ambient noise levels that exceed applicable jurisdictional standards. The operation of the Proposed Project would not result in significant increases in ambient noise levels. Maintenance activities would slightly increase in frequency compared to existing conditions, but the increase would be minimal. Therefore, the operation and maintenance of the Proposed Project would result in a negligible impact on ambient noise levels and would not exceed applicable standards. The Proposed Project would not result in a considerable contribution to potential permanent cumulative impacts on noise. Therefore, noise-related impacts would be less than significant.

### 4.19.7.10 Public Services

The Proposed Project would not have any impacts associated with the following CEQA Appendix G significance criterion related to public services during construction or operation and maintenance:

- Adverse physical impacts associated with other facilities (Question a(v)).

As outlined in Section 4.15, Public Services, there is no potential for impacts during operation and maintenance of the Proposed Project associated with the following CEQA Appendix G significance criteria:

- Adverse physical impacts associated with fire protection (Question a(i)),
- Adverse physical impacts associated with police protection (Question a(ii)), and
- Adverse physical impacts associated with schools (Question a(iii)).

The remaining utilities and service system–related impacts are discussed below for construction and operation and maintenance of the Proposed Project.

### **Temporary**

Temporary cumulative impacts on public services may result from the combined construction activities occurring simultaneously in the Proposed Project Area. Construction activities could temporarily impact access for emergency response vehicles, such as fire or police departments, or access to nearby schools and parks. In addition, the construction of the planned projects could bring construction workers into the region from outside of the region, who would require public services; however, these impacts would only occur temporarily, and would not be likely to persist after construction activities are done.

Construction of the Proposed Project would have less-than-significant impacts related to the operation of police and fire protection services. These impacts would not result in significant temporary or permanent increases in a local population, would be short term, and would not include any new facilities that would require new or expanded police or fire protection services.

The Proposed Project would cause some temporary and short-term construction-phase impacts related to restricted access at some of the parks located in proximity to the Proposed Project. Some trails and parking areas within the preserves may have limited access; however, the Proposed Project would not cause an entire preserve or park to be closed from public access. With the application of APM PS-2 through APM PS-5, impacts on parks and trails due to construction of the Proposed Project would be less than significant. The Proposed Project would not cause any impacts with respect to school enrollment or the generation of new students. As such, no adverse cumulative effects would exist in this regard.

There are seven schools in proximity to the Proposed Project Area. The seven schools that are located near the Proposed Project ROW could experience increased levels of noise, traffic, and dust due to construction vehicles and activities during the construction period, although these impacts would be minimized through implementation of SDG&E's standard construction practices and operational procedures, BMPs, and mitigation, including traffic control measures. School traffic at San Marcos High School, High Tech High, and Valley Christian School would be affected during construction because the new double-circuit 69 kV power lines would be replacing the old single-circuit 69 kV lines, which are located in front of all three campuses.

Specific traffic-related impacts are discussed in Section 4.17, Traffic and Transportation, under the response to significance criterion 4.17.4.1.b.

Based on the temporary and sporadic nature of the potential impacts, the Proposed Project would not be likely to result in a considerable contribution to the potential temporary impacts on public services. The temporary cumulative impacts would be less than significant.

### **Permanent**

The potential permanent cumulative impacts from the planned projects in Table 4.19-1: Planned and Proposed Projects Near the Proposed Project Area, could result from a permanent increase in the local population, which would require the expansion or construction of new facilities, such as police and fire departments, public schools, or parks. Several of the Proposed Projects are residential development projects, which would induce permanent population growth in the region.

The Proposed Project would not induce population growth, either temporarily or permanently, and thus would not require the expansion or construction of new police, fire, school, or park facilities. Operation and maintenance activities would increase slightly compared to existing conditions, but the increase would be minimal such that the impact on environmental conditions would be negligible. Therefore, the Proposed Project would not result in a considerable contribution to the potential permanent cumulative impacts on public services. The potential permanent cumulative impacts on public services would be less than significant.

#### **4.19.7.11 Recreation**

The Proposed Project would not have any impacts associated with the following CEQA Appendix G criterion related to recreation during construction or operation and maintenance:

- Construction of new or expanded recreational facilities that could result in adverse impacts on the environment (Question b).

As outlined in Section 4.13, Recreation, there is no potential for significant impacts on recreation facilities during operation and maintenance of the Proposed Project. Therefore, there is no potential for cumulative impacts associated with these significance criteria or operation and maintenance of the Proposed Project. The remaining recreation-related impacts are discussed below for construction of the Proposed Project.

### **Temporary**

The planned projects identified in Table 4.19-1: Planned and Proposed Projects Near the Proposed Project Area, in combination with the Proposed Project, could result in temporary cumulative impacts on recreational facilities. The planned projects are within the vicinity of several public parks, reserves, and trails. Certain construction activities could temporarily restrict the use of these recreational resources due to proximity to the construction equipment or due to temporary road closures. If construction schedules of several projects overlap in close proximity to a park or trail it could result in a potentially cumulative impact; however, these



potential cumulative impacts would be temporary and sporadic in nature. In addition, there are several recreation facilities in the region that would remain available, and not all parks would be restricted simultaneously.

As discussed under Section 4.13, Recreation, the Proposed Project would have less-than-significant temporary impacts associated with restricted access to certain parks and recreational facilities. SDG&E anticipates that the trails that would be temporarily closed would be segments of the Rancho Dorado, Carrillo, Canyon, Quarry, Quarry-Morgan Connector, and Old Creek Ranch Trails in San Marcos. SDG&E may use guard structures and flaggers to temporarily hold traffic for brief periods of time while the overhead line is installed over the Rancho Dorado, Rancho Santa Fe, Copper Creek, Old Creek Ranch, Elfin Forest, and Canyon Trails. Trail access in the Rancho La Costa Preserve would be restricted. Although temporary disruptions to the use of trails and parks may be a short-term inconvenience for users of these trails, many other nearby public recreational options as well as other portions of Rancho La Costa Preserve and Escondido Creek Preserve would remain available during the access restriction. Although an increased demand for non-restricted parks may occur during construction of the Proposed Project, a number of existing parks and soon-to-be-completed parks exist, and the duration of the Proposed Project's construction within local parks would be short. Furthermore, it is likely that not all parks would be restricted simultaneously. Therefore, the Proposed Project would not result in a considerable contribution to potential temporary cumulative impacts on recreational facilities. The potential temporary cumulative impacts would be less than significant.

### **Permanent**

Several of the planned projects within the Proposed Project Area are residential developments which would induce population growth in the region. A potential result of population growth in the region would be an increase in demand for recreational facilities, which could necessitate new or expanded recreational facilities. The Proposed Project would not result in population growth, nor would it permanently restrict access to recreational facilities. Therefore, the Proposed Project would not result in a considerable contribution to potential permanent cumulative impacts on recreational facilities.

#### **4.19.7.12 Transportation/Traffic**

The Proposed Project would not have any impacts associated with the following CEQA Appendix G significance criterion related to transportation and traffic during construction or operation and maintenance:

- Affect the performance of the circulation system, taking into account all modes of transportation (Question a).

The Proposed Project would not have any impacts associated with the following CEQA Appendix G significance criterion related to transportation and traffic during operation and maintenance:

- Changes to air traffic control patterns (Question c).

There is no potential for cumulative impacts associated with these significance criteria for operation and maintenance. The remaining traffic and transportation-related impacts are discussed below for construction and operation and maintenance of the Proposed Project.

### **Temporary**

The planned projects identified in Table 4.19-1: Planned and Proposed Projects Near the Proposed Project Area, could result in temporary cumulative impacts on transportation due to construction activities such as work conducted next to the road, material deliveries to the site, and temporary road closures. Cumulative impacts on regional transportation circulation could result from simultaneous road closures or increases in traffic; however, these impacts would be temporary and sporadic and therefore would not result in significant impacts on transportation.

Construction of the Proposed Project would lead to a temporary increase in traffic throughout the local area, which may lower the level-of-service (LOS) standards during construction. Deliveries of construction items and equipment would generate vehicle trips to and from the Proposed Project. Additionally, up to 80 workers would be employed throughout the entire construction phase, with a maximum of 10 workers being employed per scheduled construction activity. Vehicle trips generated by construction personnel would occur daily. The maximum number of possible trips generated during the peak of the construction phase would be 100 trips to and from the Proposed Project. To reduce the potential number of daily worker-related vehicle trips to and from the sites, SDG&E would encourage carpooling to the greatest extent possible.

Disruption to traffic flow may occur when construction work is located adjacent to a road; however, such events would be periodic and temporary. These disruptions may include temporary lane or road closures, which can affect vehicle, bicycle, and pedestrian flow. As needed, signage or flagmen may be utilized to reduce potential disruptions to traffic flow and maintain public safety during construction. APM TRA-1 and APM TRA-2 would be implemented to reduce hazards that may occur during lane or road closures. Although it may be possible for the projects outlined above to conduct construction within roadways in the immediate vicinity of the Proposed Project, coordination and planning would prevent cumulative impacts associated with temporary design hazards and would be less than significant.

The Proposed Project's construction activities and the resulting increase in vehicle trips would not conflict with the goals of the San Diego Forward: Regional Plan or the San Diego County Regional Transportation Improvement Program. The construction activities would not prevent the implementation of future efficiency or expansion projects in the Proposed Project Area to improve LOS. The low number of vehicle trips generated by the Proposed Project would not result in a significant impact on the level of service of the local and regional roads managed by the Regional Plan.

It is unlikely other planned projects would utilize helicopters during construction. Although the Proposed Project could have a minimal potential impact to air traffic congestion, it would not result in a potential cumulative impact.

Due to the aforementioned less-than-significant impacts, the Proposed Project would not result in a considerable contribution to the temporary cumulative impacts on transportation and traffic. The potential temporary cumulative impacts would be less than significant.

### **Permanent**

Several of the planned projects in the Proposed Project Area are residential, commercial and mixed-use developments, which could result in significant traffic impacts. Several large-tract developments planned for areas within unincorporated San Diego County, which were not previously residential, could induce population growth in the region, and result in significant traffic impacts; however, these planned projects are incorporated into the San Diego County General Plan, as well as other applicable jurisdiction's general plans, and thus have been incorporated into future regional planning for the Proposed Project Area. The regional planning takes into consideration potential traffic impacts from planned projects.

The Proposed Project would not result in permanent impacts on transportation and traffic. Operation and maintenance activities would increase slightly in frequency compared to the existing conditions; however this increase would be minimal. Therefore, the Proposed Project would not result in considerable contributions to the permanent cumulative impacts on transportation and traffic. The potential permanent cumulative impact would be less than significant.

#### **4.19.7.13 Utilities and Service Systems**

The Proposed Project would not have any impacts associated with the following CEQA Appendix G significance criteria related to utilities and service systems during construction or operation and maintenance:

- Wastewater treatment requirements (Question a),
- New water or wastewater facilities (Question b),
- New stormwater facilities (Question c),
- Wastewater treatment services (Question e), and
- Compliance with solid waste regulations (Question g).

The remaining utilities and service system-related impacts—water supply (Question d) and solid waste (Question f)—are discussed below for construction of the Proposed Project.

### **Temporary**

The projects outlined in Table 4.19-1: Planned and Proposed Projects Near the Proposed Project Area, could result in a cumulative impact on solid waste and landfill capacity. Construction activities would result in solid waste that would be disposed of in the local landfill system. Construction of the Proposed Project would result in less than significant impacts on solid waste (landfill) capacity. Although some of the projects listed in Table 4.19-1: Planned and Proposed Projects Near the Proposed Project Area, may have a similar potential to affect solid waste and

landfill capacity, the existing local landfill system has ample capacity for the foreseeable future; therefore, cumulative impacts on waste and landfill capacity, if any, would be less than significant.

The projects outlined in Table 4.19-1: Planned and Proposed Projects Near the Proposed Project Area, could result in a cumulative impact on water supply. Water is anticipated to be the primary means for dust control during construction of the Proposed Project. Construction of the Proposed Project would result in less-than-significant impacts on water supply given demand would be temporary and short-term. Although some of the projects listed in Table 4.19-1: Planned and Proposed Projects Near the Proposed Project Area, may have a similar water supply need for construction, the existing local supplies would be adequate to support their construction needs; therefore, cumulative impacts on the water supply would be less than significant.

### **Permanent**

The planned projects in the vicinity of the Proposed Project could result in cumulative impacts on water supply and solid waste landfills. Several of the planned projects are commercial, mixed-use, or residential development, which could contribute significantly to the existing water supply and landfill facilities. The Proposed Project is not anticipated to exceed available water supplies and solid waste capacity of permitted landfills. Additionally, long-term maintenance activities associated with the Proposed Project would be intermittent, which would utilize significantly less water, and would produce significantly less solid waste as compared to construction activities. The projects listed in Table 4.19-1: Planned and Proposed Projects Near the Proposed Project Area, may produce a significant amount of water supply demand, and produce a significant amount of solid waste, but because of the intermittent activities from operation and maintenance of the Proposed Project, the cumulative impacts would be less than significant. Therefore, the Proposed Project would not result in considerable contributions to potential permanent cumulative impacts on utilities and service systems.

### **4.19.8 Applicant-Proposed Measures**

Although no potentially significant cumulative impacts are expected for the following resource areas and specific significance criteria, APMs CUM-1 and CUM-2 would ensure that impacts would be minimized:

- Aesthetics: Overall Visual Character
- Air Quality, Odors and Greenhouse Gases: Exposure of Sensitive Receptors
- Hazards and Hazardous Materials: Hazardous Emissions within 0.25 Mile of a School and Emergency Response and Evacuation
- Noise: Generation of Noise and Vibration
- Public Services: Schools
- Traffic and Transportation: Emergency Services



These potential cumulative impacts are discussed in Sections 4.19.7.1, Aesthetics, 4.19.7.4, Cultural Resources, 4.19.7.7, Hazards and Hazardous Materials, 4.19.7.9, Noise, 4.19.7.10, Public Services, and 4.19.7.12, Transportation/Traffic. APMs related to these impacts have also been included in Sections 4.15, Public Services, 4.17, Transportation and Traffic, and 4.5, Cultural Resources.

Potentially significant cumulative impacts could result during construction of the Proposed Project if construction occurs simultaneously with the construction of other key projects, specifically the previously mentioned projects in Northern San Diego County. One potentially significant cumulative impact identified is related to traffic congestion and deterioration of LOS. This potential impact is discussed in Section 4.19.7.12, Transportation/Traffic. Through the incorporation of APM TRA-1 and APM TRA-2 (see Section 4.19.7.12, Transportation/Traffic), as well as APM CUM-2, this potentially significant cumulative impact would be effectively minimized and would remain less than significant. Additionally, the two APMs included herein with respect to construction scheduling, coordination with potential SDG&E system upgrades, and Northern San Diego County projects would ensure that cumulative impacts would remain less than significant.

**APM CUM-1:** If any SDG&E system upgrade project and/or planned operation and maintenance has the potential to overlap with the Proposed Project, coordination of construction will be undertaken to reduce cumulative impacts and minimize overall disruptions at adjoining land uses.

**APM CUM-2:** If any Northern San Diego County projects have the potential to directly conflict with Proposed Project construction activities, SDG&E will coordinate with them directly to ensure that construction will not occur concurrently at the same location. Coordination would be conducted with Jason Dawson, Senior Planner for the City of Carlsbad, Mike Strong, Assistant Planning Director for the City of Escondido, Susan Vandrew Rodriguez, Associate Planner of City of San Marcos, and Greg Kazmer of the Planning and Development Services Department for the County of San Diego.

#### 4.19.9 References

City of Vista. 2017. *City of Vista Planning Projects Pipeline*. Online:

<https://gis.cityofvista.com/planningprojects/>. Site visited on August 8, 2017.

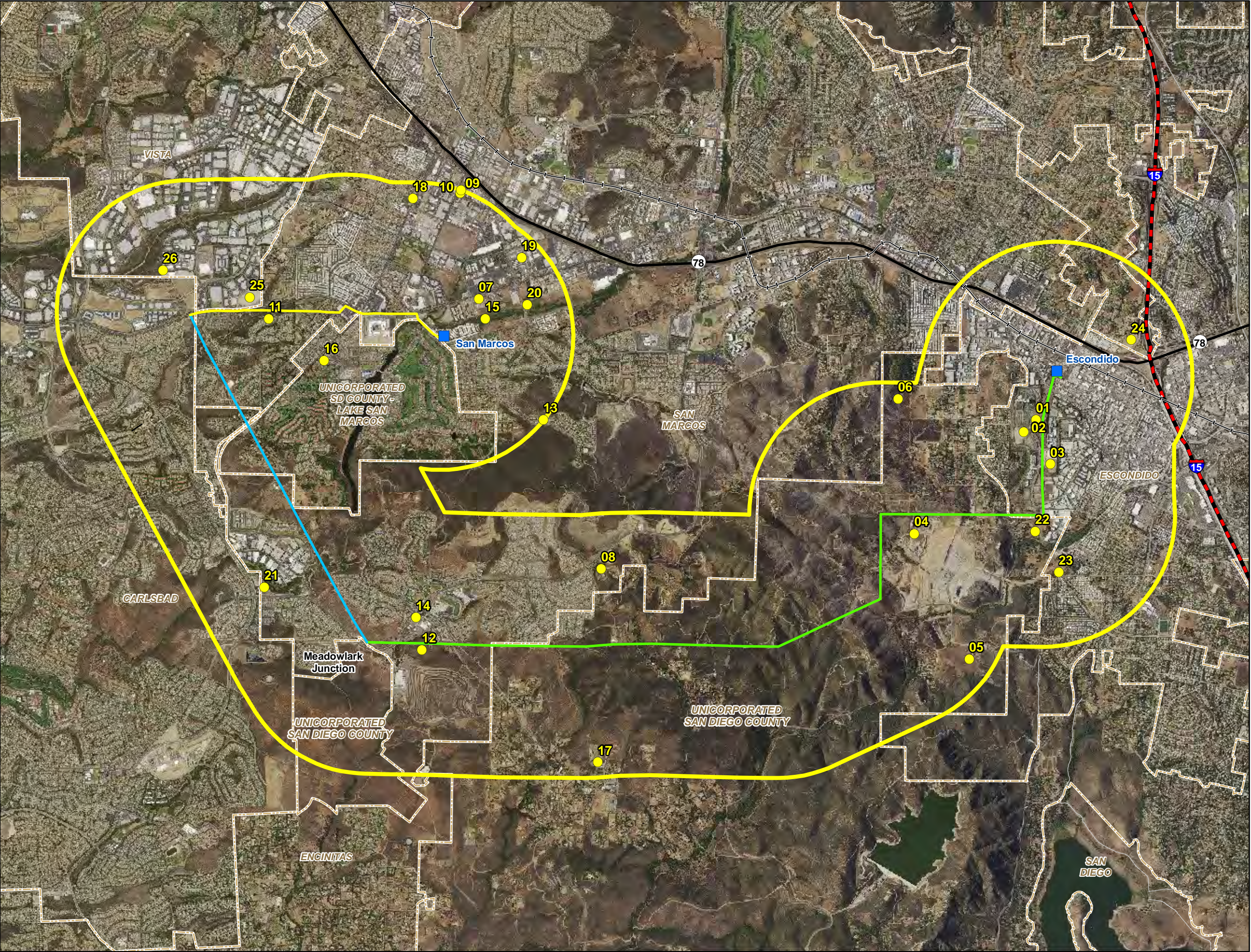
Dawson, Jason. Senior Planner, City of Carlsbad. Personal email.

Kazmer, Greg. Planning and Development Services Department, County of San Diego. Personal email.

Rodriguez, Susan Vandrew. Associate Planner, City of San Marcos. Email dated June 6, 2017.

Strong, Mike. Assistant Planning Director, City of Escondido. Email dated May 28, 2017.





TL6975 San Marcos to Escondido

Figure 4.19-1:

Foreseeable Projects

Legend

Planned and Proposed Projects

1 Mile Buffer

Project Alignment

Segment 1 - Rebuild

Segment 2 - New Build

Segment 3 - Reconstructor

General Features

Existing Substation

Interstate

State Highway

Railroad

City Boundary

County Boundary

Orange County

Riverside County

San Diego County

Pacific Ocean

MAP LOCATION

0

1,000

2,000

3,000

4,000

5,000

Feet

SDGE

A Sempra Energy utility®





## Table of Contents

<b>5.</b>	<b>DETAILED DISCUSSION OF SIGNIFICANT IMPACTS .....</b>	<b>5-1</b>
<b>5.1</b>	<b>Introduction.....</b>	<b>5-1</b>
<b>5.2</b>	<b>Applicant-Proposed Measures to Minimize Significant Impacts .....</b>	<b>5-1</b>
<b>5.3</b>	<b>Description of Project Alternatives and Impact Analysis .....</b>	<b>5-1</b>
5.3.1	Introduction.....	5-1
5.3.2	Methodology .....	5-2
5.3.3	Proposed Project Objectives .....	5-3
5.3.4	Alternatives Evaluated but Rejected .....	5-3
5.3.5	Conclusion .....	5-13
<b>5.4</b>	<b>Growth-Inducing Impacts.....</b>	<b>5-13</b>
5.4.1	Economic or Population Growth .....	5-13
5.4.2	New Employment .....	5-14
5.4.3	Extended Access or Public Services .....	5-14
5.4.4	Existing Community Services.....	5-15
5.4.5	New Development .....	5-15
5.4.6	Conclusion .....	5-15
<b>5.5</b>	<b>References.....</b>	<b>5-16</b>

## List of Figures

Figure 5-1: Project Alternatives Map .....	5-17
Figure 5-2: Project Alternative A .....	5-18
Figure 5-3: Project Alternative B.....	5-19
Figure 5-4: Project Alternative C.....	5-21

## List of Tables

Table 5-1: Alternatives Considered .....	5-2
--	-----



## Acronyms and Abbreviations

APMs	Applicant-Proposed Measures
CAISO	California Independent System Operator
CEQA	California Environmental Quality Act
CPUC	California Public Utilities Commission
JUA	Joint Use Agreement
kV	kilovolt
MVA	megavolt amperes
MW	megawatts
NERC	North American Electric Reliability Corporation
PEA	Proponent’s Environmental Assessment
ROW	right-of-way
SDG&E	San Diego Gas & Electric Company
TPP	Transmission Planning Process

## **5. DETAILED DISCUSSION OF SIGNIFICANT IMPACTS**

---

### **5.1 INTRODUCTION**

This section:

- Identifies the Applicant-Proposed Measures (APMs) that the applicant is proposing to reduce or avoid the potentially significant impacts that would result from the construction, operation, and/or maintenance of the Proposed Project;
- Discusses the alternatives that were evaluated in determining the Proposed Project and the justification for the selection of the preferred alternative; and
- Discusses the Proposed Project's potential to induce growth in the area.

### **5.2 APPLICANT-PROPOSED MEASURES TO MINIMIZE SIGNIFICANT IMPACTS**

San Diego Gas & Electric Company (SDG&E) has identified 28 APMs that it plans to implement during construction and/or operation of the Proposed Project to reduce or avoid impacts. Chapter 3, Project Description, provides a list of all APMs that have been proposed as part of the Proposed Project as well as the justification for each (refer to Table 3-14, Applicant-Proposed Measures by Resource Area). Additionally, all proposed APMs are detailed in Chapter 4, Environmental Impact Assessment.

### **5.3 DESCRIPTION OF PROJECT ALTERNATIVES AND IMPACT ANALYSIS**

#### **5.3.1 Introduction**

Section 15126.6, subdivisions (a) and (f)(2)(A) of the California Environmental Quality Act (CEQA) Guidelines, and Assigned Commissioner's Ruling on Application 01-07-004, dated October 16, 2002, do not require a review of alternatives when a project would not result in significant environmental impacts, as is the case with the Proposed Project; however, the California Public Utilities Commission (CPUC) has adopted an Information and Criteria List to determine whether applications for projects are complete. The list specifies the information required from any applicant for a project that is subject to CEQA. As the lead agency, the CPUC requires applicants for a Permit to Construct or a Certificate of Public Convenience and Necessity to describe a reasonable range of alternatives within the Proponent's Environmental Assessment (PEA).

This section summarizes and compares the environmental impacts of the Proposed Project and the alternatives considered. In accordance with CPUC requirements, SDG&E evaluated a reasonable range of alternatives that have the potential to avoid or substantially reduce significant impacts compared to the Proposed Project. Under CEQA, the intent of analyzing project alternatives is to identify ways to reduce or avoid the significant effects of the Proposed Project on the environment (Public Resources Code Section 21002.1). The discussion of alternatives need only focus on the alternatives to the Proposed Project, or locations, that are capable of avoiding or substantially decreasing the significant impacts of the Proposed Project.

This environmental alternative analysis evaluates the No-Project Alternative and three alternatives to the Proposed Project. Each alternative is evaluated for its ability to fulfill the objectives of the Proposed Project. Its ability to reduce environmental impacts, compared to those of the Proposed Project, is also evaluated. Table 5-1: Alternatives Considered, lists each alternative that was considered during the alternatives evaluation process. Figure 5-1: Project Alternatives Map, shows the location of each alternative on an aerial map, and Figure 5-2: Project Alternative A, Figure 5-3: Project Alternative B, and Figure 5-4: Project Alternative C, show diagrams of the alternatives.

**Table 5-1: Alternatives Considered**

Type of Alternative	Alternative	Evaluated or Eliminated
No-Project Alternative	No-Project Alternative	Evaluated
Alternative A	Partial Underground – Second 69-kilovolt (kV) Power Line from San Marcos to Escondido (SM-ES) – Similar to Proposed Project Alignment	Evaluated
Alternative B	Reconductor TL 680C (Melrose Tap–San Marcos)	Evaluated
Alternative C	All Underground - Second 69 kV Power Line from SM-ES, South of State Route 78.	Evaluated
Source: SDG&E		

System alternatives that were clearly not feasible were eliminated early in the evaluation process and are not discussed in detail in this document. Alternatives to the Proposed Project that were evaluated, including the No-Project Alternative, are summarized in Section 5.3.4, Alternatives Evaluated but Rejected.

### 5.3.2 Methodology

CEQA does not provide specific direction regarding the methodology for comparing alternatives. Resource areas that are generally considered in comparing alternatives are those with long-term impacts (e.g., those related to visual impacts, permanent loss of habitat, or land-use conflicts). Impacts associated with construction (i.e., temporary or short-term impacts) or those that are easy to reduce to a less-than-significant level are generally considered as well but may not be focused on as heavily.

SDG&E proposes to construct and reconductor approximately 12 miles of 69 kV overhead electric power line from the existing San Marcos Substation to the existing Escondido Substation. The Proposed Project would include the installation of new overhead single-circuit electric power line structures, rebuild of existing structures from single circuit to double circuit, and reconductoring and re-energization of existing conductors. In general, the analysis of the components of the Proposed Project was based on objectives, engineering issues, feasibility factors, and environmental constraints. Potential impacts on aesthetics, biological resources, cultural resources, hydrology and water quality, and land use, as well as other environmental topics, were evaluated for each power line alternative by conducting field surveys, literature

reviews, and desktop research. The evaluation for each alternative was based on relative environmental constraints and the likelihood for avoiding the constraints through the Proposed Project's design and construction. The specific selection criteria for each component of the Proposed Project are provided in their respective sections.

In accordance with the CPUC PEA Checklist, this section considers the following potential alternatives:

- No-Project Alternative;
- Alternative A: Partial Underground – Second 69 kV Power Line from San Marcos to Escondido – Similar to Proposed Project Alignment;
- Alternative B: Reconductor T680C (Melrose Tap – San Marcos); and
- Alternative C: All Underground - Second 69 kV Power Line from San Marcos to Escondido, South of State Route 78.

### **5.3.3 Proposed Project Objectives**

As outlined in Chapter 2, Project Purpose and Need, the objectives for the Proposed Project are:

1. Eliminate the North American Electric Reliability Corporation (NERC) Category P0 (Cat A) and Category P1 (Cat B) violation on TL 684 (Escondido–San Marcos) and TL 680C (San Marcos–Melrose Tap).
2. Meet the mandatory NERC reliability criteria for the Escondido Area Load Pocket and alleviate the existing 69 kV congestion at Escondido/San Marcos Substations.

### **5.3.4 Alternatives Evaluated but Rejected**

SDG&E evaluated several alternatives that had the potential to be capable of fulfilling the objectives of the Proposed Project. Alternatives that met the fundamental objectives of the Proposed Project were identified. Except for the No-Project Alternative, the purpose in developing the alternatives below was to try to meet the objectives listed above. Alternatives that did not meet both objectives or were deemed to have potentially greater adverse effects in relation to the Proposed Project were eliminated from further consideration. Each alternative that was evaluated but rejected in favor of the Proposed Project is discussed in detail in the following subsections.

#### **5.3.4.1 No-Project Alternative**

CEQA requires an evaluation of a No-Project Alternative so that decision-makers can compare the impacts resulting from approving a project with the impacts from not approving a project (CEQA Guidelines, Section 15126.6(e)). Under the No-Project Alternative, the TL 6975 Project would not be constructed, and issues related to overloading on TL 680C and congestion on TL 684 would continue. Also, as discussed in detail in Chapter 2, Project Purpose and Need, the reliability of the electric transmission system in the area would continue to be of



concern, load growth projections would increase, system efficiency would be weakened, and the State of California renewable energy policy goals would not be met. This scenario would present operational problems and potential hazards for the grid during an overload and is therefore not recommended.

Currently, there are two feeds at San Marcos Substation: TL 680C traverses to the west, to Melrose and San Luis Rey Substations, and TL 684 traverses to the east, to Escondido Substation. There is congestion along the existing lines, and reliability issues may compromise future energy needs in the surrounding communities. The mandatory NERC reliability criteria in the Escondido Area Load Pocket and the existing 69 kV congestion at Escondido/San Marcos Substations were identified during the 2013/2014 and the 2015/2016 Transmission Planning Process (TPP) to mitigate NERC thermal and voltage violations and improve reliability in the San Marcos area. As a result of the 2013/2014 TPP, it was determined that the loading on TL 684 between San Marcos and Escondido Substations would not improve in the near future and may worsen as the load at San Marcos Substation grows and additional renewables are developed in the Imperial Valley. The No-Project Alternative would not meet the objectives of the Proposed Project, support existing and future load in the area, or prevent potentially long outages or service disruptions for existing and new customers in the local communities and the surrounding area.

### ***Potential Impacts***

The Proposed Project would result in less-than-significant impacts (following implementation of APMs) to numerous resources areas, as outlined in Sections 4.1 through 4.15. The No-Project Alternative would avoid all the impacts associated with the Proposed Project; however, the No-Project Alternative would not achieve the benefits related to operation and maintenance that would come from a system improvement. For instance, the Proposed Project would result in new, steel structures which represent an increase in fire safety and decrease in potential fire hazards. Operation of the No-Project Alternative would also continue at an increased frequency in maintenance activities on the existing wood structures in Segment 1 compared to the lower frequency activities needed for steel structures.

Additionally, although the No-Project Alternative would avoid any adverse effects that may result from construction and operation of the Proposed Project, it would not address the objectives. Therefore, it is reasonable to assume that in the absence of the Proposed Project, another project would be designed and implemented to meet California Independent System Operator (CAISO) needs. This alternative solution can reasonably be assumed to result in some level of adverse effect on the human and/or natural environment. Thus, while a comparison of the Proposed Project to a No-Project Alternative appears to avoid the less-than-significant adverse effects associated with the Proposed Project, it is more likely that the fundamental need to meet mandatory NERC reliability criteria would be fulfilled in some manner and some level of adverse effect would result.

### ***Conclusion***

The No-Project Alternative would not meet the objectives of the Proposed Project, and therefore SDG&E rejected the No-Project Alternative.

### 5.3.4.2 System Alternatives

Three potential system alternatives were evaluated; two met the objectives of the Proposed Project, as described further in the following subsections. Potential environmental impacts of the alternatives are discussed in a section following the descriptions.

#### *System Alternative Descriptions*

##### **Alternative A: Partial Underground – Second 69 kV Power Line from San Marcos to Escondido – Similar to Proposed Project Alignment**

This alternative would be similar to the Proposed Project, except Segment 1 (the approximately 2.0-mile portion of the line from San Marcos Substation to the Palomar Airport Road, west of White Sands Drive) would be underground. Similar to the Proposed Project, this alternative would involve installation of a new power line from San Marcos Substation to Escondido Substation. The new 69 kV line would run underground for approximately 2.0 miles from San Marcos Substation to Palomar Airport Road, west of White Sands Drive. New right-of-way (ROW) would not be required because the existing franchise position and ROW would be adequate. If this alternative is implemented, a Joint Use Agreement (JUA) with the City of San Marcos and County of San Diego would be pursued for locating the line in the public road ROW. Similar to the Proposed Project, the new line would be constructed overhead from the end of Segment 1 of the Proposed Project to Meadowlark Junction. Then, similar to the Proposed Project, an existing 138 kV de-energized line would be reconductored and re-energized and converted to a 69 kV line.

An increase in the construction effort would be expected with Alternative A compared with the Proposed Project because trenches would need to be dug along the length of this section, which would take more time and man power and result in more temporary impacts related to traffic, noise, and air quality in the area. These additional potential impacts would be a result of the use of more construction equipment for longer periods of time and the use of more materials. Potential impacts are discussed in further detail below. Alternative A is estimated to cost approximately 22 percent more than the Proposed Project.

This alternative would meet both Proposed Project objectives (i.e., improving reliability in the area by adding a third power line into San Marcos Substation and mitigating the identified NERC thermal/voltage violations and ongoing 69 kV congestion on the Escondido to San Marcos corridor); however, because of undergrounding, this alternative would not result in the safety-related distribution upgrades, such as replacing wood poles with steel poles, that would be included as part of the Proposed Project. This alternative was ultimately rejected because of the lack of distribution upgrades, the cost, and the increased temporary impacts associated with undergrounding, as described above.

#### *Potential Impacts*

Alternative A is approximately 12 miles long and includes an approximately 2.0-mile-long underground power line along San Marcos Boulevard from San Marcos Substation to Palomar Airport Road west of White Sands Drive. The rest of the alternative alignment follows the

Proposed Project route and would be constructed in the same way as the Proposed Project. Because of the nature of underground construction activities, temporary construction-related impacts would be greater for this route than the Proposed Project route because temporary work areas would be larger, and the length of the construction schedule would be longer. Potential impacts are described below, including comparisons to the anticipated impacts from the Proposed Project.

### Aesthetics

Alternative A is anticipated to have temporary impacts on aesthetic resources because of its underground component, which involves more equipment, traffic disruptions, and ground disturbance. The additional equipment and ground disturbance within the road ROW, as well as the extended construction time that would be necessary, could result in more temporary impacts on the affected viewsheds and the view of motorists and pedestrians in Segment 1 compared to the Proposed Project. Alternative A includes the addition of a new power line from San Marcos Substation to Escondido Substation, similar to the Proposed Project, which would affect the permanent visual environment in the area. Construction activities would be visible along the alignment. Although these effects of the underground component would be temporary, they are expected to be greater than the temporary aesthetic impacts caused by the Proposed Project.

Alternative A would result in a decrease in permanent aesthetic impacts because it would underground an existing overhead line and remove power lines and poles from the viewshed. In contrast, the Proposed Project would add more wires to the existing power lines, resulting in more aesthetic impacts on the community.

### Cultural Resources

As stated above, this alternative would have temporary and permanent impact areas; therefore, the potential exists for impacts on cultural, historical, and paleontological resources. These impacts have not been evaluated outside the footprint of the Proposed Project. Although this alternative follows the alignment of the Proposed Project, there is additional potential for cultural discoveries when constructing the underground portion of this alternative. Alternative A would be less impactful to cultural resources in Segment 1 where undergrounding is proposed instead of pole replacements for the Proposed Project. For Alternative A, underground work may have the potential to avoid buried cultural resources, which would be addressed during further engineering and design for this alternative. Therefore, this alternative could result in reduced impacts to cultural resources.

### Biological Resources

This alternative would require temporary and permanent impact areas, including temporary structure work areas, temporary work areas, and temporary stringing sites. Underground components of this alternative would be in existing streets. As such, construction activities for Alternative A would be nearly the same as those of the Proposed Project but would require larger temporary work areas and would take longer to complete; however, the larger temporary work areas would be located primarily within the road ROW, which is an already disturbed area and is not likely to contain biological resources. Segment 1 in Alternative A would not be located in

any natural or open areas and therefore would be less likely to affect sensitive plant or wildlife species than the Proposed Project, which has the potential to affect biological resources during the Segment 1 overhead construction.

#### Construction Impacts (Air Quality, Noise, Public Services, Recreation, and Traffic)

Construction-related impacts on the human environment would increase with underground portions. Specifically, air quality, noise, and traffic related impacts would be anticipated to increase during construction of this alternative compared to the Proposed Project. Alternative A would result in similar construction impacts compared to the Proposed Project for the remaining issue areas discussed in this PEA.

- Construction-related noise impacts would increase proportionally to the increase in underground length. Noise impacts would increase for construction of the underground section because of the increased need for saw cutting and other noise-intensive construction techniques used during excavation; however, this increase would not be anticipated to result in significant noise impacts because additional APMs can be applied if needed, and noise variances are available from the jurisdictions.
- Temporary construction-related traffic impacts would increase proportionally to the increase in underground length and construction duration. Excavation of the road ROW for the installation of the underground facilities would result in lane or road closures during construction. These impacts would be temporary and would not affect the entire length of Segment 1 for the duration of the construction period; however, it is anticipated these impacts would be more than those anticipated under the Proposed Project.
- Construction-related air emissions would increase with any increase in the usage of construction equipment. The underground portion of this alternative would result in a higher total length of use for construction equipment, which would result in greater overall emissions of criteria pollutants. The activities required for the underground facilities, including excavation, backfilling, and re-paving, would require more intensive construction activities, which would require a longer construction schedule and more workers than the overhead construction for the Proposed Project. The longer construction schedule would result in more air emissions, which could result in more potential impacts.
- Under Alternative A, Segment 1 of the alignment would be converted to underground, as opposed to remaining overhead on new poles per the Proposed Project. Alternative A would not require coordination and consultation with the County of San Diego or the City of San Marcos for replacement of sidewalk in-kind as a result of construction activities along Segment 1; however, it might be required with the City of Carlsbad depending on the final design and franchise position of the one pole located within the City of Carlsbad.
- The potential for temporary impacts on parks, trails, and other recreational facilities would increase temporarily during construction activities for this alternative because of the increased construction duration.

Because of these increased environmental impacts, discussed above, Alternative A would be likely to have a greater contribution to some of the cumulative impacts that would result from the combined effects from projects in the surrounding area (see Section 4.19, Cumulative Impacts).



Alternative A would contribute more to these cumulative impacts for the issue areas discussed above than the Proposed Project; however, the contribution is anticipated to remain less than significant.

### **Alternative B: Reconductor TL 680C (Melrose Tap–San Marcos)**

This alternative would involve reconductoring approximately 6.3 miles of TL 680C (Melrose Tap to San Marcos Substation) from 102 megavolt amperes (MVA) to 137 MVA. It would involve reconductoring of a single-circuit line from Melrose Tap to San Marcos Substation along a portion of the existing alignment rather than a double-circuit line, as provided in the Proposed Project. This alternative may include replacing existing wood poles with new steel poles depending on their condition.

This alternative would eliminate load drop for an N-1-1 and improve reliability at San Marcos Substation; however, it would not fully address the reliability needs of the substation in accordance with SDG&E's best practices, which call for adding a third source whenever a load exceeds 100 megawatts (MW). San Marcos Substation is forecasted to reach approximately 100 MW by 2020. Additionally, this alternative would not mitigate the existing congestion on TL 684 because it does not add the additional 69 kV circuit from Melrose Tap to San Marcos Substation. The alternative is estimated to cost approximately 79 percent less than the Proposed Project. This alternative was eliminated from further consideration because it would not meet the objectives of the Proposed Project, which call for mitigating congestion on TL 684.

### *Potential Impacts*

Alternative B is approximately 6.3 miles long and would include the same alignment as Segment 1 of the Proposed Project, as well as 4.29 miles of the alignment that travels northwest to Melrose Tap. Alternative B includes reconductoring a single-circuit line from the Melrose Tap to San Marcos Substation instead of a double-circuit line, as provided in the Proposed Project. There would be a substantial decrease in construction-related impacts from Alternative B compared to the Proposed Project because Alternative B would focus only on reconductoring Segment 1 and the northwestern line, and may include replacing some wood poles with new steel poles, depending on their condition; while the Proposed Project would involve construction in Segments 1, 2 and 3. Potential impacts are described below, including comparisons to the anticipated impacts from the Proposed Project.

#### Aesthetics

Alternative B would have less of an aesthetic impact compared to the Proposed Project because it would not involve the construction of new structures and would have a shorter construction schedule. Construction activities would be visible along the alternative, but these effects would be temporary. Therefore, this alternative would pose fewer temporary and long-term impacts on aesthetics compared to the Proposed Project.

#### Biological Resources

This alternative would require temporary and permanent impact areas, including temporary structure work areas, temporary work areas, and temporary stringing sites. Construction

activities of Alternative B would be much more limited than those of the Proposed Project within Segment 1. Alternative B would involve reconductoring along existing alignments which would be accessed by existing access roads. Alternative B would not involve any improvements in Segment 2 or Segment 3 and therefore would have no impacts in those segments. Based on the reduced construction activities proposed for Alternative B, it would result in substantially fewer impacts on biological resources compared to the Proposed Project.

### Cultural Resources

As stated above, this alternative would have temporary work and stringing site impact areas; therefore, the potential exists for impacts on cultural, historical, and paleontological resources. These impacts have not been evaluated outside the footprint of the Proposed Project. Although this alternative follows the alignment of Segment 1 of the Proposed Project, there is reduced potential for cultural impacts because there would be no newly constructed structures. The culturally sensitive areas currently identified for the Proposed Project are along Segment 1. In addition, Alternative B would include reconductoring along an existing line which runs northwest to Melrose Tap, and has not been assessed for cultural resources as part of this PEA. However, construction activities would occur along the existing line and would utilize existing access roads, which have already been disturbed. In addition, Alternative B does not include any construction activities in Segment 2 or Segment 3. Therefore, Alternative B would be expected to have significantly fewer impacts on cultural resources compared to the Proposed Project.

### Construction Impacts (Air Quality, Noise, Public Services, Recreation, and Traffic)

Alternative B would have a shorter alignment and would involve fewer project elements than the Proposed Project. This alternative would involve reconductoring, but would not include wood-to-steel pole replacements or installation of new structures; therefore, the construction would take place over a shorter time frame. The shorter construction schedule and limited construction equipment required would be anticipated to reduce the impacts to the following resource areas:

- Construction-related noise impacts would be anticipated to decrease, due to the smaller amount of construction equipment that would be used, as well the shorter duration of the construction schedule. In addition, APMs could be included to further reduce potential noise impacts. Alternative B would be likely to result in less noise impacts.
- Alternative B would reductor an existing line along an existing public road ROW. Temporary construction-related traffic impacts would result from construction activities occurring in the road ROW. However, Alternative B has a shorter mileage and fewer road-crossings or intersections than the Proposed Project alignment. In addition, any potential road or lane closures would be short term, and SDG&E would implement APMs such as traffic flags and alternative routes to reduce the potential impact. Therefore, it is anticipated Alternative B would result in fewer temporary construction-related traffic impacts than the Proposed Project.
- Construction-related air emissions would be anticipated to decrease compared to the Proposed Project due to the shorter construction schedule and the reduced amount of construction equipment that would be required. The construction schedule would directly relate to the amount of time the construction equipment is used, which directly corresponds

to the amount of potential emissions of criteria pollutants. Therefore, Alternative B would be anticipated to result in less impacts to air quality than the Proposed Project.

- Access to parks, trails, and other recreational facilities could be reduced due to the location of the construction activities associated with Alternative B. However, due to the shorter length of the alignment as well as the shorter duration of the construction schedule, Alternative B is anticipated to result in less impacts to public services and recreational facilities.

**Alternative C: All Underground - Second 69 kV Power Line from San Marcos to Escondido, South of State Route 78, Avoiding the TL 684 Right-of-Way (where possible)**

Similar to the Proposed Project, this alternative would involve constructing a new power line from San Marcos Substation to Escondido Substation; however, for this alternative, the new power line would be entirely underground, avoiding the existing TL 684 right-of-way wherever possible. The approximately 5.68-mile-long underground route would be south of State Route 78, utilizing franchise positions in city streets. If this alternative is implemented, a JUA would be pursued with the City of San Marcos and City of Escondido for the city streets that the line would be located in.

The difficulty to construct this alternative as compared to the Proposed Project would increase because trenches would need to be dug along the length of this alternative to underground the line. This effort would take significantly more time and manpower and result in more temporary impacts, specifically traffic, noise, and air quality impacts. See below for further discussion of the impacts that would be associated with this alternative. In addition, this alternative would result in a much larger contribution to the potential cumulative impacts caused by the combined effects of the planned projects in the surrounding area, which are discussed in more detail below.

Similar to the Proposed Project, this new power line would eliminate a Category P7 violation along the TL 684 corridor. The alternative is estimated to cost approximately 116 percent more than the Proposed Project. This alternative would improve reliability in the area by adding a third power line to San Marcos, mitigating the identified NERC thermal/voltage violations, and would mitigate the ongoing 69 kV congestion on the Escondido to San Marcos corridor. This alternative was ultimately rejected due to the increased cost, and the increased temporary and cumulative impacts associated with undergrounding, as described above.

*Potential Impacts*

Similar to the Proposed Project, this alternative would involve constructing a new power line from San Marcos Substation to Escondido Substation; however, this alternative varies from the Proposed Project because the new power line would be entirely underground, avoiding the existing TL 684 right-of-way whenever possible. The approximately 5.68-mile-long underground route would be south of SR 78, utilizing franchise positions in city streets. Instead of following the Proposed Project, this alternative option generally follows an alignment through local streets. Although this alternative would have a shorter overall distance, construction impacts would be greater than those of the Proposed Project because underground construction

requires larger temporary work areas and take longer to complete. Potential impacts are described below, including comparisons to the anticipated impacts from the Proposed Project.

### Aesthetics

Alternative C is anticipated to have greater temporary impacts on aesthetic resources because of its underground component, which involves more equipment, traffic disruptions, and ground disturbance in the area. Alternative C would involve locating much of the alignment along existing roadways; thus, construction activities would be visible to pedestrians and motorists within the ROW along the Alternative C alignment. Visual impacts would differ from those of the Proposed Project because underground construction activities would not require stringing sites or guard poles during construction; however, it would require excavation equipment adjacent to and within the road ROW. Permanent impacts on aesthetics are avoided by the alignment being entirely underground. The Proposed Project would result in permanent impacts on aesthetic resources due to the proposed steel poles; Alternative C would not include any poles or structures that would affect visual resources in the surrounding area.

### Biological Resources

Alternative C would require temporary and permanent impact areas, including temporary structure work areas and temporary work areas. Because this alternative is a completely underground option, temporary impact areas would be larger, and the duration of construction activities would be longer compared with the Proposed Project; however, construction activities would occur in existing roadways and over a shorter distance. Therefore, Alternative C would be expected to have a decreased impact on biological resources.

### Cultural Resources

As stated above, this alternative would result in temporary and permanent impact areas; therefore, the potential exists for impacts on cultural, historical, and paleontological resources. These impacts have not been evaluated outside the footprint of the Proposed Project. Generally, when constructing in more populated areas, there is less potential for resource discovery. In addition, underground work may have the potential to avoid buried cultural resources if underground depths are designed to avoid or minimize impacts to these resources, which would be addressed during further engineering and design for this alternative. Therefore, it is possible that this alternative could result in fewer impacts on cultural resources.

### Construction Impacts (Air Quality, Noise, Public Services, Recreation, and Traffic)

Construction-related impacts on the human environment would increase with underground power lines for all of the resources discussed in this PEA. Specifically, the following impacts would be anticipated to increase during construction of this alternative:

- Construction noise impacts would have the potential to increase because of underground construction. Construction techniques such as saw cutting, drilling, and other noise-intensive activities used in excavation would result in an increase in noise-related impacts. Although noise impacts would increase, the incorporation of SDG&E APMs would reduce the



significance of the impact. Alternative C would not be anticipated to result in a significant noise impact.

- Temporary construction-related traffic impacts would increase proportionally to the increase in underground length and construction duration. Excavation of the trenches required for underground facilities would be primarily within the road ROW and would require lane or road closures during construction activities; however, construction would be in limited areas at a given time, not throughout the whole alignment for the entire duration of the construction schedule. In addition, lane and road closures would be short term, and SDG&E would implement APMs such as traffic flags and alternative routes. Impacts would still increase compared to the Proposed Project.
- Construction air emissions would increase with increase in the usage of construction equipment. This alternative could have the potential to result in longer use of construction equipment, which would result in greater overall emissions of criteria pollutants due to the underground portion of the alignment. The activities required for the underground facilities, including excavation, backfilling, and re-paving, would require more intensive construction activities that would require a longer construction schedule and more workers than the overhead construction for the Proposed Project. The longer construction schedule would result in more air emissions, which could result in more potential impacts.
- This alternative would be located within existing road ROW and would not run through preserves and recreational facilities. Construction activities may block entrances to parks and recreational facilities temporarily, but would not permanently limit access to them. This alternative would result in less impacts to parks and recreational facilities than the Proposed Project.

## **Other Considerations**

### *Cost*

In general, the cost to construct and operate electrical power facilities increases with the increased length of the alignment. Construction of underground facilities is significantly more expensive than construction of overhead facilities. With respect to the Proposed Project, alternatives that do not require underground facilities are relatively close in cost; alternatives that include underground construction have significantly higher costs.

### *Construction Schedule*

The construction schedule generally increases with the increased length of the alignment or with the increased intensity of construction activities. This increase is directly defined as the increase in equipment hours required to construct the alignment. This increase can be manifested in one of two ways during construction:

1. Longer construction duration; or
2. Additional construction activities occurring simultaneously.

Alternative A and Alternative C would both be anticipated to have a longer construction schedule, a more intensive construction schedule, or some combination of both. Alternative B would have a shorter construction duration due to the reduced scope of work.

### **5.3.5 Conclusion**

Ultimately, all alternatives were rejected because they either did not meet the objectives of the Proposed Project or would very likely result in higher costs, longer and/or more intensive construction schedules, greater impacts, and/or no perceptible benefit because of the objectives not being met.

## **5.4 GROWTH-INDUCING IMPACTS**

CEQA requires a lead agency to review and discuss ways in which a project could induce growth. The CEQA Guidelines (Section 15126.2(d)) consider a project to be growth inducing if it fosters economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding area. New employees hired for proposed commercial and industrial development projects and population growth resulting from residential development projects represent direct forms of growth. Examples of indirect forms of growth-inducing projects include an expansion of urban services into previously undeveloped areas or the removal of major obstacles to growth, such as a lack of transportation corridors or a potable water supply.

Consistent with the CEQA Guidelines, the Proposed Project could have growth-inducing impacts if it would either directly or indirectly foster economic or population growth within the Cities of Vista, Carlsbad, Escondido, or San Marcos or unincorporated San Diego County or remove existing obstacles to growth in those areas, beyond what would be expected without the Proposed Project. The Proposed Project could also have a growth-inducing impact if it would provide a substantial amount of new employment, create a substantial new burden on existing communities, provide access to previously inaccessible areas, extend public services to previously unserved areas, or cause new development elsewhere (outside the Proposed Project Area).

As previously described, the Proposed Project generally entails removing existing wood pole structures, installing new steel pole structures, and reconductoring for the existing TL 680C power lines; constructing a new power line segment; and converting a de-energized line to a 69 kV power line. Although the Proposed Project would improve electrical service reliability in the San Diego County service area, implementation of the Proposed Project would not result in any significant growth-inducing environmental effects.

### **5.4.1 Economic or Population Growth**

#### **5.4.1.1 Background and Anticipated Growth in the Proposed Project Area**

As outlined in Section 4.11, Population and Housing, the 2010 population of San Diego County was 3,095,313, making it the second most populated county in the state (California Department of Finance 2016). By 2016, the county's population had grown to an estimated 3,288,612. According to the San Diego Regional Planning Agency, the 2016 estimates of population for

Carlsbad, Escondido, Vista, and San Marcos were 112,930, 150,760, 98,896, and 93,295, respectively. From 2010 to 2020, the population of Carlsbad is projected to grow by approximately 7.2 percent, Escondido by approximately 7.5 percent, the City of Vista by approximately 6.2 percent, and San Marcos by approximately 8.4 percent. In comparison, San Diego County is forecasted to grow by 14.2 percent in the same period.

#### **5.4.1.2 Growth and the Proposed Project**

The Proposed Project is not being implemented in advance of growth but, rather, in response to necessary NERC reliability requirements for existing development in San Diego County. As discussed in Chapter 2, Project Purpose and Need, SDG&E is legally required to adhere to reliability requirements, consistent with CPUC general orders, CAISO tariff provisions, NERC/FERC requirements, and SDG&E internal standards. The Proposed Project would not increase housing, bring in new services, induce population growth in the area, or improve existing infrastructure (with the exception of increased reliability for the existing electrical system). Instead, the Proposed Project would be designed to ensure consistency between existing services and the reliability requirements identified for the Proposed Project Area. The Proposed Project would not directly or indirectly foster growth or remove obstacles to economic or population growth in the area as SDG&E constructs and upgrades its existing electrical system in response to existing electricity demands within a given area.

#### **5.4.2 New Employment**

The Proposed Project would include reconductoring, removing wooden poles, and installing new steel poles for the existing TL 680C power lines; constructing a new power line segment; and converting a de-energized line to a 69 kV power line. Construction activities are expected to take approximately 10 months under normal conditions, with two months of pre-construction activities. SDG&E would employ up to 30 individuals, who would most likely be from its current workforce, and also rely on numerous contractors. The Proposed Project would provide short-term construction employment; no new permanent increase in employment would occur. Operation and maintenance activities for the Proposed Project would be performed by current SDG&E personnel. No new jobs would be created. As a result, the Proposed Project would not induce any increase in employment.

#### **5.4.3 Extended Access or Public Services**

The Proposed Project would use existing access roads and public roadways. An extension and widening to one existing access road is proposed. Most work areas are accessible by vehicle from unpaved SDG&E-maintained access roads or by overland travel. To provide crews and equipment with access to the poles, roads may require smoothing or refreshing, and/or vegetation clearing may be necessary to re-establish unmaintained access roads. All new and relocated facilities would be located in existing SDG&E rights-of-way with similar facilities, which are currently operated and maintained, although some existing rights-of-way would need to be expanded to accommodate the new facilities. SDG&E currently provides electric service to the Proposed Project Area. The Proposed Project does not include an expansion of the electric system into areas

that currently do not have electric service. Thus, the Proposed Project would not provide access to previously inaccessible areas or extend public services to any currently unserved areas.

#### **5.4.4 Existing Community Services**

The Proposed Project would not significantly affect existing community services. The Proposed Project would not generate a new permanent demand for water, wastewater, or solid waste services, and its demand for City- and County-provided services, such as road improvements, law enforcement, and fire protection, would be negligible, short term (i.e., for construction), and equal to or less than existing demand for operation and maintenance. Because the Proposed Project would utilize mostly existing SDG&E easements, operation and maintenance would largely mirror current operation and maintenance conditions. Therefore, there would be no impact on existing community services. The Proposed Project would include reconductoring, removing wooden poles, and installing new steel poles for the existing TL 680C power lines; constructing a new power line segment; and converting a de-energized line to a 69 kV power line. SDG&E has existing resources for operation and maintenance available to service the Proposed Project upon completion.

#### **5.4.5 New Development**

The Proposed Project would not promote new development, either in the San Diego service area (including the cities of Carlsbad, Escondido, Vista, and San Marcos and unincorporated San Diego County) or elsewhere. It is primarily a response to existing congestion and reliability issues associated with serving the community. The Proposed Project would satisfy SDG&E's obligation to accommodate the demand that developers and local governments have projected or planned. Established and locally supported patterns of development and growth carry with them a corresponding electrical demand, which SDG&E is obligated to anticipate and serve to avoid the consequences of electrical overload, as discussed in Chapter 2, Project Purpose and Need. The Proposed Project would not directly or indirectly cause or promote new development that would not otherwise be constructed after approval through local land use approval processes.

Only local jurisdictional government agencies (i.e., cities and counties) can direct (i.e., plan, approve, deny) new development. All new development is subject to the appropriate land use guidance document(s) and local agency design and review processes. The local agencies, through their land use guidance documents and review processes, dictate the actual location and intensity of new development, if any. Electrical utility upgrades for new development are more often distribution-level requirements that are addressed either during or after the plan review process.

#### **5.4.6 Conclusion**

The Proposed Project would result in the construction of a new 69 kV power line to increase reliability to better support the existing area load. The Proposed Project would also prevent potentially long outages or disruptions of service for existing and new customers in the local communities and the surrounding area. In doing so, the Proposed Project would meet the two objectives outlined above and be consistent with the project identified in CAISO's 2013/2014



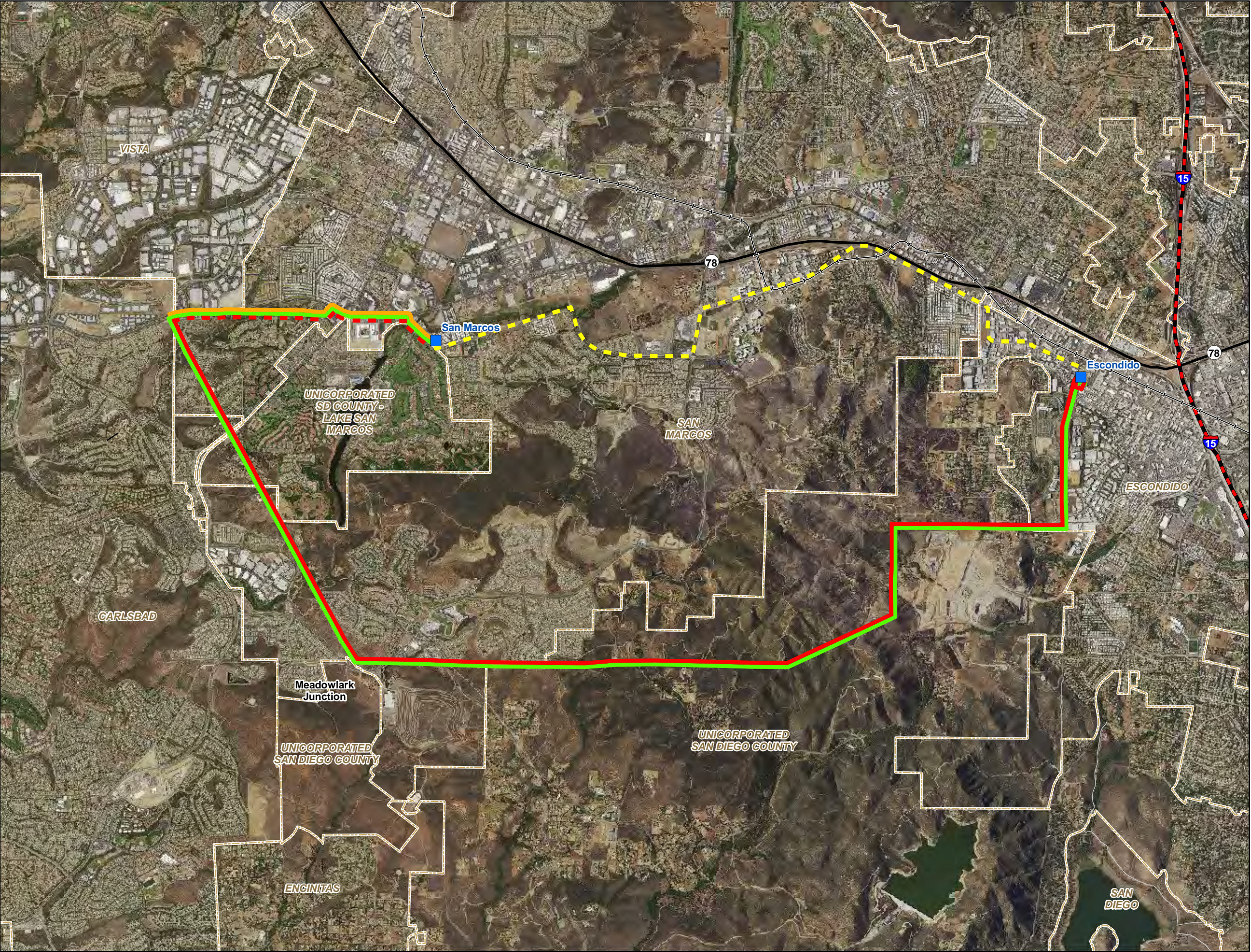
and 2015/2016 TPPs (refer to Chapter 2, Project Purpose and Need). The Proposed Project would also maximize utilization of existing facilities and land to the extent feasible, including right-of-way, utility-owned property, franchise rights, structures, and access road networks.

The Proposed Project would not create a new customer-level service or source of power (distribution lines) that would indirectly allow for an increase in population, housing, or other development because the Proposed Project would not extend electrical service infrastructure into previously unserved areas. The Proposed Project would accommodate existing and planned power demand in SDG&E's service territory by increasing the power system's reliability. SDG&E responds to projected development and forecasts rather than inducing growth by extending infrastructure for future unplanned development. Therefore, the Proposed Project would not induce population growth in this manner. The Proposed Project would require employment for construction activities; however, most of the construction workforce is anticipated to come from the local workforce (i.e., the pool of existing SDG&E electrical personnel and contractors). Operation and maintenance of the Proposed Project would be similar to existing operation and maintenance activities within the Proposed Project Area. The proposed new steel poles would require less maintenance than the existing wood poles; however the new structures in Segment 2 would require an increase in maintenance trips. Because the increase in frequency would be slight, the effects from the operation and maintenance of the Proposed Project on the environment would be negligible. Therefore, the Proposed Project would have less-than-significant impacts related to growth inducement in the Proposed Project Area.

## 5.5 REFERENCES

California Department of Finance. 2016. California State Data Center. Online: [http://www.dof.ca.gov/Reports/Demographic\\_Reports/Census\\_2010/](http://www.dof.ca.gov/Reports/Demographic_Reports/Census_2010/). Site visited on August 16, 2017.





TL6975 San Marcos  
to Escondido  
Figure 5-1:  
Project Alternatives

Legend

Proposed Project Alignment

Alternative A - Overhead

Alternative A - Underground

Alternative B - Single Circuit

Alternative C - Underground

General Features

Existing Substation

Interstate

State Highway

Railroad

City Boundary

County Boundary

Orange  
County

Riverside  
County

San  
Diego  
County

Pacific  
Ocean

MAP  
LOCATION

0 1,000 2,000 3,000 4,000 5,000  
Feet

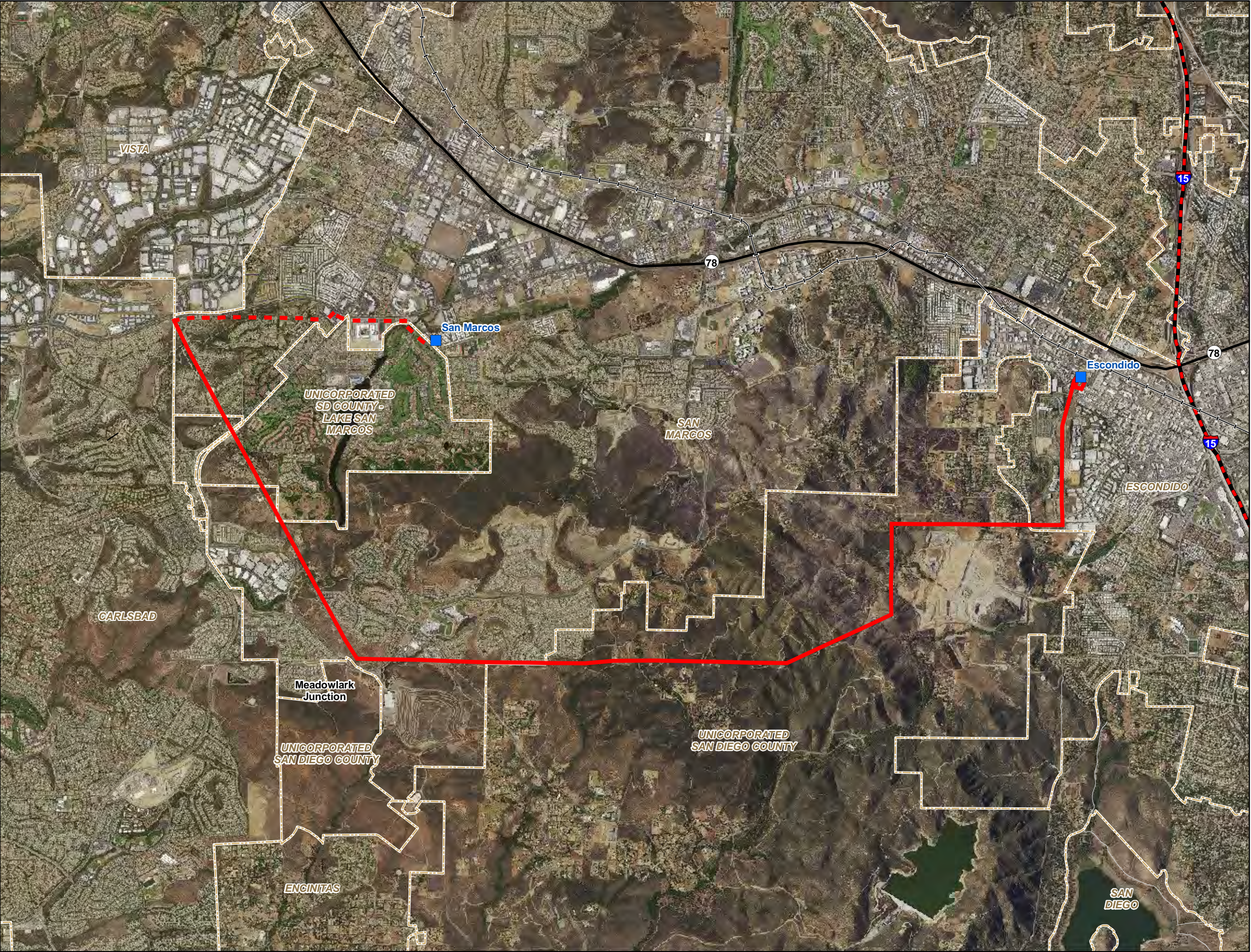
SDGE

A Sempra Energy utility®









TL6975 San Marcos to Escondido  
Figure 5-2:  
Project Alternative A

Legend

Alternative A - Overhead

Alternative A - Underground

General Features

Existing Substation

Interstate

State Highway

Railroad

City Boundary

County Boundary

Orange County

Riverside County

San Diego County

Pacific Ocean

MAP LOCATION

0

1,000

2,000

3,000

4,000

5,000

Feet

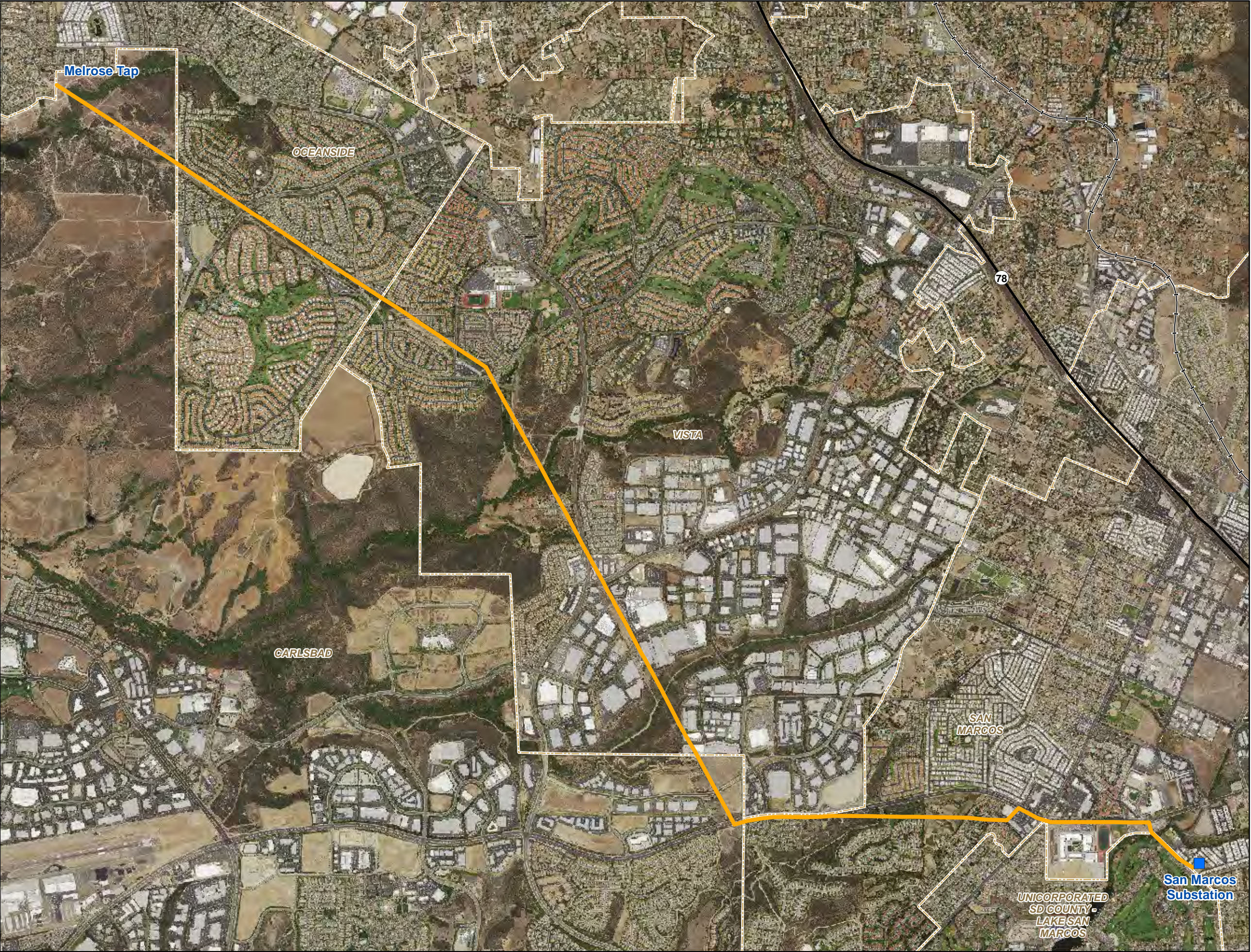
SDGE

A Sempra Energy utility®









TL 6975 69kV  
Power Line Route  
Figure 5-3:  
Project Alternative B

Legend

Alternative B - Single Circuit

General Features

- Existing Substation
- Interstate
- State Highway
- Railroad
- City Boundary
- County Boundary

0 500 1,000 1,500 2,000 2,500 3,000  
Feet

Date: 9/14/2017

Data Sources: SanGIS









**TL6975 San Marcos  
to Escondido  
Figure 5-4:  
Project Alternative C**

**Legend**

Alternative C - Underground

**General Features**

- Existing Substation
- Interstate
- State Highway
- Railroad
- City Boundary
- County Boundary



0 500 1,000 1,500 2,000 2,500 3,000  
Feet

**SDGE**  
A Sempra Energy utility®



